URS

January 15, 2013

Mr. Steven F. Nightingale, P.E.
Manager, Permit Section
Illinois Environmental Protection Agency
Bureau of Land
1021 North Grand Avenue East
Springfield, Illinois 62794

Subject: **Groundwater Monitoring Report – 4th Quarter 2012**
Roxana, Illinois
119115002 – Madison County
Equilon Enterprises LLC d/b/a Shell Oil Products US
Log No. B-43-CA-21

Dear Mr. Nightingale:

On behalf of Shell Oil Products US, URS Corporation is submitting the enclosed report for your review. This sampling was required by Condition 7 of the Agency's letter dated August 5, 2010.

If you have any questions during your review, please contact Kevin Dyer, SOPUS Principal Program Manager, at kevin.dyer@shell.com (618/288-7237), or me at robert.mooshegian@urs.com (314/743-4106).

Sincerely,

URS Corporation, on behalf of Shell Oil Products US

Kelly Hurst
Senior Environmental Scientist

Robert Mooshegian, CHMM
Senior Project Manager

Enclosures: RCRA Corrective Action Certification and Report (original plus 2 copies)

Cc: Kevin Dyer, SOPUS
Marty Reynolds, Village of Roxana
Eric Petersen, ConocoPhillips
Amy Boley, IEPA, Springfield
Gina Search, IEPA, Collinsville
Repository – Roxana Public Library

1001 Highland Plaza Drive West, Suite 300
St. Louis, MO 63110
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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, IL 62084

Site No. (USEPA): ILD 080 012 305

2.0 OWNER INFORMATION

Name: Not Applicable

Mailing Address:

3.0 OPERATOR INFORMATION

Equilon Enterprises LLC d/b/a Shell Oil Products US

17 Junction Drive, PMB #399

Glen Carbon, IL 62034

Contact Name:

Kevin Dyer

Contact Title:

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):
Groundwater Sampling Report – 4th Quarter 2012
Date of Submittal

IEPA Permit Log No. B-43R
Date of Last IEPA Letter on Project 3/14/12
Log No. of Last IEPA Letter on Project B-43R-CA-25
Does this submittal include groundwater information: ☒ Yes ☐ No

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

Groundwater sampling report for the 4th quarter 2012 sampling event in the project area in the Village of Roxana.

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

Cover letter, RCRA Corrective Action Certification and Groundwater Sampling Report – 4th Quarter 2012

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: Kim Erdleyer 01/07/13 (Date)

Title: Principal Program Manager

7.2 **PROFESSIONAL CERTIFICATION** *(if necessary)* - Work carried out in this submittal or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. No one is relieved from compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

Professional's Signature: Robert B Billman Date: 1/10/13

Professional's Name: Robert B. Billman

Professional's Address: URS Corporation
1001 Highlands Plaza Drive West
St. Louis, MO 63110

Professional's Phone No.: 314-743-4108

Professional's Seal:



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 ACCUTEST LABORATORIES

Mailing Address of Laboratory
495 TECHNOLOGY CENTER WEST
BUILDING ONE
MARLBOROUGH, MA 01752

[signature] 12-28-12
Signature of Laboratory Responsible Officer — Date

Reza Tand / Lab Director
Name and Title of Laboratory Responsible Officer

REPORT

INTERIM GROUNDWATER MONITORING PROGRAM – 4TH QUARTER 2012

Roxana, Illinois

Prepared for:

Shell Oil Products US
17 Junction Drive
PMB#399
Glen Carbon, Illinois 62034

January 2013

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URS Corporation (URS) is submitting this report on behalf of Shell Oil Products US (SOPUS) for the 4th Quarter 2012 (4Q12) groundwater monitoring well gauging and sampling conducted in the Village of Roxana, Illinois (**Figure 1**). The study area within the Village of Roxana (Village) is generally bounded by the alley north of First Street, Illinois Route 111, the West Fenceline of the WRB Refining, LP (WRB)[1] Wood River Refinery (WRR), and the Roxana Public Works Yard. Some monitoring wells within the WRR were also sampled as part of this event and conducted in cooperation with WRB/Phillips 66 (P66)[2]. For purposes of presentation in this report only, the combined area is collectively referred to as the "Investigation Area."

In an August 5, 2010 letter from the Illinois Environmental Protection Agency (IEPA) to SOPUS, IEPA requested various site characterization and monitoring activities, along with initiation of an interim groundwater monitoring program. This program began in the 4th Quarter 2010 (4Q10), and the first report was submitted on January 14, 2011. On March 3, 2011, a conference call was held among representatives of SOPUS, IEPA and URS to discuss the groundwater monitoring program and IEPA's general comments on the 4Q10 report. Subsequent modifications were incorporated during the 1st Quarter 2011 (1Q11) and 2nd Quarter 2011 (2Q11) Roxana Interim Groundwater Monitoring Program. Additional items/comments regarding the Roxana Interim Groundwater Monitoring Program were presented by IEPA in June 16, 2011 and August 31, 2011 letters. These items/comments were presented in the 3rd quarter 2011 (3Q11) and 4th Quarter 2011 (4Q11) reports.

In a March 14, 2012 letter (CA-24) from IEPA to SOPUS, IEPA requested groundwater piezometer ROST-3-PZ and groundwater monitoring well ROST-4-PZ(C) be added to the Roxana Interim Groundwater Monitoring Program. These monitoring locations have been added to the program and the results incorporated into this report. In a second letter (CA-25) dated March 14, 2012 from IEPA to SOPUS, IEPA requested that perched groundwater be evaluated at the following existing groundwater monitoring wells and piezometers: P-60-12S, P-60-13S, ROST-5-PZ, ROST-7-PZ, ROST-10-PZ, and ROST-21-PZ. These groundwater monitoring wells and piezometers were incorporated into the program beginning in 2Q12.

In the same letter, IEPA also requested the installation of groundwater monitoring wells in the Village to evaluate potential light non-aqueous phase liquid (LNAPL) and groundwater quality.

[1] WRB, formed January 1, 2007, is a 50/50 joint venture between ConocoPhillips (COP) and EnCana US Refineries, LLC (now known as Cenovus Energy, Inc.).
[2] ConocoPhillips Company announced the separation of the Refining and Marketing business from the Exploration & Production business on July 14, 2011. The separation included an ownership change as well as a name change that became effective May 1, 2012. Phillips 66 is now the operator of the WRB WRR.

These groundwater monitoring wells were installed 4Q12 with the last well completed on December 8, 2012.

Lastly, on May 31, 2012, IEPA verbally requested the following be incorporated into the 2nd Quarter 2012 (2Q12) report:

- The ROST-4 series of groundwater monitoring wells and piezometers in the groundwater elevation contour maps **(Figures 3a and 3b)**;
- A groundwater contour map focusing on the west Fenceline area in the Village **(Figure 3b)**; and
- A regional LNAPL map **(Figure 4b)**.

Groundwater monitoring well samples were collected and analyzed during the 4Q12 to meet the requirements of the Interim Groundwater Monitoring Program, as specified in the above guidance. **Figure 2** shows the monitoring wells that are part of the interim monitoring well network.

The groundwater monitoring well gauging and sampling procedures are discussed in this section as part of Interim Groundwater Monitoring Program, as outlined in the IEPA's letter dated August 5, 2010 and modified based on the two March 14, 2012 letters.

2.1 ADDITIONAL ACTIVITIES OR MODIFICATIONS

The following additional work activities or modifications were conducted in the 4Q12 sampling event:

- Weekly groundwater monitoring well gauging of the WRR and Village groundwater monitoring wells has continued to date to assess groundwater control at the WRR.
- Perched groundwater monitoring piezometers ROST-5-PZ, ROST-7-PZ, ROST-10-PZ, and ROST-21-PZ in the Village, and P-60-12S and P-60-13S in the WRR could not be sampled according to the Stand Operating Procedure (SOP) due to low volume of water.
- Groundwater monitoring well P-68 contained LNAPL and was not sampled.
- Groundwater monitoring well P-55 was found to be compromised during this event and was not sampled. A replacement groundwater monitoring well is being installed.
- Groundwater monitoring well ROST-3-PZ was replaced with a new two (2) inch monitoring well.
- Groundwater profile conducted at GWP-28 on October 9, 2012. The Groundwater Monitoring Well Installation Plan for GWP-28 was submitted to IEPA on November 28, 2012.

2.2 GROUNDWATER MONITORING WELL GAUGING AND SAMPLING

Groundwater Monitoring Well Gauging

The comprehensive groundwater monitoring well gauging event was conducted on October 1-2 and 4, 2012, in conjunction with the 4Q12 gauging event for the WRR to evaluate groundwater flow direction and identify possible separate phase LNAPL in the Investigation Area. Depth to LNAPL (if present) and depth to water were noted in electronic format using Panasonic Toughbook® technology (Toughbook®) and on groundwater field gauging sheets. The cumulative groundwater monitoring well gauging data can be found in **Table 1**.

Low Flow Groundwater Purging and Sampling

Groundwater samples were collected from groundwater monitoring wells from October 24 to November 9, 2012. Groundwater monitoring well re-samples were collected on December 10 and December 17, 2012, and are discuss in **Section 3.2**.

Groundwater samples were collected via low-flow groundwater purging and sampling procedures. Prior to groundwater monitoring well sampling, the initial water level was measured and recorded in the Toughbook® and on groundwater field data sheets.

Groundwater monitoring wells MW-1 through MW-14, P-54, P-56 through P-59, P-66, P-74, P-93D, ROST-4-PZ(C), and T-12 were purged and sampled using a stainless steel submersible pump, low flow controller, and designated polyethylene tubing[3]. The submersible pump, with the proper length of designated polyethylene tubing, was slowly lowered into the groundwater monitoring well to be sampled and the pump intake was set near the midpoint of the groundwater monitoring well screen.

Groundwater monitoring wells P-93A, P-93B, and P-93C located on the WRR North Property, and P-114 located on the WRR West Property, were purged and sampled using a dedicated submersible stainless steel QED Environmental Systems, Inc. (QED) Well Wizard® groundwater monitoring well sampling pump and bonded designated polyethylene tubing. The dedicated pump intake is positioned near the midpoint of the well screen and the pump is operated using a QED MicroPurge Engine/Compressor with a QED Control Box.

Groundwater monitoring well ROST-3-PZ, located in the Village, was purged and sampled using a stainless steel submersible bladder pump and bonded designated polyethylene tubing. The submersible bladder pump was powered by the QED Sample Pro controller unit. The submersible bladder pump with the proper length of designated polyethylene tubing was slowly lowered into the groundwater monitoring well to be sampled and the pump intake was set near the midpoint of groundwater monitoring well screen.

The tubing from the sampling pump was connected to a flow-through cell, which discharged into a 5-gallon plastic container. Pumping was performed at a low flow rate (≤400 mL/minute) to minimize drawdown of the water level within the groundwater monitoring well. During groundwater purging, water quality parameters (pH, temperature, specific conductivity, turbidity,

[3] All designated tubing is stored in a sealed bag designated for the particular groundwater monitoring well between sampling events.

dissolved oxygen (DO) and oxidation-reduction (ORP)) were measured and recorded on the groundwater field data sheets after every flow-through cell volume. Purging continued until a minimum of three flow-through cell volumes of water were removed and the groundwater quality parameters stabilized. The final water quality parameters were recorded in the Toughbook® and on groundwater field data sheets. Once stabilization was achieved, the groundwater flow was diverted from the flow-through cell and groundwater samples were collected for volatile organic compound (VOC) and semivolatile organic compound (SVOC) analysis. Groundwater sampling field parameters can be found in **Tables 2a and 2b,** and field data forms are included in **Appendix A**.

2.3 HEALTH & SAFETY, DECONTAMINATION, AND INVESTIGATIVE DERIVED WASTE

Health & Safety

The quarterly sampling activities were performed and governed by the *Roxana / Route 111, WRR, and Rand Avenue Investigation Health and Safety Plan,* dated October 2012 (URS, 2012), as prepared by URS.

Prior to beginning site work and at the start of work each day, a daily safety meeting was held. The purpose of this meeting was to discuss the day's planned activities and to address any potential health and safety concerns. As a part of the daily safety meeting, job safety analyses (JSAs) were reviewed to address task specific safety concerns.

URS field personnel wore U.S. Environmental Protection Agency (USEPA) modified Level D personal protective equipment (PPE), which included hard hat, steel-toed boots, safety glasses, etc. In addition, work within the WRR was performed wearing flame retardant clothing (FRCs) per WRR requirements (in areas where required).

A photoionization detector (PID) with a 10.6 electron volt (eV) lamp, combustible gas indicator (CGI), and individual hydrogen sulfide gas detectors (for locations inside WRR) were used during the field activities to monitor air quality. A benzene gas monitor with a 9.8 eV lamp was available during field activities to monitor benzene levels, if necessary. Field instruments were calibrated prior to use each day in accordance with the manufacturer's specifications.

Decontamination

Field personnel and equipment underwent decontamination procedures to ensure the health and safety of those present, to maintain sample integrity, and to minimize cross contamination. Sampling equipment (e.g., groundwater pump) was decontaminated prior to the collection of each analytical sample, between sample locations, and prior to leaving the investigation site by washing with LiquiNox® and a distilled water rinse. Interface probes were decontaminated using isopropyl alcohol. Personnel and small equipment decontamination were performed at the sample locations.

Investigation Derived Waste

Investigative derived waste (IDW), such as purge water and decontamination water generated during groundwater sampling activities was collected, stored and disposed of in accordance with the Resource Conservation and Recovery Act (RCRA) and United States Department of

Transportation (DOT) regulations. Expendable materials (e.g., disposable sampling equipment such as gloves and tubing) were collected in trash bags and disposed as municipal waste.

Decontamination fluids and purge water from groundwater monitoring wells located at the Public Works Yard (MW-7 and MW-8) were staged in 55-gallon steel drums at the Public Works Yard and removed by Heritage Environmental Services the following day. This material is managed as hazardous waste based on prior characterization and was disposed at the Heritage Environmental Services, LLC facility in Indianapolis, Indiana.

Decontamination fluids and purge water from other groundwater monitoring wells in the Village were staged in 55-gallon steel drums located near the northeastern portion of the former Tannery Property. This material is managed as non-hazardous waste based on prior characterization and was disposed at the Heritage Environmental Services, LLC facility in Indianapolis, Indiana.

Decontamination fluids and purge water related to, or generated from, work within the WRR were collected and disposed through the WRR's National Pollutant Discharge Elimination System (NPDES)-permitted Wastewater Treatment Plant (WWTP).

2.4 GROUNDWATER SAMPLE HANDLING AND LABORATORY TESTING

Samples were collected in laboratory-supplied containers and labeled in the field. Sample information was recorded on a chain of custody (COC) form at the time of collection. The sample identification data (ID) format is "well ID-ROX-date". COCs are included with laboratory analytical reports in **Appendix B**.

Upon collection and labeling, sample containers were immediately placed inside an iced cooler, packed in such a way as to help prevent breakage and maintain inside temperature at or below 4°C. The samples were then delivered via overnight courier, under the proper COC documentation, to the laboratory for analysis.

Samples were analyzed by Accutest Laboratories in Marlborough, Massachusetts for VOCs via USEPA Methods 8260B and 8011, for SVOCs via USEPA Method 8270C, and for Polycyclic Aromatic Hydrocarbons (PAHs) via USEPA Method 8270LL. The 8011 method for VOCs was used in order to achieve lower reporting limits specified in the WRR RCRA Part B Permit for 1,2-dibromoethane and 1,2-dibromo-3-chloropropane, and the 8270LL method was used for PAHs. Beginning in 4Q12, naphthalene was analyzed as a VOC via method 8260. Prior results were reported by PAH analysis (Method 8270 LL). Per direction from IEPA the Interim

Groundwater Monitoring Program concentration limits need to be consistent with those in the permit.

2.5 DATA QUALITY REVIEW AND DATA MANAGEMENT

Laboratory data were provided in electronic form and were independently reviewed and qualified by URS. One hundred percent of the data were subjected to a data quality review (Level III data review). Evaluation of the data followed procedures outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2008). The laboratory assigned data qualifiers on the basis of their quality control or to indicate sample analysis information. Data qualifiers were also added by URS, as appropriate, and are included on the data table and the laboratory results in **Appendix B**. The results of the data review are discussed in **Section 3.2**.

Field data and documentation collected as part of this scope of work became part of the project file. URS maintains the files for the site, and the database management system.

The following documentation was completed and supplements the COC records:

- Field logbooks;
- Groundwater field gauging sheets;
- Groundwater field data sheets;
- Field sample collection data via electronic Toughbook®; and
- Safety documentation

This section presents the results of the 4Q12 groundwater sampling event.

3.1 GROUNDWATER MONITORING WELL GAUGING RESULTS

Comprehensive groundwater monitoring well gauging for the 4Q12 event was conducted October 1-2 and 4, 2012 in accordance with the Interim Groundwater Monitoring Program and the data can be found in **Table 1**. Groundwater levels have dropped approximately one to two feet since 3rd Quarter 2012 (3Q12); however, water levels continue to be above the top of the screens in many of the wells gauged during the 4Q12 event. The potentiometric surface observed during the 4Q12 groundwater monitoring well gauging (**Figures 3a and 3b**) illustrates groundwater flow toward the refinery groundwater depression wells.

Perched groundwater was evaluated in the Village during 4Q12. During 4Q12 comprehensive groundwater gauging, groundwater was not encountered in ROST-5-PZ, ROST-10-PZ, and ROST-21-PZ. Groundwater was encountered in P-60-12S, P-60-13S, and ROST-7-PZ, but continued to have limited groundwater within the piezometer. The 4Q12 gauging results for perched groundwater monitoring wells and piezometers P-60-12S, P-60-13S, ROST-5-PZ, ROST-7-PZ, ROST-10-PZ, and ROST-21-PZ can be found in **Table 1**.

During the 4Q12 groundwater monitoring well gauging event, LNAPL was detected in eleven groundwater monitoring wells, ten of which are in the WRR (**Table 1)**. Of the eleven groundwater monitoring wells, LNAPL was observed above the top of the groundwater monitoring well screens in WRR wells P-62, P-64, P-68, and T-7. LNAPL was observed below the top of the groundwater monitoring well screens in WRR wells P-60, P-60-11, P-60-S, P-71, P-75, and T-24, and ROST-4-PZ(E), which are located in the Village

LNAPL observed in groundwater monitoring wells located on the WRR property was removed for on-site reprocessing by P66. LNAPL located in groundwater monitoring wells within the Village was removed and placed into a labeled 55-gallon drum at the Tannery Property, for removal by a licensed waste transporter. LNAPL removal in the Village and WRR is conducted during quarterly and weekly gauging events. **Figures 4a and 4b** illustrate the measured LNAPL thickness observed during the 4Q12 gauging event.

3.2 DATA QUALITY REVIEW RESULTS

A total of fifteen sample delivery groups were prepared and sent to Accutest Laboratories in Marlborough, MA. Forty groundwater sample sets were prepared and analyzed for VOCs and SVOCs (including PAHs). This included 32 investigative sample sets, four field duplicate sets, and two matrix spike/matrix spike duplicate (MS/MSDs) sets.

Trip blanks, equipment blanks, and laboratory method blanks were analyzed to evaluate for the existence and magnitude of any contamination resulting from field and laboratory activities. Three equipment blank sets were collected for this quarter's sampling event. A trip blank set was included in every cooler which contained samples for VOC analysis. A total of sixteen trip blank sets were analyzed for VOCs for the groundwater sampling event. Compounds qualified by URS are specified in the data reviews presented in **Appendix B**.

Based on laboratory control/laboratory control sample duplicate (LCS/LCSD), MS/MSD, surrogate, holding time, and field duplicate criteria, the groundwater results reported were accepted for their intended use with the exception of rejected data. VOC data for samples MW10-ROX-102612 and MW1-ROX-102612, and SVOC and PAH data for sample P58-ROX-110612 were rejected due to laboratory error. Groundwater monitoring wells MW-10 and MW-1 were resampled for VOCs on December 17, 2012. Groundwater monitoring well P-58 was resampled for SVOCs and PAHs on December 10, 2012. The data from the resampling events are presented in this report. Additional information is provided in the data reviews in **Appendix B**.

3.3 ANALYTICAL RESULTS AND DISCUSSION

Tables 2a and 2b present cumulative information on groundwater sampling field parameters for main aquifer and perched wells, respectively. The laboratory analytical results for the groundwater samples collected during this event are presented in **Table 3**.

The following compounds were reported at concentrations at or above the laboratory reporting limit in groundwater samples during the 4Q12 sampling event. Italic font denotes constituent detected for the first time.

VOCs	
Benzene	Naphthalene[4]
n-Butylbenzene	n-Propylbenzene
sec-Butylbenzene	Toluene
tert-Butylbenzene	1,2,4-Trimethylbenzene
Chloroform	1,3,5-Trimethylbenzene
Ethylbenzene	m,p-Xylene
Isopropylbenzene (Cumene)	o-Xylenes
Methyl tert-Butyl Ether (MTBE)	Xylenes (total)

[4] Beginning in 4Q12, naphthalene was analyzed via 8260 VOC, and prior historic results were reported by PAH analysis.

SVOCs	
Acenapthene	Fluoranthene
Acenaphthylene	Fluorene
Anthracene	Indeno(1,2,3-cd)pyrene
Benzo(a)anthracene	1-Methylnaphthalene
Benzo(a)pyrene	2-Methylnaphthalene
Benzo(b)fluoranthene	2-Methylphenol(o-Cresol)
Benzo(g,h,i)perylene	3&4-Methylphenol(m&p-Cresol)
Beno(k)fluoranthene	*Pentachlorophenol*
bis(2-Ethylhexyl)phthalate	Phenanthrene
Chrysene (1,2-Benzphenanthracene)	Phenol
Dibenzo(a,h)anthracene	Pyrene
2,4-Dimethylphenol	

Two SVOCs, dibenzo(a,h)anthracene and pentachlorophenol, were detected in this event but were not detected in past events. The analytical detections were compared to the concentration limits as provided in Section IV E of the Permit for the WRB Refining LP Wood River Refinery[5]. These concentration limits include the IEPA Tiered Approach to Corrective Action Objectives (TACO) Tier 1 Groundwater Remediation Objectives for the Groundwater Component of the Groundwater Ingestion Route (35 IAC 742 Appendix B, Table E), and the Groundwater Quality Standards for Class I: Potable Resource Groundwater (35 IAC 620, Subpart D), the IEPA Toxicity Assessment Unit (Chemicals not in TACO, Tier 1 Tables), and R2008-018, Proposed Amendments to Groundwater Quality Standards (35 IAC 620). The results of this comparison are presented in **Table 3**. IEPA published screening values were not available for the following detected VOCs: sec-butylbenzene, tert-butylbenzene, 4-chlorotoluene, cymene (p-isopropyltoluene), and 1,2,4-trimethylbenzene.

Laboratory analytical results for the following VOCs exceeded their respective groundwater screening criteria in one or more samples this event: benzene, chloroform, ethylbenzene, MTBE, naphthalene, toluene, and 1,3,5-trimethylbenzene. The laboratory analytical results for the following SVOCs exceeded their respective groundwater screening criteria in one or more samples this event: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, bis(2-ethylhexyl)phthalate, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, 2-methylnapthalene, pentachlorophenol, and phenol. The analytical results from these groundwater samples are on **Table 3**. **Figure 5** presents concentrations of analytes that exceeded the indicated screening criteria for 4Q12.

[5] IEPA requested that the Interim Groundwater Program be consistent with the RCRA Part B Permit.

Figure 6 presents a plan view depiction of benzene analytical results in groundwater across the site. **Figure 7** presents a cross-section along Chaffer Street with a vertical distribution of the benzene concentrations in groundwater superimposed. **Figure 8** presents a cross-section across the Roxana Public Works Yard with a vertical distribution of the benzene analytical results in groundwater superimposed.

URS conducted the 4Q12 Roxana Interim Groundwater Monitoring Program and the following conclusions are based on the data and information collected as part of this program.

- During 4Q12, groundwater flow from the Investigation Area moved towards groundwater depressions wells at the WRR. Groundwater levels were approximately one to two feet lower than in the previous quarter.
- Perched groundwater was evaluated at groundwater monitoring wells P-60-12S, P-60-13S, ROST-5-PZ, ROST-7-PZ, ROST-10-PZ, and ROST-21-PZ. During the evaluation, groundwater sampling could not be performed because slow recharge prevented sampling per the SOP or the perched groundwater monitoring well was dry.
- Analytical results were collected from 32 groundwater monitoring wells during 4Q12 and the results are similar from the prior quarter.

Illinois Environmental Protection Agency (IEPA), 2010; (IEPA, 2010); *Letter providing approval with comments the SOPUS 2010 Delineation Report*. Issued to Shell Oil Products US (SOPUS), dated August 5, 2010.

Illinois Environmental Protection Agency Hazardous Waste Management RCRA Post-Closure Permit. Issued to Shell Oil Products US (SOPUS) September 23, 2010.Illinois Environmental Protection Agency (IEPA), 2011; (IEPA, 2011); *Letter regarding Corrective Action Conditions*. Issued to Shell Oil Products US (SOPUS), dated June 16, 2011.

Illinois Environmental Protection Agency (IEPA), 2011, (IEPA, 2011), *Letter Regarding Corrective Action Efforts for Contaminated Groundwater and Potential Free Product*. Issued to Shell Oil Products US (SOPUS), dated August 31, 2011.

Illinois Environmental Protection Agency (IEPA), 2012, (IEPA, 2012), *Letter (CA-24) in response to ROST-4-PZ Delineation and Sampling Report.* Issued to Shell Oil Products US (SOPUS), dated March 14, 2012.

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
MW-01										
4Q10	442.86	11/12/2010	NE	36.91	NA	NA	NA	405.95	399.45 - 384.45 (43.41 - 58.41)	*
1Q11	442.86	1/13/2011	NE	37.58	NA	NA	NA	405.28		*
2Q11	442.86	4/25/2011	NE	38.38	NA	NA	NA	404.48		*
3Q11	442.86	7/5/2011	NE	35.77	NA	NA	NA	407.09		*
	442.86	9/19/2011	NE	35.15	NA	NA	NA	407.71		*
4Q11	442.86	10/5/2011	NE	35.48	NA	NA	NA	407.38		*
1Q12	442.65	1/3/2012	NE	37.65	NA	NA	NA	405.00	392.67 - 382.67 (49.98 - 59.98)	*1" Piezometer replaced with a 2" groundwater monitoring well
2Q12	442.65	4/2/2012	NE	38.85	NA	NA	NA	403.80		*
3Q12	442.65	7/2/2012	NE	39.12	NA	NA	NA	403.53		*
4Q12	442.65	10/1/2012	NE	40.92	NA	NA	NA	401.73		*
MW-02										
4Q10	443.93	11/12/2010	NE	38.12	NA	NA	NA	405.81	396.74 - 381.74 (47.19 - 62.19)	*
1Q11	443.93	1/13/2011	NE	38.67	NA	NA	NA	405.26		*
2Q11	443.93	4/25/2011	NE	39.61	NA	NA	NA	404.32		*
3Q11	443.93	7/5/2011	NE	37.04	NA	NA	NA	406.89		*
	443.93	9/19/2011	NE	36.36	NA	NA	NA	407.57		*
4Q11	443.93	10/5/2011	NE	36.65	NA	NA	NA	407.28		*
1Q12	443.77	1/3/2012	NE	38.88	NA	NA	NA	404.89	392.45 - 382.45 (51.32 - 61.32)	*1" Piezometer replaced with a 2" groundwater monitoring well
2Q12	443.77	4/2/2012	NE	40.04	NA	NA	NA	403.73		*
3Q12	443.77	7/2/2012	NE	40.32	NA	NA	NA	403.45		*
4Q12	443.77	10/1/2012	NE	42.10	NA	NA	NA	401.67		*
MW-03										
4Q10	430.36	11/12/2010	NE	24.05	NA	NA	NA	406.31	399.38 - 384.38 (30.98 - 45.98)	*
1Q11	430.36	1/13/2011	NE	24.92	NA	NA	NA	405.44		*
2Q11	430.36	4/25/2011	NE	25.42	NA	NA	NA	404.94		*
3Q11	430.36	7/5/2011	NE	22.72	NA	NA	NA	407.64		*
	430.36	9/19/2011	NE	22.40	NA	NA	NA	407.96		*
4Q11	430.36	10/5/2011	NE	22.76	NA	NA	NA	407.60		*
1Q12	430.08	1/3/2012	NE	24.84	NA	NA	NA	405.24	395.41 - 385.41 (34.67 - 44.67)	*1" Piezometer replaced with a 2" groundwater monitoring well
2Q12	430.08	4/2/2012	NE	26.04	NA	NA	NA	404.04		*
3Q12	430.08	7/2/2012	NE	26.30	NA	NA	NA	403.78		*
4Q12	430.08	10/1/2012	NE	28.13	NA	NA	NA	401.95		*
MW-04										
4Q10	441.58	11/12/2010	NE	35.38	NA	NA	NA	406.20	398.95 - 383.95 (42.63 - 57.63)	*
1Q11	441.58	1/13/2011	NE	36.04	NA	NA	NA	405.54		*
2Q11	441.58	4/25/2011	NE	36.74	NA	NA	NA	404.84		*
3Q11	441.58	7/5/2011	NE	34.15	NA	NA	NA	407.43		*
	441.58	9/19/2011	NE	33.65	NA	NA	NA	407.93		*
4Q11	441.58	10/5/2011	NE	33.99	NA	NA	NA	407.59		*
1Q12	441.14	1/3/2012	NE	35.97	NA	NA	NA	405.17	395.08 - 385.08 (46.06 - 56.06)	*1" Piezometer replaced with a 2" groundwater monitoring well
2Q12	441.14	4/2/2012	NE	37.11	NA	NA	NA	404.03		*
3Q12	441.14	7/2/2012	NE	37.43	NA	NA	NA	403.71		*
4Q12	441.14	10/1/2012	NE	39.27	NA	NA	NA	401.87		*
MW-05										
4Q10	429.73	11/12/2010	NE	23.32	NA	NA	NA	406.41	398.6 - 383.6 (31.13 - 46.13)	*
1Q11	429.73	1/13/2011	NE	24.15	NA	NA	NA	405.58		*
2Q11	429.73	4/25/2011	NE	24.65	NA	NA	NA	405.08		*
3Q11	429.73	7/5/2011	NE	22.00	NA	NA	NA	407.73		*
	429.73	9/19/2011	NE	21.72	NA	NA	NA	408.01		*
4Q11	429.73	10/5/2011	NE	22.06	NA	NA	NA	407.67		*
1Q12	429.80	1/3/2012	NE	24.45	NA	NA	NA	405.35	395.83 - 385.83 (33.97 - 43.97)	*1" Piezometer replaced with a 2" groundwater monitoring well
2Q12	429.80	4/2/2012	NE	25.65	NA	NA	NA	404.15		*
3Q12	429.80	7/2/2012	NE	25.91	NA	NA	NA	403.89		*
4Q12	429.80	10/1/2012	NE	27.80	NA	NA	NA	402.00		*
MW-06A										
4Q10	432.42	11/12/2010	NE	25.62	NA	NA	NA	406.80	400.44 - 385.44 (31.98 - 46.98)	*
1Q11	432.42	1/13/2011	NE	26.36	NA	NA	NA	406.06		*
2Q11	432.42	4/25/2011	NE	26.78	NA	NA	NA	405.64		*
3Q11	432.42	7/5/2011	NE	24.21	NA	NA	NA	408.21		*
	432.42	9/19/2011	NE	24.07	NA	NA	NA	408.35		*
4Q11	432.42	10/5/2011	NE	24.44	NA	NA	NA	407.98		*
1Q12	432.14	1/3/2012	NE	26.34	NA	NA	NA	405.80	397.31 - 387.31 (34.83 - 44.83)	*1" Piezometer replaced with a 2" groundwater monitoring well
2Q12	432.14	4/2/2012	NE	27.57	NA	NA	NA	404.57		*
3Q12	432.14	7/2/2012	NE	27.88	NA	NA	NA	404.26		*
4Q12	432.14	10/1/2012	NE	28.81	NA	NA	NA	402.33		*
MW-06B										
4Q10	432.29	11/12/2010	NE	25.47	NA	NA	NA	406.82	368.24 - 363.24 (64.05 - 69.05)	*
1Q11	432.29	1/13/2011	NE	26.21	NA	NA	NA	406.08		*
2Q11	432.29	4/25/2011	NE	26.65	NA	NA	NA	405.64		*
3Q11	432.29	7/5/2011	NE	24.08	NA	NA	NA	408.21		*
4Q11	432.29	10/5/2011	NE	24.28	NA	NA	NA	408.01		*
1Q12	432.29	1/3/2012	NE	26.40	NA	NA	NA	405.89		*
2Q12	432.29	4/2/2012	NE	27.61	NA	NA	NA	404.68		*
3Q12	432.29	7/2/2012	NE	27.92	NA	NA	NA	404.37		*
4Q12	432.29	10/1/2012	NE	29.86	NA	NA	NA	402.43		*

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WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
MW-06C										
4Q10	432.11	11/12/2010	NE	25.25	NA	NA	NA	406.86	347.16 - 342.16 (84.95 - 89.95)	*
1Q11	432.11	1/13/2011	NE	25.97	NA	NA	NA	406.14		*
2Q11	432.11	4/25/2011	NE	26.73	NA	NA	NA	405.38		*
3Q11	432.11	7/5/2011	NE	23.80	NA	NA	NA	408.31		*
4Q11	432.11	10/5/2011	NE	24.03	NA	NA	NA	408.08		*
1Q12	432.11	1/3/2012	NE	26.17	NA	NA	NA	405.94		*
2Q12	432.11	4/2/2012	NE	27.40	NA	NA	NA	404.71		*
3Q12	432.11	7/2/2012	NE	27.71	NA	NA	NA	404.40		*
4Q12	432.11	10/1/2012	NE	29.70	NA	NA	NA	402.41		*
MW-06D										
4Q10	431.99	11/12/2010	NE	25.13	NA	NA	NA	406.86	327.27 - 322.27 (104.72 - 109.72)	*
1Q11	431.99	1/13/2011	NE	25.87	NA	NA	NA	406.12		*
2Q11	431.99	4/25/2011	NE	26.30	NA	NA	NA	405.69		*
3Q11	431.99	7/5/2011	NE	23.67	NA	NA	NA	408.32		*
4Q11	431.99	10/5/2011	NE	23.95	NA	NA	NA	408.04		*
1Q12	431.99	1/3/2012	NE	26.05	NA	NA	NA	405.94		*
2Q12	431.99	4/2/2012	NE	27.46	NA	NA	NA	404.53		*
3Q12	431.99	7/2/2012	NE	27.58	NA	NA	NA	404.41		*
4Q12	431.99	10/1/2012	NE	29.51	NA	NA	NA	402.48		*
MW-07										
4Q10	443.10	11/12/2010	NE	36.93	NA	NA	NA	406.17	400.18 - 390.18 (42.92 - 52.92)	*
1Q11	443.10	1/13/2011	NE	37.52	NA	NA	NA	405.58		*
2Q11	443.10	4/25/2011	NE	38.18	NA	NA	NA	404.92		*
3Q11	443.10	7/5/2011	NE	35.65	NA	NA	NA	407.45		*
	443.10	9/19/2011	NE	35.22	NA	NA	NA	407.88		*
4Q11	443.10	10/5/2011	NE	25.52	NA	NA	NA	417.58		*
1Q12	443.10	1/3/2012	NE	37.79	NA	NA	NA	405.31		*
2Q12	443.10	4/2/2012	NE	38.91	NA	NA	NA	404.19		*
3Q12	443.10	7/2/2012	NE	39.23	NA	NA	NA	403.87		*
4Q12	443.10	10/1/2012	NE	41.10	NA	NA	NA	402.00		*
MW-08										
4Q10	434.11	11/12/2010	NE	27.84	NA	NA	NA	406.27	400.51 - 390.51 (33.6 - 43.6)	*
1Q11	434.11	1/13/2011	NE	28.59	NA	NA	NA	405.52		*
2Q11	434.11	4/25/2011	NE	29.15	NA	NA	NA	404.96		*
3Q11	434.11	7/5/2011	NE	26.55	NA	NA	NA	407.56		*
4Q11	434.11	10/5/2011	NE	26.57	NA	NA	NA	407.54		*
1Q12	434.11	1/3/2012	NE	28.84	NA	NA	NA	405.27		*
2Q12	434.11	4/2/2012	NE	30.01	NA	NA	NA	404.10		*
3Q12	434.11	7/2/2012	NE	30.29	NA	NA	NA	403.82		*
4Q12	434.11	10/1/2012	NE	32.17	NA	NA	NA	401.94		*
MW-09										
4Q10	445.20	11/12/2010	NE	39.00	NA	NA	NA	406.20	398.75 - 388.75 (46.45 - 56.45)	*
1Q11	445.20	1/13/2011	NE	39.62	NA	NA	NA	405.58		*
2Q11	445.20	4/25/2011	NM	NM	NA	NA	NA	NA		Area flooded; unable to access to well
3Q11	445.20	7/5/2011	NE	38.06	NA	NA	NA	407.14		*
	445.20	9/19/2011	NE	37.27	NA	NA	NA	407.93		*
4Q11	445.20	10/5/2011	NE	37.56	NA	NA	NA	407.64		*
1Q12	445.20	1/3/2012	NE	39.50	NA	NA	NA	405.70		*
2Q12	445.20	4/2/2012	NE	40.77	NA	NA	NA	404.43		*
3Q12	445.20	7/2/2012	NE	40.07	NA	NA	NA	405.13		*
4Q12	445.20	10/1/2012	NE	42.75	NA	NA	NA	402.45		*
MW-10										
4Q10	445.03	11/12/2010	NE	38.97	NA	NA	NA	406.06	400.6 - 390.6 (44.43 - 54.43)	*
1Q11	445.03	1/13/2011	NE	39.40	NA	NA	NA	405.63		*
2Q11	445.03	4/25/2011	NE	40.26	NA	NA	NA	404.77		*
3Q11	445.03	7/5/2011	NE	38.01	NA	NA	NA	407.02		*
	445.03	9/19/2011	NE	37.24	NA	NA	NA	407.79		*
4Q11	445.03	10/5/2011	NE	37.47	NA	NA	NA	407.56		*
1Q12	445.03	1/3/2012	NE	39.39	NA	NA	NA	405.64		*
2Q12	445.03	4/2/2012	NE	40.58	NA	NA	NA	404.45		*
3Q12	445.03	7/2/2012	NE	40.92	NA	NA	NA	404.11		*
4Q12	445.03	10/1/2012	NE	42.69	NA	NA	NA	402.34		*
MW-11										
4Q10	442.33	11/12/2010	NE	36.39	NA	NA	NA	405.94	400.67 - 390.67 (41.66 - 51.66)	*
1Q11	442.33	1/13/2011	NE	37.15	NA	NA	NA	405.18		*
2Q11	442.33	4/25/2011	NE	38.00	NA	NA	NA	404.33		*
3Q11	442.33	7/5/2011	NE	35.46	NA	NA	NA	406.87		*
	442.33	9/19/2011	NE	34.68	NA	NA	NA	407.65		*
4Q11	442.33	10/5/2011	NE	34.07	NA	NA	NA	408.26		*
1Q12	442.33	1/3/2012	NE	37.21	NA	NA	NA	405.12		*
2Q12	442.33	4/2/2012	NE	38.44	NA	NA	NA	403.89		*
3Q12	442.33	7/2/2012	NE	38.68	NA	NA	NA	403.65		*
4Q12	442.33	10/1/2012	NE	40.42	NA	NA	NA	401.91		*
MW-12										
4Q10	442.60	11/12/2010	NE	36.63	NA	NA	NA	405.97	400.68 - 390.68 (41.92 - 51.92)	*
1Q11	442.60	1/13/2011	NE	37.42	NA	NA	NA	405.18		*
2Q11	442.60	4/25/2011	NE	38.20	NA	NA	NA	404.40		*
3Q11	442.60	7/5/2011	NE	35.55	NA	NA	NA	407.05		*
	442.60	9/19/2011	NE	34.88	NA	NA	NA	407.72		*
4Q11	442.60	10/5/2011	NE	35.20	NA	NA	NA	407.40		*
1Q12	442.60	1/3/2012	NE	37.57	NA	NA	NA	405.03		*
2Q12	442.60	4/2/2012	NE	38.75	NA	NA	NA	403.85		*
3Q12	442.60	7/2/2012	NE	39.01	NA	NA	NA	403.59		*
4Q12	442.60	10/1/2012	NE	40.78	NA	NA	NA	401.82		*

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WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
MW-13										
1Q11	430.27	1/13/2011	NE	24.28	NA	NA	NA	405.99	404.7 - 394.7 (25.57 - 35.57)	*
2Q11	430.27	4/25/2011	NE	24.47	NA	NA	NA	405.80		*
3Q11	430.27	7/5/2011	NE	21.67	NA	NA	NA	408.60		*
	430.27	9/19/2011	NE	21.88	NA	NA	NA	408.39		*
4Q11	430.27	10/6/2011	NE	21.20	NA	NA	NA	409.07		*
1Q12	430.27	1/3/2012	NE	24.35	NA	NA	NA	405.92		*
2Q12	430.27	4/2/2012	NE	25.48	NA	NA	NA	404.79		*
3Q12	430.27	7/3/2012	NE	25.95	NA	NA	NA	404.32		
4Q12	430.27	10/1/2012	NE	40.44	NA	NA	NA	389.83		
	430.27	10/2/2012	NE	27.99	NA	NA	NA	402.28		
MW-14										
1Q12	434.44	1/3/2012	NM	NM	NA	NA	NA	NA	401.02 - 391.02 (31.42 - 43.42)	Restricted Area
2Q12	434.44	4/2/2012	NM	NM	NA	NA	NA	NA		Restricted Area
3Q12	434.44	7/5/2012	NE	29.87	NA	NA	NA	404.57		*
4Q12	434.44	10/2/2012	NE	31.86	NA	NA	NA	402.58		*
P-01										
1Q10	442.56	1/1/2010	NE	31.87	NA	NA	NA	410.69	380.61 - 375.61 (61.95 - 66.95)	*
2Q10	442.56	4/1/2010	NE	30.11	NA	NA	NA	412.45		*
3Q10	442.56	7/1/2010	NE	29.49	NA	NA	NA	413.07		*
4Q10	442.56	10/1/2010	NE	27.86	NA	NA	NA	414.70		*
1Q11	442.56	1/1/2011	NE	28.52	NA	NA	NA	414.04		*
2Q11	442.56	4/1/2011	NE	27.30	NA	NA	NA	415.26		*
3Q11	442.56	7/5/2011	NE	25.51	NA	NA	NA	417.05		*
	442.56	9/19/2011	NE	27.75	NA	NA	NA	414.81		*
4Q11	442.56	10/6/2011	NE	28.15	NA	NA	NA	414.41		*
1Q12	442.56	1/3/2012	NE	28.93	NA	NA	NA	413.63		*
2Q12	442.56	4/2/2012	NE	29.38	NA	NA	NA	413.18		*
3Q12	442.56	7/2/2012	NE	30.60	NA	NA	NA	411.96		*
4Q12	442.56	10/1/2012	NE	32.35	NA	NA	NA	410.21		*
P-4U										
1Q10	442.50	1/1/2010	NE	33.47	NA	NA	NA	409.03	361.35 - 359.35 (81.15 - 83.15)	*
2Q10	442.50	4/1/2010	NE	32.06	NA	NA	NA	410.44		*
3Q10	442.50	7/1/2010	NE	31.00	NA	NA	NA	411.50		*
4Q10	442.50	10/1/2010	NE	29.68	NA	NA	NA	412.82		*
1Q11	442.50	1/1/2011	NE	29.81	NA	NA	NA	412.69		*
2Q11	442.50	4/1/2011	NE	29.10	NA	NA	NA	413.40		*
3Q11	442.50	7/5/2011	NE	27.02	NA	NA	NA	415.48		*
	442.50	9/19/2011	NE	28.71	NA	NA	NA	413.79		*
4Q11	442.50	10/6/2011	NE	29.17	NA	NA	NA	413.33		*
1Q12	442.50	1/3/2012	NE	40.32	NA	NA	NA	402.18		*
2Q12	442.50	4/2/2012	NE	30.80	NA	NA	NA	411.70		*
3Q12	442.50	7/2/2012	NE	31.70	NA	NA	NA	410.80		*
4Q12	442.50	10/1/2012	NE	33.65	NA	NA	NA	408.85		*
P-5L										
1Q10	443.79	1/1/2010	NE	32.56	NA	NA	NA	411.23	301.89 - 299.89 (141.9 - 143.9)	*
2Q10	443.79	4/1/2010	NE	32.79	NA	NA	NA	411.00		*
3Q10	443.79	7/1/2010	NE	30.30	NA	NA	NA	413.49		*
4Q10	443.79	10/1/2010	NE	29.21	NA	NA	NA	414.58		*
1Q11	443.79	1/1/2011	NE	29.55	NA	NA	NA	414.24		*
2Q11	443.79	4/1/2011	NE	28.10	NA	NA	NA	415.69		*
3Q11	443.79	7/5/2011	NE	25.87	NA	NA	NA	417.92		*
	443.79	9/19/2011	NE	28.47	NA	NA	NA	415.32		*
4Q11	443.79	10/6/2011	NE	29.16	NA	NA	NA	414.63		*
1Q12	443.79	1/3/2012	NE	30.42	NA	NA	NA	413.37		*
2Q12	443.79	4/2/2012	NE	30.56	NA	NA	NA	413.23		*
3Q12	443.79	7/2/2012	NE	31.60	NA	NA	NA	412.19		*
4Q12	443.79	10/1/2012	NE	33.60	NA	NA	NA	410.19		*
P-5U										
1Q10	444.15	1/1/2010	NE	34.48	NA	NA	NA	409.67	313.52 - 311.52 (130.63 - 132.63)	*
2Q10	444.15	4/1/2010	NE	30.97	NA	NA	NA	413.18		*
3Q10	444.15	7/1/2010	NE	31.95	NA	NA	NA	412.20		*
4Q10	444.15	10/1/2010	NE	30.82	NA	NA	NA	413.33		*
1Q11	444.15	1/1/2011	NE	30.96	NA	NA	NA	413.19		*
2Q11	444.15	4/1/2011	NE	29.91	NA	NA	NA	414.24		*
3Q11	444.15	7/5/2011	NE	27.80	NA	NA	NA	416.35		*
	444.15	9/19/2011	NE	29.84	NA	NA	NA	414.31		*
4Q11	444.15	10/6/2011	NE	30.41	NA	NA	NA	413.74		*
1Q12	444.15	1/3/2012	NE	30.42	NA	NA	NA	413.73		*
2Q12	444.15	4/2/2012	NE	31.96	NA	NA	NA	412.19		*
3Q12	444.15	7/2/2012	NE	32.80	NA	NA	NA	411.35		*
4Q12	444.15	10/1/2012	NE	35.00	NA	NA	NA	409.15		*
P-6L										
4Q11	443.20	10/6/2011	NE	28.92	NA	NA	NA	414.28	Unknown	
1Q12	443.20	1/3/2012	NE	30.21	NA	NA	NA	412.99		
2Q12	443.20	4/2/2012	NE	30.38	NA	NA	NA	412.82		
3Q12	443.20	7/2/2012	NE	31.18	NA	NA	NA	412.02		
4Q12	443.20	10/1/2012	NE	33.45	NA	NA	NA	409.75		

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
P-6U										
1Q10	443.35	1/1/2010	NE	33.94	NA	NA	NA	409.41	362.85 - 360.85 (80.5 - 82.5)	*
2Q10	443.35	4/1/2010	NE	32.49	NA	NA	NA	410.86		*
3Q10	443.35	7/1/2010	NE	31.43	NA	NA	NA	411.92		*
4Q10	443.35	10/1/2010	NE	30.33	NA	NA	NA	413.02		*
1Q11	443.35	1/1/2011	NE	30.53	NA	NA	NA	412.82		*
2Q11	443.35	4/1/2011	NE	29.57	NA	NA	NA	413.78		*
3Q11	443.35	7/5/2011	NE	27.35	NA	NA	NA	416.00		*
	443.35	9/19/2011	NE	29.26	NA	NA	NA	414.09		*
4Q11	443.35	10/6/2011	NE	29.78	NA	NA	NA	413.57		*
1Q12	443.35	1/3/2012	NE	30.97	NA	NA	NA	412.38		*
2Q12	443.35	4/2/2012	NE	31.42	NA	NA	NA	411.93		*
3Q12	443.35	7/2/2012	NE	32.25	NA	NA	NA	411.10		*
4Q12	443.35	10/1/2012	NE	30.40	NA	NA	NA	412.95		*
P-7L										
4Q11	443.42	10/6/2011	NE	29.57	NA	NA	NA	413.85	Unknown	
1Q12	443.42	1/3/2012	NE	30.91	NA	NA	NA	412.51		
2Q12	443.42	4/2/2012	NE	31.28	NA	NA	NA	412.14		
3Q12	443.42	7/2/2012	NE	32.60	NA	NA	NA	410.82		
4Q12	443.42	10/1/2012	NE	33.98	NA	NA	NA	409.44		
P-7U										
1Q10	443.80	1/1/2010	NE	34.95	NA	NA	NA	408.85	382.72 - 380.72 (61.08 - 63.08)	*
2Q10	443.80	4/1/2010	NE	32.49	NA	NA	NA	411.31		*
3Q10	443.80	7/1/2010	NE	31.63	NA	NA	NA	412.17		*
4Q10	443.80	10/1/2010	NE	30.65	NA	NA	NA	413.15		*
1Q11	443.80	1/1/2011	NE	30.70	NA	NA	NA	413.10		*
2Q11	443.80	4/1/2011	NE	29.66	NA	NA	NA	414.14		*
3Q11	443.80	7/5/2011	NE	27.30	NA	NA	NA	416.50		*
	443.80	9/19/2011	NE	29.51	NA	NA	NA	414.29		*
4Q11	443.80	10/6/2011	NE	30.02	NA	NA	NA	413.78		*
1Q12	443.80	1/3/2012	NE	31.23	NA	NA	NA	412.57		*
2Q12	443.80	4/2/2012	NE	31.63	NA	NA	NA	412.17		*
3Q12	443.80	7/2/2012	NE	31.86	NA	NA	NA	411.94		*
4Q12	443.80	10/1/2012	NE	34.55	NA	NA	NA	409.25		*
P-8L										
4Q11	443.10	10/6/2011	NE	31.01	NA	NA	NA	412.09	Unknown	
1Q12	443.10	1/3/2012	NE	30.92	NA	NA	NA	412.18		
2Q12	443.10	4/2/2012	NE	31.22	NA	NA	NA	411.88		
3Q12	443.10	7/2/2012	NE	31.81	NA	NA	NA	411.29		
4Q12	443.10	10/1/2012	NE	33.74	NA	NA	NA	409.36		
P-8U										
1Q10	441.87	1/1/2010	NM	NM	NA	NA	NA	NA	381.77 - 379.77 (60.1 - 62.1)	
2Q10	441.87	4/1/2010	NE	33.69	NA	NA	NA	408.18		*
3Q10	441.87	7/1/2010	NE	32.28	NA	NA	NA	409.59		*
4Q10	441.87	10/1/2010	NE	31.14	NA	NA	NA	410.73		*
1Q11	443.70	1/1/2011	NE	30.79	NA	NA	NA	412.91		*
2Q11	443.70	4/1/2011	NE	30.50	NA	NA	NA	413.20		*
3Q11	441.87	7/5/2011	NE	28.20	NA	NA	NA	413.67		*
	441.87	9/19/2011	NE	29.46	NA	NA	NA	412.41		*
4Q11	441.87	10/6/2011	NE	29.86	NA	NA	NA	412.01		*
1Q12	441.87	1/3/2012	NE	30.99	NA	NA	NA	410.88		*
2Q12	441.87	4/2/2012	NE	31.73	NA	NA	NA	410.14		*
3Q12	441.87	7/9/2012	NE	32.51	NA	NA	NA	409.36		*
4Q12	441.87	10/1/2012	NE	34.77	NA	NA	NA	407.10		*
P-9L										
4Q11	444.41	10/6/2011	NE	33.58	NA	NA	NA	410.83	Unknown	
1Q12	444.41	1/3/2012	NE	34.82	NA	NA	NA	409.59		
2Q12	444.41	4/2/2012	NE	35.95	NA	NA	NA	408.46		
3Q12	444.41	7/2/2012	NE	36.48	NA	NA	NA	407.93		
4Q12	444.41	10/1/2012	NE	38.22	NA	NA	NA	406.19		
P-9U										
1Q10	444.91	1/1/2010	NE	41.13	NA	NA	NA	403.78	344.32 - 342.32 (100.59 - 102.59)	*
2Q10	444.91	4/1/2010	NE	39.62	NA	NA	NA	405.29		*
3Q10	444.91	7/1/2010	NE	38.85	NA	NA	NA	406.06		*
4Q10	444.91	10/1/2010	NE	38.71	NA	NA	NA	406.20		*
1Q11	444.91	1/13/2011	NE	36.87	NA	NA	NA	408.04		*
2Q11	444.91	4/1/2011	NE	35.71	NA	NA	NA	409.20		*
3Q11	444.91	7/5/2011	NE	34.92	NA	NA	NA	409.99		*
	444.91	9/19/2011	NE	34.52	NA	NA	NA	410.39		*
4Q11	444.91	10/6/2011	NE	34.56	NA	NA	NA	410.35		*
1Q12	444.91	1/3/2012	NE	34.52	NA	NA	NA	410.39		*
2Q12	444.91	4/2/2012	NE	36.34	NA	NA	NA	408.57		*
3Q12	444.91	7/2/2012	NE	36.81	NA	NA	NA	408.10		*
4Q12	444.91	10/1/2012	NE	38.59	NA	NA	NA	406.32		*

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
P-11L										
1Q10	442.80	1/1/2010	NE	35.97	NA	NA	NA	406.83	332.59 - 330.59 (110.21 - 112.21)	*
2Q10	442.80	4/1/2010	NE	34.58	NA	NA	NA	408.22		*
3Q10	442.80	7/1/2010	NE	33.22	NA	NA	NA	409.58		*
4Q10	442.80	10/1/2010	NE	31.80	NA	NA	NA	411.00		*
1Q11	442.80	1/1/2011	NE	31.62	NA	NA	NA	411.18		*
2Q11	442.80	4/1/2011	NE	31.28	NA	NA	NA	411.52		*
3Q11	442.80	7/5/2011	NE	29.34	NA	NA	NA	413.46		*
	442.80	9/19/2011	NE	30.37	NA	NA	NA	412.43		*
4Q11	442.80	10/6/2011	NE	30.67	NA	NA	NA	412.13		*
1Q12	442.80	1/3/2012	NE	31.77	NA	NA	NA	411.03		*
2Q12	442.80	4/2/2012	NE	32.68	NA	NA	NA	410.12		*
3Q12	442.80	7/2/2012	NE	33.52	NA	NA	NA	409.28		*
4Q12	442.80	10/1/2012	NE	35.56	NA	NA	NA	407.24		*
P-11U										
1Q10	443.09	1/1/2010	NE	36.62	NA	NA	NA	406.47	343.17 - 341.17 (99.92 - 101.92)	*
2Q10	443.09	4/1/2010	NE	35.20	NA	NA	NA	407.89		*
3Q10	443.09	7/1/2010	NE	33.83	NA	NA	NA	409.26		*
4Q10	443.09	10/1/2010	NE	32.45	NA	NA	NA	410.64		*
1Q11	443.09	1/1/2011	NE	32.21	NA	NA	NA	410.88		*
2Q11	443.09	4/1/2011	NE	31.92	NA	NA	NA	411.17		*
3Q11	443.09	7/5/2011	NE	29.95	NA	NA	NA	413.14		*
	443.09	9/19/2011	NE	31.03	NA	NA	NA	412.06		*
4Q11	443.09	10/6/2011	NE	31.12	NA	NA	NA	411.97		*
1Q12	443.09	1/3/2012	NE	32.35	NA	NA	NA	410.74		*
2Q12	443.09	4/2/2012	NE	33.34	NA	NA	NA	409.75		*
3Q12	443.09	7/2/2012	NE	34.15	NA	NA	NA	408.94		*
4Q12	443.09	10/1/2012	NE	36.19	NA	NA	NA	406.90		*
P-14										
1Q10	442.65	1/1/2010	NE	31.95	NA	NA	NA	410.70	395.32 - 385.32 (47.33 - 57.33)	*
2Q10	442.65	4/1/2010	NE	30.20	NA	NA	NA	412.45		*
3Q10	442.65	7/1/2010	NE	29.56	NA	NA	NA	413.09		*
4Q10	442.65	10/1/2010	NE	27.94	NA	NA	NA	414.71		*
1Q11	442.65	1/1/2011	NE	28.57	NA	NA	NA	414.08		*
2Q11	442.65	4/1/2011	NE	27.38	NA	NA	NA	415.27		*
3Q11	442.65	7/5/2011	NE	25.57	NA	NA	NA	417.08		*
	442.65	9/19/2011	NE	27.77	NA	NA	NA	414.88		*
4Q11	442.65	10/6/2011	NE	28.20	NA	NA	NA	414.45		*
1Q12	442.65	1/3/2012	NE	28.98	NA	NA	NA	413.67		*
2Q12	442.65	4/2/2012	NE	29.42	NA	NA	NA	413.23		*
3Q12	442.65	7/2/2012	NE	30.55	NA	NA	NA	412.10		*
4Q12	442.65	10/1/2012	NE	32.39	NA	NA	NA	410.26		*
P-15										
1Q10	443.35	1/1/2010	NE	34.15	NA	NA	NA	409.20	397.9 - 387.9 (45.45 - 55.45)	*
2Q10	443.35	4/1/2010	NE	32.80	NA	NA	NA	410.55		*
3Q10	443.35	7/1/2010	NE	31.68	NA	NA	NA	411.67		*
4Q10	443.35	10/1/2010	NE	30.43	NA	NA	NA	412.92		*
1Q11	443.35	1/1/2011	NE	30.55	NA	NA	NA	412.80		*
2Q11	443.35	4/1/2011	NE	29.80	NA	NA	NA	413.55		*
3Q11	443.35	7/5/2011	NE	27.75	NA	NA	NA	415.60		*
	443.35	9/19/2011	NE	29.45	NA	NA	NA	413.90		*
4Q11	443.35	10/6/2011	NE	29.93	NA	NA	NA	413.42		*
1Q12	443.35	1/3/2012	31.05	31.06	412.29	412.30	0.01	412.30		*
2Q12	443.35	4/2/2012	NE	31.55	NA	NA	NA	411.80		*
3Q12	443.35	7/2/2012	NE	32.40	NA	NA	NA	410.95		*
4Q12	443.35	10/1/2012	NE	34.35	NA	NA	NA	409.00		*
P-16										
1Q10	442.31	1/1/2010	NE	32.86	NA	NA	NA	409.45	396.57 - 386.57 (45.74 - 55.74)	*
2Q10	442.31	4/1/2010	NE	31.43	NA	NA	NA	410.88		*
3Q10	442.31	7/1/2010	NE	30.32	NA	NA	NA	411.99		*
4Q10	442.31	10/1/2010	NE	29.21	NA	NA	NA	413.10		*
1Q11	442.31	1/1/2011	NE	29.40	NA	NA	NA	412.91		*
2Q11	442.31	4/1/2011	NE	28.54	NA	NA	NA	413.77		*
3Q11	442.31	7/5/2011	NE	26.34	NA	NA	NA	415.97		*
	442.31	9/19/2011	NE	28.26	NA	NA	NA	414.05		*
4Q11	442.31	10/6/2011	NE	28.77	NA	NA	NA	413.54		*
1Q12	442.31	1/3/2012	NE	30.00	NA	NA	NA	412.31		*
2Q12	442.31	NA	NM	NM	NA	NA	NA	NA		
3Q12	442.31	7/6/2012	NE	31.16	NA	NA	NA	411.15		*
4Q12	442.31	10/4/2012	NE	33.35	NA	NA	NA	408.96		*
P-43										
1Q10	444.07	1/1/2010	NE	37.44	NA	NA	NA	406.63	380.51 - 370.51 (63.56 - 73.56)	*
2Q10	444.07	4/1/2010	NE	36.02	NA	NA	NA	408.05		*
3Q10	444.07	7/1/2010	NE	34.68	NA	NA	NA	409.39		*
4Q10	444.07	10/1/2010	NE	33.29	NA	NA	NA	410.78		*
1Q11	444.07	1/1/2011	NE	33.09	NA	NA	NA	410.98		*
2Q11	444.07	4/1/2011	NE	32.75	NA	NA	NA	411.32		*
3Q11	444.07	7/5/2011	NE	30.78	NA	NA	NA	413.29		*
	444.07	9/19/2011	NE	31.87	NA	NA	NA	412.20		*
4Q11	444.07	10/6/2011	NE	32.18	NA	NA	NA	411.89		*
1Q12	444.07	1/3/2012	NE	33.24	NA	NA	NA	410.83		*
2Q12	444.07	4/2/2012	NE	34.17	NA	NA	NA	409.90		*
3Q12	444.07	7/2/2012	NE	34.95	NA	NA	NA	409.12		*
4Q12	444.07	10/1/2012	NE	36.80	NA	NA	NA	407.27		*

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
P-53										
1Q10	446.23	1/1/2010	NE	43.35	NA	NA	NA	402.88	407.73 - 382.73 (38.5 - 63.5)	
2Q10	446.23	4/1/2010	NE	42.17	NA	NA	NA	404.06		
3Q10	446.23	7/1/2010	NE	40.83	NA	NA	NA	405.40		
4Q10	446.23	10/1/2010	NE	39.33	NA	NA	NA	406.90		
1Q11	446.23	1/13/2011	NE	39.46	NA	NA	NA	406.77		
2Q11	446.23	4/1/2011	NE	39.99	NA	NA	NA	406.24		
3Q11	446.23	7/5/2011	NE	38.28	NA	NA	NA	407.95		*
	446.23	9/19/2011	NE	37.39	NA	NA	NA	408.84		*
4Q11	446.23	10/5/2011	NE	37.58	NA	NA	NA	408.65		*
1Q12	446.23	1/3/2012	NE	38.73	NA	NA	NA	407.50		
2Q12	446.23	4/2/2012	NM	NM	NA	NA	NA	NA		
3Q12	446.23	7/2/2012	NE	40.46	NA	NA	NA	405.77		
4Q12	446.23	10/1/2012	NE	41.88	NA	NA	NA	404.35		
P-54										
1Q10	442.18	1/1/2010	NE	39.88	NA	NA	NA	402.30	404.18 - 379.18 (38 - 63)	
2Q10	442.18	4/1/2010	NE	38.53	NA	NA	NA	403.65		
3Q10	442.18	7/1/2010	NE	37.33	NA	NA	NA	404.85		*
4Q10	442.18	11/12/2010	NE	36.43	NA	NA	NA	405.75		*
1Q11	442.18	1/13/2011	NE	37.24	NA	NA	NA	404.94		*
2Q11	442.18	4/25/2011	NE	38.00	NA	NA	NA	404.18		
3Q11	442.18	7/5/2011	NE	35.38	NA	NA	NA	406.80		*
	442.18	9/19/2011	NE	34.78	NA	NA	NA	407.40		*
4Q11	442.18	10/5/2011	NE	35.01	NA	NA	NA	407.17		*
1Q12	442.18	1/3/2012	NE	37.17	NA	NA	NA	405.01		*
2Q12	442.18	4/2/2012	NE	38.48	NA	NA	NA	403.70		
3Q12	442.18	7/2/2012	NE	38.73	NA	NA	NA	403.45		
4Q12	442.18	10/1/2012	NE	40.44	NA	NA	NA	401.74		
P-55										
1Q10	445.95	1/1/2010	NE	44.14	NA	NA	NA	401.81	406.13 - 381.13 (39.82 - 64.82)	
2Q10	445.95	4/1/2010	NE	42.69	NA	NA	NA	403.26		
3Q10	445.95	7/1/2010	NE	41.81	NA	NA	NA	404.14		
4Q10	445.95	11/12/2010	NE	40.50	NA	NA	NA	405.45		
1Q11	445.95	1/13/2011	NE	40.56	NA	NA	NA	405.39		
2Q11	445.95	4/25/2011	41.52	41.54	404.41	404.43	0.02	404.43		
3Q11	445.95	7/5/2011	39.41	39.42	406.53	406.54	0.01	406.54		*
	445.95	9/19/2011	NE	38.57	NA	NA	NA	407.38		*
4Q11	445.95	10/6/2011	NE	38.61	NA	NA	NA	407.34		*
1Q12	445.95	1/4/2012	NE	40.71	NA	NA	NA	405.24		
2Q12	445.95	4/2/2012	NE	42.04	NA	NA	NA	403.91		
3Q12	445.95	7/2/2012	NE	42.33	NA	NA	NA	403.62		
4Q12	445.95	10/1/2012	NE	44.17	NA	NA	NA	401.78		
P-56										
1Q10	446.02	1/1/2010	NE	43.99	NA	NA	NA	402.03	405.2 - 380.2 (40.82 - 65.82)	
2Q10	446.02	4/1/2010	NE	42.71	NA	NA	NA	403.31		
3Q10	446.02	7/1/2010	NE	41.99	NA	NA	NA	404.03		
4Q10	446.02	11/11/2010	NE	40.94	NA	NA	NA	405.08		
1Q11	446.02	1/13/2011	NE	41.03	NA	NA	NA	404.99		
2Q11	446.02	4/25/2011	NE	42.16	NA	NA	NA	403.86		
3Q11	446.02	7/5/2011	NE	39.63	NA	NA	NA	406.39		*
	446.02	9/19/2011	NE	38.88	NA	NA	NA	407.14		*
4Q11	446.02	10/6/2011	NE	39.10	NA	NA	NA	406.92		*
1Q12	446.02	1/4/2012	NE	41.51	NA	NA	NA	404.51		
2Q12	446.02	4/3/2012	NE	42.88	NA	NA	NA	403.14		
3Q12	446.02	7/5/2012	NE	43.01	NA	NA	NA	403.01		
4Q12	446.02	10/2/2012	NE	44.76	NA	NA	NA	401.26		
P-57										
1Q10	446.53	1/1/2010	NE	44.02	NA	NA	NA	402.51	406.07 - 381.07 (40.46 - 65.46)	
2Q10	446.53	4/1/2010	NE	42.73	NA	NA	NA	403.80		
3Q10	446.53	7/1/2010	NE	41.60	NA	NA	NA	404.93		
4Q10	446.53	11/12/2010	NE	40.64	NA	NA	NA	405.89		
1Q11	446.53	1/13/2011	NE	41.04	NA	NA	NA	405.49		
2Q11	446.53	4/25/2011	NE	41.88	NA	NA	NA	404.65		
3Q11	446.53	7/5/2011	NE	39.48	NA	NA	NA	407.05		*
	446.53	9/19/2011	NE	39.92	NA	NA	NA	406.61		*
4Q11	446.53	10/6/2011	NE	39.20	NA	NA	NA	407.33		*
1Q12	446.53	2/13/2012	NE	42.13	NA	NA	NA	404.40		
2Q12	446.53	4/4/2012	NE	42.61	NA	NA	NA	403.92		
3Q12	446.53	7/5/2012	NE	43.00	NA	NA	NA	403.53		
4Q12	446.53	10/1/2012	NE	44.78	NA	NA	NA	401.75		
P-58										
1Q10	444.92	1/1/2010	NE	42.00	NA	NA	NA	402.92	404.70 - 379.70 (40.21 - 65.21)	
2Q10	444.92	4/1/2010	NE	40.76	NA	NA	NA	404.16		Oily film observed on probe but no product response observed from probe or product paste.
3Q10	444.92	7/1/2010	39.42	39.46	405.46	405.50	0.04	405.49		*Product confirmed on interface probe.
4Q10	444.92	11/12/2010	NE	38.51	NA	NA	NA	406.41		*
1Q11	444.92	1/13/2011	NE	39.10	NA	NA	NA	405.82		*No tone; product paste turned
2Q11	444.92	4/25/2011	NE	39.78	NA	NA	NA	405.14		*No tone; product paste turned
3Q11	444.92	7/5/2011	NE	37.42	NA	NA	NA	407.50		*
	444.92	9/19/2011	NE	37.02	NA	NA	NA	407.90		*
4Q11	444.92	10/6/2011	NE	37.31	NA	NA	NA	407.61		*
1Q12	444.92	1/4/2012	NE	39.41	NA	NA	NA	405.51		*
2Q12	444.92	4/3/2012	NE	40.81	NA	NA	NA	404.11		
3Q12	444.92	7/5/2012	NE	41.04	NA	NA	NA	403.88		
4Q12	444.92	10/2/2012	NE	42.90	NA	NA	NA	402.02		

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
P-59										
1Q10	446.78	1/1/2010	NE	44.91	NA	NA	NA	401.87	398.87 - 373.87 (47.91 - 72.91)	*
2Q10	446.78	4/1/2010	NE	43.59	NA	NA	NA	403.19		*Oily film observed on probe but no product response observed from probe or product paste.
3Q10	446.78	7/1/2010	43.21	43.23	403.55	403.57	0.02	403.57		*Product confirmed on interface probe.
4Q10	446.78	11/12/2010	NE	42.13	NA	NA	NA	404.65		*
1Q11	446.78	1/13/2011	NE	42.16	NA	NA	NA	404.62		*No tone; product paste turned
2Q11	446.78	4/25/2011	43.25	43.26	403.52	403.53	0.01	403.53		*No tone; product paste turned
3Q11	446.78	7/5/2011	NE	41.44	NA	NA	NA	405.34		*
	446.78	9/19/2011	NE	40.56	NA	NA	NA	406.22		*
4Q11	446.78	10/6/2011	NE	40.77	NA	NA	NA	406.01		*
1Q12	446.78	1/4/2012	NE	42.61	NA	NA	NA	404.17		*
2Q12	446.78	4/4/2012	NE	43.82	NA	NA	NA	402.96		*
3Q12	446.78	7/5/2012	NE	44.00	NA	NA	NA	402.78		*
4Q12	446.78	10/2/2012	NE	45.83	NA	NA	NA	400.95		*
P-60										
1Q10	446.57	1/1/2010	44.83	45.08	401.49	401.74	0.25	401.69	403.12 - 383.12 (43.45 - 63.45)	Product confirmed on interface probe.
2Q10	446.57	4/1/2010	43.45	43.73	402.84	403.12	0.28	403.07		Product confirmed on interface probe.
3Q10	446.57	7/1/2010	42.61	43.18	403.39	403.96	0.57	403.85		*Product confirmed on interface probe.
4Q10	446.57	11/11/2010	41.40	41.44	405.13	405.17	0.04	405.16		*
1Q11	446.57	1/14/2011	41.68	41.72	404.85	404.89	0.04	404.88		*
2Q11	446.57	4/25/2011	42.72	43.18	403.39	403.85	0.46	403.76		*
3Q11	446.57	7/5/2011	40.41	40.77	405.80	406.16	0.36	406.09		*
	446.57	9/19/2011	39.54	39.89	406.68	407.03	0.35	406.96		*
4Q11	446.57	10/6/2011	39.72	40.06	406.51	406.85	0.34	406.79		*
1Q12	446.57	1/4/2012	NE	41.98	NA	NA	NA	404.59		*
2Q12	446.57	4/3/2012	43.46	43.48	403.09	403.11	0.02	403.11		
3Q12	446.57	7/5/2012	43.51	43.55	403.02	403.06	0.04	403.05		
4Q12	446.57	10/2/2012	45.33	45.44	401.13	401.24	0.11	401.22		
P-60-11										
4Q10	443.39	11/11/2010	NE	40.91	NA	NA	NA	402.48	413.03 - 383.03 (33.15 - 63.15)	
1Q11	443.39	1/14/2011	NE	41.14	NA	NA	NA	402.25		
2Q11	443.39	4/25/2011	NE	42.22	NA	NA	NA	401.17		
3Q11	446.18	7/5/2011	NE	39.97	NA	NA	NA	406.21		
	446.18	9/19/2011	NE	39.07	NA	NA	NA	407.11		
4Q11	446.18	10/6/2011	NE	39.25	NA	NA	NA	406.93		
1Q12	446.18	1/4/2012	NE	41.22	NA	NA	NA	404.96		
2Q12	446.18	4/3/2012	NE	42.65	NA	NA	NA	403.53		
3Q12	446.18	7/5/2012	NE	42.64	NA	NA	NA	403.54		
4Q12	446.18	10/2/2012	44.32	44.41	401.77	401.86	0.09	401.84		
P-60-12										
4Q10	443.31	11/11/2010	NE	38.19	NA	NA	NA	405.12	383.31 - 373.31 (60 - 70)	*
1Q11	443.31	1/14/2011	NE	38.51	NA	NA	NA	404.80		*
2Q11	443.31	4/25/2011	NE	39.63	NA	NA	NA	403.68		*
3Q11	443.31	7/5/2011	NE	37.27	NA	NA	NA	406.04		*
	443.31	9/19/2011	NE	36.41	NA	NA	NA	406.90		*
4Q11	443.31	10/6/2011	NE	36.53	NA	NA	NA	406.78		*
1Q12	443.31	1/4/2012	NE	38.76	NA	NA	NA	404.55		*
2Q12	443.31	4/3/2012	NE	40.25	NA	NA	NA	403.06		*
3Q12	443.31	7/5/2012	NE	40.23	NA	NA	NA	403.08		*
4Q12	443.31	10/2/2012	NE	44.15	NA	NA	NA	399.16		*
P-60-12S	***(PERCHED WELL)***									
4Q10	443.33	11/11/2010	NE	23.36	NA	NA	NA	419.97	429.49 - 419.49 (13.84 - 23.84)	
1Q11	443.33	1/14/2011	NM	NM	NA	NA	NA	NA		
2Q11	443.33	4/25/2011	NE	21.84	NA	NA	NA	421.49		
3Q11	443.33	7/5/2011	21.10	21.11	422.22	422.23	0.01	422.23		
4Q11	443.33	10/6/2011	NE	23.36	NA	NA	NA	419.97		
1Q12	443.33	1/4/2012	NE	22.81	NA	NA	NA	420.52		
2Q12	443.33	4/3/2012	NE	20.21	NA	NA	NA	423.12		
3Q12	443.33	7/5/2012	NE	19.48	NA	NA	NA	423.85		
4Q12	443.33	10/2/2012	NE	19.04	NA	NA	NA	424.29		
P-60-13										
4Q10	442.43	11/11/2010	37.50	37.87	404.56	404.93	0.37	404.86	402.43 - 382.43 (40 - 60)	*
1Q11	442.43	1/14/2011	37.73	37.74	404.69	404.70	0.01	404.70		*
2Q11	442.43	4/25/2011	38.80	39.10	403.33	403.63	0.30	403.57		*
3Q11	442.43	7/5/2011	36.85	36.99	405.44	405.58	0.14	405.55		*
	442.43	9/19/2011	NE	35.72	NA	NA	NA	406.71		*
4Q11	442.43	10/6/2011	NE	35.86	NA	NA	NA	406.57		*
1Q12	442.43	1/4/2012	NE	37.82	NA	NA	NA	404.61		*
2Q12	442.43	4/3/2012	NE	39.21	NA	NA	NA	403.22		*
3Q12	442.43	7/5/2012	NE	39.37	NA	NA	NA	403.06		*
4Q12	442.43	10/2/2012	NE	40.61	NA	NA	NA	401.82		
P-60-13S	***(PERCHED WELL)***									
4Q10	442.39	11/11/2010	NE	13.36	NA	NA	NA	429.03	432.39 - 422.39 (10 - 20)	
1Q11	442.39	1/14/2011	NE	NE	NA	NA	NA	NA		
2Q11	442.39	4/25/2011	NE	17.45	NA	NA	NA	424.94		
3Q11	442.39	7/5/2011	NE	17.08	NA	NA	NA	425.31		
4Q11	442.39	10/6/2011	NE	18.44	NA	NA	NA	423.95		
1Q12	442.39	1/4/2012	NE	17.66	NA	NA	NA	424.73		
2Q12	442.39	4/3/2012	NE	17.58	NA	NA	NA	424.81		
3Q12	442.39	7/5/2012	NE	17.87	NA	NA	NA	424.52		
4Q12	442.39	10/2/2012	NE	17.97	NA	NA	NA	424.42		

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
P-60-S										
3Q11	446.98	7/5/2011	NE	40.81	NA	NA	NA	406.17	410.5 - 395.5 (36.48 - 51.48)	
	446.98	9/19/2011	39.40	39.61	407.37	407.58	0.21	407.54		
1Q12	446.98	1/4/2012	41.39	41.90	405.08	405.59	0.51	405.49		
2Q12	446.98	4/3/2012	42.85	43.28	403.70	404.13	0.43	404.04		
3Q12	446.98	7/5/2012	43.12	43.26	403.72	403.86	0.14	403.83		
4Q12	446.98	10/4/2012	43.94	45.84	401.14	403.04	1.90	402.66		
P-61										
1Q10	444.27	1/1/2010	43.33	43.53	400.74	400.94	0.20	400.90	398.59 - 373.59 (45.68 - 70.68)	*Product confirmed on interface probe.
2Q10	444.27	4/1/2010	41.97	42.09	402.18	402.30	0.12	402.27		*Product confirmed on interface probe.
3Q10	444.27	7/1/2010	41.04	41.18	403.09	403.23	0.14	403.20		*Product confirmed on interface probe.
4Q10	444.27	11/11/2010	39.91	40.03	404.24	404.36	0.12	404.33		*
1Q11	444.27	1/13/2011	38.81	38.94	405.33	405.46	0.13	405.43		*
2Q11	444.27	4/25/2011	NE	40.93	NA	NA	NA	403.34		*
3Q11	444.27	7/5/2011	37.58	37.59	406.68	406.69	0.01	406.69		*
	444.27	9/19/2011	NE	37.36	NA	NA	NA	406.91		*
4Q11	444.27	10/6/2011	NE	37.63	NA	NA	NA	406.64		*
1Q12	444.27	1/3/2012	NE	40.34	NA	NA	NA	403.93		*
2Q12	444.27	4/3/2012	NE	41.50	NA	NA	NA	402.77		*
3Q12	444.27	7/3/2012	NE	41.53	NA	NA	NA	402.74		*
4Q12	444.27	10/2/2012	NE	43.36	NA	NA	NA	400.91		*
P-62										
1Q10	442.32	1/1/2010	41.02	42.62	399.70	401.30	1.60	400.98	400.85 - 375.85 (41.47 - 66.47)	*Product confirmed on interface probe.
2Q10	442.32	4/1/2010	39.56	40.90	401.42	402.76	1.34	402.50		*Product confirmed on interface probe.
3Q10	442.32	7/1/2010	38.51	39.96	402.36	403.81	1.45	403.52		*Product confirmed on interface probe.
4Q10	442.32	11/11/2010	37.14	38.57	403.75	405.18	1.43	404.90		*
1Q11	442.32	1/13/2011	36.39	37.81	404.51	405.93	1.42	405.65		*
2Q11	442.32	4/25/2011	NE	38.18	NA	NA	NA	404.14		*
3Q11	442.32	7/5/2011	35.62	35.63	406.69	406.70	0.01	406.70		*
	442.32	9/19/2011	35.39	35.41	406.91	406.93	0.02	406.93		*
4Q11	442.32	10/6/2011	NE	35.64	NA	NA	NA	406.68		*
1Q12	442.32	1/3/2012	37.68	37.71	404.61	404.64	0.03	404.64		*
2Q12	442.32	4/3/2012	NE	30.94	NA	NA	NA	411.38		*Result is suspect
3Q12	442.32	7/3/2012	39.13	39.15	403.17	403.19	0.02	403.19		*
4Q12	442.32	10/1/2012	40.61	42.35	399.97	401.71	1.74	401.37		*
P-63										
1Q10	445.75	1/1/2010	45.08	45.26	400.49	400.67	0.18	400.63	398.46 - 373.46 (47.29 - 72.29)	*Product confirmed on interface probe.
2Q10	445.75	4/1/2010	43.53	43.72	402.03	402.22	0.19	402.18		*Product confirmed on interface probe.
3Q10	445.75	7/1/2010	42.32	42.52	403.23	403.43	0.20	403.39		*Product confirmed on interface probe.
4Q10	445.75	10/1/2010	40.58	40.79	404.96	405.17	0.21	405.13		*Product confirmed on interface probe.
1Q11	445.75	1/13/2011	39.48	39.68	406.07	406.27	0.20	406.23		*
2Q11	445.75	4/1/2011	NE	41.11	NA	NA	NA	404.64		*
3Q11	445.75	7/5/2011	NE	38.56	NA	NA	NA	407.19		*
	445.75	9/19/2011	NE	39.12	NA	NA	NA	406.63		*
4Q11	445.75	10/6/2011	NE	39.20	NA	NA	NA	406.55		*
1Q12	445.75	1/3/2012	NE	40.65	NA	NA	NA	405.10		*
2Q12	445.75	4/3/2012	NE	42.09	NA	NA	NA	403.66		*
3Q12	445.75	7/3/2012	NE	42.94	NA	NA	NA	402.81		*
4Q12	445.75	10/1/2012	NE	44.55	NA	NA	NA	401.20		*
P-64										
1Q10	446.52	1/1/2010	46.32	46.37	400.15	400.20	0.05	400.19	399.29 - 374.29 (47.23 - 72.23)	*Product confirmed on interface probe.
2Q10	446.52	4/1/2010	44.61	44.70	401.82	401.91	0.09	401.89		*Product confirmed on interface probe.
3Q10	446.52	7/1/2010	43.46	43.61	402.91	403.06	0.15	403.03		*Product confirmed on interface probe.
4Q10	446.52	10/1/2010	41.45	41.56	404.96	405.07	0.11	405.05		*Product confirmed on interface probe.
1Q11	446.52	1/13/2011	40.14	40.46	406.06	406.38	0.32	406.32		*
2Q11	446.52	4/1/2011	41.77	41.86	404.66	404.75	0.09	404.73		*
3Q11	446.52	7/5/2011	39.25	39.42	407.10	407.27	0.17	407.24		*
	446.52	9/19/2011	40.10	41.10	405.42	406.42	1.00	406.22		*
4Q11	446.52	10/6/2011	40.35	40.53	405.99	406.17	0.18	406.13		*
1Q12	446.52	1/3/2012	41.68	41.75	404.77	404.84	0.07	404.83		*
2Q12	446.52	4/3/2012	43.18	43.19	403.33	403.34	0.01	403.34		*
3Q12	446.52	7/3/2012	44.40	44.41	402.11	402.12	0.01	402.12		*
4Q12	446.52	10/1/2012	45.62	45.68	400.84	400.90	0.06	400.89		*
P-65										
1Q10	444.53	1/1/2010	NE	34.11	NA	NA	NA	410.42	396.91 - 371.91 (47.61 - 72.61)	*
2Q10	444.53	4/1/2010	41.33	41.34	403.19	403.20	0.01	403.20		*Product confirmed on interface probe.
3Q10	444.53	7/1/2010	44.34	44.35	400.18	400.19	0.01	400.19		*Product confirmed on interface probe.
4Q10	444.53	10/1/2010	38.61	38.63	405.90	405.92	0.02	405.92		*Product confirmed on interface probe.
1Q11	444.53	1/13/2011	37.73	37.74	406.79	406.80	0.01	406.80		*
2Q11	444.53	4/1/2011	NE	39.20	NA	NA	NA	405.33		*
3Q11	444.53	7/5/2011	NE	36.87	NA	NA	NA	407.66		*
	444.53	9/19/2011	NE	37.54	NA	NA	NA	406.99		*
4Q11	444.53	10/6/2011	NE	37.67	NA	NA	NA	406.86		*
1Q12	444.53	1/3/2012	NE	39.15	NA	NA	NA	405.38		*
2Q12	444.53	4/3/2012	NE	40.76	NA	NA	NA	403.77		*
3Q12	444.53	7/3/2012	NE	41.76	NA	NA	NA	402.77		*
4Q12	444.53	10/1/2012	NE	43.00	NA	NA	NA	401.53		*

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
P-66										
1Q10	436.70	1/1/2010	NE	33.49	NA	NA	NA	403.21	401.98 - 376.98 (34.72 - 59.72)	*
2Q10	436.70	4/1/2010	NE	32.30	NA	NA	NA	404.40		*
3Q10	436.70	7/1/2010	30.81	30.83	405.87	405.89	0.02	405.89		*Product confirmed on interface probe.
4Q10	436.70	11/12/2010	NE	30.02	NA	NA	NA	406.68		*
1Q11	436.70	1/13/2011	NE	30.70	NA	NA	NA	406.00		*
2Q11	436.70	4/25/2011	NE	31.26	NA	NA	NA	405.44		*
3Q11	436.70	7/5/2011	NE	28.87	NA	NA	NA	407.83		*
	436.70	9/19/2011	NE	28.64	NA	NA	NA	408.06		*
4Q11	436.70	10/5/2011	NE	28.92	NA	NA	NA	407.78		*
1Q12	436.70	1/3/2012	NM	NM	NA	NA	NA	NA		Restricted Area
2Q12	436.70	4/2/2012	NM	NM	NA	NA	NA	NA		Restricted Area
3Q12	436.70	7/5/2012	32.60	32.61	404.09	404.10	0.01	404.10		*
4Q12	436.70	10/2/2012	NE	34.55	NA	NA	NA	402.15		*
P-67										
1Q10	444.13	1/1/2010	39.96	39.98	404.15	404.17	0.02	404.17	402.16 - 377.16 (41.98 - 66.98)	*Product confirmed on interface probe.
2Q10	444.13	4/1/2010	38.78	38.80	405.33	405.35	0.02	405.35		*Product confirmed on interface probe.
3Q10	444.13	7/1/2010	37.27	37.46	406.67	406.86	0.19	406.82		*Product confirmed on interface probe.
4Q10	444.13	10/1/2010	36.27	36.31	407.82	407.86	0.04	407.85		*Product confirmed on interface probe.
1Q11	444.13	1/13/2011	36.75	36.78	407.35	407.38	0.03	407.37		*
2Q11	444.13	4/1/2011	NE	37.24	NA	NA	NA	406.89		*
3Q11	444.13	7/5/2011	NE	35.17	NA	NA	NA	408.96		*
	444.13	9/19/2011	NE	35.16	NA	NA	NA	408.97		*
4Q11	444.13	10/5/2011	NE	35.38	NA	NA	NA	408.75		*
1Q12	444.13	1/4/2012	NE	37.08	NA	NA	NA	407.05		*
2Q12	444.13	4/3/2012	NE	38.50	NA	NA	NA	405.63		*
3Q12	444.13	7/2/2012	NE	38.90	NA	NA	NA	405.23		*
4Q12	444.13	10/2/2012	NE	40.81	NA	NA	NA	403.32		*
P-68										
1Q10	445.07	1/1/2010	42.44	46.62	398.45	402.63	4.18	401.80	399.81 - 374.81 (45.26 - 70.26)	*Product confirmed on interface probe.
2Q10	445.07	4/1/2010	40.94	48.15	396.92	404.13	7.21	402.69		*Product confirmed on interface probe.
3Q10	445.07	7/1/2010	40.50	44.65	400.42	404.57	4.15	403.74		*Product confirmed on interface probe.
4Q10	445.07	11/12/2010	39.32	43.42	401.65	405.75	4.10	404.93		*
1Q11	445.07	1/13/2011	39.15	43.18	401.89	405.92	4.03	405.12		*
2Q11	445.07	4/25/2011	41.42	41.51	403.56	403.65	0.09	403.63		*
3Q11	445.07	7/5/2011	39.06	39.13	405.94	406.01	0.07	406.00		*
	445.07	9/19/2011	39.01	39.03	406.04	406.06	0.02	406.06		*
4Q11	445.07	10/6/2011	38.53	38.58	406.49	406.54	0.05	406.53		*
1Q12	445.07	1/4/2012	40.53	40.61	404.46	404.54	0.08	404.52		*
2Q12	445.07	4/3/2012	NE	42.08	NA	NA	NA	402.99		*
3Q12	445.07	7/5/2012	42.08	42.12	402.95	402.99	0.04	402.98		*
4Q12	445.07	10/2/2012	43.85	44.04	401.03	401.22	0.19	401.18		*
P-69										
1Q10	443.18	1/1/2010	41.87	41.92	401.26	401.31	0.05	401.30	402.36 - 377.36 (40.82 - 65.82)	Product confirmed on interface probe.
2Q10	443.18	4/1/2010	40.39	40.42	402.76	402.79	0.03	402.79		*Product confirmed on interface probe.
3Q10	443.18	7/1/2010	NE	40.14	NA	NA	NA	403.04		*
4Q10	443.18	11/11/2010	38.99	39.02	404.16	404.19	0.03	404.19		*
1Q11	443.18	1/13/2011	38.62	38.63	404.55	404.56	0.01	404.56		*
2Q11	443.18	4/25/2011	NE	39.98	NA	NA	NA	403.20		*
3Q11	443.18	7/5/2011	NE	37.41	NA	NA	NA	405.77		*
	443.18	9/19/2011	NE	36.62	NA	NA	NA	406.56		*
4Q11	443.18	10/6/2011	NE	36.77	NA	NA	NA	406.41		*
1Q12	443.18	1/4/2012	NE	39.18	NA	NA	NA	404.00		*
2Q12	443.18	4/3/2012	NE	40.59	NA	NA	NA	402.59		*
3Q12	443.18	7/5/2012	NE	40.61	NA	NA	NA	402.57		*
4Q12	443.18	10/2/2012	NE	42.46	NA	NA	NA	400.72		
P-70										
1Q10	442.83	1/1/2010	41.65	41.84	400.99	401.18	0.19	401.14	398.16 - 373.16 (44.67 - 69.67)	*Product confirmed on interface probe.
2Q10	442.83	4/1/2010	40.21	40.67	402.16	402.62	0.46	402.53		*Product confirmed on interface probe.
3Q10	442.83	7/1/2010	39.42	39.86	402.97	403.41	0.44	403.32		*Product confirmed on interface probe.
4Q10	442.83	11/11/2010	38.20	38.69	404.14	404.63	0.49	404.53		*
1Q11	442.83	1/13/2011	37.48	37.90	404.93	405.35	0.42	405.27		*
2Q11	442.83	4/25/2011	39.20	39.22	403.61	403.63	0.02	403.62		*
3Q11	442.83	7/5/2011	36.42	36.43	406.40	406.41	0.01	406.41		*
	442.83	9/19/2011	NE	35.98	NA	NA	NA	406.85		*
4Q11	442.83	10/6/2011	NE	36.25	NA	NA	NA	406.58		*
1Q12	442.83	1/3/2012	NE	38.62	NA	NA	NA	404.21		*
2Q12	442.83	4/3/2012	NE	39.80	NA	NA	NA	403.03		*
3Q12	442.83	7/3/2012	NE	39.83	NA	NA	NA	403.00		*
4Q12	442.83	10/1/2012	NE	41.67	NA	NA	NA	401.16		*
P-71										
1Q10	444.83	1/1/2010	NE	42.64	NA	NA	NA	402.19	402.22 - 377.22 (42.61 - 67.61)	
2Q10	444.83	4/1/2010	NE	41.31	NA	NA	NA	403.52		*
3Q10	444.83	7/1/2010	NE	40.20	NA	NA	NA	404.63		*
4Q10	444.83	11/11/2010	NE	38.92	NA	NA	NA	405.91		*
1Q11	444.83	1/13/2011	NE	38.32	NA	NA	NA	406.51		*
2Q11	444.83	4/25/2011	NE	39.52	NA	NA	NA	405.31		*
3Q11	444.83	7/5/2011	NE	37.91	NA	NA	NA	406.92		*
	444.83	9/19/2011	NE	37.71	NA	NA	NA	407.12		*
4Q11	444.83	10/6/2011	NE	47.31	NA	NA	NA	397.52		
1Q12	444.83	1/3/2012	NE	38.91	NA	NA	NA	405.92		*
2Q12	444.83	4/3/2012	NE	40.34	NA	NA	NA	404.49		*
3Q12	444.83	7/3/2012	NE	40.90	NA	NA	NA	403.93		*
4Q12	444.83	10/2/2012	42.69	42.75	402.08	402.14	0.06	402.13		

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
P-72										
1Q10	444.43	1/1/2010	41.83	41.87	402.56	402.60	0.04	402.59	398.7 - 373.7 (45.77 - 70.77)	*Product confirmed on interface probe.
2Q10	444.43	4/1/2010	40.36	40.39	404.04	404.07	0.03	404.06		*Product confirmed on interface probe.
3Q10	444.43	7/1/2010	NM	NM	NA	NA	NA	NA		Tank yard flooded, unable to access.
4Q10	444.43	11/11/2010	38.01	38.06	406.37	406.42	0.05	406.41		*
1Q11	444.43	1/13/2011	37.65	37.66	406.77	406.78	0.01	406.78		*
2Q11	444.43	4/25/2011	38.78	38.80	405.63	405.65	0.02	405.65		*
3Q11	444.43	7/5/2011	37.02	37.03	407.40	407.41	0.01	407.41		*
	444.43	9/19/2011	NE	36.60	NA	NA	NA	407.83		*
4Q11	444.43	10/6/2011	NE	36.82	NA	NA	NA	407.61		*
1Q12	444.43	1/3/2012	NE	38.43	NA	NA	NA	406.00		*
2Q12	444.43	4/3/2012	NE	39.58	NA	NA	NA	404.85		*
3Q12	444.43	7/3/2012	NE	40.30	NA	NA	NA	404.13		*
4Q12	444.43	10/1/2012	NE	41.88	NA	NA	NA	402.55		*
P-73										
1Q10	443.76	1/1/2010	NE	41.39	NA	NA	NA	402.37	402.17 - 377.17 (41.6 - 66.6)	*
2Q10	443.76	4/1/2010	NE	40.15	NA	NA	NA	403.61		*
3Q10	443.76	7/1/2010	40.24	41.26	402.50	403.52	1.02	403.32		*Product confirmed on interface probe.
4Q10	443.76	11/11/2010	NE	38.10	NA	NA	NA	405.66		*
1Q11	443.76	1/13/2011	NE	38.10	NA	NA	NA	405.66		*
2Q11	443.76	4/25/2011	NE	39.13	NA	NA	NA	404.63		*
3Q11	443.76	7/5/2011	NE	36.88	NA	NA	NA	406.88		*
	443.76	9/19/2011	NE	36.38	NA	NA	NA	407.38		*
4Q11	443.76	10/6/2011	NE	36.68	NA	NA	NA	407.08		*
1Q12	443.76	1/4/2012	NE	38.68	NA	NA	NA	405.08		*
2Q12	443.76	4/3/2012	NE	40.03	NA	NA	NA	403.73		*
3Q12	443.76	7/5/2012	NE	40.28	NA	NA	NA	403.48		*
4Q12	443.76	10/2/2012	NE	42.02	NA	NA	NA	401.74		
P-74										
1Q10	442.63	1/1/2010	NE	40.90	NA	NA	NA	401.73	398.20 - 373.20 (44.43 - 69.43)	*
2Q10	442.63	4/1/2010	NE	39.07	NA	NA	NA	403.56		*
3Q10	442.63	7/1/2010	NE	38.88	NA	NA	NA	403.75		*
4Q10	442.63	11/12/2010	NE	38.29	NA	NA	NA	404.34		*
1Q11	442.63	1/13/2011	NE	37.94	NA	NA	NA	404.69		*
2Q11	442.63	4/25/2011	NE	39.18	NA	NA	NA	403.45		*
3Q11	442.63	7/5/2011	NE	36.51	NA	NA	NA	406.12		*
	442.63	9/19/2011	NE	35.86	NA	NA	NA	406.77		*
4Q11	442.63	10/6/2011	NE	36.26	NA	NA	NA	406.37		*
1Q12	442.63	1/4/2012	NE	38.56	NA	NA	NA	404.07		*
2Q12	442.63	4/3/2012	NE	39.94	NA	NA	NA	402.69		*
3Q12	442.63	7/5/2012	NE	40.00	NA	NA	NA	402.63		*
4Q12	442.63	10/2/2012	NE	41.78	NA	NA	NA	400.85		*
P-75										
1Q10	446.32	1/1/2010	NE	43.05	NA	NA	NA	403.27	403.19 - 378.19 (43.13 - 68.13)	*
2Q10	446.32	4/1/2010	42.01	42.30	404.02	404.31	0.29	404.26		*Product confirmed on interface probe.
3Q10	446.32	7/1/2010	40.58	40.87	405.45	405.74	0.29	405.69		*Product confirmed on interface probe.
4Q10	446.32	11/11/2010	39.72	40.00	406.32	406.60	0.28	406.55		*
1Q11	446.32	1/13/2011	40.04	40.43	405.89	406.28	0.39	406.21		*
2Q11	446.32	4/25/2011	40.81	40.83	405.49	405.51	0.02	405.51		*
3Q11	446.32	7/5/2011	38.57	38.59	407.73	407.75	0.02	407.75		*
	446.32	9/19/2011	NE	38.31	NA	NA	NA	408.01		*
4Q11	446.32	10/5/2011	38.52	38.53	407.79	407.80	0.01	407.80		*
1Q12	446.32	1/4/2012	NE	40.48	NA	NA	NA	405.84		*
2Q12	446.32	4/4/2012	NE	41.62	NA	NA	NA	404.70		*
3Q12	446.32	7/2/2012	42.14	42.14	404.18	404.18	0.00	404.18		*
4Q12	446.32	10/2/2012	44.10	44.20	402.12	402.22	0.10	402.20		
P-82A										
1Q10	434.69	1/1/2010	NE	27.98	NA	NA	NA	406.71	401.48 - 386.48 (33.21 - 48.21)	*
2Q10	434.69	4/1/2010	NE	26.62	NA	NA	NA	408.07		*
3Q10	434.69	7/1/2010	NE	25.00	NA	NA	NA	409.69		*
4Q10	434.69	10/1/2010	NE	24.07	NA	NA	NA	410.62		*
1Q11	434.69	1/13/2011	NE	25.29	NA	NA	NA	409.40		*
2Q11	434.69	4/1/2011	NE	25.12	NA	NA	NA	409.57		*
3Q11	434.69	7/5/2011	NE	23.01	NA	NA	NA	411.68		*
	434.69	9/19/2011	NE	23.62	NA	NA	NA	411.07		*
4Q11	434.69	10/5/2011	NE	24.00	NA	NA	NA	410.69		*
1Q12	434.69	1/3/2012	NE	25.50	NA	NA	NA	409.19		*
2Q12	434.69	4/2/2012	NE	26.82	NA	NA	NA	407.87		*
3Q12	434.69	7/2/2012	NE	27.34	NA	NA	NA	407.35		*
4Q12	434.69	10/2/2012	NE	29.07	NA	NA	NA	405.62		*
P-82B										
1Q10	434.44	1/1/2010	NE	27.69	NA	NA	NA	406.75	370.84 - 368.84 (63.6 - 65.6)	*
2Q10	434.44	4/1/2010	NE	26.33	NA	NA	NA	408.11		*
3Q10	434.44	7/1/2010	NE	24.71	NA	NA	NA	409.73		*
4Q10	434.44	10/1/2010	NE	23.78	NA	NA	NA	410.66		*
1Q11	434.44	1/13/2011	NE	25.01	NA	NA	NA	409.43		*
2Q11	434.44	4/1/2011	NE	24.85	NA	NA	NA	409.59		*
3Q11	434.44	7/5/2011	NE	22.71	NA	NA	NA	411.73		*
	434.44	9/19/2011	NE	23.36	NA	NA	NA	411.08		*
4Q11	434.44	10/5/2011	NE	23.73	NA	NA	NA	410.71		*
1Q12	434.44	1/3/2012	NE	25.21	NA	NA	NA	409.23		*
2Q12	434.44	4/2/2012	NE	26.55	NA	NA	NA	407.89		*
3Q12	434.44	7/2/2012	NE	27.07	NA	NA	NA	407.37		*
4Q12	434.44	10/2/2012	NE	28.81	NA	NA	NA	405.63		*

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
P-82C										
1Q10	434.16	1/1/2010	NE	27.39	NA	NA	NA	406.77	351.39 - 349.39 (82.77 - 84.77)	*
2Q10	434.16	4/1/2010	NE	26.05	NA	NA	NA	408.11		*
3Q10	434.16	7/1/2010	NE	25.47	NA	NA	NA	408.69		*
4Q10	434.16	10/1/2010	NE	23.49	NA	NA	NA	410.67		*
1Q11	434.16	1/13/2011	NE	24.73	NA	NA	NA	409.43		*
2Q11	434.16	4/1/2011	NE	24.87	NA	NA	NA	409.29		*
3Q11	434.16	7/5/2011	NE	22.75	NA	NA	NA	411.41		*
	434.16	9/19/2011	NE	23.40	NA	NA	NA	410.76		*
4Q11	434.16	10/5/2011	NE	23.81	NA	NA	NA	410.35		*
1Q12	434.16	1/3/2012	NE	25.26	NA	NA	NA	408.90		*
2Q12	434.16	4/2/2012	NE	26.61	NA	NA	NA	407.55		*
3Q12	434.16	7/2/2012	NE	27.11	NA	NA	NA	407.05		*
4Q12	434.16	10/2/2012	NE	28.85	NA	NA	NA	405.31		*
P-82D										
1Q10	434.85	1/1/2010	NE	28.60	NA	NA	NA	406.25	323.43 - 321.43 (111.42 - 113.42)	*
2Q10	434.85	4/1/2010	NE	26.82	NA	NA	NA	408.03		*
3Q10	434.85	7/1/2010	NE	25.20	NA	NA	NA	409.65		*
4Q10	434.85	10/1/2010	NE	24.26	NA	NA	NA	410.59		*
1Q11	434.85	1/13/2011	NE	25.48	NA	NA	NA	409.37		*
2Q11	434.85	4/1/2011	NE	25.63	NA	NA	NA	409.22		*
3Q11	434.85	7/5/2011	NE	23.54	NA	NA	NA	411.31		*
	434.85	9/19/2011	NE	24.16	NA	NA	NA	410.69		*
4Q11	434.85	10/5/2011	NE	24.56	NA	NA	NA	410.29		*
1Q12	434.85	1/3/2012	NE	26.06	NA	NA	NA	408.79		*
2Q12	434.85	4/2/2012	NE	27.37	NA	NA	NA	407.48		*
3Q12	434.85	7/2/2012	NE	27.91	NA	NA	NA	406.94		*
4Q12	434.85	10/2/2012	NE	29.62	NA	NA	NA	405.23		*
P-83A										
1Q10	445.23	1/1/2010	NE	43.61	NA	NA	NA	401.62	398.58 - 383.58 (46.65 - 61.65)	*
2Q10	445.23	4/1/2010	NE	42.05	NA	NA	NA	403.18		*
3Q10	445.23	7/1/2010	NE	40.64	NA	NA	NA	404.59		*
4Q10	445.23	10/1/2010	NE	38.82	NA	NA	NA	406.41		*
1Q11	445.23	1/13/2011	NE	37.93	NA	NA	NA	407.30		*
2Q11	445.23	4/1/2011	NE	38.42	NA	NA	NA	406.81		*
3Q11	445.23	7/5/2011	NE	36.25	NA	NA	NA	408.98		*
	445.23	9/19/2011	NE	37.21	NA	NA	NA	408.02		*
4Q11	445.23	10/6/2011	NE	37.41	NA	NA	NA	407.82		*
1Q12	445.23	1/3/2012	NE	38.31	NA	NA	NA	406.92		*
2Q12	445.23	4/2/2012	NE	39.85	NA	NA	NA	405.38		*
3Q12	445.23	7/2/2012	NE	40.50	NA	NA	NA	404.73		*
4Q12	445.23	10/1/2012	NE	42.29	NA	NA	NA	402.94		*
P-83B										
1Q10	445.47	1/1/2010	NE	43.88	NA	NA	NA	401.59	375.82 - 373.82 (69.65 - 71.65)	*
2Q10	445.47	4/1/2010	NE	42.31	NA	NA	NA	403.16		*
3Q10	445.47	7/1/2010	NE	40.91	NA	NA	NA	404.56		*
4Q10	445.47	10/1/2010	NE	39.08	NA	NA	NA	406.39		*
1Q11	445.47	1/13/2011	NE	38.20	NA	NA	NA	407.27		*
2Q11	445.47	4/1/2011	NE	38.69	NA	NA	NA	406.78		*
3Q11	445.47	7/5/2011	NE	36.57	NA	NA	NA	408.90		*
	445.47	9/19/2011	NE	37.48	NA	NA	NA	407.99		*
4Q11	445.47	10/6/2011	NE	37.68	NA	NA	NA	407.79		*
1Q12	445.47	1/3/2012	NE	38.58	NA	NA	NA	406.89		*
2Q12	445.47	4/2/2012	NE	40.13	NA	NA	NA	405.34		*
3Q12	445.47	7/2/2012	NE	40.85	NA	NA	NA	404.62		*
4Q12	445.47	10/1/2012	NE	42.57	NA	NA	NA	402.90		*
P-83C										
1Q10	445.64	1/1/2010	NE	44.03	NA	NA	NA	401.61	353.25 - 351.25 (92.39 - 94.39)	*
2Q10	445.64	4/1/2010	NE	42.46	NA	NA	NA	403.18		*
3Q10	445.64	7/1/2010	NE	41.08	NA	NA	NA	404.56		*
4Q10	445.64	10/1/2010	NE	39.24	NA	NA	NA	406.40		*
1Q11	445.64	1/13/2011	NE	38.68	NA	NA	NA	406.96		*
2Q11	445.64	4/1/2011	NE	38.85	NA	NA	NA	406.79		*
3Q11	445.64	7/5/2011	NE	37.02	NA	NA	NA	408.62		*
	445.64	9/19/2011	NE	37.94	NA	NA	NA	407.70		*
4Q11	445.64	10/6/2011	NE	38.15	NA	NA	NA	407.49		*
1Q12	445.64	1/3/2012	NE	39.05	NA	NA	NA	406.59		*
2Q12	445.64	4/2/2012	NE	40.61	NA	NA	NA	405.03		*
3Q12	445.64	7/2/2012	NE	40.96	NA	NA	NA	404.68		*
4Q12	445.64	10/1/2012	NE	43.04	NA	NA	NA	402.60		*
P-83D										
1Q10	445.55	1/1/2010	NE	43.99	NA	NA	NA	401.56	311.84 - 309.84 (133.71 - 135.71)	*
2Q10	445.55	4/1/2010	NE	42.40	NA	NA	NA	403.15		*
3Q10	445.55	7/1/2010	NE	41.00	NA	NA	NA	404.55		*
4Q10	445.55	10/1/2010	NE	39.11	NA	NA	NA	406.44		*
1Q11	445.55	1/13/2011	NE	38.59	NA	NA	NA	406.96		*
2Q11	445.55	4/1/2011	NE	38.31	NA	NA	NA	407.24		*
3Q11	445.55	7/5/2011	NE	36.98	NA	NA	NA	408.57		*
	445.55	9/19/2011	NE	37.87	NA	NA	NA	407.68		*
4Q11	445.55	10/6/2011	NE	38.07	NA	NA	NA	407.48		*
1Q12	445.55	1/3/2012	NE	39.01	NA	NA	NA	406.54		*
2Q12	445.55	4/2/2012	NE	40.53	NA	NA	NA	405.02		*
3Q12	445.55	7/2/2012	NE	40.12	NA	NA	NA	405.43		*
4Q12	445.55	10/1/2012	NE	42.98	NA	NA	NA	402.57		*

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
P-84A										
1Q10	446.39	1/1/2010	NE	44.20	NA	NA	NA	402.19	392.57 - 377.57 (53.82 - 68.82)	*
2Q10	446.39	4/1/2010	NE	42.91	NA	NA	NA	403.48		*
3Q10	446.39	7/1/2010	NE	41.55	NA	NA	NA	404.84		*
4Q10	446.39	11/11/2010	NE	39.95	NA	NA	NA	406.44		*
1Q11	446.39	1/13/2011	NE	39.55	NA	NA	NA	406.84		*
2Q11	446.39	4/25/2011	NE	40.11	NA	NA	NA	406.28		*
3Q11	446.39	7/5/2011	NE	38.58	NA	NA	NA	407.81		*
4Q11	446.39	10/6/2011	NE	34.36	NA	NA	NA	412.03		*
1Q12	446.39	1/5/2012	NE	39.49	NA	NA	NA	406.90		*
2Q12	446.39	4/3/2012	NE	40.70	NA	NA	NA	405.69		*
3Q12	446.39	7/5/2012	NE	41.40	NA	NA	NA	404.99		*
4Q12	446.39	10/2/2012	NE	43.10	NA	NA	NA	403.29		*
P-84B										
1Q10	446.10	1/1/2010	NE	43.91	NA	NA	NA	402.19	372.6 - 370.6 (73.5 - 75.5)	*
2Q10	446.10	4/1/2010	NE	42.61	NA	NA	NA	403.49		*
3Q10	446.10	7/1/2010	NE	41.28	NA	NA	NA	404.82		*
4Q10	446.10	11/11/2010	NE	39.67	NA	NA	NA	406.43		*
1Q11	446.10	1/13/2011	NE	39.27	NA	NA	NA	406.83		*
2Q11	446.10	4/25/2011	NE	39.85	NA	NA	NA	406.25		*
3Q11	446.10	7/5/2011	NE	38.32	NA	NA	NA	407.78		*
4Q11	446.10	10/6/2011	NE	38.09	NA	NA	NA	408.01		*
1Q12	446.10	1/5/2012	NE	39.23	NA	NA	NA	406.87		*
2Q12	446.10	4/3/2012	NE	40.43	NA	NA	NA	405.67		*
3Q12	446.10	7/5/2012	NE	41.43	NA	NA	NA	404.67		*
4Q12	446.10	10/2/2012	NE	42.84	NA	NA	NA	403.26		*
P-84C										
1Q10	446.13	1/1/2010	NE	44.39	NA	NA	NA	401.74	352.08 - 350.08 (94.05 - 96.05)	*
2Q10	446.13	4/1/2010	NE	42.65	NA	NA	NA	403.48		*
3Q10	446.13	7/1/2010	NE	41.32	NA	NA	NA	404.81		*
4Q10	446.13	11/11/2010	NE	39.68	NA	NA	NA	406.45		*
1Q11	446.13	1/13/2011	NE	39.29	NA	NA	NA	406.84		*
2Q11	446.13	4/25/2011	NE	39.86	NA	NA	NA	406.27		*
3Q11	446.13	7/5/2011	NE	38.64	NA	NA	NA	407.49		*
4Q11	446.13	10/6/2011	NE	38.41	NA	NA	NA	407.72		*
1Q12	446.13	1/5/2012	NE	39.53	NA	NA	NA	406.60		*
2Q12	446.13	4/3/2012	NE	40.75	NA	NA	NA	405.38		*
3Q12	446.13	7/5/2012	NE	41.45	NA	NA	NA	404.68		*
4Q12	446.13	10/2/2012	NE	43.15	NA	NA	NA	402.98		*
P-84D										
1Q10	446.14	1/1/2010	NE	43.92	NA	NA	NA	402.22	324.99 - 322.99 (121.15 - 123.15)	*
2Q10	446.14	4/1/2010	NE	42.63	NA	NA	NA	403.51		*
3Q10	446.14	7/1/2010	NE	41.34	NA	NA	NA	404.80		*
4Q10	446.14	11/11/2010	NE	39.69	NA	NA	NA	406.45		*
1Q11	446.14	1/13/2011	NE	39.31	NA	NA	NA	406.83		*
2Q11	446.14	4/25/2011	NE	39.87	NA	NA	NA	406.27		*
3Q11	446.14	7/5/2011	NE	38.68	NA	NA	NA	407.46		*
4Q11	446.14	10/6/2011	NE	38.43	NA	NA	NA	407.71		*
1Q12	446.14	1/5/2012	NE	39.55	NA	NA	NA	406.59		*
2Q12	446.14	4/3/2012	NE	40.77	NA	NA	NA	405.37		*
3Q12	446.14	7/5/2012	NE	41.46	NA	NA	NA	404.68		*
4Q12	446.14	10/2/2012	NE	43.18	NA	NA	NA	402.96		*
P-88A										
1Q10	443.12	1/1/2010	NE	34.78	NA	NA	NA	408.34	404.72 - 389.72 (38.4 - 53.4)	*
2Q10	443.12	4/1/2010	NE	33.22	NA	NA	NA	409.90		*
3Q10	443.12	7/1/2010	NE	31.80	NA	NA	NA	411.32		*
4Q10	443.12	10/1/2010	NE	30.65	NA	NA	NA	412.47		*
1Q11	443.12	1/14/2011	NE	31.16	NA	NA	NA	411.96		*
2Q11	443.12	4/1/2011	NE	31.36	NA	NA	NA	411.76		*
3Q11	443.12	7/5/2011	NE	29.78	NA	NA	NA	413.34		*
	443.12	9/19/2011	NE	29.72	NA	NA	NA	413.40		*
4Q11	443.12	10/5/2011	NE	29.92	NA	NA	NA	413.20		*
1Q12	443.12	1/4/2012	NE	31.18	NA	NA	NA	411.94		*
2Q12	443.12	4/3/2012	NE	32.55	NA	NA	NA	410.57		*
3Q12	443.12	7/2/2012	NE	32.97	NA	NA	NA	410.15		*
4Q12	443.12	10/2/2012	NE	34.58	NA	NA	NA	408.54		*
P-88B										
1Q10	443.17	1/1/2010	NE	34.86	NA	NA	NA	408.31	370.62 - 368.62 (72.55 - 74.55)	*
2Q10	443.17	4/1/2010	NE	33.28	NA	NA	NA	409.89		*
3Q10	443.17	7/1/2010	NE	31.86	NA	NA	NA	411.31		*
4Q10	443.17	10/1/2010	NE	30.87	NA	NA	NA	412.30		*
1Q11	443.17	1/14/2011	NE	31.37	NA	NA	NA	411.80		*
2Q11	443.17	4/1/2011	NE	31.42	NA	NA	NA	411.75		*
3Q11	443.17	7/5/2011	NE	29.71	NA	NA	NA	413.46		*
	443.17	9/19/2011	NE	29.64	NA	NA	NA	413.53		*
4Q11	443.17	10/5/2011	NE	29.86	NA	NA	NA	413.31		*
1Q12	443.17	1/4/2012	NE	31.16	NA	NA	NA	412.01		*
2Q12	443.17	4/3/2012	NE	32.50	NA	NA	NA	410.67		*
3Q12	443.17	7/2/2012	NE	33.01	NA	NA	NA	410.16		*
4Q12	443.17	10/2/2012	NE	34.56	NA	NA	NA	408.61		*

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
P-88C										
1Q10	443.16	1/1/2010	NE	35.11	NA	NA	NA	408.05	350.86 - 348.86 (92.3 - 94.3)	*
2Q10	443.16	4/1/2010	NE	33.25	NA	NA	NA	409.91		*
3Q10	443.16	7/1/2010	NE	31.85	NA	NA	NA	411.31		*
4Q10	443.16	10/1/2010	NE	30.67	NA	NA	NA	412.49		*
1Q11	443.16	1/14/2011	NE	31.17	NA	NA	NA	411.99		*
2Q11	443.16	4/1/2011	NE	31.38	NA	NA	NA	411.78		*
3Q11	443.16	7/5/2011	NE	30.02	NA	NA	NA	413.14		*
	443.16	9/19/2011	NE	29.95	NA	NA	NA	413.21		*
4Q11	443.16	10/5/2011	NE	30.14	NA	NA	NA	413.02		*
1Q12	443.16	1/4/2012	NE	31.44	NA	NA	NA	411.72		*
2Q12	443.16	4/3/2012	NE	32.78	NA	NA	NA	410.38		*
3Q12	443.16	7/2/2012	NE	33.15	NA	NA	NA	410.01		*
4Q12	443.16	10/2/2012	NE	34.83	NA	NA	NA	408.33		*
P-88D										
1Q10	443.23	1/1/2010	NE	35.20	NA	NA	NA	408.03	329.53 - 327.53 (113.7 - 115.7)	*
2Q10	443.23	4/1/2010	NE	33.33	NA	NA	NA	409.90		*
3Q10	443.23	7/1/2010	NE	31.87	NA	NA	NA	411.36		*
4Q10	443.23	10/1/2010	NE	30.73	NA	NA	NA	412.50		*
1Q11	443.23	1/14/2011	NE	31.35	NA	NA	NA	411.88		*
2Q11	443.23	4/1/2011	NE	31.81	NA	NA	NA	411.42		*
3Q11	443.23	7/5/2011	NE	30.08	NA	NA	NA	413.15		*
	443.23	9/19/2011	NE	30.03	NA	NA	NA	413.20		*
4Q11	443.23	10/5/2011	NE	30.25	NA	NA	NA	412.98		*
1Q12	443.23	1/4/2012	NE	31.57	NA	NA	NA	411.66		*
2Q12	443.23	4/3/2012	NE	32.91	NA	NA	NA	410.32		*
3Q12	443.23	7/2/2012	NE	33.41	NA	NA	NA	409.82		*
4Q12	443.23	10/2/2012	NE	34.99	NA	NA	NA	408.24		*
T-37										
1Q10	447.15	1/1/2010	NE	42.55	NA	NA	NA	404.60	398.3 - 378.3 (48.86 - 68.86)	*
2Q10	447.15	4/1/2010	NE	41.10	NA	NA	NA	406.05		*
3Q10	447.15	7/1/2010	NE	39.78	NA	NA	NA	407.37		*
4Q10	447.15	10/1/2010	NE	38.12	NA	NA	NA	409.03		*
1Q11	447.15	1/13/2011	NE	37.61	NA	NA	NA	409.54		*
2Q11	447.15	4/1/2011	NE	37.63	NA	NA	NA	409.52		*
3Q11	447.15	7/5/2011	NE	35.84	NA	NA	NA	411.31		*
4Q11	447.15	10/6/2011	NE	36.90	NA	NA	NA	410.25		*
1Q12	447.15	1/3/2012	NE	37.95	NA	NA	NA	409.20		*
2Q12	447.15	4/2/2012	NE	39.12	NA	NA	NA	408.03		*
3Q12	447.15	7/2/2012	NE	39.91	NA	NA	NA	407.24		*
4Q12	447.15	10/1/2012	NE	41.44	NA	NA	NA	405.71		*
P-89B										
1Q10	447.35	1/1/2010	NE	42.73	NA	NA	NA	404.62	369.99 - 367.99 (77.36 - 79.36)	*
2Q10	447.35	4/1/2010	NE	41.29	NA	NA	NA	406.06		*
3Q10	447.35	7/1/2010	NE	39.97	NA	NA	NA	407.38		*
4Q10	447.35	10/1/2010	NE	38.29	NA	NA	NA	409.06		*
1Q11	447.35	1/14/2011	NE	37.78	NA	NA	NA	409.57		*
2Q11	447.35	4/1/2011	NE	37.80	NA	NA	NA	409.55		*
3Q11	447.35	7/5/2011	NE	35.99	NA	NA	NA	411.36		*
	447.35	9/19/2011	NE	36.81	NA	NA	NA	410.54		*
4Q11	447.35	10/6/2011	NE	37.05	NA	NA	NA	410.30		*
1Q12	447.35	1/3/2012	NE	38.10	NA	NA	NA	409.25		*
2Q12	447.35	4/2/2012	NE	39.30	NA	NA	NA	408.05		*
3Q12	447.35	7/2/2012	NE	40.09	NA	NA	NA	407.26		*
4Q12	447.35	10/1/2012	NE	41.62	NA	NA	NA	405.73		*
P-89C										
1Q10	447.68	1/1/2010	NE	43.07	NA	NA	NA	404.61	350.05 - 348.05 (97.63 - 99.63)	*
2Q10	447.68	4/1/2010	NE	41.63	NA	NA	NA	406.05		*
3Q10	447.68	7/1/2010	NE	40.32	NA	NA	NA	407.36		*
4Q10	447.68	10/1/2010	NE	38.64	NA	NA	NA	409.04		*
1Q11	447.68	1/14/2011	NE	38.10	NA	NA	NA	409.58		*
2Q11	447.68	4/1/2011	NE	38.14	NA	NA	NA	409.54		*
3Q11	447.68	7/5/2011	NE	36.33	NA	NA	NA	411.35		*
	447.68	9/19/2011	NE	37.13	NA	NA	NA	410.55		*
4Q11	447.68	10/6/2011	NE	37.39	NA	NA	NA	410.29		*
1Q12	447.68	1/3/2012	NE	38.42	NA	NA	NA	409.26		*
2Q12	447.68	4/2/2012	NE	39.63	NA	NA	NA	408.05		*
3Q12	447.68	7/2/2012	NE	40.42	NA	NA	NA	407.26		*
4Q12	447.68	10/1/2012	NE	41.94	NA	NA	NA	405.74		*
P-89D										
1Q10	447.54	1/1/2010	NE	43.11	NA	NA	NA	404.43	307.2 - 305.2 (140.34 - 142.34)	*
2Q10	447.54	4/1/2010	NE	41.66	NA	NA	NA	405.88		*
3Q10	447.54	7/1/2010	NE	40.30	NA	NA	NA	407.24		*
4Q10	447.54	10/1/2010	NE	38.61	NA	NA	NA	408.93		*
1Q11	447.54	1/14/2011	NE	38.11	NA	NA	NA	409.43		*
2Q11	447.54	4/1/2011	NE	38.12	NA	NA	NA	409.42		*
3Q11	447.54	7/5/2011	NE	36.23	NA	NA	NA	411.31		*
	447.54	9/19/2011	NE	37.04	NA	NA	NA	410.50		*
4Q11	447.54	10/6/2011	NE	37.35	NA	NA	NA	410.19		*
1Q12	447.54	1/3/2012	NE	38.47	NA	NA	NA	409.07		*
2Q12	447.54	4/2/2012	NE	39.56	NA	NA	NA	407.98		*
3Q12	447.54	7/2/2012	NE	40.36	NA	NA	NA	407.18		*
4Q12	447.54	10/1/2012	NE	41.94	NA	NA	NA	405.60		*

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
P-91A										
1Q10	447.19	1/1/2010	47.91	48.42	398.77	399.28	0.51	399.18	395.68 - 380.68 (51.52 - 66.52)	*Product confirmed on interface probe.
2Q10	447.19	4/1/2010	46.08	46.58	400.61	401.11	0.50	401.01		*Product confirmed on interface probe.
3Q10	447.19	7/1/2010	44.85	45.36	401.83	402.34	0.51	402.24		*Product confirmed on interface probe.
4Q10	447.19	10/1/2010	42.70	43.19	404.00	404.49	0.49	404.39		*Product confirmed on interface probe.
1Q11	447.19	1/14/2011	41.19	41.64	405.55	406.00	0.45	405.91		*
2Q11	447.19	4/1/2011	NE	43.10	NA	NA	NA	404.09		*
3Q11	447.19	7/5/2011	NE	40.42	NA	NA	NA	406.77		*
	447.19	9/19/2011	NE	41.69	NA	NA	NA	405.50		*
4Q11	447.19	10/6/2011	NE	41.63	NA	NA	NA	405.56		*
1Q12	447.19	1/3/2012	NE	42.91	NA	NA	NA	404.28		*
2Q12	447.19	4/3/2012	NE	44.31	NA	NA	NA	402.88		*
3Q12	447.19	7/2/2012	NE	45.76	NA	NA	NA	401.43		*
4Q12	447.19	10/1/2012	NE	46.72	NA	NA	NA	400.47		*
P-91B										
1Q10	447.26	1/1/2010	NE	48.19	NA	NA	NA	399.07	372.57 - 370.57 (74.69 - 76.69)	*
2Q10	447.26	4/1/2010	NE	46.21	NA	NA	NA	401.05		*
3Q10	447.26	7/1/2010	NE	45.08	NA	NA	NA	402.18		*
4Q10	447.26	10/1/2010	NE	42.87	NA	NA	NA	404.39		*
1Q11	447.26	1/14/2011	NE	41.41	NA	NA	NA	405.85		*
2Q11	447.26	4/1/2011	NE	43.28	NA	NA	NA	403.98		*
3Q11	447.26	7/5/2011	NE	40.62	NA	NA	NA	406.64		*
	447.26	9/19/2011	NE	41.78	NA	NA	NA	405.48		*
4Q11	447.26	10/6/2011	NE	41.53	NA	NA	NA	405.73		*
1Q12	447.26	1/3/2012	NE	43.00	NA	NA	NA	404.26		*
2Q12	447.26	4/3/2012	NE	44.11	NA	NA	NA	403.15		*
3Q12	447.26	7/2/2012	NE	45.74	NA	NA	NA	401.52		*
4Q12	447.26	10/1/2012	NE	46.79	NA	NA	NA	400.47		*
P-91C										
1Q10	447.02	1/1/2010	NE	48.91	NA	NA	NA	398.11	352.29 - 350.29 (94.73 - 96.73)	*
2Q10	447.02	4/1/2010	NE	46.08	NA	NA	NA	400.94		*
3Q10	447.02	7/1/2010	NE	44.83	NA	NA	NA	402.19		*
4Q10	447.02	10/1/2010	NE	42.57	NA	NA	NA	404.45		*
1Q11	447.02	1/14/2011	NE	41.18	NA	NA	NA	405.84		*
2Q11	447.02	4/1/2011	NE	43.00	NA	NA	NA	404.02		*
3Q11	447.02	7/5/2011	NE	40.35	NA	NA	NA	406.67		*
	447.02	9/19/2011	NE	41.51	NA	NA	NA	405.51		*
4Q11	447.02	10/6/2011	NE	41.47	NA	NA	NA	405.55		*
1Q12	447.02	1/3/2012	NE	42.74	NA	NA	NA	404.28		*
2Q12	447.02	4/3/2012	NE	44.11	NA	NA	NA	402.91		*
3Q12	447.02	7/2/2012	NE	45.53	NA	NA	NA	401.49		*
4Q12	447.02	10/1/2012	NE	46.54	NA	NA	NA	400.48		*
P-91D										
1Q10	447.02	1/1/2010	NE	47.87	NA	NA	NA	399.15	278.70 - 276.70 (168.32 - 170.32)	*
2Q10	447.02	4/1/2010	NE	46.03	NA	NA	NA	400.99		*
3Q10	447.02	7/1/2010	NE	44.77	NA	NA	NA	402.25		*
4Q10	447.02	10/1/2010	NE	42.52	NA	NA	NA	404.50		*
1Q11	447.02	1/14/2011	NE	41.14	NA	NA	NA	405.88		*
2Q11	447.02	4/1/2011	NE	42.97	NA	NA	NA	404.05		*
3Q11	447.02	7/5/2011	NE	40.27	NA	NA	NA	406.75		*
	447.02	9/19/2011	NE	41.49	NA	NA	NA	405.53		*
4Q11	447.02	10/6/2011	NE	41.44	NA	NA	NA	405.58		*
1Q12	447.02	1/3/2012	NE	42.73	NA	NA	NA	404.29		*
2Q12	447.02	4/3/2012	NE	44.35	NA	NA	NA	402.67		*
3Q12	447.02	7/2/2012	NE	45.55	NA	NA	NA	401.47		*
4Q12	447.02	10/1/2012	NE	46.53	NA	NA	NA	400.49		*
P-92A										
1Q10	446.12	1/1/2010	45.05	45.25	400.87	401.07	0.20	401.03	398.55 - 383.55 (47.57 - 62.57)	*Product confirmed on interface probe.
2Q10	446.12	4/1/2010	43.43	43.63	402.49	402.69	0.20	402.65		*Product confirmed on interface probe.
3Q10	446.12	7/1/2010	42.43	42.63	403.49	403.69	0.20	403.65		*Product confirmed on interface probe.
4Q10	446.12	10/1/2010	40.50	40.70	405.42	405.62	0.20	405.58		*Product confirmed on interface probe.
1Q11	446.12	1/14/2011	39.43	39.57	406.55	406.69	0.14	406.66		*
2Q11	446.12	4/1/2011	NE	41.02	NA	NA	NA	405.10		*
3Q11	446.12	7/5/2011	38.55	38.59	407.53	407.57	0.04	407.56		*
	446.12	9/19/2011	39.62	39.67	406.45	406.50	0.05	406.49		*
4Q11	446.12	10/6/2011	39.70	39.76	406.36	406.42	0.06	406.41		*
1Q12	446.12	1/4/2012	41.05	41.07	405.05	405.07	0.02	405.07		*
2Q12	446.12	4/3/2012	NE	42.77	NA	NA	NA	403.35		*
3Q12	446.12	7/3/2012	44.06	44.08	402.04	402.06	0.02	402.06		*
4Q12	446.12	10/1/2012	NE	45.04	NA	NA	NA	401.08		*
P-92B										
1Q10	446.07	1/1/2010	NE	45.04	NA	NA	NA	401.03	372.42 - 370.42 (73.65 - 75.65)	*
2Q10	446.07	4/1/2010	NE	43.44	NA	NA	NA	402.63		*
3Q10	446.07	7/1/2010	NE	42.43	NA	NA	NA	403.64		*
4Q10	446.07	10/1/2010	NE	40.51	NA	NA	NA	405.56		*
1Q11	446.07	1/14/2011	NE	39.41	NA	NA	NA	406.66		*
2Q11	446.07	4/1/2011	NE	40.92	NA	NA	NA	405.15		*
3Q11	446.07	7/5/2011	NE	38.51	NA	NA	NA	407.56		*
	446.07	9/19/2011	NE	39.61	NA	NA	NA	406.46		*
4Q11	446.07	10/6/2011	NE	39.68	NA	NA	NA	406.39		*
1Q12	446.07	1/4/2012	NE	41.02	NA	NA	NA	405.05		*
2Q12	446.07	4/3/2012	NE	42.74	NA	NA	NA	403.33		*
3Q12	446.07	7/3/2012	NE	44.02	NA	NA	NA	402.05		*
4Q12	446.07	10/1/2012	NE	44.97	NA	NA	NA	401.10		*

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
P-92C										
1Q10	445.98	1/1/2010	NE	44.89	NA	NA	NA	401.09	352.54 - 350.54 (93.44 - 95.44)	*
2Q10	445.98	4/1/2010	NE	43.17	NA	NA	NA	402.81		*
3Q10	445.98	7/1/2010	NE	42.30	NA	NA	NA	403.68		*
4Q10	445.98	10/1/2010	NE	40.38	NA	NA	NA	405.60		*
1Q11	445.98	1/14/2011	NE	39.32	NA	NA	NA	406.66		*
2Q11	445.98	4/1/2011	NE	40.77	NA	NA	NA	405.21		*
3Q11	445.98	7/5/2011	NE	38.33	NA	NA	NA	407.65		*
	445.98	9/19/2011	NE	39.50	NA	NA	NA	406.48		*
4Q11	445.98	10/6/2011	NE	39.63	NA	NA	NA	406.35		*
1Q12	445.98	1/4/2012	NE	39.95	NA	NA	NA	406.03		*
2Q12	445.98	4/3/2012	NE	42.61	NA	NA	NA	403.37		*
3Q12	445.98	7/3/2012	NE	44.07	NA	NA	NA	401.91		*
4Q12	445.98	10/1/2012	NE	45.04	NA	NA	NA	400.94		*
P-92D										
1Q10	445.90	1/1/2010	NE	44.92	NA	NA	NA	400.98	304.9 - 302.9 (141.0 - 143.0)	*
2Q10	445.90	4/1/2010	NE	43.24	NA	NA	NA	402.66		*
3Q10	445.90	7/1/2010	NE	42.31	NA	NA	NA	403.59		*
4Q10	445.90	10/1/2010	NE	40.37	NA	NA	NA	405.53		*
1Q11	445.90	1/14/2011	NE	39.24	NA	NA	NA	406.66		*
2Q11	445.90	4/1/2011	NE	40.73	NA	NA	NA	405.17		*
3Q11	445.90	7/5/2011	NE	38.33	NA	NA	NA	407.57		*
	445.90	9/19/2011	NE	39.46	NA	NA	NA	406.44		*
4Q11	445.90	10/6/2011	NE	39.57	NA	NA	NA	406.33		*
1Q12	445.90	1/4/2012	NE	39.89	NA	NA	NA	406.01		*
2Q12	445.90	4/3/2012	NE	42.67	NA	NA	NA	403.23		*
3Q12	445.90	7/3/2012	NE	43.96	NA	NA	NA	401.94		*
4Q12	445.90	10/1/2012	NE	44.82	NA	NA	NA	401.08		*
P-93A										
1Q10	446.58	1/1/2010	NE	43.92	NA	NA	NA	402.66	398.41 - 383.41 (48.17 - 63.17)	*
2Q10	446.58	4/1/2010	NE	42.67	NA	NA	NA	403.91		*
3Q10	446.58	7/1/2010	NE	41.47	NA	NA	NA	405.11		*
4Q10	446.58	11/11/2010	NE	40.75	NA	NA	NA	405.83		*
1Q11	446.58	1/14/2011	NE	40.97	NA	NA	NA	405.61		*
2Q11	446.58	4/25/2011	NE	41.80	NA	NA	NA	404.78		*
3Q11	446.58	7/5/2011	NE	39.40	NA	NA	NA	407.18		*
	446.58	9/19/2011	NE	38.86	NA	NA	NA	407.72		*
4Q11	446.58	10/6/2011	NE	39.16	NA	NA	NA	407.42		*
1Q12	446.58	1/4/2012	NE	41.32	NA	NA	NA	405.26		*
2Q12	446.58	4/3/2012	NE	42.72	NA	NA	NA	403.86		*
3Q12	446.58	7/5/2012	NE	42.95	NA	NA	NA	403.63		*
4Q12	446.58	10/2/2012	NE	44.72	NA	NA	NA	401.86		*
P-93B										
1Q10	446.46	1/1/2010	NE	44.34	NA	NA	NA	402.12	371.86 - 369.86 (74.6 - 76.6)	*
2Q10	446.46	4/1/2010	NE	42.56	NA	NA	NA	403.90		*
3Q10	446.46	7/1/2010	NE	41.38	NA	NA	NA	405.08		*
4Q10	446.46	11/11/2010	NE	40.73	NA	NA	NA	405.73		*
1Q11	446.46	1/14/2011	NE	41.03	NA	NA	NA	405.43		*
2Q11	446.46	4/25/2011	NE	41.69	NA	NA	NA	404.77		*
3Q11	446.46	7/5/2011	NE	39.44	NA	NA	NA	407.02		*
	446.46	9/19/2011	NE	38.91	NA	NA	NA	407.55		*
4Q11	446.46	10/6/2011	NE	39.19	NA	NA	NA	407.27		*
1Q12	446.46	1/4/2012	NE	41.38	NA	NA	NA	405.08		*
2Q12	446.46	4/3/2012	NE	42.80	NA	NA	NA	403.66		*
3Q12	446.46	7/5/2012	NE	42.86	NA	NA	NA	403.60		*
4Q12	446.46	10/2/2012	NE	44.80	NA	NA	NA	401.66		*
P-93C										
1Q10	446.51	1/1/2010	NE	43.86	NA	NA	NA	402.65	352.26 - 350.26 (94.26 - 96.26)	*
2Q10	446.51	4/1/2010	NE	42.59	NA	NA	NA	403.92		*
3Q10	446.51	7/1/2010	NE	41.42	NA	NA	NA	405.09		*
4Q10	446.51	11/11/2010	NE	40.69	NA	NA	NA	405.82		*
1Q11	446.51	1/14/2011	NE	40.91	NA	NA	NA	405.60		*
2Q11	446.51	4/25/2011	NE	41.70	NA	NA	NA	404.81		*
3Q11	446.51	7/5/2011	NE	39.32	NA	NA	NA	407.19		*
	446.51	9/19/2011	NE	38.79	NA	NA	NA	407.72		*
4Q11	446.51	10/6/2011	NE	39.15	NA	NA	NA	407.36		*
1Q12	446.51	1/4/2012	NE	41.27	NA	NA	NA	405.24		*
2Q12	446.51	4/3/2012	NE	42.62	NA	NA	NA	403.89		*
3Q12	446.51	7/5/2012	NE	42.98	NA	NA	NA	403.53		*
4Q12	446.51	10/2/2012	NE	44.68	NA	NA	NA	401.83		*
P-93D										
1Q10	446.89	1/1/2010	NE	43.76	NA	NA	NA	403.13	321.14 - 319.14 (125.75 - 127.75)	*
2Q10	446.89	4/1/2010	NE	42.51	NA	NA	NA	404.38		*
3Q10	446.89	7/1/2010	NE	41.32	NA	NA	NA	405.57		*
4Q10	446.36	11/11/2010	NE	40.59	NA	NA	NA	405.77		*
1Q11	446.36	1/14/2011	NE	40.81	NA	NA	NA	405.55		*
2Q11	446.89	4/25/2011	NE	41.84	NA	NA	NA	405.05		*
3Q11	446.89	7/5/2011	NE	39.46	NA	NA	NA	407.43		*
	446.89	9/19/2011	NE	38.94	NA	NA	NA	407.95		*
4Q11	446.89	10/6/2011	NE	39.22	NA	NA	NA	407.67		*
1Q12	446.89	1/4/2012	NE	41.41	NA	NA	NA	405.48		*
2Q12	446.89	4/3/2012	NE	42.81	NA	NA	NA	404.08		*
3Q12	446.89	7/5/2012	NE	43.02	NA	NA	NA	403.87		*
4Q12	446.89	10/2/2012	NE	44.43	NA	NA	NA	402.46		*

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
P-94										
1Q10	444.65	1/1/2010	NE	38.86	NA	NA	NA	405.79	398.80 - 383.80 (45.85 - 60.85)	*
2Q10	444.65	4/1/2010	NE	37.55	NA	NA	NA	407.10		*
3Q10	444.65	7/1/2010	NE	36.11	NA	NA	NA	408.54		*
4Q10	444.65	10/1/2010	NE	35.13	NA	NA	NA	409.52		*
1Q11	444.65	1/13/2011	NE	34.66	NA	NA	NA	409.99		*
2Q11	444.65	4/1/2011	NE	34.27	NA	NA	NA	410.38		*
3Q11	444.65	7/5/2011	NE	32.14	NA	NA	NA	412.51		*
	444.65	9/19/2011	NE	33.17	NA	NA	NA	411.48		*
4Q11	444.65	10/6/2011	NE	33.53	NA	NA	NA	411.12		*
1Q12	444.65	1/3/2012	NE	34.75	NA	NA	NA	409.90		*
2Q12	444.65	4/2/2012	NE	35.68	NA	NA	NA	408.97		*
3Q12	444.65	7/2/2012	NE	36.20	NA	NA	NA	408.45		*
4Q12	444.65	10/1/2012	NE	38.02	NA	NA	NA	406.63		*
P-95										
1Q10	443.44	1/1/2010	NE	33.06	NA	NA	NA	410.38	406.92 - 391.92 (36.52 - 51.52)	*
2Q10	443.44	4/1/2010	NE	31.77	NA	NA	NA	411.67		*
3Q10	443.44	7/1/2010	NE	30.42	NA	NA	NA	413.02		*
4Q10	443.44	10/1/2010	NE	29.31	NA	NA	NA	414.13		*
1Q11	443.44	1/13/2011	NE	29.68	NA	NA	NA	413.76		*
2Q11	443.44	4/1/2011	NE	29.75	NA	NA	NA	413.69		*
3Q11	443.44	7/5/2011	NE	28.12	NA	NA	NA	415.32		*
4Q11	443.44	10/5/2011	NE	28.24	NA	NA	NA	415.20		*
1Q12	443.44	1/5/2012	NE	29.50	NA	NA	NA	413.94		*
2Q12	443.44	4/3/2012	NE	30.58	NA	NA	NA	412.86		*
3Q12	443.44	7/3/2012	NE	31.04	NA	NA	NA	412.40		*
4Q12	443.44	10/2/2012	NE	32.52	NA	NA	NA	410.92		*
P-102										
1Q10	444.91	1/1/2010	NE	36.48	NA	NA	NA	408.43	402.16 - 382.16 (42.75 - 62.75)	*
2Q10	444.91	4/1/2010	NE	35.31	NA	NA	NA	409.60		*
3Q10	444.91	7/1/2010	NE	33.97	NA	NA	NA	410.94		*
4Q10	444.91	10/1/2010	NE	33.62	NA	NA	NA	411.29		*
1Q11	444.91	1/3/2011	NE	32.61	NA	NA	NA	412.30		*
2Q11	444.91	4/1/2011	NE	32.41	NA	NA	NA	412.50		*
3Q11	444.91	7/5/2011	NE	30.91	NA	NA	NA	414.00		*
	444.91	9/19/2011	NE	31.18	NA	NA	NA	413.73		*
4Q11	444.91	10/6/2011	NE	31.47	NA	NA	NA	413.44		*
1Q12	444.91	1/4/2012	NE	32.45	NA	NA	NA	412.46		*
2Q12	444.91	4/3/2012	NE	33.41	NA	NA	NA	411.50		*
3Q12	444.91	7/2/2012	NE	34.10	NA	NA	NA	410.81		*
4Q12	444.91	10/2/2012	NE	35.69	NA	NA	NA	409.22		*
P-114										
1Q10	432.41	1/1/2010	NE	28.40	NA	NA	NA	404.01	399.73 - 379.73 (32.67 - 52.67)	*
2Q10	432.41	4/1/2010	NE	27.05	NA	NA	NA	405.36		*
3Q10	432.41	7/1/2010	NE	25.00	NA	NA	NA	407.41		*
4Q10	432.41	11/12/2010	NE	24.66	NA	NA	NA	407.75		*
1Q11	432.41	1/13/2011	NE	26.84	NA	NA	NA	405.57		*
2Q11	432.41	4/25/2011	NE	26.61	NA	NA	NA	405.80		*
3Q11	432.41	7/5/2011	NE	23.48	NA	NA	NA	408.93		*
	432.41	9/19/2011	NE	24.20	NA	NA	NA	408.21		*
4Q11	432.41	10/5/2011	NE	24.59	NA	NA	NA	407.82		*
1Q12	432.41	1/3/2012	NE	26.88	NA	NA	NA	405.53		*
2Q12	432.41	4/2/2012	NE	28.33	NA	NA	NA	404.08		*
3Q12	432.41	7/3/2012	NE	28.39	NA	NA	NA	404.02		*
4Q12	432.41	10/2/2012	NE	30.51	NA	NA	NA	401.90		*
P-115										
1Q10	433.31	1/1/2010	NE	29.31	NA	NA	NA	404.00	401.01 - 381.01 (32.3 - 52.3)	*
2Q10	433.31	4/1/2010	NE	27.77	NA	NA	NA	405.54		*
3Q10	433.31	7/1/2010	NE	25.59	NA	NA	NA	407.72		*
4Q10	433.31	11/11/2010	NE	25.41	NA	NA	NA	407.90		*
1Q11	433.31	1/13/2011	NE	27.88	NA	NA	NA	405.43		*
2Q11	433.31	4/25/2011	NE	27.38	NA	NA	NA	405.93		*
3Q11	433.31	7/5/2011	NM	NM	NA	NA	NA	NA		Not Accessible
	433.31	9/19/2011	NE	25.10	NA	NA	NA	408.21		*
4Q11	433.31	10/6/2011	NE	25.67	NA	NA	NA	407.64		*
1Q12	433.31	1/3/2012	NE	27.86	NA	NA	NA	405.45		*
2Q12	433.31	4/2/2012	NE	29.30	NA	NA	NA	404.01		*
3Q12	433.31	7/3/2012	NE	29.35	NA	NA	NA	403.96		*
4Q12	433.31	10/2/2012	NE	31.51	NA	NA	NA	401.80		*
P-116										
1Q10	436.45	1/1/2010	NE	32.68	NA	NA	NA	403.77	399.01 - 379.01 (37.44 - 57.44)	*
2Q10	436.45	4/1/2010	NE	31.05	NA	NA	NA	405.40		*
3Q10	436.45	7/1/2010	NE	28.82	NA	NA	NA	407.63		*
4Q10	436.45	11/11/2010	NE	28.76	NA	NA	NA	407.69		*
1Q11	436.45	1/13/2011	NE	31.35	NA	NA	NA	405.10		*
2Q11	436.45	4/25/2011	NE	30.76	NA	NA	NA	405.69		*
3Q11	436.45	7/5/2011	NE	27.41	NA	NA	NA	409.04		*
	436.45	9/19/2011	NE	28.52	NA	NA	NA	407.93		*
4Q11	436.45	10/5/2011	NE	28.96	NA	NA	NA	407.49		*
1Q12	436.45	1/3/2012	NE	31.35	NA	NA	NA	405.10		*
2Q12	436.45	4/2/2012	NE	32.72	NA	NA	NA	403.73		*
3Q12	436.45	7/3/2012	NE	32.80	NA	NA	NA	403.65		*
4Q12	436.45	10/2/2012	NE	34.97	NA	NA	NA	401.48		*

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TABLE 1
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WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
P-117										
1Q10	432.67	1/1/2010	NE	28.87	NA	NA	NA	403.80	399.74 - 379.74 (32.93 - 52.93)	*
2Q10	432.67	4/1/2010	NE	27.19	NA	NA	NA	405.48		*
3Q10	432.67	7/1/2010	NE	24.91	NA	NA	NA	407.76		*
4Q10	432.67	11/11/2010	NE	24.11	NA	NA	NA	408.56		*
1Q11	432.67	1/13/2011	NE	27.62	NA	NA	NA	405.05		*
2Q11	432.67	4/25/2011	NE	26.96	NA	NA	NA	405.71		*
3Q11	432.67	7/5/2011	NE	23.54	NA	NA	NA	409.13		*
	432.67	9/19/2011	NE	24.71	NA	NA	NA	407.96		*
4Q11	432.67	10/5/2011	NE	25.16	NA	NA	NA	407.51		*
1Q12	432.67	1/3/2012	NE	27.56	NA	NA	NA	405.11		*
2Q12	432.67	4/2/2012	NE	29.00	NA	NA	NA	403.67		*
3Q12	432.67	7/3/2012	NE	29.00	NA	NA	NA	403.67		*
4Q12	432.67	10/2/2012	NE	31.19	NA	NA	NA	401.48		*
P-118										
1Q10	431.32	1/1/2010	NE	27.78	NA	NA	NA	403.54	400.20 - 384.27 (31.12 - 47.05)	*
2Q10	431.32	4/1/2010	NE	25.81	NA	NA	NA	405.51		*
3Q10	431.32	7/1/2010	NE	23.27	NA	NA	NA	408.05		*
4Q10	431.32	10/1/2010	NE	23.80	NA	NA	NA	407.52		*
1Q11	431.32	1/13/2011	NE	26.95	NA	NA	NA	404.37		*
2Q11	431.32	4/1/2011	NE	25.75	NA	NA	NA	405.57		*
3Q11	431.32	7/5/2011	NE	22.11	NA	NA	NA	409.21		*
	431.32	9/19/2011	NE	23.78	NA	NA	NA	407.54		*
4Q11	431.32	10/5/2011	NE	34.28	NA	NA	NA	397.04		
1Q12	431.32	1/3/2012	NE	26.78	NA	NA	NA	404.54		*
2Q12	431.32	4/2/2012	NE	28.13	NA	NA	NA	403.19		*
3Q12	431.32	7/3/2012	NE	28.12	NA	NA	NA	403.20		*
4Q12	431.32	10/2/2012	NE	30.40	NA	NA	NA	400.92		*
P-119										
1Q10	431.92	1/1/2010	NE	27.74	NA	NA	NA	404.18	401.25 - 385.32 (30.67 - 46.6)	*
2Q10	431.92	4/1/2010	NE	26.49	NA	NA	NA	405.43		*
3Q10	431.92	7/1/2010	NE	24.71	NA	NA	NA	407.21		*
4Q10	431.92	11/11/2010	NE	24.93	NA	NA	NA	406.99		*
1Q11	431.92	1/13/2011	NE	25.64	NA	NA	NA	406.28		*
2Q11	431.92	4/25/2011	NE	25.77	NA	NA	NA	406.15		*
3Q11	431.92	7/5/2011	NE	23.06	NA	NA	NA	408.86		*
	431.92	9/19/2011	NE	23.40	NA	NA	NA	408.52		*
4Q11	431.92	10/5/2011	NE	23.70	NA	NA	NA	408.22		*
1Q12	431.92	1/3/2012	NE	29.80	NA	NA	NA	402.12		*
2Q12	431.92	4/2/2012	NE	27.21	NA	NA	NA	404.71		*
3Q12	431.92	7/3/2012	NE	27.40	NA	NA	NA	404.52		*
4Q12	431.92	10/2/2012	NE	29.45	NA	NA	NA	402.47		*
P-120										
1Q10	432.78	1/1/2010	NE	27.86	NA	NA	NA	404.92	401.4 - 385.47 (31.38 - 47.31)	*
2Q10	432.78	4/1/2010	NE	26.60	NA	NA	NA	406.18		*
3Q10	432.78	7/1/2010	NE	24.53	NA	NA	NA	408.25		*
4Q10	432.78	10/1/2010	NE	24.13	NA	NA	NA	408.65		*
1Q11	432.78	1/13/2011	NE	26.14	NA	NA	NA	406.64		*
2Q11	432.78	4/1/2011	NE	25.82	NA	NA	NA	406.96		*
3Q11	432.78	7/5/2011	NE	22.85	NA	NA	NA	409.93		*
	432.78	9/19/2011	NE	23.82	NA	NA	NA	408.96		*
4Q11	432.78	10/5/2011	NE	24.15	NA	NA	NA	408.63		*
1Q12	432.78	1/3/2012	NE	26.22	NA	NA	NA	406.56		*
2Q12	432.78	4/4/2012	NE	27.58	NA	NA	NA	405.20		*
3Q12	432.78	7/3/2012	NE	27.84	NA	NA	NA	404.94		*
4Q12	432.78	10/2/2012	NE	29.90	NA	NA	NA	402.88		*
P-129										
1Q10	432.46	1/1/2010	NE	29.33	NA	NA	NA	403.13	400.49 - 384.56 (31.97 - 47.9)	*
2Q10	432.46	4/1/2010	NE	27.11	NA	NA	NA	405.35		*
3Q10	432.46	7/1/2010	NE	23.82	NA	NA	NA	408.64		*
4Q10	432.46	10/1/2010	NE	25.46	NA	NA	NA	407.00		*
1Q11	432.46	1/1/2011	NE	29.82	NA	NA	NA	402.64		*
2Q11	432.46	4/1/2011	NE	26.85	NA	NA	NA	405.61		*
3Q11	432.46	7/5/2011	NE	22.74	NA	NA	NA	409.72		*
4Q11	432.46	10/5/2011	NE	26.57	NA	NA	NA	405.89		*
1Q12	432.46	1/5/2012	NE	29.31	NA	NA	NA	403.15		*
2Q12	432.46	4/2/2012	NE	30.31	NA	NA	NA	402.15		*
3Q12	432.46	7/3/2012	NE	30.33	NA	NA	NA	402.13		*
4Q12	432.46	10/2/2012	NE	32.84	NA	NA	NA	399.62		
GP-9-PZ										
4Q10	442.41	11/11/2010	NE	37.38	NA	NA	NA	405.03	404.81 - 394.81 (37.6 - 47.6)	*
1Q11	442.41	1/14/2011	NE	37.53	NA	NA	NA	404.88		*
2Q11	442.41	4/25/2011	NE	38.85	NA	NA	NA	403.56		
3Q11	442.41	7/5/2011	NM	NM	NA	NA	NA	NA		
	442.41	9/19/2011	NE	35.44	NA	NA	NA	406.97		*
4Q11	442.41	10/6/2011	NE	36.65	NA	NA	NA	405.76		*
1Q12	442.41	1/4/2012	NE	38.13	NA	NA	NA	404.28		
2Q12	442.41	4/3/2012	NE	39.51	NA	NA	NA	402.90		
3Q12	442.41	7/5/2012	NE	39.62	NA	NA	NA	402.79		
4Q12	442.41	10/2/2012	NE	41.32	NA	NA	NA	401.09		

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
ROST-3-PZ										
4Q10	442.29	11/12/2010	NE	36.60	NA	NA	NA	405.69	402.29 - 392.29	*
1Q11	442.29	1/13/2011	NE	37.29	NA	NA	NA	405.00		*
2Q11	442.29	4/25/2011	NE	38.21	NA	NA	NA	404.08		*
3Q11	442.29	7/5/2011	NE	35.83	NA	NA	NA	406.46		*
	442.29	9/19/2011	NE	34.89	NA	NA	NA	407.40		*
4Q11	442.29	10/5/2011	NE	35.18	NA	NA	NA	407.11		*
1Q12	442.29	1/3/2012	NE	37.33	NA	NA	NA	404.96		*
2Q12	442.29	4/2/2012	NE	38.57	NA	NA	NA	403.72		*
3Q12	442.29	7/2/2012	NE	38.84	NA	NA	NA	403.45		*
4Q12	442.29	10/1/2012	NE	40.55	NA	NA	NA	401.74		
ROST-4-PZ										
4Q10	442.27	11/12/2010	NE	36.48	NA	NA	NA	405.79	Unknown	3/4" Piezometer
1Q11	442.27	1/13/2011	NE	36.97	NA	NA	NA	405.30		3/4" Piezometer
2Q11	442.13	4/25/2011	NE	37.69	NA	NA	NA	404.44	407.20 - 397.20 (34.93 - 44.93)	2" Well Installed
3Q11	442.13	7/5/2011	NE	35.85	NA	NA	NA	406.28		
4Q11	442.13	10/5/2011	NE	35.64	NA	NA	NA	406.49		
1Q12	442.13	1/3/2012	NE	36.62	NA	NA	NA	405.51		
2Q12	442.13	4/2/2012	37.81	37.84	404.29	404.32	0.03	404.31		
3Q12	442.13	7/2/2012	NE	38.24	NA	NA	NA	403.89		
4Q12	442.13	10/1/2012	NE	39.52	NA	NA	NA	402.61		
ROST-4-PZ(A)										
2Q11	442.11	4/25/2011	NE	37.18	NA	NA	NA	404.93	407.34 - 397.34 (34.77 - 44.77)	
3Q11	442.11	7/5/2011	NE	35.21	NA	NA	NA	406.90		
4Q11	442.11	10/5/2011	NE	34.03	NA	NA	NA	408.08		
1Q12	442.11	1/3/2012	NE	35.92	NA	NA	NA	406.19		
2Q12	442.11	4/2/2012	NE	37.17	NA	NA	NA	404.94		
3Q12	442.11	7/2/2012	NE	38.64	NA	NA	NA	403.47		
4Q12	442.11	10/1/2012	NE	38.95	NA	NA	NA	403.16		
ROST-4-PZ(B)										
2Q11	442.38	4/25/2011	NE	37.80	NA	NA	NA	404.58	407.33 - 397.33 (35.05 - 45.05)	
3Q11	442.38	7/5/2011	NE	35.93	NA	NA	NA	406.45		
4Q11	442.38	10/5/2011	NE	34.70	NA	NA	NA	407.68		
1Q12	442.38	1/3/2012	NE	36.65	NA	NA	NA	405.73		
2Q12	442.38	4/2/2012	NE	37.87	NA	NA	NA	404.51		
3Q12	442.38	7/2/2012	NE	38.28	NA	NA	NA	404.10		
4Q12	442.38	10/1/2012	NE	39.62	NA	NA	NA	402.76		
ROST-4-PZ(C)										
2Q11	442.66	4/25/2011	NE	38.52	NA	NA	NA	404.14	407.71 - 397.71 (34.95 - 44.95)	
3Q11	442.66	7/5/2011	NE	36.62	NA	NA	NA	406.04		
4Q11	442.66	10/5/2011	NE	35.41	NA	NA	NA	407.25		
1Q12	442.66	1/3/2012	NE	37.40	NA	NA	NA	405.26		
2Q12	442.66	4/2/2012	NE	38.62	NA	NA	NA	404.04		
3Q12	442.66	7/2/2012	NE	39.09	NA	NA	NA	403.57		
4Q12	442.66	10/1/2012	NE	40.43	NA	NA	NA	402.23		
ROST-4-PZ(D)										
2Q11	442.98	4/25/2011	NE	38.41	NA	NA	NA	404.57	408.01 - 398.01 (34.97 - 44.97)	
3Q11	442.98	7/5/2011	NE	36.58	NA	NA	NA	406.40		
4Q11	442.98	10/5/2011	NE	35.37	NA	NA	NA	407.61		
1Q12	442.98	1/3/2012	37.23	37.68	405.30	405.75	0.45	405.66		
2Q12	442.98	4/2/2012	38.57	38.59	404.39	404.41	0.02	404.41		
3Q12	442.98	7/2/2012	NE	39.99	NA	NA	NA	402.99		Sheen
4Q12	442.98	10/1/2012	NE	NE	NA	NA	NA	NA		Well Dry; Integrity Suspect
ROST-4-PZ(E)										
2Q11	441.96	4/25/2011	NE	37.63	NA	NA	NA	404.33	407.21 - 397.21 (34.75 - 44.75)	
3Q11	441.96	7/5/2011	NE	35.81	NA	NA	NA	406.15		
4Q11	441.96	10/5/2011	NE	34.61	NA	NA	NA	407.35		
1Q12	441.96	1/3/2012	36.48	36.92	405.04	405.48	0.44	405.39		
2Q12	441.96	4/2/2012	37.72	38.11	403.85	404.24	0.39	404.16		
3Q12	441.96	7/2/2012	38.13	38.19	403.77	403.83	0.06	403.82		
4Q12	441.96	10/1/2012	39.28	39.31	402.65	402.68	0.03	402.67		
ROST-4-PZ(F)										
2Q11	442.12	4/25/2011	NE	37.87	NA	NA	NA	404.25	407.59 - 397.59 (34.53 - 44.53)	
3Q11	442.12	7/5/2011	NE	35.99	NA	NA	NA	406.13		
4Q11	442.12	10/5/2011	NE	34.84	NA	NA	NA	407.28		
1Q12	442.12	1/3/2012	NE	36.83	NA	NA	NA	405.29		
2Q12	442.12	4/2/2012	NE	37.96	NA	NA	NA	404.16		
3Q12	442.12	7/2/2012	NE	38.29	NA	NA	NA	403.83		
4Q12	442.12	10/1/2012	NE	39.46	NA	NA	NA	402.66		
ROST-4-PZ(G)										
2Q11	442.13	4/25/2011	NE	38.08	NA	NA	NA	404.05	407.85 - 397.85 (34.28 - 44.28)	
3Q11	442.13	7/5/2011	NE	35.76	NA	NA	NA	406.37		
4Q11	442.13	10/5/2011	NE	35.07	NA	NA	NA	407.06		
1Q12	442.13	1/3/2012	NE	37.44	NA	NA	NA	404.69		
2Q12	442.13	4/2/2012	NE	38.61	NA	NA	NA	403.52		
3Q12	442.13	7/2/2012	NE	38.79	NA	NA	NA	403.34		
4Q12	442.13	10/1/2012	NE	40.54	NA	NA	NA	401.59		

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
ROST-5-PZ	***(PERCHED WELL)***									
4Q10	442.22	11/12/2010	NE	NE	NA	NA	NA	NA	429.02 - 419.02 (13.2 - 23.2)	Well Dry
1Q11	442.22	1/13/2011	NE	NE	NA	NA	NA	NA		Well Dry
2Q11	442.22	4/25/2011	NE	NE	NA	NA	NA	NA		Well Dry
3Q11	442.22	7/5/2011	NE	NE	NA	NA	NA	NA		Well Dry
	442.22	9/19/2011	NE	NE	NA	NA	NA	NA		Well Dry
4Q11	442.22	10/5/2011	NE	NE	NA	NA	NA	NA		Well Dry
1Q12	442.22	1/3/2012	NE	NE	NA	NA	NA	NA		Well Dry
2Q12	442.22	4/2/2012	NE	NE	NA	NA	NA	NA		Well Dry
3Q12	442.22	7/2/2012	NE	NE	NA	NA	NA	NA		Well Dry
4Q12	442.22	10/1/2012	NE	NE	NA	NA	NA	NA		Well Dry
ROST-7-PZ	***(PERCHED WELL)***									
4Q10	442.19	11/12/2010	NE	22.93	NA	NA	NA	419.26	422.19 - 412.19 (20 - 30)	
1Q11	442.19	1/13/2011	NE	23.74	NA	NA	NA	418.45		
2Q11	442.19	4/25/2011	NE	23.72	NA	NA	NA	418.47		
3Q11	442.19	7/5/2011	NE	22.05	NA	NA	NA	420.14		
	442.19	9/19/2011	NE	22.63	NA	NA	NA	419.56		
4Q11	442.19	10/5/2011	NE	22.52	NA	NA	NA	419.67		
1Q12	442.19	1/3/2012	NE	23.64	NA	NA	NA	418.55		
2Q12	442.19	4/2/2012	NE	24.08	NA	NA	NA	418.11		
3Q12	442.19	7/2/2012	NE	23.33	NA	NA	NA	418.86		
4Q12	442.19	10/1/2012	NE	23.86	NA	NA	NA	418.33		
ROST-10-PZ	***(PERCHED WELL)***									
4Q10	444.51	11/12/2010	NE	NE	NA	NA	NA	NA	434.51 - 424.51 (10 - 20)	Well Dry
1Q11	444.51	1/13/2011	NE	NE	NA	NA	NA	NA		Well Dry
2Q11	444.51	4/25/2011	NE	NE	NA	NA	NA	NA		Well Dry
3Q11	444.51	7/5/2011	NE	19.67	NA	NA	NA	424.84		
	444.51	9/19/2011	NE	19.88	NA	NA	NA	424.63		
4Q11	444.51	10/5/2011	NE	NE	NA	NA	NA	NA		Well Dry
1Q12	444.51	1/3/2012	NE	NE	NA	NA	NA	NA		Well Dry
2Q12	444.51	4/2/2012	NE	NE	NA	NA	NA	NA		Well Dry
3Q12	444.51	7/2/2012	NE	NE	NA	NA	NA	NA		Well Dry
4Q12	444.51	10/1/2012	NE	NE	NA	NA	NA	NA		Well Dry
ROST-21-PZ	***(PERCHED WELL)***									
4Q10	443.72	11/12/2010	NE	19.30	NA	NA	NA	424.42	433.72 - 423.72 (10 - 20)	
1Q11	443.72	1/13/2011	NE	19.59	NA	NA	NA	424.13		
2Q11	443.72	4/25/2011	NE	19.04	NA	NA	NA	424.68		
3Q11	443.72	7/5/2011	NE	18.37	NA	NA	NA	425.35		
	443.72	9/19/2011	NE	19.26	NA	NA	NA	424.46		
4Q11	443.72	10/5/2011	NE	NE	NA	NA	NA	NA		Well Dry
1Q12	443.72	1/3/2012	NE	19.81	NA	NA	NA	423.91		
2Q12	443.72	4/2/2012	NE	NE	NA	NA	NA	NA		Well Dry
3Q12	443.72	7/2/2012	NE	19.34	NA	NA	NA	424.38		
4Q12	443.72	10/1/2012	NE	NE	NA	NA	NA	NA		Well Dry
S-1										
1Q10	443.79	1/1/2010	40.88	46.14	397.65	402.91	5.26	401.86	Unknown	Product confirmed on interface probe.
2Q10	443.79	4/1/2010	39.38	44.32	399.47	404.41	4.94	403.42		Product confirmed on interface probe.
3Q10	443.79	7/1/2010	38.27	43.29	400.50	405.52	5.02	404.52		Product confirmed on interface probe.
4Q10	443.79	11/11/2010	36.96	41.91	401.88	406.83	4.95	405.84		
1Q11	443.79	1/13/2011	36.41	41.33	402.46	407.38	4.92	406.40		
2Q11	443.79	4/25/2011	38.70	38.73	405.06	405.09	0.03	405.08		
3Q11	443.79	7/5/2011	36.50	36.54	407.25	407.29	0.04	407.28		
	443.79	9/19/2011	NE	36.42	NA	NA	NA	407.37		
4Q11	443.79	10/6/2011	NE	36.68	NA	NA	NA	407.11		
1Q12	443.79	1/3/2012	NE	38.36	NA	NA	NA	405.43		
2Q12	443.79	4/3/2012	NE	39.83	NA	NA	NA	403.96		
3Q12	443.79	7/3/2012	NE	40.38	NA	NA	NA	403.41		
4Q12	443.79	10/1/2012	NE	41.93	NA	NA	NA	401.86		
T-1										
1Q10	444.55	1/1/2010	NE	46.55	NA	NA	NA	398.00	396.92-373.00 (47.63 - 71.55)	
2Q10	444.55	4/1/2010	NE	45.51	NA	NA	NA	399.04		*
3Q10	444.55	7/1/2010	NM	NM	NA	NA	NA	NA		Area flooded, unable to access.
4Q10	444.55	11/11/2010	NE	39.08	NA	NA	NA	405.47		*
1Q11	444.55	1/13/2011	NE	41.02	NA	NA	NA	403.53		*
2Q11	444.55	4/25/2011	NE	46.65	NA	NA	NA	397.90		
3Q11	444.55	7/5/2011	NE	35.99	NA	NA	NA	408.56		*
	444.55	9/19/2011	NE	51.50	NA	NA	NA	393.05		
4Q11	444.55	10/6/2011	NE	50.83	NA	NA	NA	393.72		
1Q12	445.40	1/3/2012	NM	NM	NA	NA	NA	NA	398.40 - 388.40 (43.91 - 53.91)	Well Could Not Be Opened
2Q12	445.40	4/2/2012	NE	40.09	NA	NA	NA	405.31		*
3Q12	445.40	7/2/2012	NE	41.19	NA	NA	NA	404.21		*
4Q12	445.40	10/1/2012	NE	42.90	NA	NA	NA	402.50		*

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
T-2										
1Q10	443.13	1/1/2010	NE	41.81	NA	NA	NA	401.32	392.63 - 372.48 (50.5 - 70.65)	*
2Q10	443.13	4/1/2010	NE	40.35	NA	NA	NA	402.78		*
3Q10	443.13	7/1/2010	NE	39.16	NA	NA	NA	403.97		*
4Q10	443.13	11/11/2010	NE	37.51	NA	NA	NA	405.62		*
1Q11	443.13	1/13/2011	NE	36.97	NA	NA	NA	406.16		*
2Q11	443.13	4/25/2011	NE	38.03	NA	NA	NA	405.10		*
3Q11	443.13	7/5/2011	NE	35.89	NA	NA	NA	407.24		*
	443.13	9/19/2011	NE	35.80	NA	NA	NA	407.33		*
4Q11	443.13	10/6/2011	NE	35.97	NA	NA	NA	407.16		*
1Q12	443.13	1/3/2012	NE	34.44	NA	NA	NA	408.69		*
2Q12	443.13	4/2/2012	NE	38.68	NA	NA	NA	404.45		*
3Q12	443.13	7/2/2012	NE	39.15	NA	NA	NA	403.98		*
4Q12	443.13	10/1/2012	NE	41.11	NA	NA	NA	402.02		*
T-3										
1Q10	450.91	1/1/2010	NE	50.99	NA	NA	NA	399.92	403.65 - 388.65 (47.26 - 62.26)	
2Q10	450.91	4/1/2010	NE	48.84	NA	NA	NA	402.07		
3Q10	450.91	7/1/2010	NE	48.07	NA	NA	NA	402.84		
4Q10	450.91	10/1/2010	NE	45.66	NA	NA	NA	405.25		*
1Q11	450.91	1/13/2011	NE	44.64	NA	NA	NA	406.27		*
2Q11	450.91	4/1/2011	NE	46.50	NA	NA	NA	404.41		*
3Q11	450.91	7/5/2011	NE	43.85	NA	NA	NA	407.06		*
	450.91	9/19/2011	NE	44.60	NA	NA	NA	406.31		*
4Q11	450.91	10/6/2011	NE	45.68	NA	NA	NA	405.23		*
1Q12	450.91	1/4/2012	NE	45.83	NA	NA	NA	405.08		*
2Q12	450.91	4/2/2012	NE	47.09	NA	NA	NA	403.82		*
3Q12	450.91	7/2/2012	NE	48.00	NA	NA	NA	402.91		
4Q12	450.91	10/1/2012	NE	50.04	NA	NA	NA	400.87		
T-4										
1Q10	447.95	1/1/2010	NE	48.38	NA	NA	NA	399.57	398.24 - 383.24 (49.71 - 64.71)	*
2Q10	447.95	4/1/2010	NE	46.44	NA	NA	NA	401.51		*
3Q10	447.95	7/1/2010	NE	45.22	NA	NA	NA	402.73		*
4Q10	447.95	10/1/2010	NE	42.99	NA	NA	NA	404.96		*
1Q11	447.95	1/13/2011	NE	41.38	NA	NA	NA	406.57		*
2Q11	447.95	4/1/2011	NE	42.23	NA	NA	NA	405.72		*
3Q11	447.95	7/5/2011	NE	39.83	NA	NA	NA	408.12		*
	447.95	9/19/2011	NE	41.97	NA	NA	NA	405.98		*
4Q11	447.95	10/6/2011	NE	42.04	NA	NA	NA	405.91		*
1Q12	447.95	1/3/2012	NE	43.35	NA	NA	NA	404.60		*
2Q12	447.95	4/3/2012	NE	45.47	NA	NA	NA	402.48		*
3Q12	447.95	7/3/2012	NE	46.57	NA	NA	NA	401.38		*
4Q12	447.95	10/1/2012	NE	46.78	NA	NA	NA	401.17		*
T-5										
1Q10	443.46	1/1/2010	NE	40.79	NA	NA	NA	402.67	395.13 - 378.58 (48.33 - 64.88)	*
2Q10	443.46	4/1/2010	NE	39.28	NA	NA	NA	404.18		*
3Q10	443.46	7/1/2010	NM	NM	NA	NA	NA	NA		Tank yard flooded, unable to access.
4Q10	443.46	10/1/2010	NE	36.59	NA	NA	NA	406.87		*
1Q11	443.46	1/1/2011	NE	36.09	NA	NA	NA	407.37		*
2Q11	443.46	4/1/2011	NE	37.30	NA	NA	NA	406.16		*
3Q11	443.46	7/5/2011	NE	35.28	NA	NA	NA	408.18		*
4Q11	443.46	10/6/2011	NE	35.84	NA	NA	NA	407.62		*
1Q12	443.46	1/3/2012	NE	37.31	NA	NA	NA	406.15		*
2Q12	443.46	4/3/2012	NE	38.87	NA	NA	NA	404.59		*
3Q12	443.46	7/6/2012	NE	39.81	NA	NA	NA	403.65		*
4Q12	443.46	10/1/2012	NE	41.08	NA	NA	NA	402.38		*
T-6										
1Q10	446.55	1/1/2010	NE	44.09	NA	NA	NA	402.46	394.79 - 380.54 (51.76 - 66.01)	*
2Q10	446.55	4/1/2010	NE	42.83	NA	NA	NA	403.72		*
3Q10	446.55	7/1/2010	NE	41.74	NA	NA	NA	404.81		*
4Q10	446.55	11/12/2010	NE	40.77	NA	NA	NA	405.78		*
1Q11	446.55	1/13/2011	NE	41.07	NA	NA	NA	405.48		*
2Q11	446.55	4/25/2011	NE	42.01	NA	NA	NA	404.54		*
3Q11	446.55	7/5/2011	NE	39.58	NA	NA	NA	406.97		*
	446.55	9/19/2011	NE	38.95	NA	NA	NA	407.60		*
4Q11	446.55	10/6/2011	NE	39.26	NA	NA	NA	407.29		*
1Q12	446.55	1/4/2012	NE	41.46	NA	NA	NA	405.09		*
2Q12	446.55	4/3/2012	NE	42.88	NA	NA	NA	403.67		*
3Q12	446.55	7/5/2012	NE	43.06	NA	NA	NA	403.49		*
4Q12	446.55	10/2/2012	NE	44.86	NA	NA	NA	401.69		*
T-7										
1Q10	444.01	1/1/2010	39.87	40.02	403.99	404.14	0.15	404.11	395.29 - 380.29 (48.72 - 63.72)	*Product confirmed on interface probe.
2Q10	444.01	4/1/2010	38.74	38.89	405.12	405.27	0.15	405.24		*Product confirmed on interface probe.
3Q10	444.01	7/1/2010	37.21	37.37	406.64	406.80	0.16	406.77		*Product confirmed on interface probe.
4Q10	444.01	10/1/2010	36.24	36.40	407.61	407.77	0.16	407.74		*Product confirmed on interface probe.
1Q11	444.01	1/13/2011	36.74	36.87	407.14	407.27	0.13	407.24		*
2Q11	444.01	4/1/2011	37.20	37.25	406.76	406.81	0.05	406.80		*
3Q11	444.01	7/5/2011	35.08	35.16	408.85	408.93	0.08	408.91		*
	444.01	9/19/2011	35.14	35.19	408.82	408.87	0.05	408.86		*
4Q11	444.01	10/5/2011	35.36	35.43	408.58	408.65	0.07	408.64		*
1Q12	444.01	1/4/2012	37.05	37.08	406.93	406.96	0.03	406.95		*
2Q12	444.01	4/3/2012	38.45	38.45	405.56	405.56	0.00	405.56		*
3Q12	444.01	7/2/2012	38.90	38.96	405.05	405.11	0.06	405.10		*
4Q12	444.01	10/2/2012	40.80	40.83	403.18	403.21	0.03	403.20		*

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
T-12										
1Q10	444.69	1/1/2010	NE	42.94	NA	NA	NA	401.75	398.23 - 372.23 (46.46 - 72.46)	*
2Q10	444.69	4/1/2010	NE	41.59	NA	NA	NA	403.10		*
3Q10	444.69	7/1/2010	NE	41.21	NA	NA	NA	403.48		*
4Q10	444.69	11/12/2010	NE	40.35	NA	NA	NA	404.34		*
1Q11	444.69	1/13/2011	NE	40.30	NA	NA	NA	404.39		*
2Q11	444.69	4/25/2011	NE	41.40	NA	NA	NA	403.29		*
3Q11	444.69	7/5/2011	NE	39.07	NA	NA	NA	405.62		*
	444.69	9/19/2011	NE	38.06	NA	NA	NA	406.63		*
4Q11	444.69	10/6/2011	NE	38.23	NA	NA	NA	406.46		*
1Q12	444.69	1/4/2012	NE	40.64	NA	NA	NA	404.05		*
2Q12	444.69	4/3/2012	NE	42.06	NA	NA	NA	402.63		*
3Q12	444.69	7/5/2012	NE	42.05	NA	NA	NA	402.64		*
4Q12	444.69	10/2/2012	NE	43.86	NA	NA	NA	400.83		*
T-13										
1Q10	443.46	1/1/2010	NE	41.27	NA	NA	NA	402.19	396.46 - 370.46 (46.1 - 72.1)	*
2Q10	443.46	4/1/2010	NE	40.02	NA	NA	NA	403.44		*
3Q10	443.46	7/1/2010	NE	38.72	NA	NA	NA	404.74		*
4Q10	443.46	11/11/2010	NE	37.37	NA	NA	NA	406.09		*
1Q11	443.46	1/13/2011	NE	37.57	NA	NA	NA	405.89		*
2Q11	443.46	4/25/2011	NE	38.25	NA	NA	NA	405.21		*
3Q11	443.46	7/5/2011	NM	NM	NA	NA	NA	NA		
	443.46	9/19/2011	NE	37.54	NA	NA	NA	405.92		*
4Q11	443.46	10/5/2011	NE	35.78	NA	NA	NA	407.68		*
1Q12	443.46	1/3/2012	NE	37.42	NA	NA	NA	406.04		*
2Q12	443.46	4/2/2012	NE	38.69	NA	NA	NA	404.77		*
3Q12	443.46	7/2/2012	NE	39.09	NA	NA	NA	404.37		*
4Q12	443.46	10/2/2012	NE	40.81	NA	NA	NA	402.65		*
T-15										
1Q10	445.03	1/1/2010	NE	43.88	NA	NA	NA	401.15	396.99 - 370.99 (48.04 - 74.04)	*
2Q10	445.03	4/1/2010	NE	42.39	NA	NA	NA	402.64		*
3Q10	445.03	7/1/2010	NE	41.07	NA	NA	NA	403.96		*
4Q10	445.03	10/1/2010	NE	39.31	NA	NA	NA	405.72		*
1Q11	445.03	1/13/2011	NE	38.39	NA	NA	NA	406.64		*
2Q11	445.03	4/1/2011	NE	39.55	NA	NA	NA	405.48		*
3Q11	445.03	7/5/2011	NE	37.35	NA	NA	NA	407.68		*
	445.03	9/19/2011	NE	37.59	NA	NA	NA	407.44		*
4Q11	445.03	10/6/2011	NE	37.79	NA	NA	NA	407.24		*
1Q12	445.03	1/3/2012	NE	38.97	NA	NA	NA	406.06		*
2Q12	445.03	4/2/2012	NE	40.28	NA	NA	NA	404.75		*
3Q12	445.03	7/2/2012	NE	40.90	NA	NA	NA	404.13		*
4Q12	445.03	10/1/2012	NE	42.81	NA	NA	NA	402.22		*

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
T-17										
1Q10	445.90	1/1/2010	NE	42.57	NA	NA	NA	403.33	401.8 - 375.8 (44.1 - 70.1)	*
2Q10	445.90	4/1/2010	NE	41.12	NA	NA	NA	404.78		*
3Q10	445.90	7/1/2010	NE	39.60	NA	NA	NA	406.30		*
4Q10	445.90	10/1/2010	NE	38.11	NA	NA	NA	407.79		*
1Q11	445.90	1/13/2011	NE	37.11	NA	NA	NA	408.79		*
2Q11	445.90	4/1/2011	NE	37.30	NA	NA	NA	408.60		*
3Q11	445.90	7/5/2011	NE	35.17	NA	NA	NA	410.73		*
	445.90	9/19/2011	NE	35.90	NA	NA	NA	410.00		*
4Q11	445.90	10/6/2011	NE	36.23	NA	NA	NA	409.67		*
1Q12	445.90	1/3/2012	NE	37.37	NA	NA	NA	408.53		*
2Q12	445.90	4/2/2012	NE	38.79	NA	NA	NA	407.11		*
3Q12	445.90	7/2/2012	NE	39.29	NA	NA	NA	406.61		*
4Q12	445.90	10/1/2012	NE	40.92	NA	NA	NA	404.98		*
T-19										
1Q10	446.71	1/1/2010	46.55	48.07	398.64	400.16	1.52	399.86	395.94 - 369.94 (50.77 - 76.77)	*Product confirmed on interface probe.
2Q10	446.71	4/1/2010	44.64	46.11	400.60	402.07	1.47	401.78		*Product confirmed on interface probe.
3Q10	446.71	7/1/2010	43.47	44.91	401.80	403.24	1.44	402.95		*Product confirmed on interface probe.
4Q10	446.71	10/1/2010	41.39	42.73	403.98	405.32	1.34	405.05		*Product confirmed on interface probe.
1Q11	446.71	1/13/2011	39.78	41.15	405.56	406.93	1.37	406.66		*
2Q11	446.71	4/1/2011	40.88	40.90	405.81	405.83	0.02	405.83		*
3Q11	446.71	7/5/2011	38.47	38.50	408.21	408.24	0.03	408.23		*
	446.71	9/19/2011	40.60	40.64	406.07	406.11	0.04	406.10		*
4Q11	446.71	10/6/2011	40.65	40.69	406.02	406.06	0.04	406.05		*
1Q12	446.71	1/3/2012	41.97	41.98	404.73	404.74	0.01	404.74		*
2Q12	446.71	4/3/2012	NE	44.09	NA	NA	NA	402.62		*
3Q12	446.71	7/3/2012	NE	45.36	NA	NA	NA	401.35		*
4Q12	446.71	10/1/2012	NE	45.41	NA	NA	NA	401.30		*
T-21										
1Q10	444.00	1/1/2010	NE	33.39	NA	NA	NA	410.61	412.04 - 386.04 (31.96 - 57.96)	
2Q10	444.00	4/1/2010	NE	32.11	NA	NA	NA	411.89		
3Q10	444.00	7/1/2010	NE	30.79	NA	NA	NA	413.21		*
4Q10	444.00	10/1/2010	NE	29.65	NA	NA	NA	414.35		*
1Q11	444.00	1/13/2011	NE	29.96	NA	NA	NA	414.04		*
2Q11	444.00	4/1/2011	NE	29.83	NA	NA	NA	414.17		*
3Q11	444.00	7/5/2011	NE	28.17	NA	NA	NA	415.83		*
	444.00	9/19/2011	NE	28.24	NA	NA	NA	415.76		*
4Q11	444.00	10/5/2011	NE	28.41	NA	NA	NA	415.59		*
1Q12	444.00	1/4/2012	NE	29.56	NA	NA	NA	414.44		*
2Q12	444.00	4/3/2012	NE	30.65	NA	NA	NA	413.35		*
3Q12	444.00	7/2/2012	NE	31.14	NA	NA	NA	412.86		*
4Q12	444.00	10/2/2012	NE	32.62	NA	NA	NA	411.38		
T-22										
1Q10	442.21	1/1/2010	NE	34.13	NA	NA	NA	408.08	410.66 - 384.96 (31.55 - 57.25)	
2Q10	442.21	4/1/2010	NE	32.69	NA	NA	NA	409.52		
3Q10	442.21	7/1/2010	NE	31.11	NA	NA	NA	411.10		*
4Q10	442.21	10/1/2010	NE	30.12	NA	NA	NA	412.09		*
1Q11	442.21	1/13/2011	NE	31.04	NA	NA	NA	411.17		*
2Q11	442.21	4/1/2011	NE	30.96	NA	NA	NA	411.25		*
3Q11	442.21	7/5/2011	NE	29.00	NA	NA	NA	413.21		*
	442.21	9/19/2011	NE	29.26	NA	NA	NA	412.95		*
4Q11	442.21	10/5/2011	NE	29.51	NA	NA	NA	412.70		*
1Q12	442.21	1/4/2012	NE	30.91	NA	NA	NA	411.30		*
2Q12	442.21	4/3/2012	NE	32.34	NA	NA	NA	409.87		
3Q12	442.21	7/2/2012	NE	32.81	NA	NA	NA	409.40		
4Q12	442.21	10/2/2012	NE	34.45	NA	NA	NA	407.76		
T-23										
1Q10	432.64	1/1/2010	NE	26.27	NA	NA	NA	406.37	405.41 - 379.41 (27.23 - 53.23)	*
2Q10	432.64	4/1/2010	NE	25.00	NA	NA	NA	407.64		*
3Q10	432.64	7/1/2010	NE	23.35	NA	NA	NA	409.29		*
4Q10	432.64	10/1/2010	NE	22.41	NA	NA	NA	410.23		*
1Q11	432.64	1/13/2011	NE	23.83	NA	NA	NA	408.81		*
2Q11	432.64	4/1/2011	NE	23.40	NA	NA	NA	409.24		*
3Q11	432.64	7/5/2011	NE	21.22	NA	NA	NA	411.42		*
	432.64	9/19/2011	NE	27.83	NA	NA	NA	404.81		
4Q11	432.64	10/5/2011	NE	22.21	NA	NA	NA	410.43		*
1Q12	432.64	1/3/2012	NE	23.75	NA	NA	NA	408.89		*
2Q12	432.64	4/2/2012	NE	25.10	NA	NA	NA	407.54		*
3Q12	432.64	7/2/2012	NE	25.60	NA	NA	NA	407.04		*
4Q12	432.64	10/2/2012	NE	27.37	NA	NA	NA	405.27		
T-24										
1Q10	443.72	1/1/2010	42.68	43.03	400.69	401.04	0.35	400.97	402.22 - 376.57 (41.5 - 67.15)	Product confirmed on interface probe.
2Q10	443.72	4/1/2010	41.25	41.55	402.17	402.47	0.30	402.41		*Product confirmed on interface probe.
3Q10	443.72	7/1/2010	40.36	40.68	403.04	403.36	0.32	403.29		*Product confirmed on interface probe.
4Q10	443.72	11/11/2010	39.07	39.38	404.34	404.65	0.31	404.59		*
1Q11	443.72	1/13/2011	38.60	38.92	404.80	405.12	0.32	405.05		*
2Q11	443.72	4/25/2011	NE	39.98	NA	NA	NA	403.74		*
3Q11	443.72	7/5/2011	NE	37.53	NA	NA	NA	406.19		*
	443.72	9/19/2011	NE	35.08	NA	NA	NA	408.64		*
4Q11	443.72	10/6/2011	NE	37.29	NA	NA	NA	406.43		*
1Q12	443.72	1/3/2012	NE	38.36	NA	NA	NA	405.36		*
2Q12	443.72	4/3/2012	NE	40.56	NA	NA	NA	403.16		*
3Q12	443.72	7/3/2012	NE	40.45	NA	NA	NA	403.27		*
4Q12	443.72	10/1/2012	42.02	44.87	398.85	401.70	2.85	401.13		

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TABLE 1
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WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
T-28										
1Q10	444.22	1/1/2010	NE	42.49	NA	NA	NA	401.73	Unknown	
2Q10	444.22	4/1/2010	NE	40.94	NA	NA	NA	403.28		
3Q10	444.22	7/1/2010	NM	NM	NA	NA	NA	NA		Area regraded; equipment staging yard; unable to locate.
4Q10	444.22	10/1/2010	NE	37.65	NA	NA	NA	406.57		
1Q11	444.22	1/13/2011	NE	36.53	NA	NA	NA	407.69		
2Q11	444.22	4/1/2011	NE	37.18	NA	NA	NA	407.04		
3Q11	444.22	7/5/2011	NE	34.89	NA	NA	NA	409.33		
	444.22	9/19/2011	NE	35.75	NA	NA	NA	408.47		
4Q11	444.22	10/6/2011	NE	35.98	NA	NA	NA	408.24		
1Q12	444.22	1/3/2012	NE	36.98	NA	NA	NA	407.24		
2Q12	444.22	4/2/2012	NE	38.68	NA	NA	NA	405.54		
3Q12	444.22	7/2/2012	NE	39.28	NA	NA	NA	404.94		
4Q12	444.22	10/1/2012	NE	40.88	NA	NA	NA	403.34		
T-38										
1Q10	445.62	1/1/2010	NE	39.77	NA	NA	NA	405.85	396.48 - 376.48 (49.14 - 69.14)	*
2Q10	445.62	4/1/2010	NE	38.35	NA	NA	NA	407.27		*
3Q10	445.62	7/1/2010	NE	37.00	NA	NA	NA	408.62		*
4Q10	445.62	10/1/2010	NE	35.45	NA	NA	NA	410.17		*
1Q11	445.62	1/1/2011	NE	35.38	NA	NA	NA	410.24		*
3Q11	445.62	7/5/2011	NM	NM	NA	NA	NA	NA		
4Q11	445.62	10/6/2011	NE	34.38	NA	NA	NA	411.24		*
1Q12	445.62	1/3/2012	NE	35.40	NA	NA	NA	410.22		*
2Q12	445.62	4/2/2012	NE	36.25	NA	NA	NA	409.37		*
3Q12	445.62	7/3/2012	NE	37.00	NA	NA	NA	408.62		*
4Q12	445.62	10/1/2012	NE	38.61	NA	NA	NA	407.01		*
T-62										
1Q10	431.73	1/1/2010	NE	27.30	NA	NA	NA	404.43	412.02 - 382.02 (19.71 - 49.71)	
2Q10	431.73	4/1/2010	NE	25.98	NA	NA	NA	405.75		
3Q10	431.73	7/1/2010	NE	23.99	NA	NA	NA	407.74		
4Q10	431.73	11/11/2010	NE	23.49	NA	NA	NA	408.24		
1Q11	431.73	1/13/2011	NE	25.48	NA	NA	NA	406.25		
2Q11	431.73	4/25/2011	NE	25.33	NA	NA	NA	406.40		
3Q11	431.73	7/5/2011	NE	22.37	NA	NA	NA	409.36		
	431.73	9/19/2011	NE	23.12	NA	NA	NA	408.61		
4Q11	431.73	10/5/2011	NE	23.46	NA	NA	NA	408.27		
1Q12	431.73	1/3/2012	NE	25.62	NA	NA	NA	406.11		
2Q12	431.73	4/2/2012	NE	27.08	NA	NA	NA	404.65		
3Q12	431.73	7/3/2012	NE	27.20	NA	NA	NA	404.53		
4Q12	431.73	10/2/2012	NE	29.28	NA	NA	NA	402.45		
T-63										
1Q10	431.24	1/1/2010	NE	26.94	NA	NA	NA	404.30	411.26 - 381.26 (19.98 - 49.98)	
2Q10	431.24	4/1/2010	NE	25.42	NA	NA	NA	405.82		
3Q10	431.24	7/1/2010	NE	23.23	NA	NA	NA	408.01		
4Q10	431.24	11/11/2010	NE	23.03	NA	NA	NA	408.21		
1Q11	431.24	1/13/2011	NE	25.45	NA	NA	NA	405.79		
2Q11	431.24	4/25/2011	NM	NM	NA	NA	NA	NA		Unable to open.
3Q11	431.24	7/5/2011	NM	NM	NA	NA	NA	NA		
	431.24	9/19/2011	NE	22.88	NA	NA	NA	408.36		
4Q11	431.24	10/5/2011	NE	23.28	NA	NA	NA	407.96		
1Q12	431.24	1/3/2012	NE	25.60	NA	NA	NA	405.64		
2Q12	431.24	4/2/2012	NM	NM	NA	NA	NA	NA		
3Q12	431.24	7/3/2012	NE	27.08	NA	NA	NA	404.16		
4Q12	431.24	10/2/2012	NE	29.19	NA	NA	NA	402.05		
T-64										
1Q10	428.80	1/1/2010	NE	24.72	NA	NA	NA	404.08	408.99 - 378.99 (19.81 - 49.81)	
2Q10	428.80	4/1/2010	NE	22.91	NA	NA	NA	405.89		
3Q10	428.80	7/1/2010	NE	20.46	NA	NA	NA	408.34		
4Q10	428.80	11/11/2010	NE	20.76	NA	NA	NA	408.04		
1Q11	428.80	1/13/2011	NE	23.84	NA	NA	NA	404.96		
3Q11	428.80	7/5/2011	NE	19.06	NA	NA	NA	409.74		*
	428.80	9/19/2011	NE	21.86	NA	NA	NA	406.94		
4Q11	428.80	10/5/2011	NE	21.36	NA	NA	NA	407.44		
1Q12	428.80	1/3/2012	NE	23.86	NA	NA	NA	404.94		
2Q12	428.80	4/2/2012	NE	25.10	NA	NA	NA	403.70		
3Q12	428.80	7/3/2012	NE	25.24	NA	NA	NA	403.56		
4Q12	428.80	10/2/2012	NE	27.44	NA	NA	NA	401.36		
PZ-1-101										
4Q11	445.52	10/5/2011	NE	37.83	NA	NA	NA	407.69	354.52 - 344.52 (91 - 101)	*
1Q12	445.52	1/3/2012	NE	39.73	NA	NA	NA	405.79		*
2Q12	445.52	4/4/2012	NE	41.14	NA	NA	NA	404.38		*
3Q12	445.52	7/2/2012	NE	41.28	NA	NA	NA	404.24		*
4Q12	445.52	10/1/2012	NE	42.95	NA	NA	NA	402.57		*
PZ-1-85										
4Q11	445.50	10/5/2011	NE	37.85	NA	NA	NA	407.65	369.7 - 359.7 (75.8 - 85.8)	*
1Q12	445.50	1/3/2012	NE	39.80	NA	NA	NA	405.70		*
2Q12	445.50	4/4/2012	NE	41.05	NA	NA	NA	404.45		*
3Q12	445.50	7/2/2012	NE	41.35	NA	NA	NA	404.15		*
4Q12	445.50	10/1/2012	NE	43.06	NA	NA	NA	402.44		*

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID	TOP OF CASING (elev.[1])	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.[1])	PRODUCT (elev.[1])	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL[2] (elev.[1])	SCREENED INTERVAL (elev.[1]) (ft btoc)	COMMENTS
PZ-2-70.5										
4Q11	443.15	10/5/2011	NE	35.74	NA	NA	NA	407.41	382.65 - 372.65 (60.5 - 70.5)	*
1Q12	443.15	1/3/2012	NE	38.14	NA	NA	NA	405.01		*
2Q12	443.15	4/4/2012	NE	39.43	NA	NA	NA	403.72		*
3Q12	443.15	7/2/2012	NE	39.57	NA	NA	NA	403.58		*
4Q12	443.15	10/1/2012	NE	41.32	NA	NA	NA	401.83		*
PZ-2-84										
4Q11	443.12	10/5/2011	NE	35.71	NA	NA	NA	407.41	371.12 - 359.12 (72 - 84)	*
1Q12	443.12	1/3/2012	NE	38.05	NA	NA	NA	405.07		*
2Q12	443.12	4/4/2012	NE	39.37	NA	NA	NA	403.75		*
3Q12	443.12	7/2/2012	NE	39.48	NA	NA	NA	403.64		*
4Q12	443.12	10/1/2012	NE	41.21	NA	NA	NA	401.91		*

NOTES:
1) Elevations presented in this table are relative to the 1988 USGS datum.
2) The Corrected W.L. Elevations presented in this table were corrected by a specific gravity of 0.80 for the wells in which LNAPL was identified.
3) NA = Not Applicable; NE = Not Encountered; NM = Not Measured
4) * Indicates that the LNAPL and/or water level is above the top of the screened zone of the well.
5) Table includes comprehensive groundwater monitoring well gauging data from the combined Village of Roxana Interim Groundwater Monitoring Program and the WRB Refining LP Wood River Refinery Program.

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TABLE 2a
CUMMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS

Well ID	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
MW-01							
4Q10	8.04	20.53	1.449	3.90	8.99	93.0	
1Q11	6.76	5.93	1.189	1.00	0.08	102.0	
2Q11	6.69	27.11	1.459	138.10	1.03	157.0	
3Q11	6.68	30.81	*	*	0.08	0.03	
4Q11	6.62	16.52	1.021	7.70	0.0	0.02	
1Q12	6.64	18.37	1.180	13.32	0.0	0.02	
2Q12	6.61	19.00	2.194	3.02	0.0	41.0	
3Q12	6.65	20.03	0.9966	2.01	0.09	29.0	
4Q12	6.63	18.38	3.346	5.10	0.0	47.0	Initial Sample
	7.64	17.47	1.226	6.88	0.0	-12.0	Laboratory Error. Re-sample for VOCs
MW-02							
4Q10	7.24	18.38	1.066	41.00	8.90	-113.0	
1Q11	6.72	15.19	2.048	8.00	0.97	-69.0	
2Q11	6.75	20.82	1.313	168.50	0.09	-69.0	
3Q11	6.76	25.10	*	2.10	0.0	-0.28	
4Q11	6.67	17.71	1.126	29.40	0.0	-0.08	
1Q12	6.55	18.13	1.165	45.20	0.0	-1.00	
2Q12	6.61	19.70	2.462	41.55	0.0	-60.0	
3Q12	6.66	20.80	1.082	4.01	0.0	-26.0	
4Q12	6.61	18.86	3.887	6.41	0.0	-37.0	
MW-03							
4Q10	6.88	21.59	1.157	6.50	0.32	-146.0	
1Q11	6.88	22.83	2.349	2.00	0.26	-89.0	
2Q11	6.91	23.40	1.268	54.00	0.00	-74.0	
3Q11	7.15	34.21	1.280	0.00	0.0	195.0	
4Q11	6.75	17.94	1.151	0.89	0.07	-0.11	
1Q12	6.83	18.95	1.370	5.89	0.06	-0.09	
2Q12	6.72	19.61	2.219	2.26	0.0	-79.0	
3Q12	6.63	20.63	1.255	1.18	0.03	-67.0	
4Q12	6.80	20.10	2.205	1.81	0.0	-61.0	
MW-04							
4Q10	6.76	19.51	0.8542	7.70	4.88	-59.0	
1Q11	6.83	10.24	2.352	9.60	0.86	-51.0	
2Q11	6.73	24.20	1.106	7.30	0.15	-57.0	
3Q11	6.60	38.84	*	6.10	0.0	-0.01	
4Q11	6.89	19.04	1.111	13.20	0.0	-0.07	
1Q12	6.81	18.62	0.9548	3.40	0.0	-0.08	
2Q12	6.74	20.35	2.417	9.39	0.0	-58.0	
3Q12	6.60	19.94	1.137	9.69	0.0	-82.0	
4Q12	6.78	19.13	3.319	8.68	0.0	-66.0	
MW-05							
4Q10	6.77	19.39	0.8012	2.90	0.17	-112.0	
1Q11	6.82	19.51	2.051	2.80	0.95	-66.0	
2Q11	6.78	22.82	4.743	41.00	0.18	-68.0	
3Q11	6.88	25.11	*	9.80	0.0	0.29	
4Q11	6.70	17.87	0.9559	10.03	0.02	-0.09	
1Q12	6.71	17.90	0.9866	6.60	0.0	-13.0	
2Q12	6.68	19.74	1.956	4.57	0.0	-50.0	
3Q12	6.78	22.92	0.8555	8.64	0.0	-120.0	
4Q12	6.79	18.67	2.428	8.72	0.0	-67.0	
MW-06A							
4Q10	6.74	21.87	1.535	5.40	0.01	-127.0	
1Q11	6.80	10.99	2.274	7.40	0.34	-75.0	
2Q11	6.72	17.98	1.049	8.20	0.07	-61.0	
3Q11	6.82	30.26	*	6.40	0.06	0.19	
4Q11	6.73	18.39	1.319	7.97	0.01	-0.10	
1Q12	6.64	17.62	1.295	6.30	0.0	-0.07	
2Q12	6.52	20.09	2.045	6.24	0.0	-55.0	
3Q12	6.56	20.14	1.098	1.46	0.0	-37.0	
4Q12	6.65	19.52	1.965	8.32	0.0	-57.0	
MW-06B							
4Q10	6.80	17.14	1.113	17.50	0.14	-77.0	
1Q11	6.73	15.90	2.138	1.40	0.22	-46.0	
2Q11	6.76	19.87	0.6299	2.10	0.17	-54.0	
3Q11	6.85	25.55	*	20.50	0.0	0.44	
	6.85	25.55	*	20.50	0.0	0.44	
4Q11	6.86	18.30	1.059	1.35	0.11	-0.06	
1Q12	6.90	17.13	1.080	10.59	0.0	-0.06	
2Q12	6.80	19.60	2.251	3.07	0.0	-35.0	
3Q12	6.80	20.81	1.437	5.88	0.0	-42.0	
4Q12	6.89	19.49	2.344	7.40	0.0	-34.0	

SEE LAST PAGE OF TABLE FOR NOTES

TABLE 2a
CUMMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS

Well ID	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
MW-06C							
4Q10	6.86	17.87	1.132	5.50	0.16	-104.0	
1Q11	6.87	13.90	0.9810	4.20	0.13	-66.0	
2Q11	6.84	18.93	0.7130	2.10	0.43	-72.0	
3Q11	*	26.07	*	0.80	0.0	0.02	
4Q11	6.90	18.08	1.095	7.00	0.07	-0.08	
1Q12	6.93	17.04	1.127	4.02	0.0	-0.08	
2Q12	6.87	19.09	1.921	1.71	0.0	-68.0	
3Q12	6.92	20.05	1.036	2.16	0.0	-55.0	
4Q12	6.94	19.04	2.426	0.51	0.0	-63.0	
MW-06D							
4Q10	6.94	17.42	1.342	5.90	0.05	-112.0	
1Q11	7.05	13.66	1.330	1.30	0.14	-74.0	
2Q11	6.86	18.82	0.6135	13.20	0.09	-61.0	
3Q11	7.04	28.06	*	*	0.0	0.31	
4Q11	6.99	17.79	1.240	1.25	0.0	-107.0	
1Q12	6.94	16.69	1.192	5.48	0.02	-0.08	
2Q12	6.96	19.50	2.368	7.17	0.0	-77.0	
3Q12	6.43	20.56	1.030	1.05	0.04	-41.0	
4Q12	7.03	19.07	2.753	5.16	0.0	-61.0	
MW-07							
4Q10	6.48	17.80	1.097	59.90	0.05	-32.0	
1Q11	6.53	14.40	1.869	3.20	0.74	-6.00	
2Q11	6.81	18.18	0.5600	30.00	1.10	-53.0	
3Q11	6.83	18.79	*	19.00	*	0.01	
4Q11	6.65	19.79	1.100	2.22	0.28	-49.0	
1Q12	6.58	15.54	1.047	3.31	0.09	86.0	
2Q12	6.67	20.51	2.325	3.58	0.0	-31.0	
3Q12	6.69	21.88	1.062	1.69	0.03	-69.0	
4Q12	6.75	18.34	2.973	6.24	0.17	-15.0	
MW-08							
4Q10	6.41	17.17	1.133	61.50	0.04	-54.0	
1Q11	6.37	16.21	2.065	18.00	0.80	-14.0	
2Q11	6.55	19.98	0.7910	20.40	0.06	-64.0	
3Q11	*	19.18	*	62.50	4.64	-0.15	
4Q11	6.56	19.16	1.159	5.28	1.22	-0.03	
1Q12	6.46	16.89	1.593	3.04	0.02	8.00	
2Q12	6.52	20.05	2.262	3.16	0.08	-11.0	
3Q12	6.46	21.97	1.299	7.27	0.0	17.0	Well was resampled on 08/07/12.
4Q12	6.52	17.81	4.075	5.83	0.12	0.00	
MW-09							
4Q10	6.72	16.98	0.9194	48.30	1.72	-45.0	
1Q11	6.73	12.97	1.524	17.20	0.03	-34.0	
2Q11	6.73	18.14	1.138	15.00	0.05	-58.0	
3Q11	6.68	22.67	*	*	0.0	-0.08	
4Q11	6.66	18.84	1.012	366.20	0.20	-75.0	sampled on 11/1
1Q12	6.56	17.30	1.160	7.35	0.0	-27.0	
2Q12	6.62	20.12	2.821	5.46	0.0	-15.0	
3Q12	6.67	19.87	1.127	8.71	0.01	-39.0	
4Q12	6.69	17.19	3.368	5.51	0.0	-10.0	
MW-10							
4Q10	6.72	18.75	1.284	35.00	0.64	-78.0	
1Q11	6.72	13.08	1.344	4.30	0.35	-48.0	
2Q11	6.92	18.28	0.5455	17.50	1.89	-48.0	
3Q11	6.93	21.44	*	*	0.0	-0.11	
4Q11	6.81	18.15	0.8234	3.25	0.0	-0.10	sampled on 11/1
1Q12	6.76	18.29	0.9725	28.75	0.0	-41.0	
2Q12	6.73	18.57	1.972	5.76	0.0	-63.0	
3Q12	6.87	21.46	0.6228	2.57	0.02	-90.0	
4Q12	6.78	17.36	2.686	7.57	0.0	-20.0	Initial Sample
	7.61	17.42	1.222	6.93	0.0	-126.0	Laboratory Error. Re-sample for VOCs
MW-11							
4Q10	6.59	15.28	1.023	25.50	0.01	-76.0	
1Q11	6.59	14.34	1.276	8.80	0.05	-59.0	
2Q11	6.75	17.51	1.284	21.90	0.05	-90.0	
3Q11	*	19.34	*	7.10	0.0	0.06	
4Q11	6.78	17.01	1.099	20.33	0.01	-0.06	
1Q12	6.74	16.18	1.077	7.87	0.0	22.0	
2Q12	6.76	18.13	2.204	5.40	0.0	-68.0	
3Q12	6.67	21.27	1.158	1.15	0.06	-69.0	
4Q12	6.68	18.82	4.141	8.44	0.0	-41.0	

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TABLE 2a
CUMMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS

Well ID	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
MW-12							
4Q10	6.72	14.87	1.328	62.40	0.45	212.0	
1Q11	6.66	14.98	1.196	9.20	0.16	159.0	
2Q11	6.80	19.51	0.9584	5.40	0.01	132.0	
3Q11	6.89	20.17	*	*	0.01	0.22	
4Q11	6.83	18.28	1.127	0.03	0.0	-0.10	
1Q12	6.78	17.26	1.074	8.26	0.10	146.0	
2Q12	6.80	18.23	1.736	4.57	0.0	38.0	
3Q12	6.78	20.11	0.9117	2.66	0.03	4.00	
4Q12	6.81	19.19	2.515	6.47	0.0	90.0	
MW-13							
4Q10	NM	NM	NM	NM	NM	NM	
1Q11	6.52	17.78	1.379	19.20	0.10	-82.0	
2Q11	6.79	21.28	0.7130	48.00	0.07	-71.0	
3Q11	6.89	20.78	1.230	18.50	0.57	-130.0	
4Q11	6.65	20.01	1.115	5.25	0.0	-102.0	
1Q12	6.68	18.94	1.202	5.78	0.0	-0.06	
2Q12	6.66	20.78	2.374	6.11	0.0	-78.0	
3Q12	6.64	22.65	1.435	7.16	0.0	-96.0	
4Q12	6.60	20.73	3.041	9.02	0.04	-35.0	
MW-14							
4Q11	6.71	18.41	0.9660	1783.00	0.0	-0.09	
2Q12	6.64	20.65	2.151	9.70	0.0	5.00	
4Q12	6.61	19.59	1.137	7.69	0.03	-129.0	
P-114							
4Q10	7.50	20.10	0.7790	18.00	NM	NM	
2Q11	7.02	22.90	0.1503	20.00	NM	NM	
4Q11	7.16	20.29	1.287	12.60	3.19	-118.0	
1Q12	7.02	19.70	1.155	7.81	4.25	-6.00	
2Q12	7.01	21.38	1.212	8.60	1.33	-0.06	
3Q12	7.13	23.30	1.153	9.01	0.53	-64.0	
4Q12	7.12	21.18	2.274	12.12	3.00	15.0	
P-54							
4Q10	6.71	14.70	0.8698	68.60	1.74	140.0	
1Q11	6.69	14.47	0.9696	25.40	1.29	56.0	
2Q11	6.74	17.70	0.8850	48.00	1.62	-66.0	
3Q11	6.80	17.89	*	20.80	0.27	0.27	
4Q11	6.73	17.01	0.9211	11.53	0.57	0.14	
1Q12	6.73	16.45	1.010	5.10	0.31	61.0	
2Q12	6.66	18.78	2.066	36.80	0.22	180.0	
3Q12	6.72	19.02	0.9730	7.77	0.0	9.00	
4Q12	6.72	17.62	1.167	4.76	0.17	146.0	
P-55							
4Q10	6.91	19.10	1.102	29.00	NM	NM	
2Q11	6.67	19.10	0.1285	6.63	NM	NM	
4Q11	6.90	18.41	0.7271	4.88	0.0	-0.13	
1Q12	6.86	15.22	0.7058	1.56	0.08	-0.07	
2Q12	6.78	19.69	2.098	4.55	0.0	-43.0	
3Q12	NM	NM	NM	NM	NM	NM	
4Q12	NM	NM	NM	NM	NM	NM	Well compromised
P-56							
4Q10	6.77	19.90	1.335	4.30	NM	NM	
2Q11	6.48	20.00	0.1415	8.93	NM	NM	
4Q11	6.68	18.24	1.063	1286.00	0.0	-0.12	
1Q12	6.53	16.08	1.012	4.68	0.04	-5.00	
2Q12	6.57	21.78	2.385	1.04	0.0	0.00	
3Q12	6.58	22.08	1.245	3.47	0.0	12.0	
4Q12	6.51	22.60	3.040	7.52	0.02	-7.00	
P-57							
4Q11	6.60	18.87	1.220	220.70	0.0	-0.10	
1Q12	6.48	16.73	1.502	2.30	0.02	-73.0	
2Q12	6.55	19.24	2.718	2.28	0.0	-54.0	
3Q12	6.59	20.98	1.182	3.25	0.0	-5.00	
4Q12	6.59	18.72	3.841	5.19	0.0	-28.0	
P-58							
4Q11	6.53	18.22	1.144	10.71	0.0	-0.06	
1Q12	6.54	16.97	1.252	14.38	0.01	-0.03	
2Q12	6.50	19.08	2.978	10.20	0.0	-5.00	
3Q12	6.56	19.51	1.199	12.67	0.0	19.0	
4Q12	6.49	18.76	2.836	8.22	0.0	11.0	Initial Sample
	7.45	18.15	1.259	13.60	0.01	-112.0	Laboratory Error. Re-sample for SVOCs and PAHs

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TABLE 2a
CUMMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS

Well ID	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
P-59							
4Q10	6.87	19.40	1.185	13.00	NM	NM	
2Q11	6.53	21.30	0.1654	1.95	NM	NM	
4Q11	6.71	18.22	1.211	38.94	0.0	-0.11	
1Q12	6.56	16.14	1.152	8.31	0.0	-26.0	
2Q12	6.59	19.27	2.582	3.30	0.0	-23.0	
3Q12	6.63	21.74	1.220	9.00	0.0	-79.0	
4Q12	6.57	17.90	2.977	7.16	0.0	14.0	
P-66							
4Q11	6.38	18.49	1.228	29.77	0.0	-0.10	
2Q12	6.42	20.82	2.898	19.95	0.0	-11.0	
3Q12	6.41	22.52	1.372	20.89	0.0	-53.0	
4Q12	6.44	18.80	1.353	21.29	0.0	-161.0	
P-74							
4Q11	6.54	18.49	0.5023	15.49	0.0	-0.10	
1Q12	6.84	11.70	0.2325	6.86	0.87	101.0	
2Q12	6.84	19.17	0.3671	8.55	0.37	28.0	
3Q12	6.68	20.31	0.5799	10.52	0.0	1.00	
4Q12	6.60	18.13	2.047	14.87	0.0	-22.0	
P-93A							
4Q10	6.81	17.70	1.259	23.00	NM	NM	
1Q11	6.68	16.16	2.517	12.80	NM	NM	
2Q11	6.63	18.30	0.6700	9.55	NM	NM	
3Q11	*	18.72	1.690	23.40	NM	NM	
4Q11	6.68	16.16	2.517	12.80	2.96	-68.0	
1Q12	6.65	15.81	1.195	9.38	6.14	5.00	
2Q12	7.34	18.04	1.247	18.22	5.80	11.0	
3Q12	6.71	20.89	1.144	43.60	5.20	-13.0	
4Q12	6.63	20.47	3.042	32.40	4.64	15.0	
P-93B							
4Q10	7.10	18.10	1.150	0.0	NM	NM	
1Q11	6.69	16.44	1.377	1.20	NM	NM	
2Q11	6.64	19.20	0.7570	0.11	NM	NM	
3Q11	7.38	21.60	1.330	14.60	NM	NM	
4Q11	6.87	17.38	1.551	2.40	3.34	-104.0	
1Q12	6.87	13.39	1.250	2.11	0.21	28.0	
2Q12	7.51	18.52	1.555	4.99	1.84	-32.0	
3Q12	6.76	19.61	1.973	3.28	0.12	-65.0	
4Q12	6.77	17.79	3.045	0.76	0.0	-48.0	
P-93C							
4Q10	7.28	17.50	1.057	0.0	NM	NM	
1Q11	7.14	16.51	1.832	0.50	NM	NM	
2Q11	6.81	18.40	0.6930	0.52	NM	NM	
3Q11	6.96	21.41	1.320	5.10	NM	NM	
4Q11	6.92	17.34	1.176	1.14	0.92	-77.0	
1Q12	6.84	15.44	1.100	0.01	3.94	94.0	
2Q12	7.69	18.41	1.139	4.39	1.11	-49.0	
3Q12	6.77	20.55	1.416	8.66	0.16	-45.0	
4Q12	6.78	18.27	2.904	0.0	0.02	19.0	
P-93D							
4Q10	7.13	18.50	1.211	0.0	NM	NM	
1Q11	NM	NM	NM	NM	NM	NM	
2Q11	6.89	16.70	0.7100	0.16	NM	NM	
3Q11	6.68	20.90	1.410	0.86	NM	NM	
4Q11	6.99	18.13	1.224	0.0	0.0	-166.0	
1Q12	6.93	15.16	12.220	1.77	0.08	-23.0	
2Q12	6.93	19.04	2.254	3.31	0.0	-0.03	
3Q12	6.93	21.54	1.446	2.93	0.0	-88.0	
4Q12	6.96	18.77	2.704	0.24	0.0	-24.0	
ROST-3-PZ							
2Q12	6.94	19.34	1.949	9.40	0.35	15.0	Added to Interim GW Monitoring Program in 2Q12
3Q12	6.83	24.31	0.8131	6.90	0.29	-95.0	
4Q12	6.84	15.50	2.421	6.38	0.63	-9.00	
ROST-4-PZ(C)							
2Q12	6.77	20.00	2.128	0.40	0.0	-1.00	Added to Interim GW Monitoring Program in 2Q12
3Q12	6.74	21.56	0.9764	6.67	0.04	-94.0	
4Q12	6.75	18.50	2.754	0.81	0.02	-47.0	

SEE LAST PAGE OF TABLE FOR NOTES

TABLE 2a

CUMMULATIVE SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS

Well ID	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
T-12							
4Q10	7.31	17.40	0.8610	0.0	NM	NM	
2Q11	6.61	17.40	0.1372	9.26	NM	NM	
4Q11	6.87	16.98	0.9186	6.28	0.0	-111.0	
1Q12	6.85	15.13	0.8007	13.15	0.0	-0.09	
2Q12	6.66	17.63	2.382	1.18	0.0	-37.0	
3Q12	6.79	18.86	1.259	4.54	0.0	-125.0	
4Q12	6.68	16.69	3.955	1.47	0.0	-2.00	

NOTES:

1) Field parameters were collected using theTroll 9500.
2) NM = Not Measured; NI = Not Installed
3) * = Equipment malfunction. Results are suspect.
4) Negative parameters readings for Turbidity and DO are recorded as zero.

TABLE 2b

CUMMULATIVE SUMMARY OF PERCHED GROUNDWATER MONITORING WELL FIELD PARAMETERS

Well ID	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
P-60-12S							
2Q12	NM	NM	NM	NM	NM	NM	Slow recharge prevented sampling per the SOP
3Q12	NM	NM	NM	NM	NM	NM	Slow recharge prevented sampling per the SOP
4Q12	NM	NM	NM	NM	NM	NM	Slow recharge prevented sampling per the SOP
P-60-13S							
2Q12	NM	NM	NM	NM	NM	NM	Slow recharge prevented sampling per the SOP
3Q12	NM	NM	NM	NM	NM	NM	Slow recharge prevented sampling per the SOP
4Q12	NM	NM	NM	NM	NM	NM	Slow recharge prevented sampling per the SOP
ROST-5-PZ							
2Q12	NM	NM	NM	NM	NM	NM	Well is dry.
3Q12	NM	NM	NM	NM	NM	NM	Well is dry.
4Q12	NM	NM	NM	NM	NM	NM	Well is dry.
ROST-7-PZ							
2Q12	NM	NM	NM	NM	NM	NM	Slow recharge prevented sampling per the SOP
3Q12	NM	NM	NM	NM	NM	NM	Slow recharge prevented sampling per the SOP
4Q12	NM	NM	NM	NM	NM	NM	Slow recharge prevented sampling per the SOP
ROST-10-PZ							
2Q12	NM	NM	NM	NM	NM	NM	Well is dry.
3Q12	NM	NM	NM	NM	NM	NM	Well is dry.
4Q12	NM	NM	NM	NM	NM	NM	Well is dry.
ROST-21-PZ							
2Q12	NM	NM	NM	NM	NM	NM	Slow recharge prevented sampling per the SOP
3Q12	NM	NM	NM	NM	NM	NM	Slow recharge prevented sampling per the SOP
4Q12	NM	NM	NM	NM	NM	NM	Well is dry.

NOTES:

1) NM = Not Measured

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

						VOCs															
						Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	4-Chlorotoluene	Cymene (p-isopropyltoluene)	1,4-Dioxane	Ethylbenzene	Ethyl methacrylate	Hexachlorobutadiene
					Screening Values (mg/L)	0.005 [1]	0.35 [3]			0.7 [2]	0.005 [1]	0.1 [2]		0.0002 [2]				0.005 [4]	0.7 [1]		0.007 [3]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)															
MW-01	MW-1-111110	11/11/2010	43.41 - 58.41	36.91	NE	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005		<0.005		<0.005
	MW-1-111110-Dup	11/11/2010		36.91	NE	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005		<0.005		<0.005
	MW1-ROX-011711	1/17/2011		37.58	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005		<0.001		<0.005
	MW1-ROX-042911	4/29/2011		38.37	NE	0.0363	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW1-ROX-072711	7/27/2011		35.15	NE	0.0053	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW1-ROX-120511	12/5/2011		37.10	NE	0.00097	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW1-ROX-011612	1/16/2012	49.98 - 59.98	37.75	NE	0.0142	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW1-ROX-050112	5/1/2012		39.09	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW1-ROX-073012	7/30/2012		39.39	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW1-ROX-102612	10/26/2012	49.98 - 59.98	41.22	NE	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
	MW1-ROX-121712	12/17/2012		41.22	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
MW-02	MW-2-111010	11/11/2010	47.19 - 62.19	38.12	NE	0.401	<0.025	<0.025	<0.025	<0.25	<0.025	<0.025	<0.05	<0.025	<0.05	<0.025	<0.025		0.641		<0.025
	MW2-ROX-011711	1/17/2011		38.67	NE	0.294	0.0078	0.0047 J	<0.005	<0.005	<0.001	<0.001	0.0077	<0.001	0.0019 J	<0.005	0.0032 J		0.74		<0.005
	MW02-ROX-051011	5/10/2011		39.14	NE	1.18	<0.005	0.0029 J	0.0012 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0027 J	<0.025	1.24	<0.005	<0.005
	MW2-ROX-072711	7/27/2011		36.36	NE	1.98	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02	<0.05	<0.05	<0.25	1.76	<0.05	<0.05
	MW2-ROX-072711-DUP	7/27/2011		36.36	NE	1.79	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02	<0.05	<0.05	<0.25	1.57	<0.05	<0.05
	MW2-ROX-112811	11/28/2011	51.32 - 61.32	38.03	NE	0.0216	<0.005	0.0106	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0121	<0.025	0.503	<0.005	<0.005
	MW2-ROX-011612	1/16/2012		38.89	NE	0.0161	<0.025	<0.025	<0.025	<0.025	<0.005	<0.005	<0.01	<0.005	<0.01	<0.025	<0.025	<0.13	0.777	<0.025	<0.025
	MW2-ROX-050112	5/1/2012		40.25	NE	0.0145	<0.025	0.0068 J	<0.025	<0.025	<0.005	<0.005	<0.01	<0.005	<0.01	<0.025	0.008 J	<0.13	0.948	<0.025	<0.025
	MW2-ROX-073012	7/30/2012		40.60	NE	0.01	<0.005	0.0078	0.001 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.009	<0.025	0.952	<0.005	<0.005
	MW2-ROX-102612	10/26/2012	51.32 - 61.32	42.35	NE	0.0142	<0.025	<0.025	<0.025	<0.025	<0.005	<0.005	<0.01	<0.005	<0.01	0.0172 J	<0.025	<0.13	0.763	<0.025	<0.025
MW-03	MW-3-111210	11/12/2010	30.98 - 45.98	24.05	NE	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005		<0.005		<0.005
	MW3-ROX-011811	1/18/2011		24.92	NE	0.00056	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	0.00077 J	<0.001	0.00082 J	<0.005	<0.005		0.00082 J		<0.005
	MW03-ROX-051011	5/10/2011		24.79	NE	0.013	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW3-ROX-080311	8/3/2011		22.40	NE	0.00056	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW3-ROX-112911	11/29/2011	34.67 - 44.67	24.06	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW3-ROX-112911-DUP	11/29/2011		24.06	NE	0.00052	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW3-ROX-011612	1/16/2012		24.93	NE	0.00091	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW3-ROX-043012	4/30/2012		26.19	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW3-ROX-072712	7/27/2012		26.60	NE	0.0089	<0.005	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.002 UJ	<0.001	<0.002	<0.005	<0.005		<0.001	<0.005	<0.005
	MW3-ROX-102512	10/25/2012	34.67 - 44.67	28.39	NE	0.0017	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
MW-04	MW-4-111210	11/12/2010	42.63 - 57.63	35.38	NE	0.0752	<0.005	0.001 J	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005		<0.005		<0.005
	MW4-ROX-011811	1/18/2011		36.04	NE	0.0567	0.0006 J	0.00063 J	0.00069 J	<0.005	<0.001	<0.001	0.00096 J	<0.001	<0.002	<0.005	<0.005		<0.001		<0.005
	MW04-ROX-051111	5/11/2011		36.19	NE	0.0625	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW4-ROX-072611	7/26/2011		33.65	NE	0.114	<0.005	0.0058	0.0063	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0023	<0.005	<0.005
	MW4-ROX-072611-DUP	7/26/2011		33.65	NE	0.108	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0021	<0.005	<0.005
	MW4-ROX-121511	12/15/2011		33.99	NE	0.0381	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW4-ROX-011612	1/16/2012	46.06 - 56.06	36.00	NE	0.115	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	0.0017 J	<0.005
	MW4-ROX-050312	5/3/2012		37.45	NE	0.0941	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW4-ROX-050312-DUP	5/3/2012		37.45	NE	0.0933	<0.005	<0.005	0.0012 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW4-ROX-072512	7/25/2012		37.63	NE	0.191	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.00082 J	<0.005	<0.005 UJ
	MW4-ROX-072512-Dup	7/25/2012		37.63	NE	0.199	0.0014 J	0.0017 J	0.002 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.00083 J	<0.005	<0.005 UJ
	MW4-ROX-102912	10/29/2012	46.06 - 56.06	39.45	NE	0.354	<0.01	<0.01	<0.01	<0.01	<0.002	<0.002	<0.004	<0.002	<0.004 UJ	<0.01	<0.01	<0.05	<0.002	<0.01	<0.01

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

						VOCs															
						Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	4-Chlorotoluene	Cymene (p-Isopropyltoluene)	1,4-Dioxane	Ethylbenzene	Ethyl methacrylate	Hexachlorobutadiene
					Screening Values (mg/L)	0.005 [1]	0.35 [3]			0.7 [2]	0.005 [1]	0.1 [2]		0.0002 [2]				0.005 [4]	0.7 [1]		0.007 [3]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)															
MW-05	MW-5-111210	11/12/2010	31.13 - 46.13	23.32	NE	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005		<0.005		<0.005
	MW5-ROX-011811	1/18/2011		24.15	NE	0.0048	<0.005	<0.005	0.0014 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005		<0.001		<0.005
	MW05-ROX-051211	5/12/2011		23.98	NE	0.0055	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW5-ROX-072611	7/26/2011		21.72	NE	0.0222	0.0054	0.0061	0.0078	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW5-ROX-072611-DUP	7/26/2011		21.72	NE	0.0221	0.0054	0.0061	0.0078	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW5-ROX-112111	11/21/2011	33.97 - 43.97	23.46	NE	0.0109	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005		<0.001	<0.005	<0.005
	MW5-ROX-011712	1/17/2012		24.76	NE	0.0442	<0.005	<0.005	0.0057	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW5-ROX-050312	5/3/2012		25.89	NE	0.0532	<0.005	0.0029 J	0.0073	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0014 J	<0.025	<0.001	<0.005	<0.005
	MW5-ROX-072512	7/25/2012		26.18	NE	0.0925	<0.005	0.0015 J	0.007	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.00099 J	<0.025	<0.001	<0.005	<0.005 UJ
	MW5-ROX-102912	10/29/2012	33.97 - 43.97	28.16	NE	0.0628	<0.005	<0.005	0.0059	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
MW-06A	MW-6A-110910	11/9/2010	31.98 - 46.98	25.62	NE	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005		<0.005		<0.005
	MW6A-ROX-011911	1/19/2011		26.36	NE	0.0113	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002 UJ	<0.001	<0.002	<0.005	<0.005		<0.001		<0.005
	MW6A-ROX-051611	5/16/2011		26.10	NE	0.0031	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6A-ROX-072611	7/26/2011		24.07	NE	0.0032	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6A-ROX-112111	11/21/2011	34.83 - 44.83	25.49	NE	0.0105 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005		<0.001	<0.005	<0.005
	MW6A-ROX-112111-DUP	11/21/2011		25.49	NE	0.0137 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005		<0.001	<0.005	<0.005
	MW6A-ROX-011712	1/17/2012		26.74	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6A-ROX-050212	5/2/2012		27.77	NE	0.00077	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6A-ROX-080112	8/1/2012		28.36	NE	0.0016	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6A-ROX-102412	10/24/2012	34.83 - 44.83	30.06	NE	0.00073	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
MW-06B	MW-6B-111610	11/16/2010	64.05 - 69.05	25.47	NE	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005		<0.005		<0.005
	MW6B-ROX-011911	1/19/2011		26.21	NE	0.0082	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005		<0.001		<0.005
	MW6B-ROX-011911-DUP	1/19/2011		26.21	NE	0.0082	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005		<0.001		0.0014 J
	MW6B-ROX-051611	5/16/2011		25.95	NE	0.0033	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6B-ROX-051611-DUP	5/16/2011		25.95	NE	0.0033	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6B-ROX-072311	7/23/2011		23.60	NE	0.0022	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6B-ROX-110311	11/3/2011		24.67	NE	0.961	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02 UJ	<0.05	<0.05	<0.25	<0.01	<0.05	<0.05
	MW6B-ROX-011712	1/17/2012		26.77	NE	0.0013	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6B-ROX-050212	5/2/2012		27.82	NE	0.00086	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6B-ROX-080112	8/1/2012		28.39	NE	0.00045 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6B-ROX-102412	10/24/2012	64.05 - 69.05	30.11	NE	0.0015	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
MW-06C	MW-6C-111610	11/16/2010	84.95 - 89.95	25.25	NE	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005		<0.005		<0.005
	MW6C-ROX-012111	1/21/2011		25.97	NE	0.0085	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005		<0.001		<0.005
	MW6C-ROX-051611	5/16/2011		25.76	NE	0.0071	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6C-ROX-072411	7/24/2011		23.43	NE	0.0027	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6C-ROX-110311	11/3/2011		24.47	NE	0.0017	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6C-ROX-011712	1/17/2012		26.50	NE	0.0028	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6C-ROX-050212	5/2/2012		27.62	NE	0.0015	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6C-ROX-080112	8/1/2012		28.15	NE	0.00061	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6C-ROX-102412	10/24/2012	84.95 - 89.95	27.85	NE	0.00035 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
MW-06D	MW-6D-111610	11/16/2010	104.72 - 109.72	25.13	NE	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005		<0.005		<0.005
	MW6D-ROX-012111	1/21/2011		25.87	NE	0.0104	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005		<0.001		<0.005
	MW6D-ROX-051611	5/16/2011		25.60	NE	0.002	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6D-ROX-072311	7/23/2011		23.29	NE	0.0027	<0.005	<0.005	<0.005	0.007	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6D-ROX-110311	11/3/2011		24.31	NE	0.013	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6D-ROX-011712	1/17/2012		26.33	NE	0.0022	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6D-ROX-050212	5/2/2012		27.45	NE	0.0015	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW6D-ROX-080212	8/2/2012		30.56	NE	0.00068	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005		<0.001	<0.005	<0.005
	MW6D-ROX-102412	10/24/2012	104.72 - 109.72	29.71	NE	0.00055	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005

SEE LAST PAGE OF TABLE FOR NOTES

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

						VOCs															
						Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	4-Chlorotoluene	Cymene (p-Isopropyltoluene)	1,4-Dioxane	Ethylbenzene	Ethyl methacrylate	Hexachlorobutadiene
					Screening Values (mg/L)	0.005 [1]	0.35 [3]			0.7 [2]	0.005 [1]	0.1 [2]		0.0002 [2]				0.005 [4]	0.7 [1]		0.007 [3]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)															
MW-07	MW-7-111710	11/17/2010	42.92 - 52.92	36.93	NE	928 D	<1.25	<1.25	<1.25	<12.5	<1.25	<1.25	<2.5	<1.25	<2.5	<1.25	<1.25		<1.25		<1.25
	MW-7-111710-Dup	11/17/2010		36.93	NE	876 D	<1.25	<1.25	<1.25	<12.5	<1.25	<1.25	<2.5	<1.25	<2.5	<1.25	<1.25		<1.25		<1.25
	MW7-ROX-012511	1/25/2011		37.52	NE	1150 J	0.0015 J J	0.0011 J J	0.0012 J J	<0.005 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ	<0.001 UJ	<0.002 UJ	<0.005 UJ	<0.005 UJ		0.0325 J		<0.005 UJ
	MW07-ROX-051311	5/13/2011		37.50	NE	1030 J	<0.005 UJ	0.0011 J J	0.0016 J J	<0.005 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ	<0.001 UJ	<0.002 UJ	<0.005 UJ	<0.005 UJ	<0.025 UJ	0.0494 J	<0.005 UJ	<0.005 UJ
	MW07-ROX-051311D	5/13/2011		37.50	NE	922 J	<0.005	0.0013 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0487	<0.005	<0.005
	MW7-ROX-072411	7/24/2011		35.22	NE	1840	<25	<25	<25	<25	<5	<5	<10	<5	<10	<25	<25	<130	<5	<25	<25
	MW-7-ROX-110211	11/2/2011		35.95	NE	774	<5	<5	<5	<5	<1	<1	<2	<1	<2 UJ	<5	<5	<25	<1	<5	<5
	MW7-ROX-011812	1/18/2012		38.10	NE	1330 J	0.0026 J	0.0021 J	0.003 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0727	<0.005	<0.005
	MW7-ROX-011812-DUP	1/18/2012		38.10	NE	1110	0.0027 J	0.0022 J	0.0029 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0015 J	<0.025	0.0718	<0.005	<0.005
	MW7-ROX-050412	5/4/2012		39.19	NE	738	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<0.5	<2.5	<0.1	<0.5	<0.5
	MW7-ROX-080712	8/7/2012		39.50	NE	591	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02	<0.05	<0.05	<0.25	0.0619	<0.05	<0.05
	MW7-ROX-103012	10/30/2012	42.92 - 52.92	41.23	NE	833	<10	<10	<10	<10	<2	<2	<4	<2	<4 UJ	<10	<10	<50	<2	<10	<10
	MW7-ROX-103012-DUP	10/30/2012		41.23	NE	863	<10	<10	<10	<10	<2	<2	<4	<2	<4 UJ	<10	<10	<50	<2	<10	<10
MW-08	MW-8-111710	11/17/2010	33.60 - 43.60	27.84	NE	965 D	<1.25	<1.25	<1.25	<12.5	<1.25	<1.25	<2.5	<1.25	<2.5	<1.25	<1.25		<1.25		<1.25
	MW8-ROX-012511	1/25/2011		28.59	NE	986	0.0021 J J	0.0014 J J	<0.005 UJ	<0.005 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ	<0.001 UJ	<0.002 UJ	<0.005 UJ	0.0012 J J		0.234 J		<0.005 UJ
	MW8-ROX-012511-DUP	1/25/2011		28.59	NE	1030	0.002 J J	0.0014 J J	0.0011 J J	<0.005 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ	<0.001 UJ	<0.002 UJ	<0.005 UJ	0.001 J J		0.237 J		<0.005 UJ
	MW08-ROX-051311	5/13/2011		28.35	NE	1310	<50	<50	<50	<50	<10	<10	<20	<10	<20	<50	<50	<250	<10	<50	<50
	MW08-ROX-051311D	5/13/2011		28.35	NE	952 J	<5	<5	<5	<5	<1	<1	<2	<1	<2	<5	<5	<25	<1	<5	<5
	MW8-ROX-072411	7/24/2011		26.02	NE	1650	<25	<25	<25	<25	<5	<5	<10	<5	<10 UJ	<25	<25	<130	<5	<25	<25
	MW8-ROX-072411-DUP	7/24/2011		26.02	NE	1860	<25	<25	<25	<25	<5	<5	<10	<5	<10	<25	<25	<130	<5	<25	<25
	MW-8-ROX-110211	11/2/2011		27.02	NE	934	<5	<5	<5	<5	<1	<1	<2	<1	<2 UJ	<5	<5	<25	<1	<5	<5
	MW8-ROX-011812	1/18/2012		29.15	NE	386	0.0043 J	0.003 J	0.002 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0022 J	<0.025	0.285	<0.005	<0.005
	MW8-ROX-050412	5/4/2012		30.21	NE	1070	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<0.5	<2.5	0.393	<0.5	<0.5
	MW8-ROX-050412-DUP	5/4/2012		30.21	NE	1040	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<0.5	<2.5	0.396	<0.5	<0.5
	MW8-ROX-080712	8/7/2012		30.97	NE	397 J	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.02	<0.04	<0.02	<0.04	<0.1	<0.1	0.249	<0.1	<0.1
	MW8-ROX-080712-DUP	8/7/2012		30.97	NE	653 J	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02	<0.05	<0.05	<0.25	0.232	<0.05	<0.05
	MW8-ROX-103012	10/30/2012	33.60 - 43.60	32.32	NE	523	<5	<5	<5	<5	<1	<1	<2	<1	<2 UJ	<5	<5	<25	<1	<5	<5
MW-09	MW-9-111510	11/15/2010	46.45 - 56.45	39.00	NE	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005		<0.005		<0.005
	MW9-ROX-012111	1/21/2011		39.62	NE	0.0037	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005		<0.001		<0.005
	MW09-ROX-050611	5/6/2011		40.12	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW9-ROX-072311	7/23/2011		37.27	NE	0.0024	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW9-ROX-110111	11/1/2011		37.78	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW9-ROX-011612	1/16/2012		39.50	NE	0.0031	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW9-ROX-050312	5/3/2012		41.03	NE	0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW9-ROX-072712	7/27/2012		41.30	NE	0.00058	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005		<0.001	<0.005	<0.005
	MW9-ROX-102912	10/29/2012	46.45 - 56.45	43.17	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
MW-10	MW-10-111010	11/10/2010	44.43 - 54.43	38.97	NE	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005		<0.005		<0.005
	MW10-ROX-012411	1/24/2011		39.40	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005		<0.001		<0.005
	MW10-ROX-012411-DUP	1/24/2011		39.40	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005		<0.001		<0.005
	MW10-ROX-042811	4/28/2011		40.20	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW10-ROX-072311	7/23/2011		37.24	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW10-ROX-110111	11/1/2011		37.72	NE	0.0022	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW10-ROX-011612	1/16/2012		39.28	NE	0.0026	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW10-ROX-050112	5/1/2012		40.86	NE	0.00079	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW10-ROX-072712	7/27/2012		41.21	NE	0.00058	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005		<0.001	<0.005	<0.005
	MW10-ROX-102612	10/26/2012	44.43 - 54.43	43.08	NE	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
	MW10-ROX-121712	12/17/2012		43.08	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	0.00095 J	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005

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

						VOCs															
						Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	4-Chlorotoluene	Cymene (p-Isopropyltoluene)	1,4-Dioxane	Ethylbenzene	Ethyl methacrylate	Hexachlorobutadiene
					Screening Values (mg/L)	0.005 [1]	0.35 [3]			0.7 [2]	0.005 [1]	0.1 [2]		0.0002 [2]				0.005 [4]	0.7 [1]		0.007 [3]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)															
MW-11	MW-11-111710	11/17/2010	41.66 - 51.66	36.39	NE	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005		<0.005		<0.005
	MW11-ROX-012411	1/24/2011		37.15	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005		<0.001		<0.005
	MW11-ROX-050611	5/6/2011		37.60	NE	0.00041 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW11-ROX-072411	7/24/2011		34.68	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW-11-ROX-110211	11/2/2011		35.44	NE	0.0019	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW11-ROX-011712	1/17/2012		37.44	NE	0.0024	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW11-ROX-043012	4/30/2012		38.66	NE	0.00087	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW11-ROX-072712	7/27/2012		38.90	NE	0.00073	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005		<0.001	<0.005	<0.005
	MW11-ROX-102512	10/25/2012	41.66 - 51.66	40.59	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
MW-12	MW-12-111510	11/15/2010	41.92 - 51.92	36.63	NE	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	0.00161 J	<0.01	<0.005	<0.005		<0.005		<0.005
	MW12-ROX-012411	1/24/2011		37.42	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005		<0.001		<0.005
	MW12-ROX-051211	5/12/2011		37.58	NE	0.0016	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW12-ROX-072411	7/24/2011		34.88	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002 UJ	<0.001	<0.002	<0.005	<0.005 UJ	<0.025	<0.001	<0.005	<0.005
	MW-12-ROX-110211	11/2/2011		35.70	NE	0.0012	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW-12-ROX-110211-DUP	11/2/2011		35.70	NE	0.0014	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW12-ROX-011712	1/17/2012		37.70	NE	0.0023	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW12-ROX-011712-DUP	1/17/2012		37.70	NE	0.0028	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW12-ROX-043012	4/30/2012		38.98	NE	0.00066	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW12-ROX-072712	7/27/2012		39.22	NE	0.0013	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005		<0.001	<0.005	<0.005
	MW12-ROX-102512	10/25/2012	41.92 - 51.92	40.95	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
MW-13	MW13-ROX-012511	1/25/2011	25.57 - 35.57	24.28	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005		<0.001		<0.005
	MW13-ROX-051311	5/13/2011		23.65	NE	0.0005 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW13-ROX-080311	8/3/2011		21.88	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW13-ROX-110311	11/3/2011		22.85	NE	0.05	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW13-ROX-012012	1/20/2012		24.77	NE	0.0742 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW13-ROX-050712	5/7/2012		25.79	NE	0.009	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW13-ROX-080812	8/8/2012		26.67	NE	0.0069 J	<0.005 UJ	<0.005 UJ	<0.005 UJ	<0.005 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ	<0.001 UJ	<0.002 UJ	<0.005 UJ	<0.005 UJ	<0.025 UJ	<0.001 UJ	<0.005 UJ	<0.005 UJ
	MW13-ROX-110812	11/8/2012	25.57 - 35.57	25.30	NE	0.0048	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
MW-14	MW14-ROX-110911	11/9/2011	33.42 - 43.42			<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW14-ROX-051012	5/10/2012				0.009	0.0014 J	0.0026 J	0.0012 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	MW14-ROX-080312	8/3/2012		29.87	NE	0.0131	0.0015 J	0.0027 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.00065 J	<0.005	<0.005
	MW14-ROX-103112	10/31/2012	33.42 - 43.42	32.02	NE	0.00093	<0.005	0.0028 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
P-54	P-54-111710	11/17/2010	38.00 - 63.00	36.43	NE	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005		<0.005		<0.005
	P54-ROX-012411	1/24/2011		37.24	NE	<0.00039 U	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005		<0.001		<0.005
	P54-ROX-051111	5/11/2011		37.37	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	P54-ROX-072411	7/24/2011		34.78	NE	0.0023	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002 UJ	<0.001	<0.002	<0.005	<0.005 UJ	<0.025	<0.001	<0.005	<0.005
	P54-ROX-110311	11/3/2011		35.49	NE	0.013	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	P54-ROX-011712	1/17/2012		37.17	NE	0.0025	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	P54-ROX-050412	5/4/2012		38.77	NE	0.00082	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	P54-ROX-080212	8/2/2012		38.95	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005		<0.001	<0.005	<0.005
	P54-ROX-103012	10/30/2012	38.00 - 63.00	40.70	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
P-55	P55-ROX-103111	10/31/2011	39.82 - 64.82	39.15	NE	0.152	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0143	<0.005	<0.005
	P55-ROX-011912	1/19/2012		41.09	NE	<0.197 U	<0.005	0.0036 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0656	<0.005	<0.005
	P55-ROX-011912-D	1/19/2012		41.09	NE	<0.202 U	<0.005	0.0038 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0683	<0.005	<0.005
	P55-ROX-050912	5/9/2012		42.44	NE	0.388	0.0099	0.0093	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0031 J	<0.025	0.41	<0.005	<0.005
P-56	P56-ROX-102711	10/27/2011	40.82 - 65.82	39.42	NE	0.144	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.457 J	<0.005	<0.005
	P56-ROX-011912	1/19/2012		41.81	NE	0.335	<0.005	0.0035 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.227	<0.005	<0.005
	P56-ROX-050812	5/8/2012		43.09	NE	0.144	0.0086	0.0051	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	0.0069	<0.005	0.0044 J	<0.025	1.14	<0.005	<0.005
	P56-ROX-080612	8/6/2012		43.60	NE	0.164	<0.025	<0.025	<0.025	<0.025	<0.005	<0.005	<0.01	<0.005	<0.01	<0.025	<0.025		0.101	<0.025	<0.025
	P56-ROX-103112	10/31/2012	40.82 - 65.82	44.80	NE	0.176	<0.005	0.005	0.0021 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0041 J	<0.025	1.29	<0.005	<0.005

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

						VOCs															
						Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	4-Chlorotoluene	Cymene (p-Isopropyltoluene)	1,4-Dioxane	Ethylbenzene	Ethyl methacrylate	Hexachlorobutadiene
					Screening Values (mg/L)	0.005 [1]	0.35 [3]			0.7 [2]	0.005 [1]	0.1 [2]		0.0002 [2]				0.005 [4]	0.7 [1]		0.007 [3]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)															
P-57	P57-ROX-110811	11/8/2011	40.46 - 65.46	39.20	NE	123	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<0.5	<2.5	1.1	<0.5	<0.5
	P57-ROX-021312	2/13/2012		42.13	NE	126	<2.5	<2.5	<2.5	<2.5	<0.5	<0.5	<1	<0.5	<1	<2.5	<2.5	<13	0.719	<2.5	<2.5
	P57-ROX-050712	5/7/2012		42.92	NE	147	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<0.5	<2.5	1.07	<0.5	<0.5
	P57-ROX-080612	8/6/2012		43.53	NE	99.4	<0.25	<0.25	<0.25	<0.25	<0.05	<0.05	<0.1	<0.05	<0.1	<0.25	<0.25		0.795	<0.25	<0.25
	P57-ROX-080612-DUP	8/6/2012		43.53	NE	106	<0.005	0.0107	0.0124	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0109		0.759 E	<0.005	<0.005
	P57-ROX-110512	11/5/2012	40.46 - 65.46	44.98	NE	142	<2.5	<2.5	<2.5	<2.5	<0.5	<0.5	<1	<0.5	<1	<2.5	<2.5	<13	1.09	<2.5	<2.5
P-58	P58-ROX-102811	10/28/2011	40.21 - 65.21	37.31	NE	430	<0.005	0.0148	0.0344	<0.005	<0.001	0.0014	<0.002	<0.001	<0.002	<0.005	0.0113	<0.025	<5	<0.005	<0.005
	P58-ROX-011912	1/19/2012		39.73	NE	487	0.027	0.0215	0.056 J	<0.005	<0.001	0.0013	<0.002	<0.001	<0.002	<0.005	0.0149	<0.025	0.97 J	<0.005	<0.005
	P58-ROX-011912-D	1/19/2012		39.73	NE	474	0.0235 J	0.0168 J	0.0387 J	<0.005	<0.001	0.0014 J	<0.002	<0.001	<0.002	<0.005	0.0123 J	<0.025	1.03	<0.005	<0.005
	P58-ROX-050712	5/7/2012		40.90	NE	477	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<0.5	<2.5	1.03	<0.5	<0.5
	P58-ROX-050712-DUP	5/7/2012		40.90	NE	440	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<0.5	<2.5	1	<0.5	<0.5
	P58-ROX-080612	8/6/2012		41.63	NE	313	<0.1	<0.1	0.0317 J	<0.1	<0.02	<0.02	<0.04	<0.02	<0.04	<0.1	<0.1		0.889	<0.1	<0.1
	P58-ROX-080612-DUP	8/6/2012		41.63	NE	308	<0.05	0.0176 J	0.0339 J	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02	<0.05	0.0118 J	<0.25	0.931	<0.05	<0.05
	P58-ROX-110612	11/6/2012	40.21 - 65.21	43.09	NE	415	<0.5	<0.5	<0.5	<0.5	<0.1 UJ	<0.1	<0.2	<0.1	<0.2	<0.5	<0.5	<2.5	0.844	<0.5	<0.5
	P58-ROX-121012	12/10/2012		43.09	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
P-59	P59-ROX-102711	10/27/2011	47.91 - 72.91	41.06	NE	6.01	<0.25	<0.25	<0.25	<0.25	<0.05	<0.05	<0.1	<0.05	<0.1	<0.25	<0.25	<1.3	1.49	<0.25	<0.25
	P59-ROX-011912	1/19/2012		42.88	NE	6.61	<0.005 UJ	0.0054	0.0031 J J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0036 J	<0.025	1.28	<0.005	<0.005
	P59-ROX-011912-DUP	1/19/2012		42.88	NE	7.04	0.0264 J	0.0055	0.0372 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0038 J	<0.025	1.4	<0.005	<0.005
	P59-ROX-050912	5/9/2012		44.11	NE	7.86	<0.25	<0.25	<0.25	<0.25	<0.05	<0.05	<0.1	<0.05	<0.1	<0.25	<0.25	<1.3	1.93	<0.25	<0.25
	P59-ROX-080212	8/2/2012		44.07	NE	11	<0.1	<0.1	<0.1	<0.1	<0.02	<0.02	<0.04	<0.02	<0.04	<0.1	<0.1		1.74	<0.1	<0.1
	P59-ROX-110212	11/2/2012	47.91 - 72.91	45.98	NE	10.3	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<0.5	<2.5	1.87	<0.5	<0.5
	P59-ROX-110212-DUP	11/2/2012		45.98	NE	10.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<0.5	<2.5	1.94	<0.5	<0.5
P-66	P66-ROX-110111	11/1/2011	34.72 - 59.72	28.92	NE	0.0171	0.0153	0.0185	0.0063	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	0.0016	<0.005	<0.005
	P66-ROX-051012	5/10/2012		32.48	NE	0.0193	0.0139	0.019	0.0059	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0015	<0.005	<0.005
	P66-ROX-080312	8/3/2012		30.51	NE	0.0994	0.0118	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0013	<0.005	<0.005
	P66-ROX-103112	10/31/2012	34.72 - 59.72	34.75	NE	0.223	0.0145	0.02	0.0054	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0012	<0.005	<0.005
P-74	P74-ROX-103111	10/31/2011	44.43 - 69.43	36.26	NE	5.02	0.0242	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.229	<0.005	<0.005
	P74-ROX-011912	1/19/2012		38.77	NE	<0.205 U	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0095	<0.005	<0.005
	P74-ROX-050712	5/7/2012		39.92	NE	0.336	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0081	<0.005	<0.005
	P74-ROX-080612	8/6/2012		40.71	NE	2.46	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02	<0.05	<0.05		0.0782	<0.05	<0.05
	P74-ROX-110112	11/1/2012	44.43 - 69.43	41.72	NE	3.5	<0.1	<0.1	<0.1	<0.1	<0.02	<0.02	<0.04	<0.02	<0.04	<0.1	<0.1	<0.5	0.0493	<0.1	<0.1
P-93A	P93A-102610	10/26/2010	48.17 - 63.17	40.75	NE	422 D	<1.25	<1.25	<1.25	<12.5	<1.25	<1.25	<2.5	<1.25	<2.5	<1.25	<1.25		0.32 J		<1.25
	P93A-ROX_012611	1/26/2011		40.97	NE	491	0.0059	0.0096	0.0213	<0.005	0.00081 J	0.00061 J	<0.002	<0.001	<0.002	<0.005	0.0047 J		0.373		0.0016 J
	P93A-ROX-050511	5/5/2011		41.88	NE	551	<0.005	0.0054 J	0.0133 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0034 J J	<0.025	<5	<0.005	<0.005
	P93A-ROX-081811	8/18/2011		38.86	NE	467	<0.005	0.0071	0.0177	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0049 J	<0.025	<10	<0.005	<0.005
	P93A-ROX-102611	10/26/2011		39.43	NE	543	<0.005	0.006	0.015	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0081	<0.025	0.304	<0.005	<0.005
	P93A-ROX-012012	1/20/2012		41.66	NE	164 J	0.0037 J J	0.0045 J	0.0122	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0023 J	<0.025	0.185	<0.005	<0.005
	P93A-ROX-050812	5/8/2012		42.75	NE	200	0.005 J	0.0069 J	0.0179 J	<0.005 UJ	<0.001 UJ	<0.001 UJ	<0.002 UJ	<0.001 UJ	<0.002 UJ	<0.005 UJ	0.0035 J J	<0.025 UJ	0.38 J	<0.005 UJ	<0.005 UJ
	P93A-ROX-080912	8/9/2012		43.66	NE	87	0.0027 J	0.0048 J	0.0128	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0022 J	<0.025	0.225	<0.005	<0.005
	P93A-ROX-110712	11/7/2012	48.17 - 63.17	45.00	NE	148	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<0.5	<2.5	0.265	<0.5	<0.5
	P93A-ROX-110712-DUP	11/7/2012		45.00	NE	156	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<0.5	<2.5	0.262	<0.5	<0.5
P-93B	P93B-102610	10/26/2010	74.60 - 76.60	40.73	NE	189 D	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<1	<0.5	<1	<0.5	<0.5		<0.5		<0.5
	P93B-ROX_012611	1/26/2011		41.03	NE	105	<0.005	<0.005	0.00058 J	<0.005	<0.001	<0.001	0.00077 J	<0.001	0.0014 J	<0.005	<0.005		0.0104		<0.005
	P93B-ROX-050511	5/5/2011		41.96	NE	134	<0.005	0.0045 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0169	<0.005	<0.005
	P93B-ROX-081811	8/18/2011		38.91	NE	304	<5	<5	<5	<5	<5	<1	<1	<2	<1	<2	<5	<5	<25	<1	<5	<5
	P93B-ROX-102611	10/26/2011		39.48	NE	590	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0533	<0.005	<0.005
	P93B-ROX-012012	1/20/2012		41.72	NE	337	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	0.0831 J	0.0274 J	<0.005	<0.005
	P93B-ROX-050812	5/8/2012		42.79	NE	304	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0379 J	<0.005	<0.005
	P93B-ROX-080912	8/9/2012		43.69	NE	317	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0741	<0.005	<0.005
	P93B-ROX-110712	11/7/2012	74.60 - 76.60	44.98	NE	162 J	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<0.5	<2.5	<0.1	<0.5	<0.5
	P93B-ROX-110712-DUP	11/7/2012		44.98	NE	413 J	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2	<0.5	<0.5	<2.5	0.0695 J	<0.5	<0.5

SEE LAST PAGE OF TABLE FOR NOTES

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

						VOCs															
						Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	4-Chlorotoluene	Cymene (p-Isopropyltoluene)	1,4-Dioxane	Ethylbenzene	Ethyl methacrylate	Hexachlorobutadiene
					Screening Values (mg/L)	0.005 [1]	0.35 [3]			0.7 [2]	0.005 [1]	0.1 [2]		0.0002 [2]				0.005 [4]	0.7 [1]		0.007 [3]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)															
P-93C	P93C-102610	10/26/2010	94.26 - 96.26	40.69	NE	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005		<0.005		<0.005
	P93C-ROX_012611	1/26/2011		40.91	NE	86.5	<0.005	<0.005	0.00056 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005		0.0175		<0.005
	P93C-ROX-050611	5/6/2011		41.84	NE	15.7	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0029	<0.005	<0.005
	P93C-ROX-081811	8/18/2011		38.79	NE	1.2	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	P93C-ROX-102611	10/26/2011		39.36	NE	0.0014	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	P93C-ROX-012012	1/20/2012		41.57	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	P93C-ROX-050812	5/8/2012		42.68	NE	0.0057	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	P93C-ROX-080912	8/9/2012		43.57	NE	0.00084	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	P93C-ROX-110812	11/8/2012	94.26 - 96.26	45.12	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
P-93D	P93D-102610	10/26/2010	-	40.59	NE	0.0429	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005		<0.005		<0.005
	P93D-ROX-050511	5/5/2011	125.75 - 127.75	41.96	NE	0.0287	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	P93D-ROX-081811	8/18/2011		38.94	NE	0.0059	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	P93D-ROX-102711	10/27/2011		39.59	NE	0.00097	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	P93D-ROX-012012	1/20/2012		41.77	NE	0.0513	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	P93D-ROX-050812	5/8/2012		42.96	NE	0.0056	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	P93D-ROX-080812	8/8/2012		43.71	NE	0.0134	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	P93D-ROX-110812	11/8/2012	125.75 - 127.75	44.98	NE	0.049	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
P-114	P114-ROX-102811	10/28/2011	32.67 - 52.67	24.73	NE	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	P114-ROX-012012	1/20/2012		27.17	NE	0.0011 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	P114-ROX-050912	5/9/2012		28.09	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	P114-ROX-080912	8/9/2012		29.13	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	P114-ROX-110912	11/9/2012	32.67 - 52.67	30.90	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
ROST-3-PZ	ROST3PZ-ROX-051412	5/14/2012	40.00 - 50.00	38.82	NE	0.0074	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0167	<0.005	<0.005
	ROST3PZ-ROX-080712	8/7/2012		39.00	NE	0.0041	<0.005	<0.005	0.00072 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0047	<0.005	<0.005
	ROST3PZ-ROX-110112	11/1/2012	40.00 - 50.00	40.82	NE	0.0052	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.0018	<0.005	<0.005
ROST-4-PZ(C)	ROST4PZ-C-051412	5/14/2012	34.95 - 44.95	39.04	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005
	ROST4PZ-C-ROX-072512	7/25/2012		39.10	NE	0.0849	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.177	<0.005	<0.005 UJ
	ROST4PZC-ROX-102912	10/29/2012	34.95 - 44.95			0.0033	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ	<0.005	<0.005	<0.025	0.0014	<0.005	<0.005
T-12	T12-ROX-102711	10/27/2011	46.46 - 72.46	38.54	NE	1.09	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02	<0.05	<0.05	<0.25	0.648	<0.05	<0.05
	T12-ROX-011912	1/19/2012		41.0	NE	1.51	0.0062	0.0022 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0024 J	<0.025	0.285	<0.005	<0.005
	T12-ROX-050912	5/9/2012		42.62	NE	1.48	<0.025	<0.025	<0.025	<0.025	<0.005	<0.005	<0.01	<0.005	<0.01	<0.025	<0.025	<0.13	1.88	<0.025	<0.025
	T12-ROX-080212	8/2/2012		41.92	NE	1.64	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02	<0.05	<0.05		0.573	<0.05	<0.05
	T12-ROX-110512	11/5/2012	46.46 - 72.46	43.91	NE	1.71	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02	<0.05	<0.05	<0.25	1.73	<0.05	<0.05

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

						VOCs															
						2-Hexanone (Methyl N-Butyl Ketone)	Isopropylbenzene (Cumene)	Methyl tert-Butyl Ether (MTBE)	Naphthalene[5]	n-Propylbenzene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl acetate	m,p-Xylene	o-Xylenes	Xylenes (total)
					Screening Values (mg/L)		0.7 [3]	0.070 [1]	0.14 [2]	0.7 [3]	1 [1]	0.0056 [3]	0.07 [2]	0.005 [2]		0.07 [3]	7.0 [2]	10		10 [1]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)															
MW-01	MW-1-111110	11/11/2010	43.41 - 58.41	36.91	NE		<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005	
	MW-1-111110-Dup	11/11/2010		36.91	NE		<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005	
	MW1-ROX-011711	1/17/2011		37.58	NE		<0.005	0.0032	<0.0063	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	0.0013	
	MW1-ROX-042911	4/29/2011		38.37	NE	<0.005	<0.005	0.0027	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0016	<0.001	0.0016
	MW1-ROX-072711	7/27/2011		35.15	NE	<0.005	<0.005	0.0055	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW1-ROX-120511	12/5/2011		37.10	NE	<0.005	<0.005	0.0027	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW1-ROX-011612	1/16/2012	49.98 - 59.98	37.75	NE	<0.005	<0.005	0.0032	0.000079 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW1-ROX-050112	5/1/2012		39.09	NE	<0.005	<0.005	0.0031	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW1-ROX-073012	7/30/2012		39.39	NE	<0.005	<0.005	0.0022	0.0001 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW1-ROX-102612	10/26/2012	49.98 - 59.98	41.22	NE	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
	MW1-ROX-121712	12/17/2012		41.22	NE	<0.005	<0.005	0.0022	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
MW-02	MW-2-111010	11/11/2010	47.19 - 62.19	38.12	NE		0.0236 J	<0.025	0.077	0.0354	1.22 D	<0.025	<0.025	<0.025	0.273	0.0618	<0.25	1.14	0.318	
	MW2-ROX-011711	1/17/2011		38.67	NE		0.0617	<0.001	0.0312	0.0652	0.737	<0.005	<0.005	<0.001	0.279	0.0744	<0.005	0.892	0.191	
	MW02-ROX-051011	5/10/2011		39.14	NE	<0.005	0.0539	<0.001	0.0545 J	0.0669	3.51	<0.005	<0.005	<0.001	0.339	0.103	<0.005	2.05	0.549	2.6
	MW2-ROX-072711	7/27/2011		36.36	NE	<0.05	0.0995	<0.01	0.0671	0.111	4.69	<0.05	<0.05	<0.01	0.338	0.116	<0.05	2.91	0.823	3.74
	MW2-ROX-072711-DUP	7/27/2011		36.36	NE	<0.05	0.0967	<0.01	0.0659	0.1	4.67	<0.05	<0.05	<0.01	0.298	0.108	<0.05	2.63	0.728	3.36
	MW2-ROX-112811	11/28/2011	51.32 - 61.32	38.03	NE	<0.005	0.128	<0.001	0.0777	0.146	0.0328	<0.005	<0.005	<0.001	0.407	0.212	<0.005	0.747	0.0574	0.804
	MW2-ROX-011612	1/16/2012		38.89	NE	<0.025	0.0832	<0.005	0.0859	0.0993	0.0375	<0.025	<0.025	<0.005	0.388	0.162	<0.025	0.857	0.056	0.913
	MW2-ROX-050112	5/1/2012		40.25	NE	<0.025	0.0886	<0.005	0.0497	0.119	0.0445	<0.025	<0.025	<0.005	0.413	0.154	<0.025	1.14	0.0797	1.22
	MW2-ROX-073012	7/30/2012		40.60	NE	<0.005	0.0818	<0.001	0.0554	0.116	0.0374	<0.005	<0.005	<0.001	0.338	0.135	<0.005	1.27	0.0906	1.34
	MW2-ROX-102612	10/26/2012	51.32 - 61.32	42.35	NE	<0.025	0.0764	0.0115	0.0821	0.104	0.0216	<0.025	<0.025	<0.005	0.299	0.129	<0.025	0.878	0.052	0.93
MW-03	MW-3-111210	11/12/2010	30.98 - 45.98	24.05	NE		0.0016 J	<0.005	<0.01	0.00622	0.00257 J	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	0.00653 J	<0.005	
	MW3-ROX-011811	1/18/2011		24.92	NE		<0.005	0.0021	<0.0053	<0.005	<0.001	<0.005	<0.005	<0.001	0.00085 J	<0.005	<0.005	0.0012	0.0014	
	MW03-ROX-051011	5/10/2011		24.79	NE	<0.005	<0.005	0.0026	0.00011 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0022	<0.001	0.0022
	MW3-ROX-080311	8/3/2011		22.40	NE	<0.005	0.0012 J	<0.001	<0.000083 U	<0.005	0.0015	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW3-ROX-112911	11/29/2011	34.67 - 44.67	24.06	NE	<0.005	<0.005	0.0014	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW3-ROX-112911-DUP	11/29/2011		24.06	NE	<0.005	<0.005	0.0014	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW3-ROX-011612	1/16/2012		24.93	NE	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW3-ROX-043012	4/30/2012		26.19	NE	<0.005	<0.005	0.0039	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW3-ROX-072712	7/27/2012		26.60	NE	<0.005 UJ	<0.005	<0.001	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
	MW3-ROX-102512	10/25/2012	34.67 - 44.67	28.39	NE	<0.005	<0.005	0.0027	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
MW-04	MW-4-111210	11/12/2010	42.63 - 57.63	35.38	NE		0.00271 J	0.00508	<0.009	0.00395 J	0.0157	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	0.00699 J	0.00139 J	
	MW4-ROX-011811	1/18/2011		36.04	NE		0.002 J	0.007	<0.0052	0.0022 J	0.0071	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0062	0.0021	
	MW04-ROX-051111	5/11/2011		36.19	NE	<0.005	0.0036 J	0.0096	<0.0001 UJ	0.0037 J	0.0125	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0096	0.0016	0.0111
	MW4-ROX-072611	7/26/2011		33.65	NE	<0.005	0.0088	0.0113	0.00025	0.0085	0.017	<0.005	<0.005	<0.001	<0.005	0.0052	<0.005	0.0067	<0.001	0.0067
	MW4-ROX-072611-DUP	7/26/2011		33.65	NE	<0.005	0.0088	0.0103	0.00021	0.0083	0.0162	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0063	<0.001	0.0063
	MW4-ROX-121511	12/15/2011		33.99	NE	<0.005	<0.005	0.0073 J	0.00023	<0.005	0.0092	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0069	0.001	0.0079
	MW4-ROX-011612	1/16/2012	46.06 - 56.06	36.00	NE	<0.005	0.0061	<0.001	<0.0001	0.0061	0.0283	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0148	0.0025	0.0173
	MW4-ROX-050312	5/3/2012		37.45	NE	<0.005	0.0038 J	0.0174	<0.0001	<0.005	0.0255	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.016	0.003	0.0189
	MW4-ROX-050312-DUP	5/3/2012		37.45	NE	<0.005	0.0036 J	0.0162	<0.0001	0.0043 J	0.0252	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0151	0.0031	0.0182
	MW4-ROX-072512	7/25/2012		37.63	NE	<0.005	0.0061	0.015	<0.0001	0.0071	0.0418	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0221	0.0042	0.0262
	MW4-ROX-072512-Dup	7/25/2012		37.63	NE	<0.005	0.0063	0.0154	<0.0001	0.0072	0.0427	<0.005	<0.005	<0.001	0.00068 J	0.0057	<0.005	0.0214	0.0043	0.0257
	MW4-ROX-102912	10/29/2012	46.06 - 56.06	39.45	NE	<0.01	0.0029 J	0.0324	<0.01	0.0033 J	0.0175	<0.01	<0.01	<0.002	<0.01	<0.01	<0.01	0.0114	<0.002	0.0114

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

						VOCs															
						2-Hexanone (Methyl N-Butyl Ketone)	Isopropylbenzene (Cumene)	Methyl tert-Butyl Ether (MTBE)	Naphthalene[5]	n-Propylbenzene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl acetate	m,p-Xylene	o-Xylenes	Xylenes (total)
					Screening Values (mg/L)		0.7 [3]	0.070 [1]	0.14 [2]	0.7 [3]	1 [1]	0.0056 [3]	0.07 [2]	0.005 [2]		0.07 [3]	7.0 [2]	10		10 [1]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)															
MW-05	MW-5-111210	11/12/2010	31.13 - 46.13	23.32	NE		<0.005	0.00556	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	0.00277 J	<0.005	
	MW5-ROX-011811	1/18/2011		24.15	NE		<0.005	0.0066	<0.0053	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.00087 J	0.0014	
	MW05-ROX-051211	5/12/2011		23.98	NE	<0.005	<0.005	0.0085	<0.00011 UJ	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	0.0035	<0.001	0.0035
	MW5-ROX-072611	7/26/2011		21.72	NE	<0.005	0.0161	0.0031	<0.0001 U	0.0105	0.0017	<0.005	<0.005	<0.001	<0.005	0.0055	<0.005	0.0074	<0.001	0.0074
	MW5-ROX-072611-DUP	7/26/2011		21.72	NE	<0.005	0.016	0.0031	<0.00015 U	0.0104	0.0016	<0.005	<0.005	<0.001	<0.005	0.0055	<0.005	0.0068	<0.001	0.0068
	MW5-ROX-112111	11/21/2011	33.97 - 43.97	23.46	NE	<0.005	<0.005	0.0069	<0.00014 U	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW5-ROX-011712	1/17/2012		24.76	NE	<0.005	<0.005	0.0187	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.00081 U
	MW5-ROX-050312	5/3/2012		25.89	NE	<0.005	0.001 J	0.022	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW5-ROX-072512	7/25/2012		26.18	NE	<0.005	0.0066	0.013	0.00032	0.0018 J	0.0032	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.008	0.0017	0.0097
	MW5-ROX-102912	10/29/2012	33.97 - 43.97	28.16	NE	<0.005	0.002 J	0.0219	<0.005	<0.005	0.0018	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0018	<0.001	0.0018
MW-06A	MW-6A-110910	11/9/2010	31.98 - 46.98	25.62	NE		<0.005	0.0203	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005	
	MW6A-ROX-011911	1/19/2011		26.36	NE		<0.005	0.0181	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	
	MW6A-ROX-051611	5/16/2011		26.10	NE	<0.005 UJ	<0.005	0.0277	<0.0001 UJ	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6A-ROX-072611	7/26/2011		24.07	NE	<0.005	<0.005	0.0237	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6A-ROX-112111	11/21/2011	34.83 - 44.83	25.49	NE	<0.005	<0.005	0.0169	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6A-ROX-112111-DUP	11/21/2011		25.49	NE	<0.005	<0.005	0.0181	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6A-ROX-011712	1/17/2012		26.74	NE	<0.005	<0.005	0.0185	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6A-ROX-050212	5/2/2012		27.77	NE	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6A-ROX-080112	8/1/2012		28.36	NE	<0.005	<0.005	0.0019	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6A-ROX-102412	10/24/2012	34.83 - 44.83	30.06	NE	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
MW-06B	MW-6B-111610	11/16/2010	64.05 - 69.05	25.47	NE		<0.005	0.00204 J	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005	
	MW6B-ROX-011911	1/19/2011		26.21	NE		<0.005	0.0016	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	
	MW6B-ROX-011911-DUP	1/19/2011		26.21	NE		<0.005	0.0016	<0.0051	<0.005	<0.001	0.0016 J	0.0011 J	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	
	MW6B-ROX-051611	5/16/2011		25.95	NE	<0.005 UJ	<0.005	0.0029	<0.000095 UJ	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6B-ROX-051611-DUP	5/16/2011		25.95	NE	<0.005 UJ	<0.005	0.0031	0.000044 J J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6B-ROX-072311	7/23/2011		23.60	NE	<0.005	<0.005	0.0049	0.0012 B	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
	MW6B-ROX-110311	11/3/2011		24.67	NE	<0.05	<0.05	0.036 J	<0.0001	<0.05	<0.01	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01
	MW6B-ROX-011712	1/17/2012		26.77	NE	<0.005	<0.005	0.0049	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6B-ROX-050212	5/2/2012		27.82	NE	<0.005	<0.005	0.0115	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6B-ROX-080112	8/1/2012		28.39	NE	<0.005	<0.005	0.0122	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6B-ROX-102412	10/24/2012	64.05 - 69.05	30.11	NE	<0.005	<0.005	0.0091	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
MW-06C	MW-6C-111610	11/16/2010	84.95 - 89.95	25.25	NE		<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005	
	MW6C-ROX-012111	1/21/2011		25.97	NE		<0.005	0.0021	<0.0053	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	
	MW6C-ROX-051611	5/16/2011		25.76	NE	<0.005 UJ	<0.005	0.0034	<0.0001 UJ	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6C-ROX-072411	7/24/2011		23.43	NE	<0.005	<0.005	0.0027	0.00075 B	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
	MW6C-ROX-110311	11/3/2011		24.47	NE	<0.005	<0.005	0.0039 J	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6C-ROX-011712	1/17/2012		26.50	NE	<0.005	<0.005	<0.001	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6C-ROX-050212	5/2/2012		27.62	NE	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6C-ROX-080112	8/1/2012		28.15	NE	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6C-ROX-102412	10/24/2012	84.95 - 89.95	27.85	NE	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
MW-06D	MW-6D-111610	11/16/2010	104.72 - 109.72	25.13	NE		<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005	
	MW6D-ROX-012111	1/21/2011		25.87	NE		<0.005	<0.001	<0.0053	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	
	MW6D-ROX-051611	5/16/2011		25.60	NE	<0.005 UJ	<0.005	<0.001	<0.00011 UJ	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6D-ROX-072311	7/23/2011		23.29	NE	<0.005	<0.005	<0.001	0.00074 B	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
	MW6D-ROX-110311	11/3/2011		24.31	NE	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6D-ROX-011712	1/17/2012		26.33	NE	<0.005	<0.005	<0.001	<0.00016 U	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6D-ROX-050212	5/2/2012		27.45	NE	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6D-ROX-080212	8/2/2012		30.56	NE	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW6D-ROX-102412	10/24/2012	104.72 - 109.72	29.71	NE	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001

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

						VOCs														
						2-Hexanone (Methyl N-Butyl Ketone)	Isopropylbenzene (Cumene)	Methyl tert-Butyl Ether (MTBE)	Naphthalene[5]	n-Propylbenzene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl acetate	m,p-Xylene	o-Xylenes	Xylenes (total)
					Screening Values (mg/L)		0.7 [3]	0.070 [1]	0.14 [2]	0.7 [3]	1 [1]	0.0056 [3]	0.07 [2]	0.005 [2]		0.07 [3]	7.0 [2]	10		10 [1]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)														
MW-07	MW-7-111710	11/17/2010	42.92 - 52.92	36.93	NE		<1.25	<1.25	0.004 J	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<12.5	<2.5	<1.25	
	MW-7-111710-Dup	11/17/2010		36.93	NE		<1.25	<1.25	0.005 J	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<12.5	<2.5	<1.25	
	MW7-ROX-012511	1/25/2011		37.52	NE	<0.005 UJ	0.004 J J	<0.0057 U	0.0058	0.0058 J	0.0907 J	<0.005 UJ	<0.005 UJ	<0.001 UJ	0.0552 J	0.0133 J	<0.005 UJ	0.0694 J	0.0235 J	
	MW07-ROX-051311	5/13/2011		37.50	NE	<0.005 UJ	0.0061 J	0.0109 J	0.0114 J	0.0078 J	0.128 J	<0.005 UJ	<0.005 UJ	<0.001 UJ	0.0822 J	0.0193 J	<0.005 UJ	0.101 J	0.0418 J	0.143 J
	MW07-ROX-051311D	5/13/2011		37.50	NE	<0.005	0.006	0.012	0.011 J	0.0078	0.126	<0.005	<0.005	<0.001	0.0825	0.0193	<0.005	0.0984	0.0405	0.139
	MW7-ROX-072411	7/24/2011		35.22	NE	<25	<25	<5	0.0081	<25	<5	<25	<25	<5	<25	<25	<25 UJ	<5	<5	<5
	MW-7-ROX-110211	11/2/2011		35.95	NE	<5	<5	<1	0.0113	<5	<1	<5	<5	<1	<5	<5	<5	<1	<1	<1
	MW7-ROX-011812	1/18/2012		38.10	NE	<0.005	0.0101	0.0022	0.0134	0.0135	0.158	<0.005	<0.005	<0.001	0.148	0.0341	<0.005	0.137	0.0527	0.19
	MW7-ROX-011812-DUP	1/18/2012		38.10	NE	<0.005	0.01	0.0024	0.0138	0.0138	0.156	<0.005	<0.005	<0.001	0.146	0.0332	<0.005	0.134	0.051	0.184
	MW7-ROX-050412	5/4/2012		39.19	NE	<0.5	<0.5	<0.1	0.0158	<0.5	0.101	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1
	MW7-ROX-080712	8/7/2012		39.50	NE	<0.05	<0.05	<0.01	0.0089	0.0102 J	0.0629	<0.05	<0.05	<0.01	0.1	0.021 J	<0.05	0.12	0.0486	0.169
	MW7-ROX-103012	10/30/2012	42.92 - 52.92	41.23	NE	<10	<10	<2	<10	<10	<2	<10	<10	<2	<10	<10	<10	<2	<2	<2
	MW7-ROX-103012-DUP	10/30/2012		41.23	NE	<10	<10	<2	<10	<10	<2	<10	<10	<2	<10	<10	<10	<2	<2	<2
MW-08	MW-8-111710	11/17/2010	33.60 - 43.60	27.84	NE		<1.25	<1.25	0.023	<1.25	0.328 J	<1.25	<1.25	<1.25	<1.25	<1.25	<12.5	<2.5	<1.25	
	MW8-ROX-012511	1/25/2011		28.59	NE	<0.005 UJ	0.0104 J	0.21 J	0.026	0.0173 J	1.2 E J	<0.005 UJ	<0.005 UJ	<0.001 UJ	0.109 J	0.0332 J	<0.005 UJ	0.499 J	0.188 J	
	MW8-ROX-012511-DUP	1/25/2011		28.59	NE	<0.005 UJ	0.0105 J	0.205 J	0.0288	0.017 J	1.12 E J	<0.005 UJ	<0.005 UJ	<0.001 UJ	0.11 J	0.0336 J	<0.005 UJ	0.518 J	0.191 J	
	MW08-ROX-051311	5/13/2011		28.35	NE	<50	<50	<10	0.0241 J	<50	<10	<50	<50	<10	<50	<50	<50	<10	<10	<10
	MW08-ROX-051311D	5/13/2011		28.35	NE	<5	<5	0.657 J	0.0288 J	<5	<1	<5	<5	<1	<5	<5	<5	<1	<1	<1
	MW8-ROX-072411	7/24/2011		26.02	NE	<25	<25	<5	0.0237	<25	<5	<25	<25	<5	<25	<25	<25 UJ	<5	<5	<5
	MW8-ROX-072411-DUP	7/24/2011		26.02	NE	<25	<25	<5	0.023	<25	<5	<25	<25	<5	<25	<25	<25 UJ	<5	<5	<5
	MW-8-ROX-110211	11/2/2011		27.02	NE	<5	<5	4.94 J	0.0282	<5	<1	<5	<5	<1	<5	<5	<5	<1	<1	<1
	MW8-ROX-011812	1/18/2012		29.15	NE	<0.005	0.0162	1.41 J	0.0239	0.0377	<2	<0.005	<0.005	<0.001	0.163	0.061	<0.005	0.574	0.219	0.794
	MW8-ROX-050412	5/4/2012		30.21	NE	<0.5	<0.5	4.15	0.0186	<0.5	1.55	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	0.978	0.37	1.35
	MW8-ROX-050412-DUP	5/4/2012		30.21	NE	<0.5	<0.5	4.07	0.0188	<0.5	1.52	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	0.939	0.381	1.32
	MW8-ROX-080712	8/7/2012		30.97	NE	<0.1	<0.1	0.878	0.0164	0.0191 J	0.781	<0.1	<0.1	<0.02	0.104	0.0299 J	<0.1	0.623	0.246	0.868
	MW8-ROX-080712-DUP	8/7/2012		30.97	NE	<0.05	<0.05	0.885	0.0164	0.0176 J	0.729	<0.05	<0.05	<0.01	0.0921	0.0265 J	<0.05	0.598	0.235	0.833
	MW8-ROX-103012	10/30/2012	33.60 - 43.60	32.32	NE	<5	<5	<1	<5	<5	<1	<5	<5	<1	<5	<5	<5	<1	<1	<1
MW-09	MW-9-111510	11/15/2010	46.45 - 56.45	39.00	NE		<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005	
	MW9-ROX-012111	1/21/2011		39.62	NE		<0.005	<0.001	<0.0053	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	
	MW09-ROX-050611	5/6/2011		40.12	NE	<0.005 UJ	<0.005	<0.001	<0.000097 UJ	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW9-ROX-072311	7/23/2011		37.27	NE	<0.005	<0.005	<0.001	0.001 B	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
	MW9-ROX-110111	11/1/2011		37.78	NE	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW9-ROX-011612	1/16/2012		39.50	NE	<0.005	<0.005	<0.001	0.000062 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW9-ROX-050312	5/3/2012		41.03	NE	<0.005	<0.005	<0.001		<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW9-ROX-072712	7/27/2012		41.30	NE	<0.005 UJ	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
	MW9-ROX-102912	10/29/2012	46.45 - 56.45	43.17	NE	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
MW-10	MW-10-111010	11/10/2010	44.43 - 54.43	38.97	NE		<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005	
	MW10-ROX-012411	1/24/2011		39.40	NE	<0.005	<0.005	<0.001	<0.0051	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	
	MW10-ROX-012411-DUP	1/24/2011		39.40	NE	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	
	MW10-ROX-042811	4/28/2011		40.20	NE	<0.005	<0.005	<0.001	<0.0048	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW10-ROX-072311	7/23/2011		37.24	NE	<0.005	<0.005	<0.001	0.00062 B	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
	MW10-ROX-110111	11/1/2011		37.72	NE	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW10-ROX-011612	1/16/2012		39.28	NE	<0.005	<0.005	<0.001	0.000047 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW10-ROX-050112	5/1/2012		40.86	NE	<0.005	<0.005	<0.001	0.000052 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW10-ROX-072712	7/27/2012		41.21	NE	<0.005 UJ	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
	MW10-ROX-102612	10/26/2012	44.43 - 54.43	43.08	NE	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
	MW10-ROX-121712	12/17/2012		43.08	NE	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	0.00058 J

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

						VOCs															
						2-Hexanone (Methyl N-Butyl Ketone)	Isopropylbenzene (Cumene)	Methyl tert-Butyl Ether (MTBE)	Naphthalene[5]	n-Propylbenzene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl acetate	m,p-Xylene	o-Xylenes	Xylenes (total)
					Screening Values (mg/L)		0.7 [3]	0.070 [1]	0.14 [2]	0.7 [3]	1 [1]	0.0056 [3]	0.07 [2]	0.005 [2]		0.07 [3]	7.0 [2]	10		10 [1]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)															
MW-11	MW-11-111710	11/17/2010	41.66 - 51.66	36.39	NE		<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005	
	MW11-ROX-012411	1/24/2011		37.15	NE	<0.005	<0.005	<0.001	<0.0052	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	
	MW11-ROX-050611	5/6/2011		37.60	NE	<0.005 UJ	<0.005	<0.001	<0.000095 UJ	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW11-ROX-072411	7/24/2011		34.68	NE	<0.005	<0.005	<0.001	0.00027 B	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
	MW-11-ROX-110211	11/2/2011		35.44	NE	<0.005	<0.005	0.003 J	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW11-ROX-011712	1/17/2012		37.44	NE	<0.005	<0.005	<0.001		<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW11-ROX-043012	4/30/2012		38.66	NE	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW11-ROX-072712	7/27/2012		38.90	NE	<0.005 UJ	<0.005	<0.001	<0.00012	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
	MW11-ROX-102512	10/25/2012	41.66 - 51.66	40.59	NE	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
MW-12	MW-12-111510	11/15/2010	41.92 - 51.92	36.63	NE		<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005	
	MW12-ROX-012411	1/24/2011		37.42	NE	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	
	MW12-ROX-051211	5/12/2011		37.58	NE	<0.005	<0.005	<0.001	<0.0001 UJ	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
	MW12-ROX-072411	7/24/2011		34.88	NE	<0.005	<0.005	<0.001	0.00098 B	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW-12-ROX-110211	11/2/2011		35.70	NE	<0.005	<0.005	<0.001	<0.000095	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW-12-ROX-110211-DUP	11/2/2011		35.70	NE	<0.005	<0.005	<0.001	<0.000095	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW12-ROX-011712	1/17/2012		37.70	NE	<0.005	<0.005	<0.001	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW12-ROX-011712-DUP	1/17/2012		37.70	NE	<0.005	<0.005	<0.001	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW12-ROX-043012	4/30/2012		38.98	NE	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW12-ROX-072712	7/27/2012		39.22	NE	<0.005 UJ	<0.005	<0.001	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
	MW12-ROX-102512	10/25/2012	41.92 - 51.92	40.95	NE	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
MW-13	MW13-ROX-012511	1/25/2011	25.57 - 35.57	24.28	NE	<0.005	<0.005	<0.001	<0.0052	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	
	MW13-ROX-051311	5/13/2011		23.65	NE	<0.005	<0.005	0.0061 J	<0.000095 U	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
	MW13-ROX-080311	8/3/2011		21.88	NE	<0.005	<0.005	0.004	<0.000045 U	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW13-ROX-110311	11/3/2011		22.85	NE	<0.005	<0.005	0.0156 J	0.00017	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW13-ROX-012012	1/20/2012		24.77	NE	<0.005	<0.005	0.0066 J	0.00021	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW13-ROX-050712	5/7/2012		25.79	NE	<0.005	<0.005	0.0083	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW13-ROX-080812	8/8/2012		26.67	NE	<0.005 UJ	<0.005 UJ	0.0133 J	<0.0013 U	<0.005 UJ	<0.001 UJ	<0.005 UJ	<0.005 UJ	<0.001 UJ	<0.005 UJ	<0.005 UJ	<0.005 UJ	<0.001 UJ	<0.001 UJ	<0.001 UJ
	MW13-ROX-110812	11/8/2012	25.57 - 35.57	25.30	NE	<0.005	<0.005	0.0093	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
MW-14	MW14-ROX-110911	11/9/2011	33.42 - 43.42			<0.005	<0.005	<0.001	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	MW14-ROX-051012	5/10/2012				<0.005	0.0104	<0.001	0.00099	0.0078	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0016	0.00041 J	0.002
	MW14-ROX-080312	8/3/2012		29.87	NE	<0.005	0.0173	<0.001	0.0013	0.0137	0.00093 J	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0033	0.00061 J	0.0039
	MW14-ROX-103112	10/31/2012	33.42 - 43.42	32.02	NE	<0.005	0.0161	<0.001	<0.005	0.0121	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0024	<0.001	0.0024
P-54	P-54-111710	11/17/2010	38.00 - 63.00	36.43	NE		<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005	
	P54-ROX-012411	1/24/2011		37.24	NE	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	
	P54-ROX-051111	5/11/2011		37.37	NE	<0.005	<0.005	<0.001	0.00013 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P54-ROX-072411	7/24/2011		34.78	NE	<0.005	<0.005	<0.001	0.000066 JB	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P54-ROX-110311	11/3/2011		35.49	NE	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P54-ROX-011712	1/17/2012		37.17	NE	<0.005	<0.005	<0.001	<0.000089 U	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P54-ROX-050412	5/4/2012		38.77	NE	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P54-ROX-080212	8/2/2012		38.95	NE	<0.005	<0.005	<0.001	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P54-ROX-103012	10/30/2012	38.00 - 63.00	40.70	NE	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
P-55	P55-ROX-103111	10/31/2011	39.82 - 64.82	39.15	NE	<0.005	<0.005	0.0012	0.0015	<0.005	0.029	<0.005	<0.005	<0.001	0.0067	0.0056	<0.005	0.0466	0.0163	0.0629
	P55-ROX-011912	1/19/2012		41.09	NE	<0.005	0.0105 J	<0.001	0.0197	0.0173	0.0337	<0.005	<0.005	<0.001	0.017	0.009	<0.005	0.205	0.0663	0.271
	P55-ROX-011912-D	1/19/2012		41.09	NE	<0.005	0.0105 J	<0.001	0.0169	0.0176	0.0359	<0.005	<0.005	<0.001	0.0179	0.0097	<0.005	0.21	0.0649	0.275
	P55-ROX-050912	5/9/2012		42.44	NE	<0.005	0.0392	<0.001	0.0271	0.0699	0.227	<0.005	<0.005	<0.001	0.158	0.0368	<0.005	0.885	0.112	0.97
P-56	P56-ROX-102711	10/27/2011	40.82 - 65.82	39.42	NE	<0.005	0.0512	<0.001	0.067	0.0463	0.0422	<0.005	<0.005	<0.001	0.0962	0.0226	<0.005	0.476	0.0332	0.509
	P56-ROX-011912	1/19/2012		41.81	NE	<0.005	0.0787 J	<0.001	0.0596	0.0697	0.023	<0.005	<0.005	<0.001	0.0229	0.0077	<0.005	0.202	0.0161	0.218
	P56-ROX-050812	5/8/2012		43.09	NE	<0.005	0.0876	<0.001	0.0667	0.111	0.197	<0.005	<0.005	<0.001	0.312	0.0708	<0.005	1.37	0.197	1.53
	P56-ROX-080612	8/6/2012		43.60	NE	<0.025 UJ	0.0442	<0.005	0.0197	0.0439	0.0109	<0.025 UJ	<0.025 UJ	<0.005	0.0131 J	0.005 J	<0.025 UJ	0.11	0.0083	0.118
	P56-ROX-103112	10/31/2012	40.82 - 65.82	44.80	NE	<0.005	0.0752	<0.001	0.167	0.105	0.187	<0.005	<0.005	<0.001	0.387	0.0901	<0.005	1.62	0.144	1.73

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

						VOCs														
						2-Hexanone (Methyl N-Butyl Ketone)	Isopropylbenzene (Cumene)	Methyl tert-Butyl Ether (MTBE)	Naphthalene[5]	n-Propylbenzene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl acetate	m,p-Xylene	o-Xylenes	Xylenes (total)
			Screening Values (mg/L)				0.7 [3]	0.070 [1]	0.14 [2]	0.7 [3]	1 [1]	0.0056 [3]	0.07 [2]	0.005 [2]		0.07 [3]	7.0 [2]	10		10 [1]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)														
P-57	P57-ROX-110811	11/8/2011	40.46 - 65.46	39.20	NE	<0.5	<0.5	0.221	0.152	<0.5	<0.1	<0.5	<0.5	<0.1	0.615	<0.5	<0.5	1.02	<0.1	1.02
	P57-ROX-021312	2/13/2012		42.13	NE	<2.5	<2.5	<0.5	0.271 J	<2.5	<0.5	<2.5	<2.5	<0.5	<2.5	<2.5	<2.5	0.502	<0.5	0.502
	P57-ROX-050712	5/7/2012		42.92	NE	<0.5	<0.5	0.453	0.0894	<0.5	<0.1	<0.5	<0.5	<0.1	0.632	0.159 J	<0.5	0.928	0.0563 J	0.984
	P57-ROX-080612	8/6/2012		43.53	NE	<0.25 UJ	<0.25	0.238	0.119	<0.25	0.0577	<0.25	<0.25	<0.05	0.506	0.123 J	<0.25 UJ	0.74	0.0328 J	0.773
	P57-ROX-080612-DUP	8/6/2012		43.53	NE	<0.005 UJ	0.0432	0.212	0.115	0.0519	0.0558	<0.005	<0.005	<0.001	0.505 E	0.137	<0.005 UJ	0.692	0.0348	0.727
	P57-ROX-110512	11/5/2012	40.46 - 65.46	44.98	NE	<2.5	<2.5	<0.5	1.53 J	<2.5	<0.5	<2.5	<2.5	<0.5	0.577 J	<2.5	<2.5	1.03	<0.5	1.03
P-58	P58-ROX-102811	10/28/2011	40.21 - 65.21	37.31	NE	<0.005	0.0734	<0.001	0.204	0.0862	0.13	<0.005	<0.005	<0.001	<25	0.104	<0.005	0.575	0.101	0.677
	P58-ROX-011912	1/19/2012		39.73	NE	0.0097	0.108 J	0.0082	0.212	0.129 J	0.155 J	<0.005	<0.005	<0.001		0.14 J	0.0408 J	0.679	0.108	0.787
	P58-ROX-011912-D	1/19/2012		39.73	NE	<0.005	0.0832 J	0.0101 J	0.191 J	0.0993 J	0.119 J	<0.005	<0.005	<0.001	<5	0.11	<0.005 UJ	<1	<1	<1
	P58-ROX-050712	5/7/2012		40.90	NE	<0.5	<0.5	<0.1	0.112 J	0.106 J	0.137	<0.5	<0.5	<0.1	0.776	0.108 J	<0.5	0.666	0.0982 J	0.764
	P58-ROX-050712-DUP	5/7/2012		40.90	NE	<0.5	<0.5	<0.1	0.0697 J	0.108 J	0.145	<0.5	<0.5	<0.1	0.757	0.109 J	<0.5	0.636	0.0968 J	0.733
	P58-ROX-080612	8/6/2012		41.63	NE	<0.1 UJ	0.0649 J	<0.02	0.142	0.0909 J	0.117	<0.1	<0.1	<0.02	0.705	0.0955 J	<0.1 UJ	0.652	0.0976	0.749
	P58-ROX-080612-DUP	8/6/2012		41.63	NE	<0.05	0.0718	<0.01	0.15	0.0996	0.128	<0.05	<0.05	<0.01	0.737	0.102	<0.05	0.656	0.104	0.759
	P58-ROX-110612	11/6/2012	40.21 - 65.21	43.09	NE	<0.5	<0.5	<0.1	<0.5	<0.5	0.124	<0.5	<0.5	<0.1	0.658	0.108 J	<0.5	0.544	0.0807 J	0.624
	P58-ROX-121012	12/10/2012		43.09	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
P-59	P59-ROX-102711	10/27/2011	47.91 - 72.91	41.06	NE	<0.25	<0.25	<0.05	0.0793	<0.25	0.321	<0.25	<0.25	<0.05	0.477	<0.25	<0.25	3.11	0.312	3.42
	P59-ROX-011912	1/19/2012		42.88	NE	<0.005	0.0713	<0.001	0.18	0.128	0.896	<0.005	<0.005	<0.001	0.483 J	0.198	<0.005	3.03	0.587	3.62
	P59-ROX-011912-DUP	1/19/2012		42.88	NE	<0.005	0.0733	<0.001	0.183	0.133	0.931	<0.005	<0.005	<0.001	0.536	0.203	<0.005	3.21	0.587	3.8
	P59-ROX-050912	5/9/2012		44.11	NE	<0.25	0.0585 J	<0.05	0.0925	0.123 J	2.35	<0.25	<0.25	<0.05	0.67	0.171 J	<0.25	4.56	1.08	5.64
	P59-ROX-080212	8/2/2012		44.07	NE	<0.1	0.0452 J	<0.02	0.0886	0.0974 J	0.506	<0.1	<0.1	<0.02	0.563	0.158	<0.1	4.35	0.376	4.73
	P59-ROX-110212	11/2/2012	47.91 - 72.91	45.98	NE	<0.5	<0.5	<0.1	<0.5	0.105 J	1.09	<0.5	<0.5	<0.1	0.558	0.154 J	<0.5	4.49	0.686	5.17
	P59-ROX-110212-DUP	11/2/2012		45.98	NE	<0.5	<0.5	<0.1	<0.5	0.111 J	1.1	<0.5	<0.5	<0.1	0.592	0.167 J	<0.5	4.68	0.721	5.4
P-66	P66-ROX-110111	11/1/2011	34.72 - 59.72	28.92	NE	<0.005	0.158	0.0845 J	0.0091	0.188	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P66-ROX-051012	5/10/2012		32.48	NE	<0.005	0.123	0.0771	<0.0001	0.152	0.0021	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0012	0.0012	0.0024
	P66-ROX-080312	8/3/2012		30.51	NE	<0.005	0.0874	0.103	0.0013	0.112	0.0013	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0011	0.0011	0.0022
	P66-ROX-103112	10/31/2012	34.72 - 59.72	34.75	NE	<0.005	0.122	0.0733	<0.005	0.156	0.0014	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
P-74	P74-ROX-103111	10/31/2011	44.43 - 69.43	36.26	NE	<0.005	0.0123	0.0222	0.0673	0.0222	0.669	<0.005	<0.005	<0.001	0.587	0.162	<0.005	0.177	<0.1	0.177
	P74-ROX-011912	1/19/2012		38.77	NE	<0.005	<0.005	<0.001	0.0158	0.0012 J	0.0038	<0.005	<0.005	<0.001	0.0292	0.0126	<0.005	0.0526	0.0262	0.0788
	P74-ROX-050712	5/7/2012		39.92	NE	<0.005	<0.005	<0.001	0.00024	0.001 J	0.0017	<0.005	<0.005	<0.001	0.0155	0.0063	<0.005	0.0273	0.0093	0.0366
	P74-ROX-080612	8/6/2012		40.71	NE	<0.05 UJ	<0.05	<0.01	0.0177	<0.05	0.159	<0.05	<0.05	<0.01	0.187	0.0663	<0.05 UJ	0.388	0.125	0.512
	P74-ROX-110112	11/1/2012	44.43 - 69.43	41.72	NE	<0.1	<0.1	<0.02	0.0834 J	<0.1	0.232	<0.1	<0.1	<0.02	0.125	0.0414 J	<0.1	0.246	0.0811	0.328
P-93A	P93A-102610	10/26/2010	48.17 - 63.17	40.75	NE		<1.25	<1.25	0.095 D	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<12.5	0.543 J	<1.25	
	P93A-ROX_012611	1/26/2011		40.97	NE		0.0225	0.124	0.0803	0.0254	0.0654	0.0026 J	0.0015 J	0.0017	0.21	0.045	<0.005 UJ	0.622	0.0705	
	P93A-ROX-050511	5/5/2011		41.88	NE	<0.005 UJ	0.0206 J	0.0684 J	0.0795 J	0.0228 J	0.0718 J	<0.005	<0.005	<0.001	0.169 J	0.0293 J	<0.005	0.628 J	0.0707 J	0.699 J
	P93A-ROX-081811	8/18/2011		38.86	NE	<0.005	0.0236 J	0.0356	0.0868	0.0254	0.0678	<0.005	<0.005	<0.001	0.237	0.0495	<0.005 UJ	0.745	0.09	0.835
	P93A-ROX-102611	10/26/2011		39.43	NE	<0.005	0.0189	0.0405	0.108	0.0172	0.0438	<0.005 UJ	<0.005	<0.001	0.171	0.0399	<0.005	0.482	0.0614	0.543
	P93A-ROX-012012	1/20/2012		41.66	NE	0.0041 J	0.0134	0.0604	0.059 J	0.0134	0.0196	<0.005	<0.005	<0.001	0.101	0.025	<0.005 UJ	0.292	0.0416	0.333
	P93A-ROX-050812	5/8/2012		42.75	NE	<0.005 UJ	0.0218 J	0.0557 J	0.0472	0.0239 J	0.0407 J	<0.005 UJ	<0.005 UJ	<0.001 UJ	0.194 J	0.0416 J	<0.005 UJ	0.647 J	0.0841 J	0.731 J
	P93A-ROX-080912	8/9/2012		43.66	NE	<0.005	0.0126	0.0485	0.0496	0.0137	0.0091	<0.005	<0.005	<0.001	0.145	0.0273	<0.005	0.436	0.0642	0.5
	P93A-ROX-110712	11/7/2012	48.17 - 63.17	45.00	NE	<0.5	<0.5	<0.1	<0.5	<0.5	<0.1	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	0.43	0.076 J	0.506
	P93A-ROX-110712-DUP	11/7/2012		45.00	NE	<0.5	<0.5	<0.1	<0.5	<0.5	<0.1	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	0.404	0.073 J	0.477
P-93B	P93B-102610	10/26/2010	74.60 - 76.60	40.73	NE		<0.5	<0.5	<0.009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<1	<0.5	
	P93B-ROX_012611	1/26/2011		41.03	NE		0.0108	0.0088	0.0011 J	0.011	0.0321	<0.005	<0.005	<0.001	0.0052	0.0016 J	<0.005 UJ	0.0555	0.0092	
	P93B-ROX-050511	5/5/2011		41.96	NE	<0.005 UJ	0.0142	0.0113	0.0013 J	0.0151	0.0488	<0.005	<0.005	<0.001	0.0057	0.0014 J	<0.005	0.0502	0.0112	0.0614
	P93B-ROX-081811	8/18/2011		38.91	NE	<5	<5	<1	0.0037	<5	<1	<5	<5	<1	<5	<5	<5	<1	<1	<1
	P93B-ROX-102611	10/26/2011		39.48	NE	<0.005	0.0292	<0.001	0.012	0.0359	0.0859	<0.005 UJ	<0.005	<0.001	0.0303	0.0082	<0.005	0.167	0.0352	0.202
	P93B-ROX-012012	1/20/2012		41.72	NE	<0.005	0.022 J	0.0063 J	0.0041 J J	0.0244 J	0.0678 J	<0.005	<0.005	<0.001	0.0114 J	0.0028 J J	<0.005 UJ	0.0598 J	0.0224 J	0.0822 J
	P93B-ROX-050812	5/8/2012		42.79	NE	<0.005	0.0188 J	<0.001	0.002	0.0272 J	0.0512 J	<0.005	<0.005	<0.001	0.0196 J	0.0054 J	<0.005	0.116 J	0.0251 J	0.141 J
	P93B-ROX-080912	8/9/2012		43.69	NE	<0.005	0.0266	<0.001	0.0049	0.0406	0.0786	<0.005	<0.005	<0.001	0.0372	0.0107	<0.005	0.245	0.0468	0.292
	P93B-ROX-110712	11/7/2012	74.60 - 76.60	44.98	NE	<0.5	<0.5	<0.1	<0.5	<0.5	<0.1	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	0.0986 J	<0.1	0.0986 J
	P93B-ROX-110712-DUP	11/7/2012		44.98	NE	<0.5	<0.5	<0.1	<0.5	<0.5	0.0719 J	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	0.237	<0.1	0.237

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

						VOCs														
						2-Hexanone (Methyl N-Butyl Ketone)	Isopropylbenzene (Cumene)	Methyl tert-Butyl Ether (MTBE)	Naphthalene[5]	n-Propylbenzene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl acetate	m,p-Xylene	o-Xylenes	Xylenes (total)
					Screening Values (mg/L)		0.7 [3]	0.070 [1]	0.14 [2]	0.7 [3]	1 [1]	0.0056 [3]	0.07 [2]	0.005 [2]		0.07 [3]	7.0 [2]	10		10 [1]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)														
P-93C	P93C-102610	10/26/2010	94.26 - 96.26	40.69	NE		<0.005	0.00136 J	<0.009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005	
	P93C-ROX_012611	1/26/2011		40.91	NE		0.0019 J	0.0014	<0.0051	0.0013 J	0.0067	<0.005	<0.005	<0.001	0.0025 J	<0.005	<0.005 UJ	0.0051	0.0035	
	P93C-ROX-050611	5/6/2011		41.84	NE	<0.005 UJ	<0.005	0.0052	0.00003 J J	<0.005	0.0018	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	0.00059 J
	P93C-ROX-081811	8/18/2011		38.79	NE	<0.005	<0.005	0.0067	<0.000054 U	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
	P93C-ROX-102611	10/26/2011		39.36	NE	<0.005	<0.005	0.0096	<0.0001	<0.005	<0.001	<0.005 UJ	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P93C-ROX-012012	1/20/2012		41.57	NE	<0.005	<0.005	0.006	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P93C-ROX-050812	5/8/2012		42.68	NE	<0.005	<0.005	0.004	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P93C-ROX-080912	8/9/2012		43.57	NE	<0.005	<0.005	0.0053	0.000065 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P93C-ROX-110812	11/8/2012	94.26 - 96.26	45.12	NE	<0.005	<0.005	0.0056	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
P-93D	P93D-102610	10/26/2010	-	40.59	NE		<0.005	0.0122	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005	
	P93D-ROX-050511	5/5/2011	125.75 - 127.75	41.96	NE	<0.005 UJ	<0.005	0.0014	0.000036 J J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P93D-ROX-081811	8/18/2011		38.94	NE	<0.005	<0.005	0.00095 J	<0.000087 U	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
	P93D-ROX-102711	10/27/2011		39.59	NE	<0.005	<0.005	0.004 J	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P93D-ROX-012012	1/20/2012		41.77	NE	<0.005	<0.005	<0.001	0.00016	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P93D-ROX-050812	5/8/2012		42.96	NE	<0.005	<0.005	0.00077 J	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P93D-ROX-080812	8/8/2012		43.71	NE	<0.005	<0.005	<0.001	<0.0092 U	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P93D-ROX-110812	11/8/2012	125.75 - 127.75	44.98	NE	<0.005	<0.005	0.0023	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
P-114	P114-ROX-102811	10/28/2011	32.67 - 52.67	24.73	NE	<0.005	<0.005	0.0036 J	<0.000095	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P114-ROX-012012	1/20/2012		27.17	NE	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P114-ROX-050912	5/9/2012		28.09	NE	<0.005	<0.005	0.0035 J	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	P114-ROX-080912	8/9/2012		29.13	NE	<0.005	<0.005	0.00083 J	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	0.00039 J	<0.005	<0.005	<0.001	<0.001	<0.001
	P114-ROX-110912	11/9/2012	32.67 - 52.67	30.90	NE	<0.005	<0.005	0.0076 J	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	0.0013 J	<0.001	0.0013 J
ROST-3-PZ	ROST3PZ-ROX-051412	5/14/2012	40.00 - 50.00	38.82	NE	<0.005	<0.005	<0.001	0.00048	0.00096 J	0.0038	<0.005	<0.005	<0.001	0.0095	0.0023 J	<0.005	0.0607	0.0151	0.0758
	ROST3PZ-ROX-080712	8/7/2012		39.00	NE	<0.005	<0.005	<0.001	0.00038	<0.005	0.0015	<0.005	<0.005	<0.001	0.0042 J	0.0012 J	<0.005	0.0289	0.0074	0.0363
	ROST3PZ-ROX-110112	11/1/2012	40.00 - 50.00	40.82	NE	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	0.0026 J	<0.005	<0.005	0.0122	0.0037	0.0159
ROST-4-PZ(C)	ROST4PZ-C-051412	5/14/2012	34.95 - 44.95	39.04	NE	<0.005	<0.005	<0.001	0.0018	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
	ROST4PZ-C-ROX-072512	7/25/2012		39.10	NE	<0.005	0.0036 J	<0.001	0.0331	0.0059	0.0596	<0.005	<0.005	<0.001	0.0374	0.0076	<0.005	0.373	0.207	0.581
	ROST4PZC-ROX-102912	10/29/2012	34.95 - 44.95			<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0021	<0.001	0.0021
T-12	T12-ROX-102711	10/27/2011	46.46 - 72.46	38.54	NE	<0.05	<0.05	<0.01	0.105	<0.05	0.233	<0.05	<0.05	<0.01	0.358	0.0527	<0.05	1.13	0.108	1.24
	T12-ROX-011912	1/19/2012		41.0	NE	<0.005	0.022	0.0016	0.132	0.03	0.175	<0.005	<0.005	<0.001	0.34	0.0715	0.0952	0.684	0.0399	0.724
	T12-ROX-050912	5/9/2012		42.62	NE	<0.025	0.0572	<0.005	0.0924	0.101	0.388	<0.025	<0.025	<0.005	0.476	0.0765	<0.025	2.87	0.251	3.12
	T12-ROX-080212	8/2/2012		41.92	NE	<0.05	0.0297 J	<0.01	0.0625	0.0486 J	0.197	<0.05	<0.05	<0.01	0.403	0.0474 J	<0.05	1.32	0.0709	1.39
	T12-ROX-110512	11/5/2012	46.46 - 72.46	43.91	NE	<0.05	0.0468 J	<0.01	0.125	0.0831	0.322	<0.05	<0.05	<0.01	0.385	0.0543	<0.05	2.55	0.176	2.73

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

						SVOCs																
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Benzyl alcohol	bis(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	Chrysene (1,2-Benzphenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	2,4-Dichlorophenol	Diethyl phthalate	2,4-Dimethylphenol
					Screening Values (mg/L)	0.42 [2]	0.21 [3]	2.1 [2]	0.00013 [2]	0.0002 [1]	0.00018 [2]	0.21 [3]	0.00017 [2]	28 [4]	0.7 [3]	0.01 [2]	0.006 [2]	1.4 [2]	0.0015 [2]	0.0003 [2]	0.007 [3]	0.021 [2]	5.6 [2]	0.14 [2]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)																		
MW-01	MW-1-111110	11/11/2010	43.41 - 58.41	36.91	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW-1-111110-Dup	11/11/2010		36.91	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.049		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW1-ROX-011711	1/17/2011		37.58	NE	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.013		<0.0063	<0.0025	<0.0063	<0.0063	<0.0063	<0.0063	<0.013	<0.0063	<0.013
	MW1-ROX-042911	4/29/2011		38.37	NE	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.013 UJ	<0.013	<0.0063	<0.00077 U	<0.0063	<0.0063	<0.0063	<0.0063	<0.013	<0.0063	<0.013
	MW1-ROX-072711	7/27/2011		35.15	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW1-ROX-120511	12/5/2011		37.10	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000056 U	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01
	MW1-ROX-011612	1/16/2012	49.98 - 59.98	37.75	NE	0.000077 J	0.000035 J	0.000062 J	0.00011	0.0001	0.00011	<0.00011 U	0.00012	<0.01 UJ	<0.01	<0.0051	<0.002	<0.00039 U	0.00011	<0.00011 U	<0.0051	<0.01	<0.0051	<0.01
	MW1-ROX-050112	5/1/2012		39.09	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01
	MW1-ROX-073012	7/30/2012		39.39	NE	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011	<0.011	<0.0053	<0.0021	<0.0053	<0.00011	<0.00011	<0.0021	<0.011	0.00032 J	<0.011
	MW1-ROX-102612	10/26/2012	49.98 - 59.98	41.22	NE	<0.00011	<0.00011	<0.00011	<0.000057	<0.00011	<0.000057	<0.00011	<0.00011	<0.011 UJ	<0.011	<0.0057	0.00099 J	<0.0057	<0.00011	<0.00011	<0.0023	<0.011	<0.0057	<0.011
	MW1-ROX-121712	12/17/2012		41.22	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-02	MW-2-111010	11/11/2010	47.19 - 62.19	38.12	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048		<0.01	<0.003 U	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW2-ROX-011711	1/17/2011		38.67	NE	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	0.0082 J		<0.0048	0.25	<0.0048	<0.0048	<0.0048	<0.0048	<0.0095	<0.0048	0.0022 J
	MW02-ROX-051011	5/10/2011		39.14	NE	<0.0001 UJ	<0.0001 UJ	<0.0001 UJ	<0.000052 UJ	<0.0001 UJ	<0.000052 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	0.0019 J	<0.0052	<0.0029 U	<0.0052 UJ	<0.0001 UJ	<0.0001 UJ	<0.0052	<0.01	0.0016 J J	<0.01
	MW2-ROX-072711	7/27/2011		36.36	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW2-ROX-072711-DUP	7/27/2011		36.36	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW2-ROX-112811	11/28/2011	51.32 - 61.32	38.03	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW2-ROX-011612	1/16/2012		38.89	NE	0.000057 J	<0.00011	<0.00011	<0.000053	0.000033 J	0.00004 J	<0.000047 U	<0.00011	<0.011 UJ	<0.011	<0.0053	<0.00083 U	<0.00047 U	<0.00011	<0.000047 U	<0.0053	<0.011	<0.0053	0.0035 J
	MW2-ROX-050112	5/1/2012		40.25	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	0.0055 J
	MW2-ROX-073012	7/30/2012		40.60	NE	0.000051 J	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011	<0.011	<0.0053	0.00059 J	<0.0053	<0.00011	<0.00011	<0.0021	<0.011	0.00036 J	0.0045 J
	MW2-ROX-102612	10/26/2012	51.32 - 61.32	42.35	NE	0.000093 J	<0.00011	<0.00011	0.00016	<0.00011	<0.000054	<0.00011	<0.00011	<0.011 UJ	<0.011	<0.0054	<0.0022	<0.0054	<0.00011	<0.00011	<0.0022	<0.011	<0.0054	0.0034 J
MW-03	MW-3-111210	11/12/2010	30.98 - 45.98	24.05	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW3-ROX-011811	1/18/2011		24.92	NE	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011		<0.0053	0.00062 J	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	<0.0053	<0.011
	MW03-ROX-051011	5/10/2011		24.79	NE	<0.0001 UJ	<0.0001 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	<0.0025 U	0.0064 J	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.005 UJ	<0.01
	MW3-ROX-080311	8/3/2011		22.40	NE	<0.000095	<0.000095	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095 UJ	<0.0095	<0.0048	0.0084	<0.0048	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048	<0.0095
	MW3-ROX-112911	11/29/2011	34.67 - 44.67	24.06	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01
	MW3-ROX-112911-DUP	11/29/2011		24.06	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01
	MW3-ROX-011612	1/16/2012		24.93	NE	<0.0001	<0.0001	0.000063 J	0.00011	0.00012	0.00013	<0.00013 U	0.00012	<0.01 UJ	<0.01	<0.0052	<0.0004 U	<0.00039 U	0.000098 J	<0.00013 U	<0.0052	<0.01	<0.0052	<0.01
	MW3-ROX-043012	4/30/2012		26.19	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01
	MW3-ROX-072712	7/27/2012		26.60	NE	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011 UJ	<0.00011	<0.011	<0.011	<0.0053	<0.00067 U	<0.0053	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011
	MW3-ROX-102512	10/25/2012	34.67 - 44.67	28.39	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.002	<0.01	<0.00059 U	<0.01
MW-04	MW-4-111210	11/12/2010	42.63 - 57.63	35.38	NE	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.047		<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
	MW4-ROX-011811	1/18/2011		36.04	NE	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.01		<0.0052	<0.0021	<0.0052	<0.0052	<0.0052	<0.0052	<0.01	<0.0052	<0.01
	MW04-ROX-051111	5/11/2011		36.19	NE	<0.0001 UJ	<0.0001 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	<0.0023 U	0.0063 J	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.005 UJ	<0.01
	MW4-ROX-072611	7/26/2011		33.65	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	0.0102	<0.01	<0.005	<0.0057 U	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW4-ROX-072611-DUP	7/26/2011		33.65	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	0.0103	<0.01	<0.005	<0.002 U	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW4-ROX-121511	12/15/2011		33.99	NE	<0.0001	0.00011	<0.0001	<0.000052	0.00012	<0.000087 U	<0.00063 U	<0.0001	<0.01 UJ	<0.01	<0.0052	<0.0028 U	<0.0052	<0.0001	<0.00035 U	<0.0052	<0.01	<0.0052	<0.01
	MW4-ROX-011612	1/16/2012	46.06 - 56.06	36.00	NE	<0.0001	<0.0001	0.00003 J	0.00012	0.00012	0.00013	<0.0002 U	0.00015	<0.01 UJ	<0.01	<0.0052	<0.0005 U	<0.00073 U	0.00014	<0.00019 U	<0.0052	<0.01	<0.0052	<0.01
	MW4-ROX-050312	5/3/2012		37.45	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW4-ROX-050312-DUP	5/3/2012		37.45	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01
	MW4-ROX-072512	7/25/2012		37.63	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	0.0056 J	<0.01	<0.0051	<0.00079 U	0.00039 J	<0.0001	<0.0001	<0.002	<0.01	0.0014 J	<0.01
	MW4-ROX-072512-Dup	7/25/2012		37.63	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000046 U	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.00069 U	<0.0051	<0.0001	<0.0001	<0.002	<0.01	0.0012 J	<0.01
	MW4-ROX-102912	10/29/2012	46.06 - 56.06	39.45	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01

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

						SVOCs																		
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Benzyl alcohol	bis(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	Chrysene (1,2-Benzphenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	2,4-Dichlorophenol	Diethyl phthalate	2,4-Dimethylphenol
					Screening Values (mg/L)	0.42 [2]	0.21 [3]	2.1 [2]	0.00013 [2]	0.0002 [1]	0.00018 [2]	0.21 [3]	0.00017 [2]	28 [4]	0.7 [3]	0.01 [2]	0.006 [2]	1.4 [2]	0.0015 [2]	0.0003 [2]	0.007 [3]	0.021 [2]	5.6 [2]	0.14 [2]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)																		
MW-05	MW-5-111210	11/12/2010	31.13 - 46.13	23.32	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW5-ROX-011811	1/18/2011		24.15	NE	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011		<0.0053	<0.0021	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	0.0009 J	<0.011
	MW05-ROX-051211	5/12/2011		23.98	NE	<0.00011 UJ	<0.00011 UJ	<0.00011 UJ	<0.000053 UJ	<0.00011 UJ	<0.000053 UJ	<0.00011 UJ	<0.00011 UJ	<0.011	<0.011	<0.0053	<0.0021	<0.0053	<0.00011 UJ	<0.00011 UJ	<0.0053	<0.011	<0.0053	<0.011
	MW5-ROX-072611	7/26/2011		21.72	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW5-ROX-072611-DUP	7/26/2011		21.72	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW5-ROX-112111	11/21/2011	33.97 - 43.97	23.46	NE	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011 UJ	<0.011	<0.0053	0.00079 J	<0.0053	<0.00011	<0.00011	<0.0053	<0.011	<0.0053	<0.011
	MW5-ROX-011712	1/17/2012		24.76	NE	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011 UJ	<0.011	<0.0053	<0.0015 U	<0.00049 U	<0.00011	<0.00011	<0.0053	<0.011	<0.0053	<0.011
	MW5-ROX-050312	5/3/2012		25.89	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01
	MW5-ROX-072512	7/25/2012		26.18	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	<0.00064 U	<0.0052	<0.0001	<0.0001	<0.0021	<0.01	0.0011 J	<0.01
	MW5-ROX-102912	10/29/2012	33.97 - 43.97	28.16	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.002	<0.01	<0.0051	<0.01
MW-06A	MW-6A-110910	11/9/2010	31.98 - 46.98	25.62	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW6A-ROX-011911	1/19/2011		26.36	NE	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0044 J J		<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.01	<0.0019 U	<0.01
	MW6A-ROX-051611	5/16/2011		26.10	NE	<0.0001 UJ	<0.0001 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	0.0026	<0.005	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.00083 U	<0.01
	MW6A-ROX-072611	7/26/2011		24.07	NE	0.00024	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002 U	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW6A-ROX-112111	11/21/2011	34.83 - 44.83	25.49	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0052	0.0023	0.00077 J	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01
	MW6A-ROX-112111-DUP	11/21/2011		25.49	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0051	0.0011 J	0.00054 J	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01
	MW6A-ROX-011712	1/17/2012		26.74	NE	<0.00011	<0.00011	<0.00011	<0.000064 U	<0.00008 U	<0.00009 U	<0.00015 U	0.000094 J	<0.011 UJ	<0.011	<0.0054	<0.0022	<0.0054	<0.00011	<0.00014 U	<0.0054	<0.011	<0.0054	<0.011
	MW6A-ROX-050212	5/2/2012		27.77	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.0029 UJ	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW6A-ROX-080112	8/1/2012		28.36	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01
	MW6A-ROX-102412	10/24/2012		30.06	NE	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011	<0.011	<0.0053	<0.0021	<0.0053	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011
MW-06B	MW-6B-111610	11/16/2010	64.05 - 69.05	25.47	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW6B-ROX-011911	1/19/2011		26.21	NE	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01 UJ		<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.01	<0.00087 U	<0.01
	MW6B-ROX-011911-DUP	1/19/2011		26.21	NE	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.01 UJ		<0.0051	<0.002	<0.0051	<0.0051	<0.0051	<0.0051	<0.01	<0.001 U	<0.01
	MW6B-ROX-051611	5/16/2011		25.95	NE	<0.000095 UJ	0.000098 J	<0.000095 UJ	<0.000048 UJ	<0.000095 UJ	<0.000048 UJ	<0.000095 UJ	<0.000095 UJ	<0.0095	<0.0095	<0.0048	0.0023	<0.0048	<0.000095 UJ	<0.000095 UJ	<0.0048	<0.0095	<0.00078 U	<0.0095
	MW6B-ROX-051611-DUP	5/16/2011		25.95	NE	<0.0001 UJ	<0.0001 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	0.0024	<0.005	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.00096 U	<0.01
	MW6B-ROX-072311	7/23/2011		23.60	NE	<0.00011	<0.00011	<0.00011	<0.00075 U	<0.0002 U	<0.00019 U	<0.00007 U	<0.00023 U	<0.011 UJ	<0.011	<0.0053	0.00077 J	<0.0053	<0.0008 U	<0.000031 U	<0.0053	<0.011	<0.0053	<0.011
	MW6B-ROX-110311	11/3/2011		24.67	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01 UJ
	MW6B-ROX-011712	1/17/2012		26.77	NE	<0.00011	<0.00011	<0.00011	<0.000055	<0.00015 U	<0.00011 U	<0.00028 U	0.0001 J	<0.011 UJ	<0.011	<0.0055	<0.0011 U	<0.0055	<0.00011	<0.00027 U	<0.0055	<0.011	<0.0055	<0.011
	MW6B-ROX-050212	5/2/2012		27.82	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW6B-ROX-080112	8/1/2012		28.39	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	0.00049 J	<0.0051	<0.0001	<0.0001	<0.002	<0.01	<0.0051	<0.01
	MW6B-ROX-102412	10/24/2012	64.05 - 69.05	30.11	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	0.00057 J	<0.0001	<0.0001	<0.002	<0.01	<0.0051	<0.01
MW-06C	MW-6C-111610	11/16/2010	84.95 - 89.95	25.25	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW6C-ROX-012111	1/21/2011		25.97	NE	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011 UJ		<0.0053	<0.0021	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	<0.00084 U	<0.011
	MW6C-ROX-051611	5/16/2011		25.76	NE	<0.0001 UJ	0.000046 J J	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	0.0025	0.0064	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.00063 U	<0.01
	MW6C-ROX-072411	7/24/2011		23.43	NE	<0.00011	<0.00011	<0.00011	0.00016 B	0.00013 B	0.00014 B	0.000041 J	0.00016 B	<0.011 UJ	<0.011	<0.0053	<0.0021	<0.0053	0.00015 B	<0.00011	<0.0053	<0.011	<0.0053	<0.011
	MW6C-ROX-110311	11/3/2011		24.47	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01 UJ
	MW6C-ROX-011712	1/17/2012		26.50	NE	<0.00011	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011 UJ	<0.011	<0.0054	<0.0022	<0.00046 U	<0.00011	<0.00011	<0.0054	<0.011	<0.0054	<0.011
	MW6C-ROX-050212	5/2/2012		27.62	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW6C-ROX-080112	8/1/2012		28.15	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01
	MW6C-ROX-102412	10/24/2012	84.95 - 89.95	27.85	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.002	<0.01	<0.0051	<0.01
MW-06D	MW-6D-111610	11/16/2010	104.72 - 109.72	25.13	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.051		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW6D-ROX-012111	1/21/2011		25.87	NE	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011 UJ		<0.0053	<0.0021	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	<0.001 U	<0.011
	MW6D-ROX-051611	5/16/2011		25.60	NE	<0.00011 UJ	<0.00011 UJ	<0.00011 UJ	<0.000055 UJ	<0.00011 UJ	<0.000055 UJ	<0.00011 UJ	<0.00011 UJ	<0.011	<0.011	<0.0055	0.0027	0.0069	<0.00011 UJ	<0.00011 UJ	<0.0055	<0.011	<0.00085 U	<0.011
	MW6D-ROX-072311	7/23/2011		23.29	NE	<0.00011	<0.00011	<0.00011	<0.00038 U	<0.00015 U	<0.00017 U	<0.000049 U	<0.00019 U	<0.011 UJ	<0.011	<0.0053	<0.0021	<0.0053	<0.00039 U	<0.00011	<0.0053	<0.011	<0.0053	<0.011
	MW6D-ROX-110311	11/3/2011		24.31	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01 UJ
	MW6D-ROX-011712	1/17/2012		26.33	NE	<0.00011	<0.00011	<0.00011	<0.000055	<0.00011	<0.000055	<0.00011	<0.00011	<0.011 UJ	<0.011	<0.0055	<0.0022	<0.0055	<0.00011	<0.00011	<0.0055	<0.011	<0.0055	<0.011
	MW6D-ROX-050212	5/2/2012		27.45	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.0044 UJ	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW6D-ROX-080212	8/2/2012		30.56	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.002	<0.01	0.00022 J	<0.01
	MW6D-ROX-102412	10/24/2012	104.72 - 109.72	29.71	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01

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

						SVOCs																		
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Benzyl alcohol	bis(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	Chrysene (1,2-Benzphenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	2,4-Dichlorophenol	Diethyl phthalate	2,4-Dimethylphenol
					Screening Values (mg/L)	0.42 [2]	0.21 [3]	2.1 [2]	0.00013 [2]	0.0002 [1]	0.00018 [2]	0.21 [3]	0.00017 [2]	28 [4]	0.7 [3]	0.01 [2]	0.006 [2]	1.4 [2]	0.0015 [2]	0.0003 [2]	0.007 [3]	0.021 [2]	5.6 [2]	0.14 [2]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)																		
MW-07	MW-7-111710	11/17/2010	42.92 - 52.92	36.93	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048		<0.01	<0.005 U	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW-7-111710-Dup	11/17/2010		36.93	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05		<0.01	<0.007 U	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW7-ROX-012511	1/25/2011		37.52	NE	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011		<0.0053	<0.0021	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	<0.003 U	<0.011
	MW07-ROX-051311	5/13/2011		37.50	NE	0.00011 J	<0.00011 UJ	0.000031 J J	<0.000054 UJ	<0.00011 UJ	<0.000054 UJ	<0.00011 UJ	<0.00011 UJ	<0.011	<0.011	<0.0054	<0.0032 U	<0.0071 U	<0.00011 UJ	<0.00011 UJ	<0.0054	<0.011	<0.00097 U	<0.011
	MW07-ROX-051311D	5/13/2011		37.50	NE	0.00011 J	<0.00011 UJ	0.000034 J J	<0.000055 UJ	0.000018 J J	<0.000055 UJ	<0.00011 UJ	<0.00011 UJ	<0.011	<0.011	<0.0055	<0.0035 U	<0.007 U	<0.00011 UJ	<0.00011 UJ	<0.0055	<0.011	<0.0055	<0.011
	MW7-ROX-072411	7/24/2011		35.22	NE	0.0001 J	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011 UJ	<0.011	<0.0054	<0.0022	<0.0054	0.000018 J	<0.00011	<0.0054	<0.011	<0.0054	<0.011
	MW-7-ROX-110211	11/2/2011		35.95	NE	<0.00026 U	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01 UJ
	MW7-ROX-011812	1/18/2012		38.10	NE	0.00025	<0.0001	<0.0001	<0.00005	<0.000024 U	<0.00005	<0.0001	<0.0001		<0.01 UJ	<0.005	<0.002	0.00049 J	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW7-ROX-011812-DUP	1/18/2012		38.10	NE	0.00027	<0.00011	<0.00011	<0.000056	<0.00003 U	<0.000056	<0.00011	<0.00011		<0.011 UJ	<0.0056	0.00044 J	0.00048 J	<0.00011	<0.00011	<0.0056	<0.011	<0.0056	<0.011
	MW7-ROX-050412	5/4/2012		39.19	NE	0.00028	<0.0001	<0.0001	0.00011	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	0.00071 J	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW7-ROX-080712	8/7/2012		39.50	NE	0.00024	0.000037 J	0.000022 J	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	0.0006 J	<0.0051	<0.0001	<0.0001	<0.002	<0.01	<0.00058 U	<0.01
	MW7-ROX-103012	10/30/2012	42.92 - 52.92	41.23	NE	0.00031	<0.00012	<0.00012	<0.000058	<0.00012	<0.000058	<0.00012	<0.00012	<0.012	<0.012	<0.0058	0.0015 J	<0.0058	<0.00012	<0.00012	<0.0023	<0.012	<0.0058	<0.012
	MW7-ROX-103012-DUP	10/30/2012		41.23	NE	0.00034	<0.00011	<0.00011	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011	<0.011	<0.0056	0.0007 J	<0.0056	<0.00011	<0.00011	<0.0022	<0.011	<0.0056	<0.011
MW-08	MW-8-111710	11/17/2010	33.60 - 43.60	27.84	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048		<0.01	<0.006 U	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.018
	MW8-ROX-012511	1/25/2011		28.59	NE	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01		<0.005	0.00086 J	<0.005	<0.005	<0.005	<0.005	<0.01	<0.0025 U	0.0233
	MW8-ROX-012511-DUP	1/25/2011		28.59	NE	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.011		<0.0057	0.0012 J	<0.0057	<0.0057	<0.0057	<0.0057	<0.011	0.0125	0.0299
	MW08-ROX-051311	5/13/2011		28.35	NE	0.00035 J	<0.00011 UJ	0.000063 J J	<0.000055 UJ	<0.00011 UJ	<0.000055 UJ	<0.00011 UJ	<0.00011 UJ	<0.011	<0.011	<0.0055	<0.0031 U	<0.0055	<0.00011 UJ	<0.00011 UJ	<0.0055	<0.011	<0.0018 U	0.0225
	MW08-ROX-051311D	5/13/2011		28.35	NE	0.00029 J	<0.00011 UJ	0.000054 J J	<0.000056 UJ	<0.00011 UJ	<0.000056 UJ	<0.00011 UJ	<0.00011 UJ	<0.011	<0.011	<0.0056	<0.0034 U	<0.0056	<0.00011 UJ	<0.00011 UJ	<0.0056	<0.011	<0.0011 U	0.0232
	MW8-ROX-072411	7/24/2011		26.02	NE	0.00029	<0.00011	0.000067 J	0.00013 B	0.00016 B	0.00016 B	0.000048 J	0.00017 B	<0.011 UJ	<0.011	<0.0054	0.0019 J	<0.0054	0.000099 JB	<0.00011	<0.0054	<0.011	<0.0054	0.0228
	MW8-ROX-072411-DUP	7/24/2011		26.02	NE	0.00027	<0.00011	0.000062 J	0.00012 B	0.00019 B	0.00018 B	0.000058 J	0.00021 B	<0.011 UJ	<0.011	<0.0055	0.0013 J	<0.0055	0.000099 JB	<0.00011	<0.0055	<0.011	<0.0055	0.0213
	MW-8-ROX-110211	11/2/2011		27.02	NE	<0.00023 U	<0.000095	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095	<0.0095	<0.0048	<0.0019	<0.0048	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048	0.0383 J
	MW8-ROX-011812	1/18/2012		29.15	NE	0.00038 J	<0.00053	<0.00053	<0.00026	<0.00053	<0.00026	<0.00053	<0.00053		<0.011 UJ	<0.0053	0.00052 J	0.00042 J	<0.00053	<0.00053	0.0006 J	<0.011	<0.0053	0.015
	MW8-ROX-050412	5/4/2012		30.21	NE	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	0.0204	<0.011	<0.0053	0.00053 J	<0.0053	<0.00011	<0.00011	0.00044 J	<0.011	<0.0053	0.0595
	MW8-ROX-050412-DUP	5/4/2012		30.21	NE	<0.0001	<0.0001	<0.0001	0.00012	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	0.00047 J	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	0.0557
	MW8-ROX-080712	8/7/2012		30.97	NE	0.00023	0.00013	0.000055 J	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011	<0.011	<0.0054	0.00051 J	<0.0054	<0.00011	<0.00011	0.00035 J	<0.011	<0.0016 U	0.015
	MW8-ROX-080712-DUP	8/7/2012		30.97	NE	0.0002	0.00029	0.000071 J	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011	<0.011	<0.0056	0.00043 J	<0.0056	<0.00011	<0.00011	0.0004 J	<0.011	<0.0018 U	0.0158
	MW8-ROX-103012	10/30/2012	33.60 - 43.60	32.32	NE	0.00026	0.00011	0.00044	<0.00087 U	0.00053 B	0.00057 B	0.00058 B	0.00064 B	<0.011	<0.011	<0.0053	0.0012 J	0.00086 J	0.00066 B	0.00059 B	<0.0021	<0.011	<0.0053	0.0085 J
MW-09	MW-9-111510	11/15/2010	46.45 - 56.45	39.00	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048		<0.01	<0.001 U	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW9-ROX-012111	1/21/2011		39.62	NE	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011 UJ		<0.0053	<0.0021	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	<0.001 U	<0.011
	MW09-ROX-050611	5/6/2011		40.12	NE	<0.000097 UJ	<0.000097 UJ	<0.000097 UJ	<0.000049 UJ	<0.000097 UJ	<0.000049 UJ	<0.000097 UJ	<0.000097 UJ	<0.0097	<0.0097	<0.0049	<0.0019	<0.0049	<0.000097 UJ	<0.000097 UJ	<0.0049	<0.0097	<0.0018 U	<0.0097
	MW9-ROX-072311	7/23/2011		37.27	NE	<0.00011	<0.00011	<0.00011	<0.00021 U	<0.00013 U	<0.00015 U	<0.000046 U	<0.00018 U	<0.01 UJ	<0.011	<0.0054	<0.0022	<0.0054	<0.0002 U	<0.00011	<0.0054	<0.01 UJ	<0.0054	<0.01 UJ
	MW9-ROX-110111	11/1/2011		37.78	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW9-ROX-011612	1/16/2012		39.50	NE	<0.00011	<0.00011	<0.00011	<0.000057	0.000058 J	0.000051 J	<0.000096 U	<0.00011	<0.011 UJ	<0.011	<0.0057	<0.00085 U	<0.00037 U	<0.00011	<0.000078 U	<0.0057	<0.011	<0.0057	<0.011
	MW9-ROX-050312	5/3/2012		41.03	NE												0.0016 J J	0.00045 JB						
	MW9-ROX-072712	7/27/2012		41.30	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001 UJ	<0.0001	<0.01	<0.01	<0.005	<0.00043 U	<0.005	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01
	MW9-ROX-102912	10/29/2012	46.45 - 56.45	43.17	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01
MW-10	MW-10-111010	11/10/2010	44.43 - 54.43	38.97	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW10-ROX-012411	1/24/2011		39.40	NE	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.01		<0.0051	0.00068 J	<0.0051	<0.0051	<0.0051	<0.0051	<0.01	<0.001 U	<0.01
	MW10-ROX-012411-DUP	1/24/2011		39.40	NE	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01		<0.005	0.00071 J	<0.005	<0.005	<0.005	<0.005	<0.01	<0.0012 U	<0.01
	MW10-ROX-042811	4/28/2011		40.20	NE	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0095 UJ	<0.0095	<0.0048	<0.00051 U	<0.0048	<0.0048	<0.0048	<0.0048	<0.0095	<0.0048	<0.0095
	MW10-ROX-072311	7/23/2011		37.24	NE	<0.0001	<0.0001	<0.0001	<0.00025 U	<0.00013 U	<0.00014 U	<0.000039 U	<0.00017 U	<0.01 UJ	<0.01	<0.005	<0.002	<0.005	<0.00027 U	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW10-ROX-110111	11/1/2011		37.72	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW10-ROX-011612	1/16/2012		39.28	NE	<0.00011	<0.00011	0.000027 J	0.000037 J	0.000031 J	0.000043 J	<0.000042 U	<0.00011	<0.011 UJ	<0.011	<0.0053	0.0255	<0.0013 U	<0.00011	<0.00011	<0.0053	<0.011	<0.0053	<0.011
	MW10-ROX-050112	5/1/2012		40.86	NE	<0.0001	<0.0001	0.000018 J	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01
	MW10-ROX-072712	7/27/2012		41.21	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001 UJ	<0.0001	<0.01	<0.01	<0.005	<0.00067 U	<0.005	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01
	MW10-ROX-102612	10/26/2012	44.43 - 54.43	43.08	NE	<0.00011	<0.00011	<0.00011	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011 UJ	<0.011	<0.0056	<0.0022	<0.0056	<0.00011	<0.00011	<0.0022	<0.011	<0.0056	<0.011
	MW10-ROX-121712	12/17/2012		43.08	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

						SVOCs																		
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Benzyl alcohol	bis(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	Chrysene (1,2-Benzphenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	2,4-Dichlorophenol	Diethyl phthalate	2,4-Dimethylphenol
					Screening Values (mg/L)	0.42 [2]	0.21 [3]	2.1 [2]	0.00013 [2]	0.0002 [1]	0.00018 [2]	0.21 [3]	0.00017 [2]	28 [4]	0.7 [3]	0.01 [2]	0.006 [2]	1.4 [2]	0.0015 [2]	0.0003 [2]	0.007 [3]	0.021 [2]	5.6 [2]	0.14 [2]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)																		
MW-11	MW-11-111710	11/17/2010	41.66 - 51.66	36.39	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048		<0.01	<0.003 U	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW11-ROX-012411	1/24/2011		37.15	NE	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.01		<0.0052	0.00073 J	<0.0052	<0.0052	<0.0052	<0.0052	<0.01	<0.001 U	<0.01
	MW11-ROX-050611	5/6/2011		37.60	NE	<0.000095 UJ	<0.000095 UJ	<0.000095 UJ	<0.000042 UJ	<0.000095 UJ	0.000025 J J	0.000022 J J	0.000014 J J	<0.0095	<0.0095	<0.0048	<0.0028 U	<0.0048	0.000037 J J	<0.000095 UJ	<0.0048	<0.0095	<0.0009 U	<0.0095
	MW11-ROX-072411	7/24/2011		34.68	NE	<0.00011	<0.00011	<0.00011	0.00013 B	0.00012 B	0.00013 B	0.000035 J	0.00014 B	<0.011 UJ	<0.011	<0.0056	<0.0022	<0.0056	0.00013 B	<0.00011	<0.0056	<0.011	<0.0056	<0.011
	MW-11-ROX-110211	11/2/2011		35.44	NE	<0.00011	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011	<0.011	<0.0054	<0.0022	<0.0054	<0.00011	<0.00011	<0.0054	<0.011	<0.0054	<0.011 UJ
	MW11-ROX-011712	1/17/2012		37.44	NE			0.000022 J J					0.000065 J J											
	MW11-ROX-043012	4/30/2012		38.66	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01
	MW11-ROX-072712	7/27/2012		38.90	NE	<0.00012	<0.00012	<0.00012	<0.000058	<0.00012	<0.000058	<0.00012 UJ	<0.00012	<0.012	<0.012	<0.0058	<0.00056 U	<0.0058	<0.00012	<0.00012	<0.0023	<0.012	<0.0058	<0.012
	MW11-ROX-102512	10/25/2012	41.66 - 51.66	40.59	NE	<0.00011	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011	<0.011	<0.0054	<0.0022	<0.0054	<0.00011	<0.00011	<0.0022	<0.011	<0.00042 U	<0.011
MW-12	MW-12-111510	11/15/2010	41.92 - 51.92	36.63	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048		<0.01	<0.003 U	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW12-ROX-012411	1/24/2011		37.42	NE	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01		<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.01	<0.00077 U	<0.01
	MW12-ROX-051211	5/12/2011		37.58	NE	<0.0001 UJ	<0.0001 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	<0.002	<0.005	0.000019 J J	<0.0001 UJ	<0.005	<0.01	<0.005	<0.01
	MW12-ROX-072411	7/24/2011		34.88	NE	<0.0001	<0.0001	<0.0001	0.000072 B	0.00014 B	0.00014 B	0.000053 J	0.00019 B	<0.01 UJ	<0.01	<0.005	<0.002	<0.005	0.000072 JB	0.000031 JB	<0.005	<0.01 UJ	<0.005	<0.01 UJ
	MW-12-ROX-110211	11/2/2011		35.70	NE	<0.000095	<0.000095	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095	<0.0095	<0.0048	<0.0019	<0.0048	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048	<0.0095 UJ
	MW-12-ROX-110211-DUP	11/2/2011		35.70	NE	<0.000095	<0.000095	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095	<0.0095	<0.0048	<0.0019	<0.0048	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048	<0.0095 UJ
	MW12-ROX-011712	1/17/2012		37.70	NE	<0.00011	<0.00011	<0.00011	<0.000054	<0.00016 U	<0.00013 U	<0.00021 U	0.00013	<0.011 UJ	<0.011	<0.0054	<0.0022	<0.00029 U	<0.00011	<0.00021 U	<0.0054	<0.011	<0.0054	<0.011
	MW12-ROX-011712-DUP	1/17/2012		37.70	NE	<0.00011	<0.00011	<0.00011	<0.000056	<0.000039 U	<0.00004 U	<0.000067 U	<0.00011	<0.011 UJ	<0.011	<0.0056	<0.0022	<0.00033 U	<0.00011	<0.000051 U	<0.0056	<0.011	<0.0056	<0.011
	MW12-ROX-043012	4/30/2012		38.98	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01
	MW12-ROX-072712	7/27/2012		39.22	NE	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011 UJ	<0.00011	<0.011	<0.011	<0.0053	<0.0019 U	0.00029 J	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011
	MW12-ROX-102512	10/25/2012	41.92 - 51.92	40.95	NE	<0.00011	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.011	<0.011	<0.0053	<0.0021	<0.0053	<0.00011	<0.00011	<0.0021	<0.011	<0.00077 U	<0.011
MW-13	MW13-ROX-012511	1/25/2011	25.57 - 35.57	24.28	NE	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.01		<0.0052	<0.0021	<0.0052	<0.0052	<0.0052	<0.0052	<0.01	<0.0027 U	<0.01
	MW13-ROX-051311	5/13/2011		23.65	NE	<0.000099 UJ	0.000067 J J	0.000059 J J	0.000042 J J	0.000016 J J	<0.00005 UJ	<0.000099 UJ	<0.000099 UJ	<0.0099	<0.0099	<0.005	<0.0027 U	<0.005	0.000059 J J	<0.000099 UJ	<0.005	<0.0099	<0.00086 U	<0.0099
	MW13-ROX-080311	8/3/2011		21.88	NE	<0.0001	<0.0001	0.00011	0.000037 J	0.000039 J	0.000037 J	0.000053 J	0.000036 J	<0.01 UJ	<0.01	<0.005	<0.002	<0.005	0.000036 J	<0.0001	<0.005	<0.01	<0.005	<0.01
	MW13-ROX-110311	11/3/2011		22.85	NE	<0.00011	<0.00011	<0.00011	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011	<0.011	<0.0056	<0.0022	<0.0056	<0.00011	<0.00011	<0.0056	<0.011	<0.0056	<0.011 UJ
	MW13-ROX-012012	1/20/2012		24.77	NE	<0.00011	0.00014	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	0.0087 J J	<0.011	<0.0053	<0.0007 U	<0.0007 U	<0.00011	<0.00011	<0.0053	<0.011	<0.0053	<0.011
	MW13-ROX-050712	5/7/2012		25.79	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01
	MW13-ROX-080812	8/8/2012		26.67	NE	0.0001 J	0.00019	0.000063 J	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011	<0.011	<0.0053	<0.0021	<0.0053	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011
	MW13-ROX-110812	11/8/2012	25.57 - 35.57	25.30	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01
MW-14	MW14-ROX-110911	11/9/2011	33.42 - 43.42			<0.00011	<0.00011 UJ	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011	<0.011	<0.0053	<0.0021	<0.0053	<0.00011	<0.00011	<0.0053	<0.011	<0.0053	<0.011
	MW14-ROX-051012	5/10/2012				0.00046	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	<0.00042 U	<0.0052	<0.0001	<0.0001	<0.0052	0.00084 J	<0.0052	<0.01
	MW14-ROX-080312	8/3/2012		29.87	NE	0.00095	0.00015	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011	<0.011	<0.0053	0.00049 J	<0.0053	<0.00011	<0.00011	0.00076 J	0.00096 J	<0.0053	<0.011
	MW14-ROX-103112	10/31/2012	33.42 - 43.42	32.02	NE	0.00074	0.00008 J	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	0.0003 J	<0.01	<0.005	<0.01 UJ
P-54	P-54-111710	11/17/2010	38.00 - 63.00	36.43	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048		<0.01	<0.003 U	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	P54-ROX-012411	1/24/2011		37.24	NE	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01		<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.01	<0.002 U	<0.01
	P54-ROX-051111	5/11/2011		37.37	NE	<0.00011 UJ	<0.00011 UJ	<0.00011 UJ	<0.000054 UJ	0.0001 J J	<0.000054 UJ	<0.00011 UJ	<0.00011 UJ	<0.01	<0.01	<0.005	<0.0024 U	<0.005 UJ	0.000019 J J	<0.00011 UJ	<0.005	<0.01	<0.005 UJ	<0.01
	P54-ROX-072411	7/24/2011		34.78	NE	<0.0001	<0.0001	<0.0001	0.000079 B	0.00014 B	0.00015 B	0.000053 J	0.00017 B	<0.01 UJ	<0.01	<0.005	<0.002	<0.005	0.000081 JB	0.00002 JB	<0.005	<0.01	<0.005	<0.01
	P54-ROX-110311	11/3/2011		35.49	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	P54-ROX-011712	1/17/2012		37.17	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.000024 U	<0.000052	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01
	P54-ROX-050412	5/4/2012		38.77	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	0.0045 J	<0.01	<0.0051	0.0133	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01
	P54-ROX-080212	8/2/2012		38.95	NE	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011	<0.011	<0.0053	<0.0021	<0.0053	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011
	P54-ROX-103012	10/30/2012	38.00 - 63.00	40.70	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.002	<0.01	<0.0051	<0.01
P-55	P55-ROX-103111	10/31/2011	39.82 - 64.82	39.15	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	0.0022	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	P55-ROX-011912	1/19/2012		41.09	NE	0.00017	<0.0001	<0.0001	<0.000052	0.000022 J	<0.000052	<0.0001	<0.0001		<0.01 UJ	<0.0052	<0.0021	<0.00048 U	<0.0001	<0.0001	0.00035 J	<0.01	<0.0052	<0.01
	P55-ROX-011912-D	1/19/2012		41.09	NE	0.00015	<0.00011	<0.00011	<0.000054	0.000067 J	0.000061	0.00011	0.000071 J		<0.011 UJ	<0.0054	<0.0022	<0.00035 U	<0.00011	0.000086 J	0.00033 J	<0.011	<0.0054	<0.011
	P55-ROX-050912	5/9/2012		42.44	NE	0.00036	0.000095 J	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01
P-56	P56-ROX-102711	10/27/2011	40.82 - 65.82	39.42	NE	0.0007	0.00013	0.00013	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	0.0026	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01
	P56-ROX-011912	1/19/2012		41.81	NE	0.00064	<0.0001	0.00011	<0.000051	0.000021 J	<0.000051	<0.0001	<0.0001		<0.01 UJ	<0.0051	<0.00066 U	<0.00053 U	<0.0001	<0.0001	0.00064 J	<0.01	<0.0051	<0.01
	P56-ROX-050812	5/8/2012		43.09	NE	0.00057	0.0001	<0.0001	<0.00011 U	<0.00012 U	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01
	P56-ROX-080612	8/6/2012		43.60	NE	0.00058	0.000087 J	0.00013	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	0.00051 J	<0.01	<0.0014 U	<0.01
	P56-ROX-103112	10/31/2012	40.82 - 65.82	44.80	NE	0.0011	<0.0001	0.00012	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	0.00066 J	<0.01	<0.0051	<0.01 UJ

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

						SVOCs																			
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Benzyl alcohol	bis(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	Chrysene (1,2-Benzphenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	2,4-Dichlorophenol	Diethyl phthalate	2,4-Dimethylphenol
					Screening Values (mg/L)	0.42 [2]	0.21 [3]	2.1 [2]	0.00013 [2]	0.0002 [1]	0.00018 [2]	0.21 [3]	0.00017 [2]	28 [4]	0.7 [3]	0.01 [2]	0.006 [2]	1.4 [2]	0.0015 [2]	0.0003 [2]	0.007 [3]	0.021 [2]	5.6 [2]	0.14 [2]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)																			
P-57	P57-ROX-110811	11/8/2011	40.46 - 65.46	39.20	NE	0.00055	<0.00054	<0.00054	<0.00027	<0.00054	<0.00027	<0.00054	<0.00054	<0.011	<0.011	<0.0054	<0.0022	<0.0054	<0.00054	<0.00054	<0.0054	<0.011	<0.0054	<0.011
	P57-ROX-021312	2/13/2012		42.13	NE	0.00056	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	0.00043 J	<0.00043 U	<0.0001	<0.0001	0.00087 J	<0.01	<0.0051	0.0045 J
	P57-ROX-050712	5/7/2012		42.92	NE	0.00033	<0.0001	<0.0001	0.00011	0.00012	<0.000052	<0.0001	<0.0001	<0.01	<0.01	0.0008 J	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01
	P57-ROX-080612	8/6/2012		43.53	NE	0.00056	0.0001	0.000073 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	0.00079 J	<0.01	<0.00096 U	0.0029 J
	P57-ROX-080612-DUP	8/6/2012		43.53	NE	0.00051	0.0001	0.000064 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	0.00073 J	<0.01	<0.001 U	0.0029 J
	P57-ROX-110512	11/5/2012	40.46 - 65.46	44.98	NE	0.00053	<0.0001	0.000061 J	<0.00005	<0.0001	<0.00005	0.00005 J	<0.0001	<0.01 UJ	<0.01	<0.005	0.00052 J	<0.005	<0.0001	0.000049 J	0.0006 J	<0.01	<0.005	<0.01 UJ
P-58	P58-ROX-102811	10/28/2011	40.21 - 65.21	37.31	NE	0.0011	<0.000097	<0.000097	<0.000049	<0.000097	<0.000049	<0.000097	<0.000097	<0.0097	<0.0097	<0.0049	0.003	<0.0049	<0.000097	<0.000097	<0.0049	<0.0097	<0.0049	<0.0097
	P58-ROX-011912	1/19/2012		39.73	NE	0.001	<0.00011	<0.00011	0.000039 J	0.000051 J	0.000032 J	0.000047 J	<0.00011		<0.011 UJ	<0.0053	0.0361 J	<0.00059 U	<0.00011	<0.00011	0.0026 J	<0.011	<0.0053	<0.011
	P58-ROX-011912-D	1/19/2012		39.73	NE	0.00092	<0.00011	<0.00011	0.000036 J	0.000036 J	<0.000053	<0.00011	<0.00011		<0.011 UJ	<0.0053	0.024 J	<0.0053	<0.00011	<0.00011	0.0023 J	<0.011	<0.0053	<0.011
	P58-ROX-050712	5/7/2012		40.90	NE	0.00059	0.00019	0.00057 J	0.00017	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	0.0017 J	<0.01	<0.0051	<0.01
	P58-ROX-050712-DUP	5/7/2012		40.90	NE	0.00044	0.00015	<0.0001 UJ	0.00015	0.000032 J	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01
	P58-ROX-080612	8/6/2012		41.63	NE	0.00086	0.00029	0.000094 J	0.00024	0.00011	0.000064	0.000043 J	<0.0001	<0.01	<0.01	<0.005	0.00043 J	<0.005	0.0001	<0.0001	0.0022	<0.01	<0.005	<0.01
	P58-ROX-080612-DUP	8/6/2012		41.63	NE	0.00098	0.0003	0.00011	0.00021	0.000098 J	0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	0.00042 J	<0.005	0.000099 J	<0.0001	0.0025	<0.01	<0.005	<0.01
	P58-ROX-110612	11/6/2012	40.21 - 65.21	43.09	NE	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
	P58-ROX-121012	12/10/2012		43.09	NE	0.00093	0.00024	0.00083	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011	<0.011	<0.0054	0.0103	<0.0054	<0.00011	<0.00011	0.002 J	<0.011	<0.0054	<0.011
P-59	P59-ROX-102711	10/27/2011	47.91 - 72.91	41.06	NE	0.00077	0.00012	0.00046	0.00019	<0.00011	0.000073	<0.00011	<0.00011	<0.011	<0.011	<0.0053	0.0028	<0.0053	0.00034	<0.00011	<0.0053	<0.011	<0.0053	<0.011
	P59-ROX-011912	1/19/2012		42.88	NE	0.00036	<0.00011	0.00025	0.000055 J	0.000038 J	0.000037 J	0.000052 J	<0.00011		0.0011 J	<0.0057	<0.00079 U	<0.0011 U	0.000085 J	<0.00011	<0.0057	<0.011	<0.0057	0.0133
	P59-ROX-011912-DUP	1/19/2012		42.88	NE	0.00037	<0.0001	0.00015	0.00005 J	0.000029 J	0.000027 J	<0.0001	<0.0001		0.00091 J	<0.0051	<0.002	<0.00061 U	0.000074 J	<0.0001	0.00042 J	<0.01	<0.0051	0.0108
	P59-ROX-050912	5/9/2012		44.11	NE	0.00022	<0.0001	0.000095 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	0.0161	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	0.0085 J
	P59-ROX-080212	8/2/2012		44.07	NE	0.00042	0.0001 J	0.00014	0.00021	0.000036 J	0.000047 J	<0.00011	<0.00011	<0.011	<0.011	<0.0053	<0.0021	<0.0053	<0.00011	<0.00011	0.00036 J	<0.011	<0.0053	0.0088 J
	P59-ROX-110212	11/2/2012	47.91 - 72.91	45.98	NE	0.00043	<0.00011	0.000086 J	<0.00053	<0.00011	<0.00053	<0.00011	<0.00011	<0.011 UJ	<0.011	<0.0053	<0.0021	<0.0053	<0.00011	<0.00011	0.00031 J	<0.011	<0.0053	0.0102 J J
	P59-ROX-110212-DUP	11/2/2012		45.98	NE	0.00042	<0.0001	0.000084 J	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	0.00029 J	<0.01	<0.0052	0.0092 J J
P-66	P66-ROX-110111	11/1/2011	34.72 - 59.72	28.92	NE	0.0018	<0.0001	<0.0001	<0.000095 U	<0.0001	<0.000088 U	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.00011 U	<0.0001	<0.005	<0.01	<0.005	<0.01
	P66-ROX-051012	5/10/2012		32.48	NE	0.00078	<0.0001	<0.0001	<0.00005	<0.0001	0.000024 J	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.00053 U	<0.005	<0.0001	<0.0001	0.0018 J	<0.01	<0.005	<0.01
	P66-ROX-080312	8/3/2012		30.51	NE	0.00073	0.00025	<0.00011	0.00018	0.000066 J	0.00008	0.000066 J	<0.00011	<0.011	<0.011	<0.0053	0.00075 J	<0.0053	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011
	P66-ROX-103112	10/31/2012	34.72 - 59.72	34.75	NE	0.00078	0.00022	0.0006	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	0.0019 J	<0.01	<0.005	<0.01 UJ
P-74	P74-ROX-103111	10/31/2011	44.43 - 69.43	36.26	NE	0.00033	0.00012	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	P74-ROX-011912	1/19/2012		38.77	NE	<0.000095	<0.000095	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095		<0.0095 UJ	<0.0048	<0.0019	<0.00043 U	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048	<0.0095
	P74-ROX-050712	5/7/2012		39.92	NE	<0.0001	<0.0001	<0.0001	0.00012	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01
	P74-ROX-080612	8/6/2012		40.71	NE	0.00016	0.000056 J	0.000041 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.002	<0.01	<0.0012 U	0.0039 J
	P74-ROX-110112	11/1/2012	44.43 - 69.43	41.72	NE	0.00023	<0.0001	0.000044 J	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0052	0.00044 J	<0.0052	<0.0001	<0.0001	0.00031 J	0.001 J	<0.0052	0.008 J J
P-93A	P93A-102610	10/26/2010	48.17 - 63.17	40.75	NE	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.047		<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
	P93A-ROX_012611	1/26/2011		40.97	NE	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0098 UJ		<0.0049	<0.002	<0.0049	<0.0049	<0.0049	<0.0049	<0.0098	<0.0014 U	<0.0098
	P93A-ROX-050511	5/5/2011		41.88	NE	0.00026 J	<0.0001 UJ	0.000035 J J	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001 UJ	<0.0001 UJ	0.00035 J	<0.01	<0.00073 U	<0.01
	P93A-ROX-081811	8/18/2011		38.86	NE	0.00036	<0.0001	0.000058 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	0.003	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.0029 U	<0.01
	P93A-ROX-102611	10/26/2011		39.43	NE	0.00024	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	0.0075	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	P93A-ROX-012012	1/20/2012		41.66	NE	0.00014	<0.000095	0.000032 J	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095 UJ	<0.0095	<0.0048	<0.006 U	<0.00053 U	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048	<0.0095
	P93A-ROX-050812	5/8/2012		42.75	NE	<0.0001	<0.0001	<0.0001	<0.0001 U	<0.00012 U	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	0.0029	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01
	P93A-ROX-080912	8/9/2012		43.66	NE	0.00015	<0.00011	0.000048 J	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	0.0032 J	<0.011	<0.0054	0.0153	<0.0054	<0.00011	<0.00011	<0.0022	<0.011	<0.0054	<0.011
	P93A-ROX-110712	11/7/2012	48.17 - 63.17	45.00	NE	<0.00022 U	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	0.0026	<0.0052	<0.0001	<0.0001	0.00027 J	<0.01	<0.0052	<0.01
	P93A-ROX-110712-DUP	11/7/2012		45.00	NE	0.00029 B	<0.0001	0.000061 J	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	0.0023	<0.0052	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01
P-93B	P93B-102610	10/26/2010	74.60 - 76.60	40.73	NE	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.047		<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
	P93B-ROX_012611	1/26/2011		41.03	NE	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011 UJ		<0.0053	<0.0021	<0.0053	<0.0053	<0.0053	<0.0053	<0.011	<0.00086 U	<0.011
	P93B-ROX-050511	5/5/2011		41.96	NE	<0.0001 UJ	<0.0001 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.005	<0.01
	P93B-ROX-081811	8/18/2011		38.91	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	0.001 J	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0021 U	<0.01
	P93B-ROX-102611	10/26/2011		39.48	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	0.0103	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01
	P93B-ROX-012012	1/20/2012		41.72	NE	<0.000095	0.000028 J	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095 UJ	<0.0095	<0.0048	<0.0033 U	<0.00033 U	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048	<0.0095
	P93B-ROX-050812	5/8/2012		42.79	NE	<0.0001	<0.0001	<0.0001	<0.000051	<0.00012 U	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01
	P93B-ROX-080912	8/9/2012		43.69	NE	<0.00011	0.000087 J	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011	<0.011	<0.0054	0.0036	<0.0054	<0.00011	<0.00011	<0.0022	<0.011	<0.00051 U	<0.011
	P93B-ROX-110712	11/7/2012	74.60 - 76.60	44.98	NE	<0.0001	0.000073 JB	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	0.0017 J	<0.0051	<0.0001	<0.0001	<0.002	<0.01	<0.0051	<0.01
	P93B-ROX-110712-DUP	11/7/2012		44.98	NE	<0.000047 U	0.000058 J	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	0.00057 J	<0.005	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01

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

						SVOCs																				
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Benzyl alcohol	bis(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	Chrysene (1,2-Benzphenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	2,4-Dichlorophenol	Diethyl phthalate	2,4-Dimethylphenol
					Screening Values (mg/L)	0.42 [2]	0.21 [3]	2.1 [2]	0.00013 [2]	0.0002 [1]	0.00018 [2]	0.21 [3]	0.00017 [2]	28 [4]	0.7 [3]	0.01 [2]	0.006 [2]	1.4 [2]	0.0015 [2]	0.0003 [2]	0.007 [3]	0.021 [2]	5.6 [2]	0.14 [2]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)																				
P-93C	P93C-102610	10/26/2010	94.26 - 96.26	40.69	NE	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.047		<0.009	<0.001 U	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009
	P93C-ROX_012611	1/26/2011		40.91	NE	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.01 UJ		<0.0051	<0.002	<0.0051	<0.0051	<0.0051	<0.0051	<0.01	<0.00097 U	<0.01
	P93C-ROX-050611	5/6/2011		41.84	NE	<0.0001 UJ	0.000041 J J	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	<0.0022 U	<0.005	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.005	<0.01
	P93C-ROX-081811	8/18/2011		38.79	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	0.0092	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.0015 U	<0.01
	P93C-ROX-102611	10/26/2011		39.36	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01
	P93C-ROX-012012	1/20/2012		41.57	NE	<0.0001	<0.0001	<0.0001	<0.000051	0.000019 J	0.000027 J	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.0051	<0.0096 U	<0.00037 U	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01
	P93C-ROX-050812	5/8/2012		42.68	NE	<0.00011	<0.00011	<0.00011	<0.00012 U	<0.00011	<0.000053	<0.00011	<0.00011	<0.011	<0.011	<0.0053	0.008	<0.0053	<0.00011	<0.00011	<0.0053	<0.011	<0.0053	<0.011
	P93C-ROX-080912	8/9/2012		43.57	NE	0.000089 J	0.000022 J	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	0.0043	<0.0052	<0.0001	<0.0001	<0.0021	<0.01	<0.00046 U	<0.01
	P93C-ROX-110812	11/8/2012	94.26 - 96.26	45.12	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	0.00081 J	<0.005	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01
P-93D	P93D-102610	10/26/2010	-	40.59	NE	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	P93D-ROX-050511	5/5/2011	125.75 - 127.75	41.96	NE	<0.0001 UJ	<0.0001 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.00005 UJ	<0.0001 UJ	<0.0001 UJ	<0.01	<0.01	<0.005	<0.0027 U	<0.005	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.005	<0.01
	P93D-ROX-081811	8/18/2011		38.94	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.000015 U	<0.0001	<0.005	<0.01	<0.0018 U	<0.01
	P93D-ROX-102711	10/27/2011		39.59	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	P93D-ROX-012012	1/20/2012		41.77	NE	<0.00011	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011 UJ	<0.011	<0.0054	<0.0022	<0.0054	<0.00011	<0.00011	<0.0054	<0.011	<0.0054	<0.011
	P93D-ROX-050812	5/8/2012		42.96	NE	<0.0001	<0.0001	<0.0001	<0.0001 U	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	<0.002	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01
	P93D-ROX-080812	8/8/2012		43.71	NE	0.00017	0.000051 J	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.0021 U	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01
	P93D-ROX-110812	11/8/2012	125.75 - 127.75	44.98	NE	<0.00011	<0.00011	<0.00011	<0.000055	<0.00011	<0.000055	<0.00011	<0.00011	<0.011	<0.011	<0.0055	<0.0022	<0.0055	<0.00011	<0.00011	<0.0022	<0.011	<0.0055	<0.011
P-114	P114-ROX-102811	10/28/2011	32.67 - 52.67	24.73	NE	<0.000095	<0.000095	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095	<0.0095	<0.0048	0.0053	<0.0048	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048	<0.0095
	P114-ROX-012012	1/20/2012		27.17	NE	<0.0001	<0.0001	<0.0001	<0.000051	0.000055 J	0.00005 J	0.000058 J	<0.0001	<0.01 UJ	<0.01	<0.0051	<0.0013 U	<0.00044 U	<0.0001	0.000053 J	<0.0051	<0.01	<0.0051	<0.01
	P114-ROX-050912	5/9/2012		28.09	NE	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.0052	0.0015 J	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01
	P114-ROX-080912	8/9/2012		29.13	NE	<0.0001	0.000029 J	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	0.0039	<0.005	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01
	P114-ROX-110912	11/9/2012	32.67 - 52.67	30.90	NE	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	<0.0021	<0.0052	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01
ROST-3-PZ	ROST3PZ-ROX-051412	5/14/2012	40.00 - 50.00	38.82	NE	0.000023 J	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	0.00065 J	<0.0052	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01
	ROST3PZ-ROX-080712	8/7/2012		39.00	NE	<0.00011	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011	<0.011	<0.0054	<0.0022	0.0016 J	<0.00011	<0.00011	<0.0022	<0.011	0.0033 J	<0.011
	ROST3PZ-ROX-110112	11/1/2012	40.00 - 50.00	40.82	NE	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011 UJ	<0.011	<0.0053	<0.0021	<0.0053	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011 UJ
ROST-4-PZ(C)	ROST4PZ-C-051412	5/14/2012	34.95 - 44.95	39.04	NE	0.00027	0.000072 J	0.00011	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	0.00027 J	<0.01	<0.005	<0.01
	ROST4PZ-C-ROX-072512	7/25/2012		39.10	NE	0.00039 B	<0.00011	<0.00018 U	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011	0.00042 J	<0.0053	<0.00051 U	<0.0053	<0.00011	<0.00011	0.00036 J	<0.011	0.0012 J	0.003 J
	ROST4PZC-ROX-102912	10/29/2012	34.95 - 44.95			0.000054 J	<0.0001	0.00005 J	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01	<0.01	<0.0052	0.0045	<0.0052	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01
T-12	T12-ROX-102711	10/27/2011	46.46 - 72.46	38.54	NE	0.00079	0.00012	0.00017	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01	<0.01	<0.0051	0.0025	<0.0051	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	0.0109
	T12-ROX-011912	1/19/2012		41.0	NE	0.00047	<0.00011	0.00014	<0.000056	0.000032 J	0.000035 J	0.000069 J	<0.00011		<0.011 UJ	<0.0056	<0.0017 U	<0.00062 U	<0.00011	0.00005 J	0.00029 J	<0.011	<0.0056	0.0095 J
	T12-ROX-050912	5/9/2012		42.62	NE	0.00032	<0.0001	0.000081 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01	<0.01	<0.005	<0.002	<0.005	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01
	T12-ROX-080212	8/2/2012		41.92	NE	0.00044	0.000082 J	0.0001 J	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011	<0.011	<0.0054	<0.0022	<0.0054	<0.00011	<0.00011	0.0003 J	<0.011	<0.0054	0.0153
	T12-ROX-110512	11/5/2012	46.46 - 72.46	43.91	NE	0.00044	<0.0001	0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01 UJ	<0.01	<0.005	0.00054 J	<0.005	<0.0001	<0.0001	0.00029 J	<0.01	<0.005	0.0028 J J

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

						SVOCs																
						Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	Isophorone (3,5,5-trimethyl-2-cyclohexene-1-one)	1-Methylnaphthalene	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3 & 4-Methylphenol (m & p-Cresol)	3-Nitroaniline	Nitrobenzene	N-Nitrosodimethylamine	N-Nitrosodiphenylamine	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
					Screening Values (mg/L)	0.7 [2]	0.14 [2]	0.28 [2]	0.28 [2]		0.00043 [2]	1.4 [2]	0.49 [3]	0.028 [4]	0.35 [2]	0.35 [3]		0.0035 [2]	0.0006 [3]	0.0032 [2]	0.001 [2]	0.21 [3]	0.1 [1]	0.21 [2]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)																		
MW-01	MW-1-111110	11/11/2010	43.41 - 58.41	36.91	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
	MW-1-111110-Dup	11/11/2010		36.91	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
	MW1-ROX-011711	1/17/2011		37.58	NE	<0.0063	<0.0063	<0.0063	<0.0063		<0.0063	<0.0063		<0.0063	<0.013	<0.013	<0.013	<0.0063		<0.0063	<0.013	<0.0063	<0.0063	<0.0063
	MW1-ROX-042911	4/29/2011		38.37	NE	<0.00085 U	<0.0063	<0.0063	<0.0063		<0.0063	<0.0063		<0.0063	<0.013	<0.013	<0.013	<0.0063	<0.0063 UJ	<0.0063	<0.013	<0.0063	<0.0063 UJ	<0.0063
	MW1-ROX-072711	7/27/2011		35.15	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	MW1-ROX-120511	12/5/2011		37.10	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	<0.0051	<0.0001
	MW1-ROX-011612	1/16/2012	49.98 - 59.98	37.75	NE	<0.0051	<0.0051	0.00011	0.000059 J		<0.00012 U	<0.0051	<0.0002	0.000098 J	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	0.000098	<0.0051	0.00009 J
	MW1-ROX-050112	5/1/2012		39.09	NE	<0.00054 U	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051 UJ	<0.0051	<0.01	<0.000051	<0.0051 UJ	<0.0001
	MW1-ROX-073012	7/30/2012		39.39	NE	<0.00043 U	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	<0.00021	<0.00021	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.000025 J	<0.0053	<0.00011
	MW1-ROX-102612	10/26/2012	49.98 - 59.98	41.22	NE	<0.0057	<0.0057	<0.00011	<0.00011		<0.00011	<0.0057	<0.00023	<0.00023	<0.011	<0.011	<0.011	<0.0057	<0.0057	<0.0057	<0.011	<0.000057	<0.0057	<0.00011
	MW1-ROX-121712	12/17/2012		41.22	NE	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-02	MW-2-111010	11/11/2010	47.19 - 62.19	38.12	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		0.014	<0.01	0.007 J	<0.019	<0.01		<0.01	<0.01	<0.01	0.006 J	<0.01
	MW2-ROX-011711	1/17/2011		38.67	NE	<0.0048	<0.0048	<0.0048	<0.0048		<0.0048	<0.0048		0.0065	0.0028 J	0.0035 J	<0.0095	<0.0048		<0.0048	<0.0095	<0.0048	<0.0048	<0.0048
	MW02-ROX-051011	5/10/2011		39.14	NE	<0.001 U	<0.0052	<0.0001 UJ	<0.0001 UJ		<0.0001 UJ	<0.0052	0.0049 J J	0.0118 J	0.0062 J	0.0119	<0.01	<0.0052 UJ	<0.0052	<0.0052	<0.01	<0.000052 UJ	0.0057	<0.0001
	MW2-ROX-072711	7/27/2011		36.36	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	0.0098	0.0167	<0.01	0.0193 J	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	0.0086	<0.0001
	MW2-ROX-072711-DUP	7/27/2011		36.36	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	0.0096	0.0169	<0.01	0.0144 J	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	0.0075	<0.0001
	MW2-ROX-112811	11/28/2011	51.32 - 61.32	38.03	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	0.0141	0.0299	<0.01	<0.01	<0.01	<0.005	<0.005 UJ	<0.005	<0.01	<0.00005	<0.005 UJ	<0.0001
	MW2-ROX-011612	1/16/2012		38.89	NE	0.00056 J	<0.0053	<0.00011	0.000052 J		<0.000054 U	<0.0053	0.0107	0.0229	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.000066	<0.0053	<0.00011
	MW2-ROX-050112	5/1/2012		40.25	NE	<0.0005 U	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	0.0105	0.021	<0.01	<0.01	<0.01	<0.0052	<0.0052 UJ	<0.0052	<0.01	<0.000052	<0.0052 UJ	<0.0001
	MW2-ROX-073012	7/30/2012		40.60	NE	<0.00047 U	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	0.0097	0.0229	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.00004 J	<0.0053	0.000039 J
	MW2-ROX-102612	10/26/2012	51.32 - 61.32	42.35	NE	<0.0054	<0.0054	0.000061 J	0.00011		<0.00011	<0.0054	0.0091	0.0182	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	0.00011	<0.0054	0.000046 J
MW-03	MW-3-111210	11/12/2010	30.98 - 45.98	24.05	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
	MW3-ROX-011811	1/18/2011		24.92	NE	<0.0053	<0.0053	<0.0053	<0.0053		<0.0053	<0.0053		<0.0053	<0.011	<0.011	<0.011	<0.0053		<0.0053	<0.011	<0.0053	<0.0053	<0.0053
	MW03-ROX-051011	5/10/2011		24.79	NE	<0.0014 U	<0.005	<0.0001 UJ	<0.0001 UJ		<0.0001 UJ	<0.005	<0.005 UJ	0.00019 J J	<0.01	<0.01	<0.01	<0.005 UJ	<0.005	<0.005	<0.01	<0.00005 UJ	<0.005	<0.0001
	MW3-ROX-080311	8/3/2011		22.40	NE	<0.00061 U	<0.0048	<0.000095	<0.000095		<0.000095	<0.0048	0.00029	0.00017 J	<0.0095	<0.0095	<0.0095	<0.0048	<0.0048	<0.0048	<0.0095	<0.000048	<0.0048 UJ	<0.000095
	MW3-ROX-112911	11/29/2011	34.67 - 44.67	24.06	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.01	<0.0052	<0.0052 UJ	<0.0052	<0.01	<0.000052	<0.0052 UJ	<0.0001
	MW3-ROX-112911-DUP	11/29/2011		24.06	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051 UJ	<0.0051	<0.01	<0.000051	<0.0051 UJ	<0.0001
	MW3-ROX-011612	1/16/2012		24.93	NE	<0.0052	<0.0052	0.000098 J	<0.0001		<0.00015 U	<0.0052	<0.00021	0.00015 J	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	0.000095	<0.0052	0.000078 J
	MW3-ROX-043012	4/30/2012		26.19	NE	<0.00047 U	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0052	<0.0001
	MW3-ROX-072712	7/27/2012		26.60	NE	<0.00066 U	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	<0.00021	<0.00021	<0.011	<0.011 UJ	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.000025 J J	<0.0053	<0.00011
	MW3-ROX-102512	10/25/2012	34.67 - 44.67	28.39	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	<0.0051 UJ	<0.0001
MW-04	MW-4-111210	11/12/2010	42.63 - 57.63	35.38	NE	<0.009	<0.009	<0.009	<0.009		<0.009	<0.009		<0.009	<0.009	<0.009	<0.019	<0.009		<0.009	<0.009	<0.009	<0.009	<0.009
	MW4-ROX-011811	1/18/2011		36.04	NE	<0.0052	<0.0052	<0.0052	<0.0052		<0.0052	<0.0052		<0.0052	<0.01	<0.01	<0.01	<0.0052		<0.0052	<0.01	<0.0052	<0.0052	<0.0052
	MW04-ROX-051111	5/11/2011		36.19	NE	<0.0012 U	<0.005	<0.0001 UJ	<0.0001 UJ		<0.0001 UJ	<0.005	<0.005 UJ	0.00033 J	<0.01	<0.01	<0.01	<0.005 UJ	<0.005	<0.005	<0.01	<0.00005 UJ	<0.005	<0.0001
	MW4-ROX-072611	7/26/2011		33.65	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	0.00044	0.00029	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	MW4-ROX-072611-DUP	7/26/2011		33.65	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	0.00031	0.0002	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	MW4-ROX-121511	12/15/2011		33.99	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.00043 U	<0.0052	0.00028	0.00026	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0052	<0.0001
	MW4-ROX-011612	1/16/2012	46.06 - 56.06	36.00	NE	0.00077 J	<0.0052	0.000047 J	<0.0001		<0.00018 U	<0.0052	0.0006	0.00059	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	0.000057	<0.0052	0.000065 J
	MW4-ROX-050312	5/3/2012		37.45	NE	<0.00062 U	<0.005	<0.0001	<0.0001		<0.0001	<0.005	0.00032	0.00025	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	MW4-ROX-050312-DUP	5/3/2012		37.45	NE	<0.00061 U	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	<0.0051	<0.0001
	MW4-ROX-072512	7/25/2012		37.63	NE	0.00075 J	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	0.00054	0.00045 B	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	0.0018 J	<0.0001
	MW4-ROX-072512-Dup	7/25/2012		37.63	NE	0.00057 J	<0.0051	<0.000047 U	<0.0001		<0.0001	<0.0051	0.00049	0.0004 B	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000031 U	0.0023 J	<0.0001
	MW4-ROX-102912	10/29/2012	46.06 - 56.06	39.45	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	0.00025	0.00016 J	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0052	<0.0001

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

						SVOCs																	
						Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	Isophorone (3,5,5-trimethyl-2-cyclohexene-1-one)	1-Methylnaphthalene	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3 & 4-Methylphenol (m & p-Cresol)	3-Nitroaniline	Nitrobenzene	N-Nitrosodimethylamine	N-Nitrosodiphenylamine	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
					Screening Values (mg/L)	0.7 [2]	0.14 [2]	0.28 [2]	0.28 [2]		0.00043 [2]	1.4 [2]	0.49 [3]	0.028 [4]	0.35 [2]	0.35 [3]		0.0035 [2]	0.0006 [3]	0.0032 [2]	0.001 [2]	0.21 [3]	0.1 [1]	0.21 [2]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)																	
MW-05	MW-5-111210	11/12/2010	31.13 - 46.13	23.32	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
	MW5-ROX-011811	1/18/2011		24.15	NE	<0.0053	<0.0053	<0.0053	<0.0053		<0.0053	<0.0053		<0.0053	<0.011	<0.011	<0.011	<0.0053		<0.0053	<0.011	<0.0053	<0.0053	<0.0053
	MW05-ROX-051211	5/12/2011		23.98	NE	<0.0009 U	<0.0053	<0.00011 UJ	<0.00011 UJ		<0.00011 UJ	<0.0053	<0.0053 UJ	0.00004 J J	<0.011	<0.011	<0.011	<0.0053 UJ	<0.0053	<0.0053	<0.011	<0.000053 UJ	<0.0053 UJ	<0.00011
	MW5-ROX-072611	7/26/2011		21.72	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	0.00056	<0.0002	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	MW5-ROX-072611-DUP	7/26/2011		21.72	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	0.00075	<0.0002	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	MW5-ROX-112111	11/21/2011	33.97 - 43.97	23.46	NE	0.00052 J	<0.0053	0.00041	<0.00011		<0.00011	<0.0053	0.00051 J	<0.00021	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.000053	<0.0053	<0.00011
	MW5-ROX-011712	1/17/2012		24.76	NE	<0.0053	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	0.0016	<0.00021	<0.011	<0.011	<0.011	<0.0053	0.00078 J	<0.0053	<0.011	<0.000053	<0.0053	<0.00011
	MW5-ROX-050312	5/3/2012		25.89	NE	<0.0005 U	<0.0051	<0.0001	<0.0001		<0.0001	0.00072 J	0.0117	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	<0.0051	<0.0001
	MW5-ROX-072512	7/25/2012		26.18	NE	0.00057 J	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	0.003	<0.00021	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000025 U	0.0015 J	<0.0001
	MW5-ROX-102912	10/29/2012	33.97 - 43.97	28.16	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	0.0091	0.000084 J	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	<0.0051	<0.0001
MW-06A	MW-6A-110910	11/9/2010	31.98 - 46.98	25.62	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
	MW6A-ROX-011911	1/19/2011		26.36	NE	0.00081 J	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005	<0.01	<0.01	<0.01	<0.005		<0.005	<0.01	<0.005	<0.005	<0.005
	MW6A-ROX-051611	5/16/2011		26.10	NE	<0.0016 U	<0.005	<0.0001 UJ	0.00025 J		<0.0001 UJ	<0.005	<0.005 UJ	<0.0002 UJ	<0.01	<0.01	<0.01	<0.005 UJ	<0.005	<0.005	<0.01	<0.00005 UJ	<0.005	<0.0001
	MW6A-ROX-072611	7/26/2011		24.07	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	MW6A-ROX-112111	11/21/2011	34.83 - 44.83	25.49	NE	0.00053 J	0.00093 J	<0.0001	<0.0001		0.0015 J	<0.0052	<0.00021 UJ	<0.00021	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0052	<0.0001
	MW6A-ROX-112111-DUP	11/21/2011		25.49	NE	0.00069 J	<0.0051	<0.0001	<0.0001		<0.0001 UJ	<0.0051	<0.0002 UJ	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	<0.0051	<0.0001
	MW6A-ROX-011712	1/17/2012		26.74	NE	<0.0054	<0.0054	<0.00011	<0.00011		<0.00015 U	<0.0054	<0.00022	<0.00022	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	<0.000054	<0.0054	<0.00011
	MW6A-ROX-050212	5/2/2012		27.77	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	MW6A-ROX-080112	8/1/2012		28.36	NE	0.00049 J	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.002	<0.0002	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	MW6A-ROX-102412	10/24/2012	34.83 - 44.83	30.06	NE	<0.0053	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	<0.00021	<0.00021	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.000053	<0.0053	<0.00011
MW-06B	MW-6B-111610	11/16/2010	64.05 - 69.05	25.47	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.02	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
	MW6B-ROX-011911	1/19/2011		26.21	NE	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005	<0.01	<0.01	<0.01	<0.005		<0.005	<0.01	<0.005	<0.005	<0.005
	MW6B-ROX-011911-DUP	1/19/2011		26.21	NE	<0.0051	<0.0051	<0.0051	<0.0051		<0.0051	<0.0051		<0.0051	<0.01	<0.01	<0.01	<0.0051		<0.0051	<0.01	<0.0051	<0.0051	<0.0051
	MW6B-ROX-051611	5/16/2011		25.95	NE	<0.0012 U	<0.0048	<0.000095 UJ	<0.000095 UJ		<0.000095 UJ	<0.0048	<0.0048 UJ	<0.00019 UJ	<0.0095	<0.0095	<0.0095	<0.0048 UJ	<0.0048	<0.0048	<0.0095	<0.000048 UJ	<0.0048	<0.000095
	MW6B-ROX-051611-DUP	5/16/2011		25.95	NE	<0.0014 U	<0.005	<0.0001 UJ	<0.0001 UJ		<0.0001 UJ	<0.005	<0.005 UJ	<0.0002 UJ	<0.01	<0.01	<0.01	<0.005 UJ	<0.005	<0.005	<0.01	<0.00005 UJ	<0.005	<0.0001
	MW6B-ROX-072311	7/23/2011		23.60	NE	<0.00047 U	<0.0053	<0.00021 U	<0.00011		<0.000057 U	<0.0053	<0.00021	<0.000022 U	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.000044 U	<0.0053 UJ	<0.00023 U
	MW6B-ROX-110311	11/3/2011		24.67	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	MW6B-ROX-011712	1/17/2012		26.77	NE	0.00055 J	<0.0055	<0.00011	<0.00011		<0.00028 U	<0.0055	<0.00022	<0.00022	<0.011	<0.011	<0.011	<0.0055	<0.0055	<0.0055	<0.011	<0.000055	<0.0055	<0.00011
	MW6B-ROX-050212	5/2/2012		27.82	NE	0.00039 J	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	MW6B-ROX-080112	8/1/2012		28.39	NE	0.0007 J	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.002	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	<0.0051	<0.0001
	MW6B-ROX-102412	10/24/2012	64.05 - 69.05	30.11	NE	0.00079 J	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	<0.0051	<0.0001
MW-06C	MW-6C-111610	11/16/2010	84.95 - 89.95	25.25	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.02	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
	MW6C-ROX-012111	1/21/2011		25.97	NE	<0.0053	<0.0053	<0.0053	<0.0053		<0.0053	<0.0053		<0.0053	<0.011	<0.011	<0.011	<0.0053		<0.0053	<0.011	<0.0053	<0.0053	<0.0053
	MW6C-ROX-051611	5/16/2011		25.76	NE	<0.0013 U	<0.005	<0.0001 UJ	<0.0001 UJ		<0.0001 UJ	<0.005	<0.005 UJ	<0.0002 UJ	<0.01	<0.01	<0.01	<0.005 UJ	<0.005	<0.005	<0.01	<0.00005 UJ	<0.005	<0.0001
	MW6C-ROX-072411	7/24/2011		23.43	NE	<0.0004 U	<0.0053	0.000024 JB	<0.00011		0.000025 J	<0.0053	<0.00021	0.000017 JB	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.00002 JB	<0.0053 UJ	0.000023 JB
	MW6C-ROX-110311	11/3/2011		24.47	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00011 U	<0.005	<0.0001
	MW6C-ROX-011712	1/17/2012		26.50	NE	<0.0054	<0.0054	<0.00011	<0.00011		<0.00011	<0.0054	<0.00022	<0.00022	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	<0.000054	<0.0054	<0.00011
	MW6C-ROX-050212	5/2/2012		27.62	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	MW6C-ROX-080112	8/1/2012		28.15	NE	0.001 J	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.002	<0.0002	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	MW6C-ROX-102412	10/24/2012	84.95 - 89.95	27.85	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	<0.0051	<0.0001
MW-06D	MW-6D-111610	11/16/2010	104.72 - 109.72	25.13	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.02	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
	MW6D-ROX-012111	1/21/2011		25.87	NE	0.00071 J	<0.0053	<0.0053	<0.0053		<0.0053	<0.0053		<0.0053	<0.011	<0.011	<0.011	<0.0053		<0.0053	<0.011	<0.0053	<0.0053	<0.0053
	MW6D-ROX-051611	5/16/2011		25.60	NE	<0.0015 U	<0.0055	<0.00011 UJ	<0.00011 UJ		<0.00011 UJ	<0.0055	<0.0055 UJ	<0.00022 UJ	<0.011	<0.011	<0.011	<0.0055 UJ	<0.0055	<0.0055	<0.011	<0.000055 UJ	<0.0055	<0.00011
	MW6D-ROX-072311	7/23/2011		23.29	NE	<0.00046 U	<0.0053	<0.000067 U	<0.00011		<0.000033 U	<0.0053	<0.00021	<0.000018 U	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.00004 U	<0.0053 UJ	<0.000063 U
	MW6D-ROX-110311	11/3/2011		24.31	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0052	<0.0001
	MW6D-ROX-011712	1/17/2012		26.33	NE	0.00047 J	<0.0055	<0.00011	<0.00011		<0.00011	<0.0055	<0.00022	<0.000085 U	<0.011	<0.011	<0.011	<0.0055	<0.0055	<0.0055	<0.011	<0.000055	<0.0055	<0.00011
	MW6D-ROX-050212	5/2/2012		27.45	NE	0.00047 J	<0.005	<0.0001	<0.0001		<0.0001	<0.0005 U	<0.00021	<0.00021	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.000052	<0.005	<0.0001
	MW6D-ROX-080212	8/2/2012		30.56	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	<0.0051	<0.0001
	MW6D-ROX-102412	10/24/2012	104.72 - 109.72	29.71	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0052	<0.0001

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

						SVOCs																	
						Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	Isophorone (3,5,5-trimethyl-2-cyclohexene-1-one)	1-Methylnaphthalene	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3 & 4-Methylphenol (m & p-Cresol)	3-Nitroaniline	Nitrobenzene	N-Nitrosodimethylamine	N-Nitrosodiphenylamine	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
						Screening Values (mg/L)	0.7 [2]	0.14 [2]	0.28 [2]	0.28 [2]		0.00043 [2]	1.4 [2]	0.49 [3]	0.028 [4]	0.35 [2]	0.35 [3]		0.0035 [2]	0.0006 [3]	0.0032 [2]	0.001 [2]	0.21 [3]	0.1 [1]	0.21 [2]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)																		
MW-07	MW-7-111710	11/17/2010	42.92 - 52.92	36.93	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	0.034	<0.01
	MW-7-111710-Dup	11/17/2010		36.93	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.02	<0.01		<0.01	<0.01	<0.01	0.032	<0.01
	MW7-ROX-012511	1/25/2011		37.52	NE	<0.0053	<0.0053	<0.0053	<0.0053		<0.0053	<0.0053		0.0023 J	<0.011	0.00099 J	<0.011	<0.0053		<0.0053	<0.011	<0.0053	0.0737	<0.0053
	MW07-ROX-051311	5/13/2011		37.50	NE	<0.0017 U	<0.0054	<0.00011 UJ	0.0001 J J		<0.00011 UJ	<0.0054	0.0026 J J	0.0049 J	<0.011	0.00082 J	<0.011	<0.0054 UJ	<0.0054	<0.0054	<0.011	0.00017 J	0.0774	0.000044 J
	MW07-ROX-051311D	5/13/2011		37.50	NE	<0.0018 U	<0.0055	<0.00011 UJ	0.000097 J J		<0.00011 UJ	<0.0055	0.0026 J J	0.0047 J	<0.011	0.00078 J	<0.011	<0.0055 UJ	<0.0055	<0.0055	<0.011	0.00017 J	0.0793	0.000051 J
	MW7-ROX-072411	7/24/2011		35.22	NE	<0.00044 U	<0.0054	0.00003 J	0.000066 J		<0.00011	<0.0054	0.0024	0.003	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	0.000082 B	<0.0513 UJ	0.00003 J
	MW-7-ROX-110211	11/2/2011		35.95	NE	<0.005	<0.005	<0.0001	<0.00028 U		<0.0001	<0.005	<0.0043 U	<0.0059 U	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00033 U	0.0702	<0.0001
	MW7-ROX-011812	1/18/2012		38.10	NE	0.00045 J	<0.005	<0.0001	0.00018		<0.0001	<0.005	0.0055	0.0069	<0.01	<0.01	<0.01 UJ	<0.005	<0.005	<0.005	<0.01	0.00029	0.15	<0.000042 U
	MW7-ROX-011812-DUP	1/18/2012		38.10	NE	<0.0056	<0.0056	<0.00011	0.0002		<0.00011	<0.0056	0.0057	0.0071	<0.011	<0.011	<0.011 UJ	<0.0056	<0.0056	<0.0056	<0.011	0.00028	0.165	<0.000043 U
	MW7-ROX-050412	5/4/2012		39.19	NE	<0.00095 U	<0.005	0.000039 J	0.00019		<0.0001	<0.005	0.0075	0.0087	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	0.00028	0.0944	<0.0001
	MW7-ROX-080712	8/7/2012		39.50	NE	<0.0051	<0.0051	<0.0001	0.00016		<0.0001	<0.0051	0.0055	0.0065	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	0.00019	0.0576	<0.0001
	MW7-ROX-103012	10/30/2012	42.92 - 52.92	41.23	NE	<0.0058	<0.0058	<0.00012	0.00023		<0.00012	<0.0058	0.0061 J	0.0077	<0.012	<0.012	<0.012	<0.0058	<0.0058 UJ	<0.0058	<0.012	0.00036	0.0615 J	<0.00005 U
	MW7-ROX-103012-DUP	10/30/2012		41.23	NE	<0.0056	<0.0056	<0.00011	0.00026		<0.00011	<0.0056	0.008 J	0.0098	<0.011	<0.011	<0.011	<0.0056	<0.0056 UJ	<0.0056	<0.011	0.00037	0.0812 J	<0.00005 U
MW-08	MW-8-111710	11/17/2010	33.60 - 43.60	27.84	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		0.005 J	<0.01	0.023	<0.019	<0.01		<0.01	<0.01	<0.01	0.053	<0.01
	MW8-ROX-012511	1/25/2011		28.59	NE	<0.005	0.0004 J	<0.005	<0.005		<0.005	<0.005		0.0069	0.0195	0.0502	<0.01	<0.005		<0.005	<0.01	<0.005	0.119 J	<0.005
	MW8-ROX-012511-DUP	1/25/2011		28.59	NE	<0.0057	<0.0057	<0.0057	<0.0057		<0.0057	<0.0057		0.0075	0.0228	0.0587	<0.011	<0.0057		<0.0057	<0.011	<0.0057	0.171 J	<0.0057
	MW08-ROX-051311	5/13/2011		28.35	NE	<0.0014 U	<0.0055	0.00003 J J	0.00023 J		<0.00011 UJ	<0.0055	0.0053 J J	0.0075 J	0.0108 J	0.0243	<0.011	0.0041 J J	<0.0055	<0.0055	<0.011	0.000086 J	0.209	0.000028 J
	MW08-ROX-051311D	5/13/2011		28.35	NE	<0.0021 U	<0.0056	<0.00011 UJ	0.00021 J		<0.00011 UJ	<0.0056	0.0055 J J	0.0089 J	0.0105 J	0.0249	<0.011	<0.0056 UJ	<0.0056	<0.0056	<0.011	0.00012 J	0.208	<0.00011
	MW8-ROX-072411	7/24/2011		26.02	NE	<0.0054	0.00077 J	0.000031 JB	0.00034		0.000032 J	<0.0054	0.0055	0.0068	0.0205	0.0486	<0.011	<0.0054	<0.0054	<0.0054	<0.011	0.00014 B	0.0972 J	0.000031 JB
	MW8-ROX-072411-DUP	7/24/2011		26.02	NE	<0.00038 U	0.00054 J	0.000022 JB	0.0003		0.000042 J	<0.0055	0.0052	0.0064	0.0177	0.0423	<0.011	<0.0055	<0.0055	<0.0055	<0.011	0.00011 B	0.0906 J	0.000023 JB
	MW-8-ROX-110211	11/2/2011		27.02	NE	<0.0048	<0.0048	<0.000095	<0.00032 U		<0.000095	<0.0048	<0.0094 U	<0.0119 U	0.0152	0.0242	<0.0095	<0.0048	<0.0048	<0.0048	<0.0095	<0.000048	0.134	<0.000095
	MW8-ROX-011812	1/18/2012		29.15	NE	<0.0053	<0.0053	<0.00053	0.00074		<0.00053	<0.0053	0.0165	0.0204	0.0044 J	0.0121	<0.011 UJ	<0.0053	<0.0053	<0.0053	<0.011	0.00041	0.375	<0.00053
	MW8-ROX-050412	5/4/2012		30.21	NE	<0.00063 U	<0.0053	<0.00011	0.00024		<0.00011	<0.0053	0.0085	0.0099	0.0302	0.0657	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.00014	0.258 J	<0.00011
	MW8-ROX-050412-DUP	5/4/2012		30.21	NE	<0.005	<0.005	<0.0001	0.00031		<0.0001	<0.005	0.0086	0.0102	0.0275	0.0569	<0.01	<0.005	<0.005	<0.005	<0.01	0.00014	0.12 J	<0.0001
	MW8-ROX-080712	8/7/2012		30.97	NE	<0.0054	<0.0054	<0.00011	0.00027		<0.00011	<0.0054	0.0091	0.0109	0.0075 J	0.0231	<0.011	<0.0054	<0.0054	<0.0054	<0.011	0.00015	0.136	<0.00011
	MW8-ROX-080712-DUP	8/7/2012		30.97	NE	<0.0056	<0.0056	<0.00011	0.00026		<0.00011	<0.0056	0.0092	0.0111	0.0081 J	0.024	<0.011	<0.0056	<0.0056	<0.0056	<0.011	0.00014	0.134	<0.00011
	MW8-ROX-103012	10/30/2012	33.60 - 43.60	32.32	NE	0.00082 J	0.00063 J	0.00059 B	0.00053		0.00059 B	<0.0053	0.0097	0.0112	0.0058 J	0.0158	<0.011	<0.0053	<0.0053 UJ	0.00052 J	0.003 J	0.00057	0.165 J	0.00054 B
MW-09	MW-9-111510	11/15/2010	46.45 - 56.45	39.00	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
	MW9-ROX-012111	1/21/2011		39.62	NE	0.00064 J	<0.0053	<0.0053	<0.0053		<0.0053	<0.0053		<0.0053	<0.011	<0.011	<0.011	<0.0053		<0.0053	<0.011	<0.0053	<0.0053	<0.0053
	MW09-ROX-050611	5/6/2011		40.12	NE	<0.00046 U	<0.0049	0.00002 J J	<0.000097		<0.000097	<0.0049	<0.0049 UJ	<0.00019 UJ	<0.0097	<0.0097	<0.0097	<0.0049 UJ	<0.0049	<0.0049	<0.0097	<0.000049 UJ	<0.0049	<0.000097
	MW9-ROX-072311	7/23/2011		37.27	NE	<0.0054	<0.0054	<0.000044 U	<0.00011		<0.000031 U	<0.0054	<0.00022	<0.00022	<0.01 UJ	<0.01 UJ	<0.011	<0.0054	<0.0054	<0.0054	<0.01 UJ	<0.00003 U	<0.005 UJ	<0.000046 U
	MW9-ROX-110111	11/1/2011		37.78	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	MW9-ROX-011612	1/16/2012		39.50	NE	0.00048 J	<0.0057	<0.00011	<0.00011		<0.000098 U	<0.0057	<0.00023	<0.00023	<0.011	<0.011	<0.011	<0.0057	<0.0057	<0.0057	<0.011	<0.000057	<0.0057	<0.00011
	MW9-ROX-050312	5/3/2012		41.03	NE																			
	MW9-ROX-072712	7/27/2012		41.30	NE	<0.00054 U	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01 UJ	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	MW9-ROX-102912	10/29/2012	46.45 - 56.45	43.17	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0052	<0.0001
MW-10	MW-10-111010	11/10/2010	44.43 - 54.43	38.97	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
	MW10-ROX-012411	1/24/2011		39.40	NE	<0.0051	<0.0051	<0.0051	<0.0051		<0.0051	<0.0051		<0.0051	<0.01	<0.01	<0.01	<0.0051		<0.0051	<0.01	<0.0051	<0.0051	<0.0051
	MW10-ROX-012411-DUP	1/24/2011		39.40	NE	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005	<0.01	<0.01	<0.01	<0.005		<0.005	<0.01	<0.005	<0.005	<0.005
	MW10-ROX-042811	4/28/2011		40.20	NE	<0.00061 U	<0.0048	<0.0048	<0.0048		<0.0048	<0.0048		<0.0048	<0.0095	<0.0095	<0.0095	<0.0048	<0.0048 UJ	<0.0048	<0.0095	<0.0048	<0.0048 UJ	<0.0048
	MW10-ROX-072311	7/23/2011		37.24	NE	<0.005	<0.005	<0.000047 U	<0.0001		<0.000031 U	<0.005	<0.0002	<0.00002 U	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.000027 U	<0.005 UJ	<0.000044 U
	MW10-ROX-110111	11/1/2011		37.72	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	MW10-ROX-011612	1/16/2012		39.28	NE	0.00081 J	<0.0053	0.000052 J	<0.00011		<0.00011	<0.0053	<0.00021	0.000055 J	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.000072	<0.0053	0.00005 J
	MW10-ROX-050112	5/1/2012		40.86	NE	<0.00041 U	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.01	<0.0052	<0.0052 UJ	<0.0052	<0.01	0.000033 J	<0.0052 UJ	<0.0001
	MW10-ROX-072712	7/27/2012		41.21	NE	<0.00043 U	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01 UJ	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	MW10-ROX-102612	10/26/2012	44.43 - 54.43	43.08	NE	<0.0056	<0.0056	0.000052 J	0.000086 J		<0.00011	<0.0056	<0.00022	0.00009 J	<0.011	<0.011	<0.011	<0.0056	<0.0056	<0.0056	<0.011	0.000076	<0.0055	0.00004 J
	MW10-ROX-121712	12/17/2012		43.08	NE	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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

						SVOCs																
						Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	Isophorone (3,5,5-trimethyl-2-cyclohexene-1-one)	1-Methylnaphthalene	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3 & 4-Methylphenol (m & p-Cresol)	3-Nitroaniline	Nitrobenzene	N-Nitrosodimethylamine	N-Nitrosodiphenylamine	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
						Screening Values (mg/L)	0.7 [2]	0.14 [2]	0.28 [2]	0.28 [2]		0.00043 [2]	1.4 [2]	0.49 [3]	0.028 [4]	0.35 [2]	0.35 [3]		0.0035 [2]	0.0006 [3]	0.0032 [2]	0.001 [2]	0.21 [3]	0.1 [1]	0.21 [2]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)																		
MW-11	MW-11-111710	11/17/2010	41.66 - 51.66	36.39	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
	MW11-ROX-012411	1/24/2011		37.15	NE	<0.0052	<0.0052	<0.0052	<0.0052		<0.0052	<0.0052		<0.0052	<0.01	<0.01	<0.01	<0.0052		<0.0052	<0.01	<0.0052	<0.0052	<0.0052
	MW11-ROX-050611	5/6/2011		37.60	NE	<0.001 U	<0.0048	0.000026 J J	<0.000095 UJ		0.000015 J J	<0.0048	<0.0048 UJ	<0.00019 UJ	<0.0095	<0.0095	<0.0095	<0.0048 UJ	<0.0048	<0.0048	<0.0095	0.000025 J J	<0.0048	0.000026 J
	MW11-ROX-072411	7/24/2011		34.68	NE	<0.0056	<0.0056	0.000025 JB	<0.00011		0.000026 J	<0.0056	<0.00022	0.000023 JB	<0.011	<0.011	<0.011	<0.0056	<0.0056	<0.0056	<0.011	0.000021 JB	<0.0056 UJ	0.000024 JB
	MW-11-ROX-110211	11/2/2011		35.44	NE	<0.0054	<0.0054	<0.00011	<0.00011		<0.00011	<0.0054	<0.00022	<0.00022	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	<0.000054	<0.0054	<0.00011
	MW11-ROX-011712	1/17/2012		37.44	NE																			
	MW11-ROX-043012	4/30/2012		38.66	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	<0.0051	<0.0001
	MW11-ROX-072712	7/27/2012		38.90	NE	<0.00057 U	<0.0058	<0.00012	<0.00012		<0.00012	<0.0058	<0.00023	<0.00023	<0.012	<0.012 UJ	<0.012	<0.0058	<0.0058	<0.0058	<0.012	<0.000058	<0.0058	<0.00012
	MW11-ROX-102512	10/25/2012	41.66 - 51.66	40.59	NE	<0.0054	<0.0054	<0.00011	<0.00011		<0.00011	<0.0054	<0.00022	<0.00022	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	<0.000054	<0.0054 UJ	<0.00011
MW-12	MW-12-111510	11/15/2010	41.92 - 51.92	36.63	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
	MW12-ROX-012411	1/24/2011		37.42	NE	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005	<0.01	<0.01	<0.01	<0.005		<0.005	<0.01	<0.005	<0.005	<0.005
	MW12-ROX-051211	5/12/2011		37.58	NE	<0.0011 U	<0.005	<0.0001 UJ	<0.0001 UJ		<0.0001 UJ	<0.005	<0.005 UJ	<0.0002 UJ	<0.01	<0.01	<0.01	<0.005 UJ	<0.005	<0.005	<0.01	<0.00005 UJ	<0.005 UJ	<0.0001
	MW12-ROX-072411	7/24/2011		34.88	NE	<0.00039 U	<0.005	0.000035 JB	<0.0001		0.000047 J	<0.005	<0.0002	<0.0002	<0.01 UJ	<0.01 UJ	<0.01	<0.005	<0.005	<0.005	<0.01 UJ	0.000024 JB	<0.005 UJ	0.00004 JB
	MW-12-ROX-110211	11/2/2011		35.70	NE	<0.0048	<0.0048	<0.000095	<0.000095		<0.000095	<0.0048	<0.00019	<0.00019	<0.0095	<0.0095	<0.0095	<0.0048	<0.0048	<0.0048	<0.0095	<0.000048	<0.0048	<0.000095
	MW-12-ROX-110211-DUP	11/2/2011		35.70	NE	<0.0048	<0.0048	<0.000095	<0.000095		<0.000095	<0.0048	<0.00019	<0.00019	<0.0095	<0.0095	<0.0095	<0.0048	<0.0048	<0.0048	<0.0095	<0.000048	<0.0048	<0.000095
	MW12-ROX-011712	1/17/2012		37.70	NE	<0.0054	<0.0054	<0.00011	<0.00011		<0.00023 U	<0.0054	<0.00022	<0.00022	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	<0.000054	<0.0054	<0.00011
	MW12-ROX-011712-DUP	1/17/2012		37.70	NE	<0.0056	<0.0056	<0.00011	<0.00011		<0.00007 U	<0.0056	<0.00022	<0.00022	<0.011	<0.011	<0.011	<0.0056	<0.0056	<0.0056	<0.011	<0.000056	<0.0056	<0.00011
	MW12-ROX-043012	4/30/2012		38.98	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	<0.0051	<0.0001
	MW12-ROX-072712	7/27/2012		39.22	NE	<0.00063 U	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	<0.00021	<0.00021	<0.011	<0.011 UJ	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.000053	<0.0053	<0.00011
	MW12-ROX-102512	10/25/2012	41.92 - 51.92	40.95	NE	<0.0053	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	<0.00021	<0.00021	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.000053	<0.0053 UJ	<0.00011
MW-13	MW13-ROX-012511	1/25/2011	25.57 - 35.57	24.28	NE	<0.0052	<0.0052	<0.0052	0.00044 J		<0.0052	<0.0052		0.0021 J	<0.01	<0.01	<0.01	<0.0052		<0.0052	<0.01	0.0012 J	<0.0052	0.00032 J
	MW13-ROX-051311	5/13/2011		23.65	NE	<0.0013 U	<0.005	0.000032 J J	0.00023 J		<0.000099 UJ	<0.005	<0.005 UJ	0.00015 J J	<0.0099	<0.0099	<0.0099	<0.005 UJ	<0.005	<0.005	<0.0099	0.000095 J	<0.005 UJ	0.000089 J
	MW13-ROX-080311	8/3/2011		21.88	NE	<0.00074 U	<0.005	<0.0001	<0.0001		0.00004 J	<0.005	<0.0002	0.00011 J	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.000054 U	<0.005 UJ	0.000041 J
	MW13-ROX-110311	11/3/2011		22.85	NE	<0.0056	<0.0056	<0.00011	<0.00033 U		<0.00011	<0.0056	<0.00081 U	<0.0003 U	<0.011	<0.011	<0.011	<0.0056	<0.0056	<0.0056	<0.011	<0.000056	<0.0056	<0.00018 U
	MW13-ROX-012012	1/20/2012		24.77	NE	<0.00058 U	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	0.00022	<0.00027 U	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.000053	0.0015 J	0.000065 J
	MW13-ROX-050712	5/7/2012		25.79	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0052	<0.0001
	MW13-ROX-080812	8/8/2012		26.67	NE	<0.0053	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	0.00021	<0.00014 UJ	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.000053	<0.0053	<0.00011
	MW13-ROX-110812	11/8/2012	25.57 - 35.57	25.30	NE	0.00054 J	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
MW-14	MW14-ROX-110911	11/9/2011	33.42 - 43.42			<0.0053	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	<0.00021	<0.00021	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.000053	<0.0053	<0.00011
	MW14-ROX-051012	5/10/2012				0.00043 J	<0.0052	<0.0001	0.00022		<0.0001	<0.0052	0.0101	0.0015	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0052	<0.0001
	MW14-ROX-080312	8/3/2012		29.87	NE	<0.0053	<0.0053	<0.00011	0.00071		<0.00011	<0.0053	0.019	0.0038	<0.011	<0.011	<0.011	0.00032 J	<0.0053	<0.0053	<0.011	<0.000053	<0.0053	<0.00011
	MW14-ROX-103112	10/31/2012	33.42 - 43.42	32.02	NE	0.00044 J	<0.005	<0.0001	0.00029		<0.0001	<0.005	0.0192	0.004	<0.01	<0.01	<0.01	<0.005	<0.005 UJ	<0.005	<0.01	<0.000051	<0.005 UJ	<0.0001
P-54	P-54-111710	11/17/2010	38.00 - 63.00	36.43	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
	P54-ROX-012411	1/24/2011		37.24	NE	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005	<0.01	<0.01	<0.01	<0.005		<0.005	<0.01	<0.005	<0.005	<0.005
	P54-ROX-051111	5/11/2011		37.37	NE	<0.0011 U	<0.005	0.000031 J J	<0.00011 UJ		<0.00011 UJ	<0.005	<0.005 UJ	<0.00022 UJ	<0.01	<0.01	<0.01	<0.005 UJ	<0.005	<0.005	<0.01	<0.000054 UJ	<0.005	0.000028 J
	P54-ROX-072411	7/24/2011		34.78	NE	<0.00049 U	<0.005	0.000035 JB	<0.0001		0.00004 J	<0.005	<0.0002	0.000026 JB	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	0.000025 JB	<0.005 UJ	0.000031 JB
	P54-ROX-110311	11/3/2011		35.49	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	P54-ROX-011712	1/17/2012		37.17	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.000081 U	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0052	<0.0001
	P54-ROX-050412	5/4/2012		38.77	NE	<0.00085 U	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	0.0026 J	<0.0001
	P54-ROX-080212	8/2/2012		38.95	NE	<0.0053	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	<0.00021	<0.00021	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.000053	<0.0053	<0.00011
	P54-ROX-103012	10/30/2012	38.00 - 63.00	40.70	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051 UJ	<0.0051	<0.01	<0.000051	<0.0051 UJ	<0.0001
P-55	P55-ROX-103111	10/31/2011	39.82 - 64.82	39.15	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	0.00065	0.00096	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	0.00016	<0.005	<0.0001
	P55-ROX-011912	1/19/2012		41.09	NE	<0.0052	<0.0052	<0.0001	0.00038		<0.0001	<0.0052	0.0048	0.0076	<0.01	<0.01	<0.01 UJ	<0.0052	<0.0052	<0.0052	<0.01	0.00039	<0.0052	<0.0001
	P55-ROX-011912-D	1/19/2012		41.09	NE	<0.0054	<0.0054	<0.00011	0.00032		0.00011	<0.0054	0.0046	0.0076	<0.011	<0.011	<0.011 UJ	<0.0054	<0.0054	<0.0054	<0.011	0.00036	0.0029 J	<0.00011
	P55-ROX-050912	5/9/2012		42.44	NE	<0.0051	<0.0051	<0.0001	0.00069		<0.0001	<0.0051	0.0118	0.0179	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	0.00066	<0.0051	<0.0001
P-56	P56-ROX-102711	10/27/2011	40.82 - 65.82	39.42	NE	<0.0052	<0.0052	<0.0001	0.00039		<0.0001	<0.0052	0.016	0.0224	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	0.0011	<0.0052	<0.0001
	P56-ROX-011912	1/19/2012		41.81	NE	<0.00044 U	<0.0051	<0.0001	0.00046		<0.0001	<0.0051	0.0186	0.024	<0.01	<0.01	<0.01 UJ	<0.0051	<0.0051	<0.0051	<0.01	0.0012	<0.0051	0.000036 J
	P56-ROX-050812	5/8/2012		43.09	NE	<0.0052	<0.0052	<0.0001	0.00033		<0.0001	<0.0052	0.0186	0.0236	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	0.0011	<0.0052	<0.0001
	P56-ROX-080612	8/6/2012		43.60	NE	<0.00075 U	<0.0051	<0.0001	0.0003		<0.0001	<0.0051	0.0143	0.0178	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	0.0013	<0.0051	<0.0001
	P56-ROX-103112	10/31/2012	40.82 - 65.82	44.80	NE	<0.0051	<0.0051	<0.0001	0.00046		<0.0001	<0.0051	0.024	0.0307	<0.01	0.0011 J	<0.01	<0.0051	<0.0051 UJ	<0.0051	<0.01	0.0013	<0.0051 UJ	<0.0001

SEE LAST PAGE OF TABLE FOR NOTES

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

						SVOCs																
						Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	Isophorone (3,5,5-trimethyl-2-cyclohexene-1-one)	1-Methylnaphthalene	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3 & 4-Methylphenol (m & p-Cresol)	3-Nitroaniline	Nitrobenzene	N-Nitrosodimethylamine	N-Nitrosodiphenylamine	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
						Screening Values (mg/L)	0.7 [2]	0.14 [2]	0.28 [2]	0.28 [2]		0.00043 [2]	1.4 [2]	0.49 [3]	0.028 [4]	0.35 [2]	0.35 [3]		0.0035 [2]	0.0006 [3]	0.0032 [2]	0.001 [2]	0.21 [3]	0.1 [1]	0.21 [2]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)																		
P-57	P57-ROX-110811	11/8/2011	40.46 - 65.46	39.20	NE	<0.0054	<0.0054	<0.00054	0.00076		<0.00054	<0.0054	0.0288	0.0388	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	0.0006	0.286	<0.00054
	P57-ROX-021312	2/13/2012		42.13	NE	<0.00046 U	<0.0051	<0.0001	0.00087		<0.0001	<0.0051		0.0403	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	0.00051	0.297	<0.0001
	P57-ROX-050712	5/7/2012		42.92	NE	<0.0052	<0.0052	<0.0001	0.00045		<0.0001	<0.0052	0.0169	0.0212	<0.01	0.0023 J	<0.01	<0.0052	<0.0052	<0.0052	<0.01	0.00035	0.141	<0.0001
	P57-ROX-080612	8/6/2012		43.53	NE	<0.00087 U	<0.005	<0.0001	0.0006		<0.0001	<0.005	0.0244	0.0326	<0.01	0.0013 J	<0.01	<0.005	<0.005	<0.005	<0.01	0.00053	0.0697 J	<0.0001
	P57-ROX-080612-DUP	8/6/2012		43.53	NE	<0.00089 U	<0.005	<0.0001	0.00063		<0.0001	<0.005	0.0242	0.0321	<0.01	0.0013 J	<0.01	<0.005	<0.005	<0.005	<0.01	0.00054	0.0921 J	<0.0001
	P57-ROX-110512	11/5/2012	40.46 - 65.46	44.98	NE	<0.005	<0.005	<0.0001	0.00062		0.00005 J	<0.005	0.0249	0.0305	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	0.00048	0.0547 J	<0.0001
P-58	P58-ROX-102811	10/28/2011	40.21 - 65.21	37.31	NE	<0.0049	<0.0049	<0.000097	0.0016		<0.000097	<0.0049	0.049	0.0717	<0.0097	0.0347	<0.0097	<0.0049	<0.0049	<0.0049	<0.0097	0.00085	0.137	0.00012
	P58-ROX-011912	1/19/2012		39.73	NE	<0.00057 U	<0.0053	0.000047 J	0.0017		<0.00011	<0.0053	0.0639	0.0904	<0.011	0.0171	<0.011 UJ	<0.0053	<0.0053	<0.0053	<0.011	0.00084	0.259	0.00012
	P58-ROX-011912-D	1/19/2012		39.73	NE	<0.00059 U	<0.0053	0.000052 J	0.0018		<0.00011	<0.0053	0.0588	0.0821	<0.011	0.0156	<0.011 UJ	<0.0053	<0.0053	<0.0053	<0.011	0.0008	0.225	0.00012
	P58-ROX-050712	5/7/2012		40.90	NE	<0.0051	<0.0051	<0.0001	0.0009 J		<0.0001	<0.0051	0.0351 J	0.0435 J	<0.01	0.0181	<0.01	<0.0051	<0.0051	<0.0051	<0.01	0.00056 J	0.161	0.0001
	P58-ROX-050712-DUP	5/7/2012		40.90	NE	<0.0052	<0.0052	<0.0001	0.00067 J		<0.0001	<0.0052	0.0267 J	0.0338 J	<0.01	0.0122	<0.01	<0.0052	<0.0052	<0.0052	<0.01	0.00041 J	0.147	0.000076 J
	P58-ROX-080612	8/6/2012		41.63	NE	<0.00053 U	<0.005	0.000068 J	0.0014		<0.0001	<0.005	0.0524	0.0691	<0.01	0.0146	<0.01	<0.005	<0.005	<0.005	<0.01	0.001	0.15	<0.0001 UJ
	P58-ROX-080612-DUP	8/6/2012		41.63	NE	<0.00063 U	<0.005	0.000066 J	0.0015		<0.0001	<0.005	0.0596	0.079	<0.01	0.0195	<0.01	<0.005	<0.005	<0.005	<0.01	0.0011	0.19	0.00021 J
	P58-ROX-110612	11/6/2012		43.09	NE	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
	P58-ROX-121012	12/10/2012		43.09	NE	<0.0054	<0.0054	<0.00011	0.0014		<0.00011	<0.0054	0.0616	0.0807	<0.011	0.0124	<0.011	<0.0054	<0.0054	<0.0054	<0.011	0.00085	0.178	0.00012
P-59	P59-ROX-102711	10/27/2011	47.91 - 72.91	41.06	NE	<0.0053	<0.0053	0.00035	0.0012		<0.00011	<0.0053	0.0121	0.0184	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.002	0.0383	0.00057
	P59-ROX-011912	1/19/2012		42.88	NE	<0.0005 U	<0.0057	0.000073 J	0.0008		<0.00011	<0.0057	0.0175	0.0279	0.0045 J	0.0092 J	<0.011 UJ	<0.0057	<0.0057	0.00079 J	<0.011	0.00081	0.0906 J	0.00013
	P59-ROX-011912-DUP	1/19/2012		42.88	NE	<0.00041 U	<0.0051	0.000073 J	0.00063		<0.0001	<0.0051	0.0178	0.029	<0.01	0.0076 J	<0.01 UJ	<0.0051	<0.0051	0.00087 J	<0.01	0.00081	0.0646 J	0.00013
	P59-ROX-050912	5/9/2012		44.11	NE	<0.005	<0.005	0.000062 J	0.00034	0.0056 JN	<0.0001	<0.005	0.0117	0.018	<0.01	0.0062 J	<0.01	<0.005	<0.005	<0.005	<0.01	0.00053	0.0241	0.000092 J
	P59-ROX-080212	8/2/2012		44.07	NE	<0.0053	<0.0053	0.00015	0.00048		<0.00011	<0.0053	0.0136	0.0207	0.0018 J	0.0032 J	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.001	0.0419	0.00021
	P59-ROX-110212	11/2/2012	47.91 - 72.91	45.98	NE	<0.0053	<0.0053	0.000063 J	0.0005		<0.00011	<0.0053	0.0187	0.0282	0.0065 J	0.0137	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.00075	0.0766 J	0.00009 J
	P59-ROX-110212-DUP	11/2/2012		45.98	NE	<0.0052	<0.0052	0.000066 J	0.00048		<0.0001	<0.0052	0.0179	0.0268	0.0056 J	0.0116	<0.01	<0.0052	<0.0052	<0.0052	<0.01	0.00073	0.0656 J	0.000093 J
P-66	P66-ROX-110111	11/1/2011	34.72 - 59.72	28.92	NE	<0.005	<0.005	0.00017	0.003		<0.0001	<0.005	0.093	0.0295	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	0.0013	<0.005	0.00029
	P66-ROX-051012	5/10/2012		32.48	NE	0.00054 J	<0.005	0.000056 J	0.0015		<0.0001	<0.005	0.0647	0.025	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	0.00057	<0.005	0.000082 J
	P66-ROX-080312	8/3/2012		30.51	NE	<0.0053	<0.0053	0.000082 J	0.0011		<0.00011	<0.0053	0.0541	0.028	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.00057	<0.0053	0.00013
	P66-ROX-103112	10/31/2012	34.72 - 59.72	34.75	NE	<0.005	<0.005	<0.000051 U	0.0017		<0.0001	<0.005	0.0689	0.0268	<0.01	<0.01	<0.01	<0.005	<0.005 UJ	<0.005	<0.01	0.00054	<0.005 UJ	<0.00007 U
P-74	P74-ROX-103111	10/31/2011	44.43 - 69.43	36.26	NE	<0.005	<0.005	<0.0001	0.00044		<0.0001	<0.005	0.0177	0.0265	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	0.00025	0.0127	<0.0001
	P74-ROX-011912	1/19/2012		38.77	NE	<0.0048	<0.0048	<0.000095	<0.000095		<0.000095	<0.0048	<0.00019	<0.00019	<0.0095	<0.0095	<0.0095 UJ	<0.0048	<0.0048	<0.0048	<0.0095	<0.000048	0.002 J	<0.000095
	P74-ROX-050712	5/7/2012		39.92	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	0.00016 J	<0.00021	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	0.000047 J	0.0089	<0.0001
	P74-ROX-080612	8/6/2012		40.71	NE	<0.00082 U	<0.005	<0.0001	0.00021		<0.0001	<0.005	0.009	0.0103	0.0014 J	0.001 J	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00012 U	0.0158	<0.0001
	P74-ROX-110112	11/1/2012	44.43 - 69.43	41.72	NE	<0.0052	<0.0052	<0.0001	0.0003		<0.0001	<0.0052	0.0123	0.0136	0.0054 J	0.002 J	<0.01	<0.0052	<0.0052 UJ	<0.0052	<0.01	0.00013	0.0307 J	<0.0001
P-93A	P93A-102610	10/26/2010	48.17 - 63.17	40.75	NE	<0.009	<0.009	<0.009	<0.009		<0.009	<0.009		0.023	<0.009	<0.009	<0.019	<0.009		<0.009	<0.009	<0.009	0.31 D J	<0.009
	P93A-ROX_012611	1/26/2011		40.97	NE	<0.0049	<0.0049	<0.0049	0.00032 J		<0.0049	<0.0049		0.0254	<0.0098	0.064	<0.0098 UJ	<0.0049		<0.0049	<0.0098	0.0004 J	0.172	<0.0049
	P93A-ROX-050511	5/5/2011		41.88	NE	<0.001 U	<0.005	0.000019 J J	0.00044 J		<0.0001 UJ	<0.005	0.0172 J	0.0309 J	<0.01	0.0075 J	<0.01	<0.005 UJ	<0.005	<0.005	<0.01	0.0004 J	0.21	0.000026 J
	P93A-ROX-081811	8/18/2011		38.86	NE	<0.001 U	<0.005	<0.000033 U	0.00047		<0.0001	<0.005	0.0224	0.0302	<0.01	0.0093 J	<0.01	<0.005	<0.005	<0.005	<0.01	0.00043	0.183	0.000037 J
	P93A-ROX-102611	10/26/2011		39.43	NE	<0.005	<0.005	<0.0001	0.00033		<0.0001	<0.005	0.0162	0.0258	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	0.00032	0.193	<0.0001
	P93A-ROX-012012	1/20/2012		41.66	NE	<0.00038 U	<0.0048	<0.000095	<0.000095		<0.000095	<0.0048	0.0133	0.0188	<0.0095	0.0029 J	<0.0095	<0.0048	<0.0048	<0.0048	<0.0095	<0.00022 U	0.234	<0.000095
	P93A-ROX-050812	5/8/2012		42.75	NE	<0.0051	<0.0051	<0.0001	0.00021		<0.0001	<0.0051	0.0121	0.0151	<0.01	0.0014 J	<0.01	<0.0051	<0.0051	<0.0051	<0.01	0.00021	<0.0051	<0.0001
	P93A-ROX-080912	8/9/2012		43.66	NE	<0.0054	<0.0054	<0.00011	0.00021		<0.00011	<0.0054	0.0097	0.013	<0.011	0.00096 J	<0.011	<0.0054	<0.0054	<0.0054	<0.011	0.00025	0.208	<0.00011
	P93A-ROX-110712	11/7/2012	48.17 - 63.17	45.00	NE	<0.0052	<0.0052	<0.0001	0.00029		<0.0001	<0.0052	0.015	0.0194	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	0.00028 B	0.19	<0.0001
	P93A-ROX-110712-DUP	11/7/2012		45.00	NE	<0.0052	<0.0052	<0.0001	0.00037		<0.0001	<0.0052	0.016	0.0206	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	0.00034 B	0.217	<0.0001
P-93B	P93B-102610	10/26/2010	74.60 - 76.60	40.73	NE	<0.009	<0.009	<0.009	<0.009		<0.009	<0.009		<0.009	<0.009	<0.009	<0.019	<0.009		<0.009	<0.009	<0.009	0.094	<0.009
	P93B-ROX_012611	1/26/2011		41.03	NE	<0.0053	<0.0053	<0.0053	<0.0053		<0.0053	<0.0053		<0.0053	<0.011	<0.011	0.00069 J J	<0.0053		<0.0053	<0.011	<0.0053	0.106	<0.0053
	P93B-ROX-050511	5/5/2011		41.96	NE	<0.001 U	<0.005	<0.0001 UJ	<0.0001 UJ		<0.0001 UJ	<0.005	<0.005 UJ	<0.0002 UJ	<0.01	<0.01	<0.01	<0.005 UJ	<0.005	<0.005	<0.01	0.000017 J J	0.0933	<0.0001
	P93B-ROX-081811	8/18/2011		38.91	NE	<0.00077 U	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	0.116	<0.0001
	P93B-ROX-102611	10/26/2011		39.48	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	0.122	<0.0001
	P93B-ROX-012012	1/20/2012		41.72	NE	<0.0048	<0.0048	<0.000095	<0.000095		<0.000095	<0.0048	<0.00019	<0.00019	<0.0095	<0.0095	<0.0095	<0.0048	<0.0048	<0.0048	<0.0095	<0.000048	0.107	<0.000095
	P93B-ROX-050812	5/8/2012		42.79	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	<0.0051	<0.0001
	P93B-ROX-080912	8/9/2012		43.69	NE	<0.0054	<0.0054	<0.00011	<0.00011		<0.00011	<0.0054	<0.00022	<0.00022	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	<0.000054	0.178	<0.00011
	P93B-ROX-110712	11/7/2012	74.60 - 76.60	44.98	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	0.00026	0.00045 B	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	0.13	<0.0001
	P93B-ROX-110712-DUP	11/7/2012		44.98	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	0.0003	0.0005 B	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	0.114	<0.0001

SEE LAST PAGE OF TABLE FOR NOTES

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

						SVOCs																
						Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	Isophorone (3,5,5-trimethyl-2-cyclohexene-1-one)	1-Methylnaphthalene	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3 & 4-Methylphenol (m & p-Cresol)	3-Nitroaniline	Nitrobenzene	N-Nitrosodimethylamine	N-Nitrosodiphenylamine	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
						Screening Values (mg/L)	0.7 [2]	0.14 [2]	0.28 [2]	0.28 [2]		0.00043 [2]	1.4 [2]	0.49 [3]	0.028 [4]	0.35 [2]	0.35 [3]		0.0035 [2]	0.0006 [3]	0.0032 [2]	0.001 [2]	0.21 [3]	0.1 [1]	0.21 [2]
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	LNAPL Thickness (ft)	ANALYTICAL RESULTS (mg/L)																		
P-93C	P93C-102610	10/26/2010	94.26 - 96.26	40.69	NE	<0.009	<0.009	<0.009	<0.009		<0.009	<0.009		<0.009	<0.009	<0.009	<0.019	<0.009		<0.009	<0.009	<0.009	<0.009	<0.009
	P93C-ROX_012611	1/26/2011		40.91	NE	<0.0051	<0.0051	<0.0051	<0.0051		<0.0051	<0.0051		<0.0051	<0.01	<0.01	<0.01 UJ	<0.0051		<0.0051	<0.01	<0.0051	0.0166	<0.0051
	P93C-ROX-050611	5/6/2011		41.84	NE	<0.0011 U	<0.005	<0.0001 UJ	<0.0001 UJ		<0.0001 UJ	<0.005	<0.005 UJ	0.00009 J J	<0.01	<0.01	<0.01	<0.005 UJ	<0.005	<0.005	<0.01	<0.00005 UJ	0.0144	<0.0001
	P93C-ROX-081811	8/18/2011		38.79	NE	<0.00064 U	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.000033 U	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	0.0046 J	<0.0001
	P93C-ROX-102611	10/26/2011		39.36	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0052	<0.0001
	P93C-ROX-012012	1/20/2012		41.57	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	<0.0051	<0.0001
	P93C-ROX-050812	5/8/2012		42.68	NE	<0.0053	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	<0.00021	<0.00021	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.000053	<0.0053	<0.00011
	P93C-ROX-080912	8/9/2012		43.57	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0052	<0.0001
	P93C-ROX-110812	11/8/2012	94.26 - 96.26	45.12	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
P-93D	P93D-102610	10/26/2010	-	40.59	NE	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
	P93D-ROX-050511	5/5/2011	125.75 - 127.75	41.96	NE	<0.0011 U	<0.005	<0.0001 UJ	<0.0001 UJ		<0.0001 UJ	<0.005	<0.005 UJ	0.000045 J J	<0.01	<0.01	<0.01	<0.005 UJ	<0.005	<0.005	<0.01	<0.00005 UJ	<0.005	<0.0001
	P93D-ROX-081811	8/18/2011		38.94	NE	<0.0011 U	<0.005	<0.000023 U	<0.0001		<0.0001	<0.005	<0.0002	<0.000042 U	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	0.000021 J
	P93D-ROX-102711	10/27/2011		39.59	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	P93D-ROX-012012	1/20/2012		41.77	NE	<0.0054	<0.0054	<0.00011	<0.00011		<0.00011	<0.0054	<0.00022	<0.00006 U	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	<0.000054	<0.0054	<0.00011
	P93D-ROX-050812	5/8/2012		42.96	NE	<0.0051	<0.0051	<0.0001	<0.0001		<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	<0.0051	<0.0001
	P93D-ROX-080812	8/8/2012		43.71	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	0.0004	<0.00042 U	0.00076 J	0.0011 J	<0.01	<0.0052	<0.0052	<0.0052	<0.01	0.000054	<0.0052	<0.0001
	P93D-ROX-110812	11/8/2012	125.75 - 127.75	44.98	NE	<0.0055	<0.0055	<0.00011	<0.00011		<0.00011	<0.0055	<0.00022	<0.00022	<0.011	<0.011	<0.011	<0.0055	<0.0055	<0.0055	<0.011	<0.000055	<0.0055	<0.00011
P-114	P114-ROX-102811	10/28/2011	32.67 - 52.67	24.73	NE	<0.0048	<0.0048	<0.000095	<0.000095		<0.000095	<0.0048	<0.00019	<0.00019	<0.0095	<0.0095	<0.0095	<0.0048	<0.0048	<0.0048	<0.0095	<0.000048	<0.0048	<0.000095
	P114-ROX-012012	1/20/2012		27.17	NE	<0.0051	<0.0051	<0.0001	<0.0001		0.000066 J	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	<0.0051	<0.0001
	P114-ROX-050912	5/9/2012		28.09	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.00005	<0.0052	<0.0001
	P114-ROX-080912	8/9/2012		29.13	NE	<0.005	<0.005	<0.0001	<0.0001		<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
	P114-ROX-110912	11/9/2012	32.67 - 52.67	30.90	NE	<0.0052	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0052	<0.0001
ROST-3-PZ	ROST3PZ-ROX-051412	5/14/2012	40.00 - 50.00	38.82	NE	<0.00043 U	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	0.0002 J	0.00017 J	<0.01	0.0087 J	<0.01	<0.0052	<0.0052	<0.0052	<0.01	0.000043 J	<0.0052	<0.0001
	ROST3PZ-ROX-080712	8/7/2012		39.00	NE	0.0049 J	<0.0054	<0.00011	<0.00011		<0.00011	<0.0054	0.00031	0.00038 J	<0.011	0.0056 J	<0.011	<0.0054	<0.0054	<0.0054	<0.011	<0.000054	<0.0054	<0.00011
	ROST3PZ-ROX-110112	11/1/2012	40.00 - 50.00	40.82	NE	0.0017 J	<0.0053	<0.00011	<0.00011		<0.00011	<0.0053	0.00028	0.00031	<0.011	0.0019 J	<0.011	<0.0053	<0.0053 UJ	<0.0053	<0.011	<0.000053	<0.0053 UJ	<0.00011
ROST-4-PZ(C)	ROST4PZ-C-051412	5/14/2012	34.95 - 44.95	39.04	NE	<0.00058 U	<0.005	<0.0001	0.00022		<0.0001	<0.005	0.0044	0.0049	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	0.00082	<0.005	0.000041 J
	ROST4PZ-C-ROX-072512	7/25/2012		39.10	NE	0.0015 J	<0.0053	<0.000041 U	0.00032 B		<0.00011	<0.0053	0.0102	0.0136	<0.011	0.00098 J	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.0014	0.0023 J	<0.000081 U
	ROST4PZC-ROX-102912	10/29/2012	34.95 - 44.95			0.0018 J	<0.0052	<0.0001	<0.0001		<0.0001	<0.0052	0.0004	0.00041	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	0.0002	<0.0052	<0.0001
T-12	T12-ROX-102711	10/27/2011	46.46 - 72.46	38.54	NE	<0.0051	<0.0051	<0.0001	0.0006		<0.0001	<0.0051	0.0264	0.0415	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	0.0015	0.0167	0.0001
	T12-ROX-011912	1/19/2012		41.0	NE	<0.00048 U	<0.0056	0.000044 J	0.00043		0.000061 J	<0.0056	0.0158	0.0186	0.00091 J	<0.011	<0.011 UJ	<0.0056	<0.0056	<0.0056	<0.011	0.00054	0.0188	0.000067 J
	T12-ROX-050912	5/9/2012		42.62	NE	<0.005	<0.005	<0.0001	0.00024		<0.0001	<0.005	0.0164	0.0254	<0.01	0.0026 J	<0.01	<0.005	<0.005	<0.005	<0.01	0.00062	0.0094	0.000039 J
	T12-ROX-080212	8/2/2012		41.92	NE	<0.0054	<0.0054	0.000046 J	0.00029		<0.00011	<0.0054	0.0199	0.0294	0.0021 J	0.0027 J	<0.011	<0.0054	<0.0054	<0.0054	<0.011	0.00089	0.042	0.000062 J
	T12-ROX-110512	11/5/2012	46.46 - 72.46	43.91	NE	<0.005	<0.005	<0.0001	0.00031		<0.0001	<0.005	0.0232	0.0354	0.00096 J	0.0015 J	<0.01	<0.005	<0.005	<0.005	<0.01	0.00083	<0.005 UJ	0.000048 J

Notes:

[1] Denotes screening critieria source from 35 I.A.C. 620, Subpart D.

[2] Denotes screening critieria source from 35 I.A.C. 742 (TACO), Appendix B, Table E.

[3] Denotes screening criteria source from IL EPA Toxicity Assessment Unit (Chemicals not in TACO, Tier I Tables).

[4] Denotes screening criteria source R2008-018, Proposed Revisions to Groundwater Quality Standards, 35 I.A.C. 620.

[5] Beginning in 4Q12, naphthalene was analyzed via 8260 VOC, and prior historic results were reported by PAH analysis.

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

LABORATORY QUALIFIERS:

B = Target analyte or common lab contaminant was identified in the method blank indicating poss ble field or lab contamination.

D = The result is from a diluted sample.

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

The following EVS Descriptions and Assumptions apply to **Figure 6.** C Tech Development Corporation's Environmental Visualization System PRO, Version 9.52 (EVS-PRO) was used to model the estimated distribution of benzene in the groundwater.

EVS Descriptions and Assumptions:

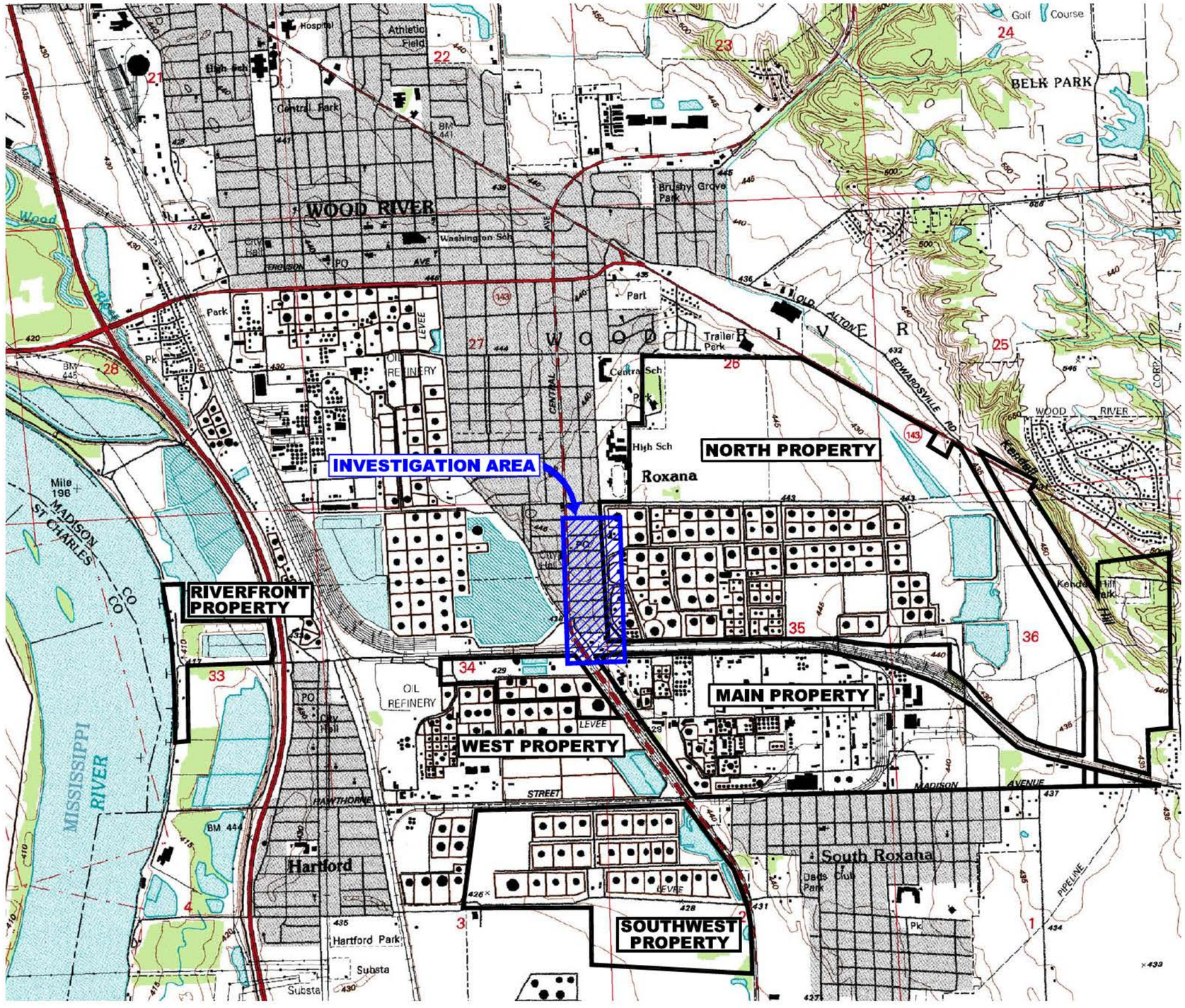
Plan View Model Output – The data input for the plan view model was not limited by depth and was modeled in two dimensions (2D). Regardless of sample depth, benzene concentrations were modeled on a flat horizontal plane.

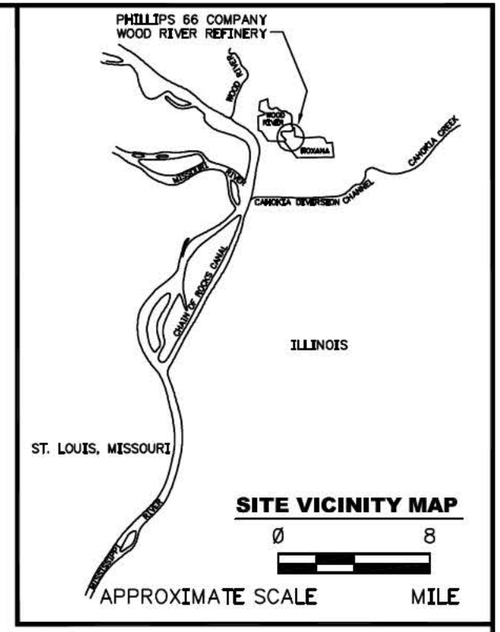
Inward Kriging / Boundary Cut-off – This method of Kriging limits the horizontal extent of data modeling to the extent of the data on the x/y plane in a convex hull.

More simply, if each soil boring location were represented by a tack pushed into the model's surface and a rubber band stretched around them, the model would be represented by the space inside the rubber band.

Duplicate Samples – Analytical concentrations from duplicate samples collected at the same location and depth were averaged.

Detection Limits – In cases where the lab reported a non-detect, half the value of the lab detection limit was used in the model. This conservative method is based on the assumption that the soil is likely not free of benzene but the quantity contained is lower than detectable at the analyzed dilution.





LEGEND

- WOOD RIVER REFINERY PROPERTY BOUNDARY
- INVESTIGATION AREA

SOURCE: ELECTRONIC USGS DIGITAL RASTER GRAPHIC 7.5 MINUTE TOPOGRAPHIC MAP OF WOOD RIVER, IL–MO REVISED 1994.

CONTOUR INTERVAL = 5 FT

Ø 2000

APPROXIMATE SCALE MILE

N

SHELL OIL PRODUCTS US
INTERIM GROUNDWATER MONITORING PROGRAM
ROXANA, ILLINOIS

PROJECT NO. 21562735

URS

DRN. BY: djd January 2013
DSGN. BY: djd
CHKD. BY: kh

Investigation Area Location Map

FIG. NO. 1

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\B-ROXANA-ROUTE 111\21560XXX_ROXANA | # A QUARTERLY GW\2012\4TH QUARTER 2012\FIGURES\FIGURE 1 INVESTIGATION AREA LOCATION MAP.DWG Last edited: 12/03/12 @ 4:02 p.m. @ WCC-STLOUIS

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\B-ROXANA-ROUTE 111\2156XXXX_ROXANA I & A\QUARTERLY GW\2012\4TH QUARTER 2012\FIGURES\FIGURE 2 GROUNDWATER MONITORING WELL SAMPLING LOCATIONS.DWG Last edited: DEC. 03, 12 @ 4:24 p.m. by: david_deguire

LEGEND

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

NOTES:
1. * INDICATES PERCHED GROUNDWATER MONITORING WELLS.
2. GROUNDWATER MONITORING WELL P-55 WAS FOUND TO BE COMPROMISED DURING 3Q12 AND 4Q12 WAS NOT SAMPLED.

FIRST ST
PZ-1(101)
PZ-1(85)
MW-9
MW-10
SECOND ST
THIRD ST
ROST-3PZ
FOURTH ST
* ROST-7-PZ
FIFTH ST
* ROST-21-PZ
SIXTH ST
SEVENTH ST
EIGHTH ST
MW-5
MW-7
MW-8
VILLAGE OF ROXANA
HIGHWAY 111 (S. CENTRAL AVE)
CHAFFEE ST
RAND AVENUE
1986 APPROXIMATE BENZENE RELEASE SITE
BP
WEST PROPERTY
NORTH PROPERTY
WOOD RIVER REFINERY
MAIN PROPERTY
T-1
P-55
ROST-4-PZ(A)
ROST-4-PZ(B)
ROST-4-PZ(C)
ROST-4-PZ
ROST-4-PZ(D)
ROST-4-PZ(E)
ROST-4-PZ(F)
ROST-4-PZ(G)
MW-11
* ROST-5-PZ
P-54
P-60-S
P-60-12
* P-60-12S
P-68
P-60-13
* P-60-13S
T-12
A-28
T-24
A-33
P-69
A-27
P-70
P-74
P-59
P-61
GP-9-PZ
PZ-2(84)
PZ-2(70.5)
MW-12
* ROST-10-PZ
P-56
MW-2
MW-1
T-6
P-57
MW-4
MW-3
P-93A
P-93B
P-93C
P-93D
P-73
P-58
P-66
P-75
MW-6A
MW-6B
MW-6C
MW-6D
MW-13
P-114
MW-14

0 200
SCALE FEET

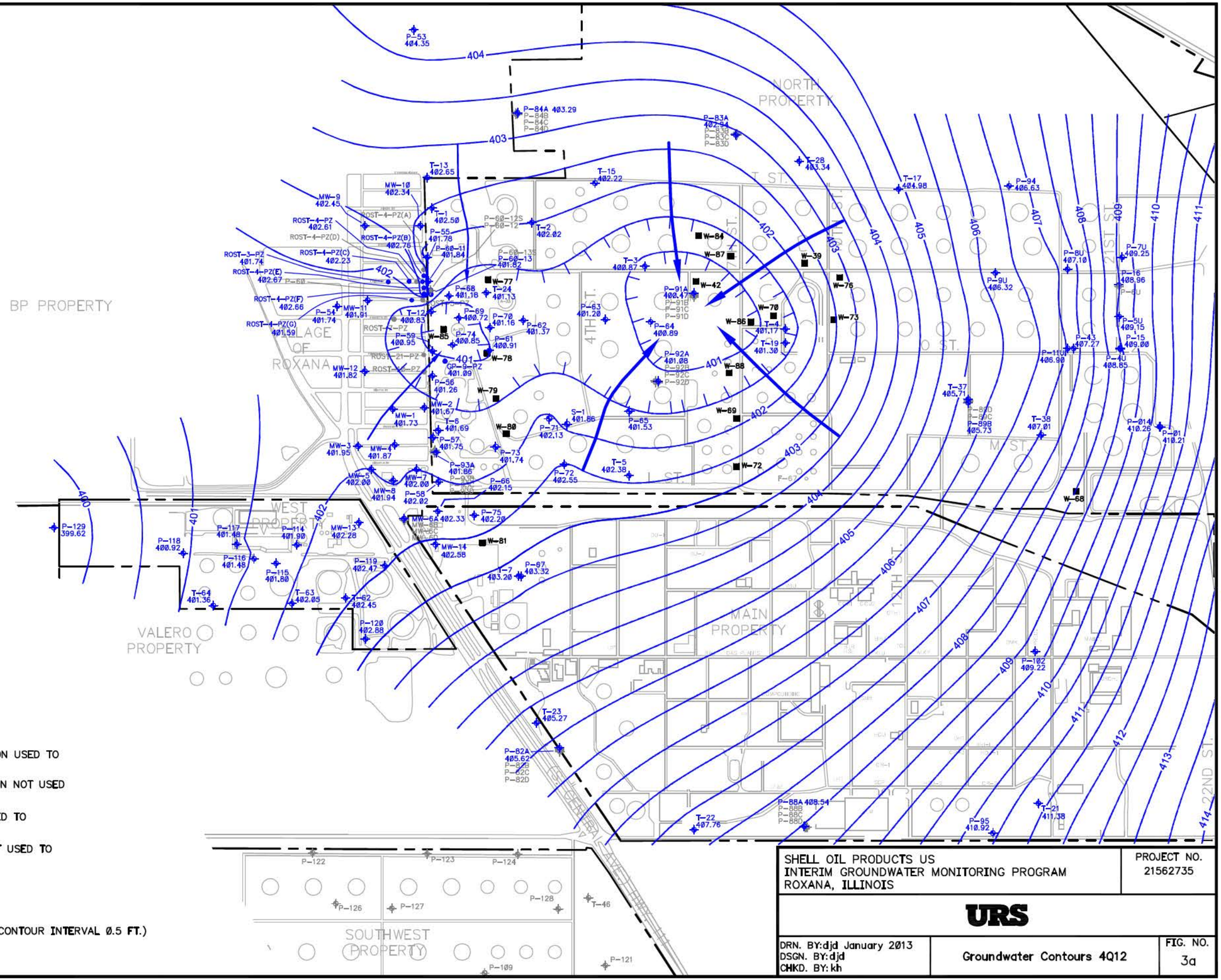
SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS	PROJECT NO. 21562735
URS	
DRN. BY:djd January 2013 DSGN. BY:jm CHKD. BY:kh	Groundwater Monitoring Well Sampling Locations — FIG. NO. 2

NOTES:

1) CONTOUR LINES PRIMARILY GENERATED BY SURFER VERSION 8 MODELING OF GROUNDWATER ELEVATIONS. SOME INTERPRETATION WAS DONE UTILIZING PROFESSIONAL JUDGMENT AND CONTOUR LINES WERE MODIFIED BY HAND.

2) ELEVATIONS ARE RELATIVE TO 1988 USGS DATUM.

3) COMPREHENSIVE GROUNDWATER ELEVATIONS WERE MEASURED OCTOBER 1–2 AND 4, 2012.



N

0 800

SCALE FEET

LEGEND

- GROUNDWATER MONITORING WELL LOCATION USED TO GENERATE GROUNDWATER CONTOURS
- GROUNDWATER MONITORING WELL LOCATION NOT USED TO GENERATE GROUNDWATER CONTOURS
- GROUNDWATER PIEZOMETER LOCATION USED TO GENERATE GROUNDWATER CONTOURS
- GROUNDWATER PIEZOMETER LOCATION NOT USED TO GENERATE GROUNDWATER CONTOURS
- WRR GROUNDWATER DEPRESSION WELLS
- GROUNDWATER GRADIENT
- 407 GROUNDWATER SURFACE CONTOUR NGVD (CONTOUR INTERVAL 0.5 FT.)

SHELL OIL PRODUCTS US
INTERIM GROUNDWATER MONITORING PROGRAM
ROXANA, ILLINOIS

PROJECT NO. 21562735

URS

DRN. BY: djd January 2013
DSGN. BY: djd
CHKD. BY: kh

Groundwater Contours 4Q12

FIG. NO. 3a

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\B-ROXANA-ROUTE 111\2156XXXX_ROXANA I & A\QUARTERLY GW\2012\4TH QUARTER 2012\FIGURES\FIGURE 3B ROXANNA 4Q12 CONTOUR MAP.DWG Last edited: JAN. 04, 13 @ 10:42 a.m. by: david_deguire

LEGEND

- GROUNDWATER MONITORING WELL LOCATION USED TO GENERATE GROUNDWATER CONTOURS
- GROUNDWATER MONITORING WELL LOCATION NOT USED TO GENERATE GROUNDWATER CONTOURS
- GROUNDWATER PIEZOMETER LOCATION USED TO GENERATE GROUNDWATER CONTOURS
- GROUNDWATER PIEZOMETER LOCATION NOT USED TO GENERATE GROUNDWATER CONTOURS
- WRR GROUNDWATER PRODUCTION WELL
- 404 GROUNDWATER SURFACE CONTOUR NGVD (CONTOUR INTERVAL 0.5 FT)
- GROUNDWATER GRADIENT

NOTES:
1) CONTOUR LINES PRIMARILY GENERATED BY SURFER VERSION 8 MODELING OF GROUNDWATER ELEVATIONS. SOME INTERPRETATION WAS DONE UTILIZING PROFESSIONAL JUDGMENT AND CONTOUR LINES WERE MODIFIED BY HAND.

2) ELEVATIONS ARE RELATIVE TO 1988 USGS DATUM.

3) COMPREHENSIVE GROUNDWATER ELEVATIONS WERE MEASURED OCTOBER 1-2 AND 4, 2012.

FIRST ST
SECOND ST
THIRD ST
FOURTH ST
FIFTH ST
SIXTH ST
SEVENTH ST
EIGHTH ST
HIGHWAY 111 (S. CENTRAL AVE)
CHAFFER ST
RAND AVENUE
VILLAGE OF ROXANA
NORTH PROPERTY
MAIN PROPERTY
WEST PROPERTY
WOOD RIVER REFINERY
PUBLIC WORKS YARD
BP
1986 APPROXIMATE BENZENE RELEASE SITE

T-1 402.50
PZ-1(101)
PZ-1(85)
MW-9 402.45
MW-10 402.34
ROST-4-PZ(A)
P-55 401.78
ROST-4-PZ 402.61
ROST-4-PZ(B) 402.76
P-60-11 401.84
ROST-4-PZ(C) 402.23
ROST-4-PZ(D)
P-60-12
P-60-12S
P-60
P-60-S
W-77
ROST-3PZ 401.74
ROST-4-PZ(E) 402.67
P-60-13 401.82
P-60-13S
A-28
MW-11 401.91
ROST-4-PZ(F) 402.66
P-68 401.18
T-24 401.13
P-54 401.74
ROST-4-PZ(G) 401.59
ROST-5-PZ
T-12 400.83
P-69 400.72
ROST-7-PZ
P-70 401.16
A-27
W-85
P-74 400.85
P-59 400.95
P-61 400.91
W-78
ROST-21-PZ
GP-9-PZ 401.09
PZ-2(84)
PZ-2(70.5)
ROST-10-PZ
MW-12 401.82
P-56 401.26
W-79
MW-1 401.73
MW-2 401.67
T-6 401.69
P-57 401.75
MW-4 401.87
MW-3 401.95
P-93A 401.86
P-93B
P-93C
P-93D
P-73 401.74
MW-7 402.00
MW-5 402.00
MW-8 401.94
P-58 402.02
P-66 402.15
P-75 402.20
MW-13 402.28
402.33 MW-6A
MW-6B
MW-6C
MW-6D
P-114 401.90
MW-14 402.58
W-81
402
401

0 200
SCALE FEET

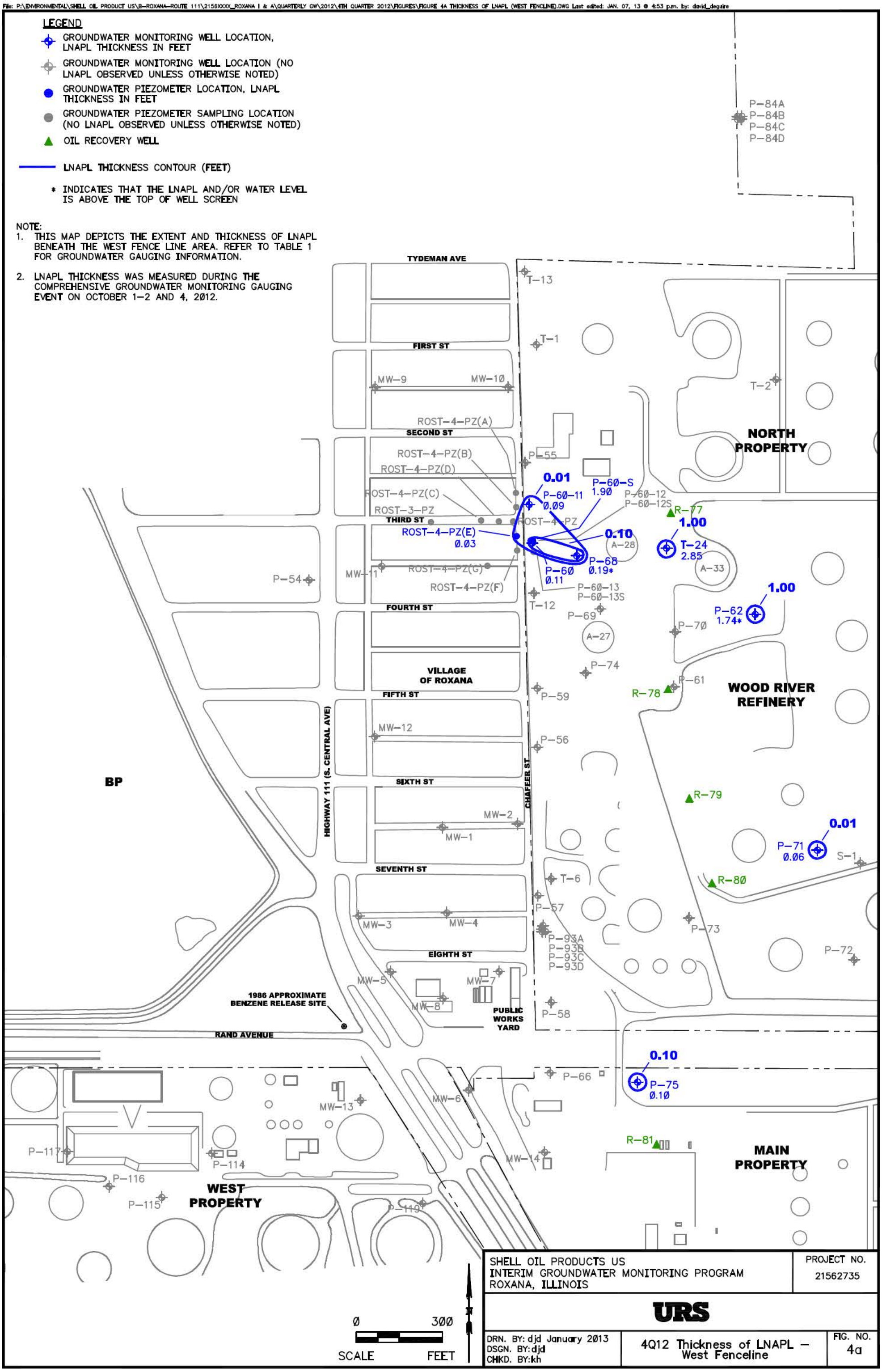
SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS	PROJECT NO. 21562735
URS	
DRN. BY:djd January 2013 DSGN. BY:jm CHKD. BY:kh	Groundwater Contours 4Q12-West Fenceline FIG. NO. 3b

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\B-ROXANA-ROUTE 111\2156XXXX_ROXANA I & A\QUARTERLY GW\2012\4TH QUARTER 2012\FIGURES\FIGURE 4A THICKNESS OF LNAPL (WEST FENCLINE).DWG Last edited: JAN. 07, 13 @ 4:53 p.m. by: david_deguire

LEGEND

- GROUNDWATER MONITORING WELL LOCATION, LNAPL THICKNESS IN FEET
- GROUNDWATER MONITORING WELL LOCATION (NO LNAPL OBSERVED UNLESS OTHERWISE NOTED)
- GROUNDWATER PIEZOMETER LOCATION, LNAPL THICKNESS IN FEET
- GROUNDWATER PIEZOMETER SAMPLING LOCATION (NO LNAPL OBSERVED UNLESS OTHERWISE NOTED)
- OIL RECOVERY WELL
- LNAPL THICKNESS CONTOUR (FEET)
- * INDICATES THAT THE LNAPL AND/OR WATER LEVEL IS ABOVE THE TOP OF WELL SCREEN

NOTE:
1. THIS MAP DEPICTS THE EXTENT AND THICKNESS OF LNAPL BENEATH THE WEST FENCE LINE AREA. REFER TO TABLE 1 FOR GROUNDWATER GAUGING INFORMATION.
2. LNAPL THICKNESS WAS MEASURED DURING THE COMPREHENSIVE GROUNDWATER MONITORING GAUGING EVENT ON OCTOBER 1-2 AND 4, 2012.



SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS		PROJECT NO. 21562735
URS		
DRN. BY: djd January 2013 DSGN. BY: djd CHKD. BY: kh	4Q12 Thickness of LNAPL – West Fenceline	FIG. NO. 4a

LEGEND

- GROUNDWATER MONITORING WELL LOCATION GAUGED, LNAPL THICKNESS IN FEET
- GROUNDWATER MONITORING WELL LOCATION (NO LNAPL OBSERVED UNLESS OTHERWISE NOTED)
- GROUNDWATER PIEZOMETER SAMPLING LOCATION
- GROUNDWATER PIEZOMETER SAMPLING LOCATION NOT SAMPLED
- OIL RECOVERY WELL
- LNAPL THICKNESS CONTOUR (FEET)

* INDICATES THAT THE LNAPL AND/OR WATER LEVEL IS ABOVE THE TOP OF WELL SCREEN

NOTE:
1. THIS MAP DEPICTS THE EXTENT AND THICKNESS OF LNAPL BENEATH THE WEST FENCE LINE AREA. REFER TO TABLE 1 FOR GROUNDWATER GAUGING INFORMATION.
2. LNAPL THICKNESS WAS MEASURED DURING A COMPREHENSIVE GROUNDWATER MONITORING GAUGING EVENT ON OCTOBER 1–2 AND 4, 2012.

BP PROPERTY

NORTH PROPERTY

SHELL OIL COMPANY PROPERTY

WEST PROPERTY

MAIN PROPERTY

VALERO PROPERTY

VILLAGE OF HARTFORD

ILLINOIS TERMINAL RAILROAD

RAND AVE.

T ST. R ST. O ST. M ST. L ST.

4TH ST. 7TH ST. 10TH ST. 12TH ST. 21ST ST. 22ND ST.

ROUTE 1

ROST-4-PZ(A) ROST-4-PZ(B) ROST-4-PZ(C) ROST-4-PZ(D) ROST-4-PZ(E) 0.03 ROST-4-PZ(F) ROST-4-PZ(G)

P-60-11 0.09 P-60-S 1.90 P-60 0.11 P-68 0.19* P-62 1.74* P-64 0.06* P-71 0.06 P-75 0.10 T-24 2.85 T-7 0.03* 0.01 1.00 0.10

R-77 R-78 R-79 R-80 R-81 R-40 R-42 R-39 R-76 R-67 R-73 R-64 R-75 R-69

P-53 P-84A P-84B P-84C P-84D P-83A P-83B P-83C P-83D P-55 P-54 P-74 P-59 P-56 P-57 P-58 P-66 P-67 P-93A P-93B P-93C P-93D P-73 P-72 P-65 P-63 P-61 P-70 P-69 P-92A P-92B P-92C P-92D P-91A P-91B P-91C P-91D P-89D P-89C P-89B P-94 P-8 P-9 P-7 P-16 P-6 P-5 P-11 P-15 P-43 P-4 P-014 P-01 P-102 P-129 P-117 P-118 P-116 P-115 P-114 P-119 P-120 P-122 P-123 P-124 P-126 P-127 P-128 P-125

T-13 T-1 T-2 T-3 T-05 T-28 T-17 T-4 T-19 T-37 T-38 T-8 T-46 T-64 T-63 T-62 T-23 T-22 T-21 T-5

S-1

DU-1 DU-2 VBU CCU1 CCU2 CRNT BAU GAS PLANTS BBU KBU TOL ALKY DMK MAINT. PURCH. COMPOUNDING SMR HCU ONT MXE-1 HDU-1 HDU-2 CR-1 CR-2 CR-3 LHT SGP LFME PLW

N

Ø 1ØØØ

SCALE FEET

REFERENCE: SHELL DRAWING E-36137-12

SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS		PROJECT NO. 21562735
URS		
DRN. BY: djd January 2013 DSGN. BY: lr CHKD. BY: kh	4Q12 Thickness of LNAPL	FIG. NO. 4b

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\B-ROXANA-ROUTE 111\21562000_ROXANA 1 & 2\QUARTERLY GW\2012\4TH QUARTER 2012\FIGURES\FIGURE 4B THICKNESS OF LNAPL (RENNER).DWG Last edited: JAN. 07, 13 @ 4:55 p.m. by: dahl.dejulio

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\B-ROXANA-ROUTE 111\2156XXXX_ROXANA I & A\QUARTERLY GW\2012\4TH QUARTER 2012\FIGURES\FIGURE 5 4Q12 GROUNDWATER ANALYTICAL RESULTS SUMMARY.DWG Last edited: JAN. 07, 13 @ 4:49 p.m. by: dkv44_degutre

LEGEND

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

NOTES:

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

Analyte	Screening Criteria (mg/L)
Benzene	0.005
Ethylbenzene	0.7
Chloroform	0.0002
MTBE	0.07
Naphthalene	0.14
Toluene	1
1,3,5-Trimethylbenzene	0.07
Benzo(a)anthracene	0.00013
Benzo(a)pyrene	0.0002
Benzo(b)fluoranthene	0.00018
Benzo(k)fluoranthene	0.00017
bis(2-Ethylhexyl)phthalate	0.006
Dibenzo(a,h)anthracene	0.0003
Indeno(1,2,3-cd)pyrene	0.00043
2-Methylnapthalene	0.028
Pentachlorophenol	0.001
Phenol	0.1

3. J = THE TARGET ANALYTE WAS DETECTED BELOW THE REPORTING LIMIT AND THE RESULT IS ESTIMATED.

   B = TARGET ANALYTE OR LAB CONTAMINANT WAS IDENTIFIED IN THE METHOD BLANK, INDICATING POSSIBLE FIELD OR LAB CONTAMINATION.
4. MULTIPLE RESULTS (e.g., 833/863) INDICATE DUPLICATE SAMPLES.
5. WELLS IDENTIFIED IN BLUE WITH NO DATA BOX INDICATE THE RESULTS DID NOT EXCEED SCREENING CRITERIA.
6. GROUNDWATER MONITORING WELL P-55 WAS FOUND TO BE COMPROMISED DURING 3Q12 AND 4Q12 AND WAS SAMPLED.

Sample Location	MW-10
Sampled 12/17/12	Result (mg/L)
Chloroform	0.00095 J

Sample Location	ROST-3-PZ
Sampled 11/1/12	Result (mg/L)
Benzene	0.0052

Sample Location	T-12
Sampled 11/5/12	Result (mg/L)
Benzene	1.71
Ethylbenzene	1.73
2-Methylnaphthalene	0.0354

Sample Location	P-59
Sampled 11/2/12	Result (mg/L)
Benzene	10.3/10.5
Ethylbenzene	1.87/1.94
Toluene	1.09/1.1
1,3,5-Trimethylbenzene	0.154 J/0.167 J
2-Methylnaphthalene	0.0282

Sample Location	P-74
Sampled 11/1/12	Result (mg/L)
Benzene	3.5

Sample Location	P-56
Sampled 10/31/12	Result (mg/L)
Benzene	0.176
Ethylbenzene	1.29
Naphthalene	0.167
1,3,5-Trimethylbenzene	0.0901
2-Methylnaphthalene	0.0307

Sample Location	MW-2
Sampled 10/26/12	Result (mg/L)
Benzene	0.0142
Ethylbenzene	0.763
1,3,5-Trimethylbenzene	0.129
Benzo(a)anthracene	0.00016

Sample Location	P-57
Sampled 11/5/12	Result (mg/L)
Benzene	142
Ethylbenzene	1.09
Naphthalene	1.53 J
2-Methylnaphthalene	0.0305

Sample Location	P93A	P93B	P93D
Sampled 11/7/12 - 11/8/12	Result (mg/L)	Result (mg/L)	Result (mg/L)
Benzene	148/156	162 J/413 J	0.049
Phenol	0.19/0.217	0.13/0.114	

Sample Location	MW-4
Sampled 10/29/12	Result (mg/L)
Benzene	0.354

Sample Location	MW-5
Sampled 10/29/12	Result (mg/L)
Benzene	0.0628

Sample Location	MW-7
Sampled 10/30/12	Result (mg/L)
Benzene	833/863

Sample Location	P-58
Sampled 11/6/12, 12/10/12	Result (mg/L)
Benzene	415
Ethylbenzene	0.844
1,3,5-Trimethylbenzene	0.108 J
bis(2-Ethylhexyl)phthalate	0.0103
2-Methylnaphthalene	0.0807
Phenol	0.178

Sample Location	MW-8
Sampled 10/30/12	Result (mg/L)
Benzene	523
Benzo(a)pyrene	0.00053 B
Benzo(b)fluoranthene	0.00057 B
Benzo(k)fluoranthene	0.00064 B
Dibenzo(a,h)anthracene	0.00059 B
Indeno(1,2,3-cd)pyrene	0.00059B
Pentachlorophenol	0.003 J
Phenol	0.165 J

Sample Location	P-66
Sampled 10/31/12	Result (mg/L)
Benzene	0.223
MTBE	0.0733

MW-9, MW-10, SECOND ST, NORTH PROPERTY, P-55, HIGHWAY 111 (S. CENTRAL AVE), ROST-4-PZ-(A), ROST-4-PZ-(B), ROST-4-PZ-(C), ROST-4-PZ, THIRD ST, ROST-3-PZ, ROST-4-PZ-(D), ROST-4-PZ-(E), ROST-4-PZ-(F), ROST-4-PZ-(G), P-60, P-68, A-28, T-24, A-33, MW-11, P-54, T-12, P-69, FOURTH ST, WOOD RIVER REFINERY, A-27, P-70, P-74, P-61, P-59, FIFTH ST, MW-12, VILLAGE OF ROXANA, P-56, CHAFEER ST, SIXTH ST, MW-1, MW-2, BP, SEVENTH ST, T-6, P-57, MW-3, MW-4, P-93A, P-93B, P-93C, P-93D, P-73, EIGHTH ST, MW-5, MW-7, MW-8, P-58, 1986 APPROXIMATE BENZENE RELEASE SITE, RAND AVENUE, P-66, P-75, MW-13, MW-6A, MW-6B, MW-6C, MW-6D, WEST PROPERTY, MAIN PROPERTY, MW-14, P-114

0 200
SCALE FEET

N

SHELL OIL PRODUCTS US
INTERIM GROUNDWATER MONITORING PROGRAM
ROXANA, ILLINOIS

PROJECT NO. 21562735

URS

DRN. BY: djd January 2013
DSGN. BY: djd
CHKD. BY: kh

4Q12 Groundwater Monitoring Well Analytical Exceedances

FIG. NO. 5

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\B-ROXANA-ROUTE 111\2156XXXX_ROXANA I & A\QUARTERLY GW\2012\4TH QUARTER 2012\FIGURES\FIGURE 6 DISSOLVED PHASE BENZENE CONCENTRATIONS IN GROUNDWATER.DWG Last edited: JAN. 11, 13 @ 3:02 p.m. by: david_deguire

LEGEND

- GROUNDWATER MONITORING WELL SAMPLING LOCATION
- GROUNDWATER MONITORING WELL LOCATION NOT SAMPLED
- GROUNDWATER PROFILE SAMPLING LOCATION
- GROUNDWATER MONITORING WELL LNAPL THICKNESS
- GROUNDWATER PIEZOMETER LNAPL THICKNESS
- GROUNDWATER PIEZOMETER SAMPLING LOCATION
- GROUNDWATER PIEZOMETER LOCATION NOT SAMPLED
- EXTENT OF EVS MODEL DATA SET
- 50.0 GROUNDWATER CONCENTRATION BENZENE (mg/L)

NOTES:

1. IMAGES GENERATED UTILIZING CTECH ENVIRONMENTAL VISUALIZATION SYSTEM MODELING SOFTWARE. CONCENTRATIONS BETWEEN KNOWN DATA POINTS (E.G. GROUNDWATER MONITORING WELLS) ARE INTERPOLATIONS AND EXTRAPOLATIONS OF THE MEASURED DATA. SOME INTERPRETATION WAS COMPLETED UTILIZING PROFESSIONAL JUDGEMENT AND CONTOUR LINES WERE MODIFIED BY HAND.
2. ALL RESULTS SHOWN IN mg/L.
3. ANALYTICAL REPORTING LIMITS ARE SHOWN FOR SAMPLES WITH NON-DETECT RESULTS (e.g., <0.0005 mg/L).
4. J = THE TARGET ANALYTE WAS DETECTED BELOW THE REPORTING LIMIT AND THE RESULT IS ESTIMATED.
5. NON-DETECT VALUES ARE MODELED AT HALF THE REPORTING LIMIT.
6. ROST-3-PZ AND ROST-PZ-4 (C) WERE ADDED TO THE INTERIM GROUNDWATER MONITORING PROGRAM IN 2Q12.
7. MULTIPLE RESULTS (e.g. 833\863) INDICATE DUPLICATE SAMPLES.
8. GROUNDWATER MONITORING WELL P-55 WAS FOUND TO BE COMPROMISED DURING 3Q12 4Q12 AND WAS NOT SAMPLED.
9. P-60 LOCATED IN WRR CONTAINED 0.11 FT OF LNAPL DURING 4Q12 COMPREHENSIVE GAUGING.
10. GROUNDWATER PROFILE CONDUCTED AT GWP-28 ON OCTOBER 9, 2012.

LNAPL THICKNESS WAS MEASURED DURING THE COMPREHENSIVE GROUNDWATER MONITORING GAUGING EVENT ON OCTOBER 1-2 AND 4, 2012. REFER TO TABLE 1 FOR GROUNDWATER GAUGING INFORMATION

SECOND ST
THIRD ST
FOURTH ST
FIFTH ST
SIXTH ST
SEVENTH ST
EIGHTH ST
HIGHWAY 111 (S. CENTRAL AVE)
CHAFFER ST
RAND AVENUE
VILLAGE OF ROXANA
NORTH PROPERTY
WOOD RIVER REFINERY
MAIN PROPERTY
WEST PROPERTY
BP
PUBLIC WORKS YARD
1986 APPROXIMATE BENZENE RELEASE SITE

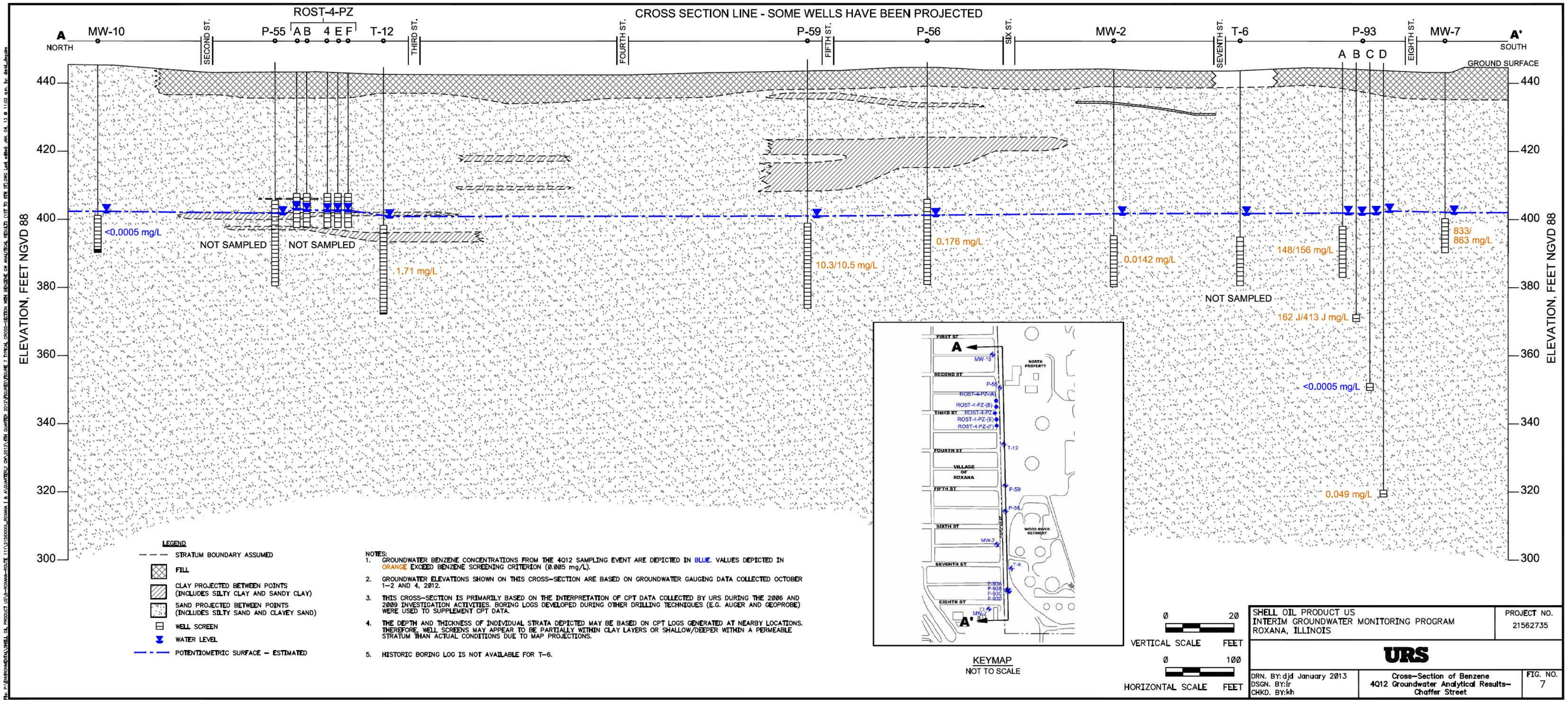
MW-9 <0.0005
MW-10 <0.0005
MW-11 <0.0005
MW-12 <0.0005
MW-1 <0.0005
MW-2 0.0142
MW-3 0.0017
MW-4 0.354
MW-5 0.0628
MW-6A 0.00073
MW-6B 0.0015
MW-6C 0.00035 J
MW-6D 0.00055
MW-7 833/863
MW-8 523
MW-13 0.0048
MW-14 0.00093
ROST-3-PZ 0.0052
ROST-4-PZ(C) 0.0033
ROST-4-PZ
ROST-4-PZ(E) 0.03
P-54 <0.0005
P-55
P-56 0.176
P-57 142
P-58 415
P-59 10.3/10.5
P-60-11 0.09
P-60 0.11
P-60-S 1.90
P-66 0.223
P-68 0.19
P-74 3.5
P-93A 148/156
P-93B 162 J/413 J
P-93C <0.0005
P-93D 0.049
P-114 <0.0005
GWP-28-40 <0.0005
GWP-28-60 <0.0005
GWP-28-80 <0.0005
T-12 1.71
T-24
T-6
A-28
A-27
P-69
P-70
P-61
P-73
P-75
P-116
P-115

0.01
0.10
0.005
0.05
0.5
5.0
50.0
500.0

0 200 SCALE FEET

N

SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS		PROJECT NO. 21562735
URS		
DRN. BY: djd January 2013 DSGN. BY: nm CHKD. BY: kh	4Q12 Dissolved Phase Benzene Concentrations in Groundwater	FIG. NO. 6



SHELL OIL PRODUCT US
INTERIM GROUNDWATER MONITORING PROGRAM
ROXANA, ILLINOIS

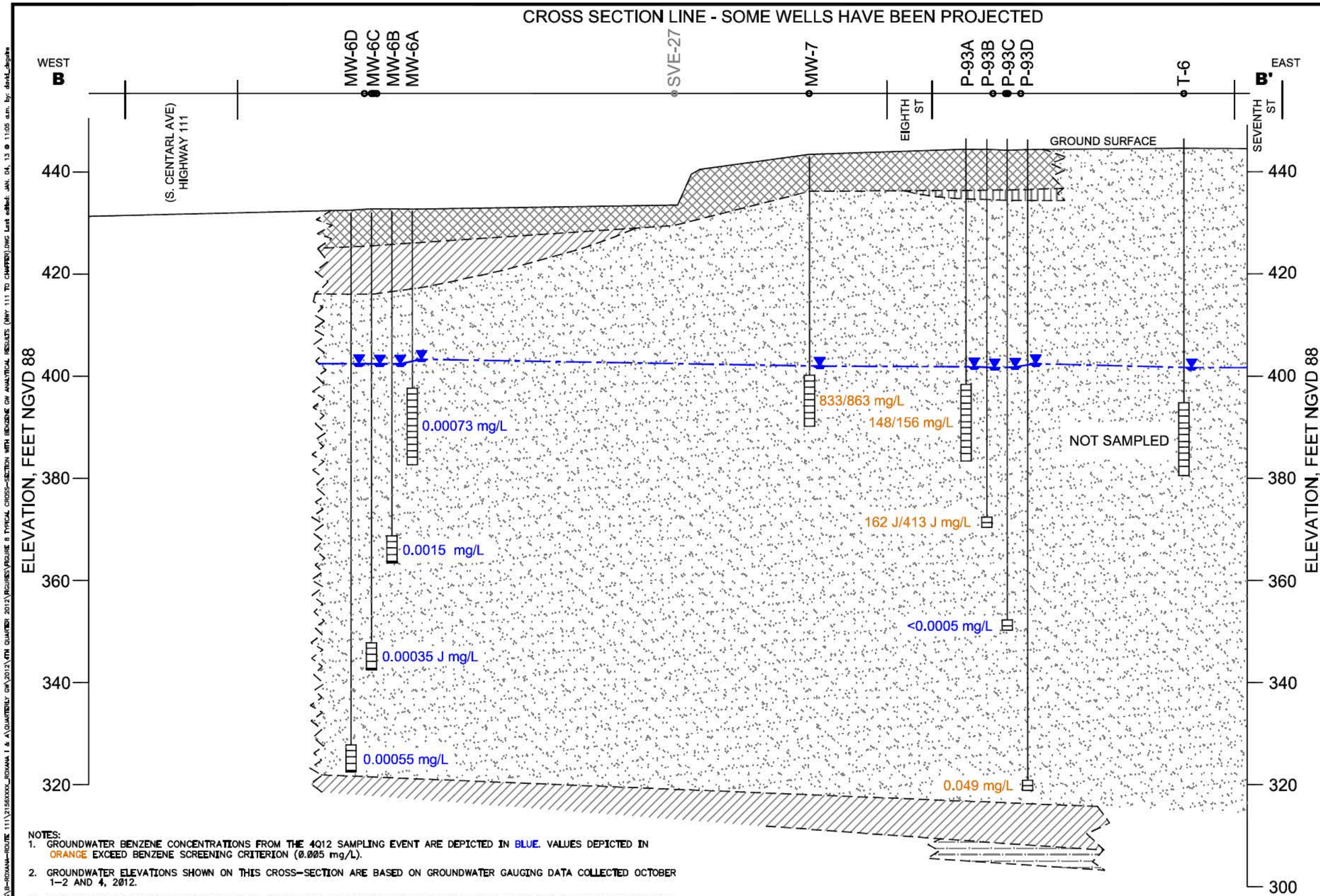
PROJECT NO. 21562735

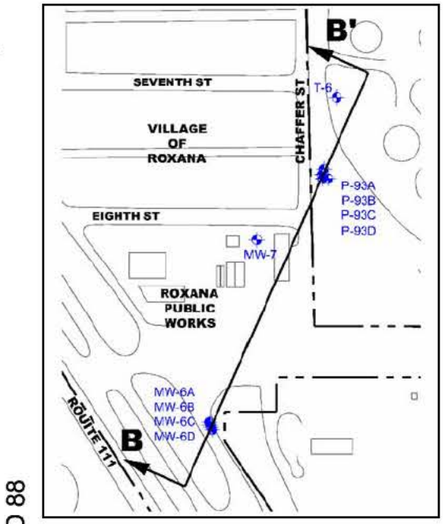
URS

DRN. BY:djd January 2013
DSGN. BY:lr
CHKD. BY:kh

Cross-Section of Benzene 4Q12 Groundwater Analytical Results– Chaffer Street

FIG. NO. 7





KEYMAP
NOT TO SCALE

LEGEND

- STRATUM BOUNDARY ASSUMED
- FILL
- CLAY PROJECTED BETWEEN POINTS (INCLUDES SILTY CLAY AND SANDY CLAY)
- SAND PROJECTED BETWEEN POINTS (INCLUDES SILTY SAND AND CLAYEY SAND)
- SILT
- SHALE
- WELL SCREEN
- WATER LEVEL
- POTENTIOMETRIC SURFACE – ESTIMATED

VERTICAL SCALE 0 20 FEET

HORIZONTAL SCALE 0 100 FEET

NOTES:

1. GROUNDWATER BENZENE CONCENTRATIONS FROM THE 4Q12 SAMPLING EVENT ARE DEPICTED IN BLUE. VALUES DEPICTED IN ORANGE EXCEED BENZENE SCREENING CRITERION (0.005 mg/L).
2. GROUNDWATER ELEVATIONS SHOWN ON THIS CROSS-SECTION ARE BASED ON GROUNDWATER GAUGING DATA COLLECTED OCTOBER 1-2 AND 4, 2012.
3. THIS CROSS-SECTION IS PRIMARILY BASED ON THE INTERPRETATION OF CPT DATA COLLECTED BY URS DURING THE 2006 AND 2009 INVESTIGATION ACTIVITIES. BORING LOGS DEVELOPED DURING OTHER DRILLING TECHNIQUES (E.G. AUGER AND GEOPROBE) WERE USED TO SUPPLEMENT CPT DATA.
4. THE DEPTH AND THICKNESS OF INDIVIDUAL STRATA DEPICTED MAY BE BASED ON CPT LOGS GENERATED AT NEARBY LOCATIONS. THEREFORE, WELL SCREENS MAY APPEAR TO BE PARTIALLY WITHIN CLAY LAYERS OR SHALLOW/DEEPER WITHIN A PERMEABLE STRATUM THAN ACTUAL CONDITIONS DUE TO MAP PROJECTIONS.
5. LITHOLOGICAL INFORMATION FROM SVE-27 WAS OBTAINED FROM BORING LOG TO SUPPLEMENT SITE GEOLOGY ONLY.
6. HISTORIC BORING LOG IS NOT AVAILABLE FOR T-6.

SHELL OIL PRODUCT US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS	PROJECT NO. 21562735

URS

DRN. BY: djd January 2013 DSGN. BY: lr CHKD. BY: tja	Cross-Section of Benzene 4Q12 Groundwater Analytical Results– Route 111 to Chaffer Street	FIG. NO. 8

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\B-ROXANA-ROUTE 111\21562XXX_ROXANA I & A\QUARTERLY GW\2012\4TH QUARTER 2012\FIGURES\FIGURE 8 TYPICAL CROSS-SECTION WITH BENZENE GW ANALYTICAL RESULTS (HWY 111 TO CHAFFER).DWG Last edited: JAN. 04, 13 @ 11:05 a.m. by: david_deguire

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: S. Jansen / L. Rathnow

DATE: 10/26/12 WEATHER: 40° partly sunny, 5-10 mph windy

MONITORING WELL ID: MW-1 SAMPLE ID: MW1-ROX-102612

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 60.31 ft
Depth to Water (btoc): 41.22 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 49.98 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 19.09 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 54.98 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are (4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0 ppm
Wellbore PID/FID Reading: 0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	1040	41.22	Cloudy	Slight	6.68	17.03	3.528	321.8	0.48	39
1000	1044	"	"	"	6.63	17.83	3452	226.4	0.54	38
3200	1048	"	"	"	6.63	18.15	3386	169.5	0.18	40
4800	1053	"	"	"	6.63	18.08	3378	79.55	0.10	42
10400	1058	"	"	"	6.63	18.11	3368	44.99	0.08	43
11200	1103	"	"	"	6.63	18.31	3342	32.00	0.03	44
12800	1108	"	"	"	6.63	18.31	3337	25.24	0.01	45
13400	1112	"	"	"	6.63	18.25	3339	21.73	0.03	45
15000	1116	"	"	"	6.63	18.27	3340	21.59	0.02	46
17000	1121	"	"	"	6.63	18.27	3342	18.91	0.04	46
18600	1125	"	"	"	6.63	18.44	3333	13.50	-0.04	47
22600	1130	"	"	"	6.63	18.52	3340	18.52	-0.04	47
24600	1135	"	"	"	6.63	18.47	3346	16.68	-0.07	47
26600	1140	"	"	"	6.63	18.38	3346	5.104	-0.09	47

Start Time: 1040 Elapsed Time (min): SG 1147 60 SG Water Quality Meter ID: TROLL 9500

Stop Time: SG 1140 Average Purge Rate (mL/min): 400 Date Calibrated: 10/26/12

SAMPLING DATA

Sample Date: 1040 Sample Time: 1147 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 400 QA/QCSamples: EB

VOA Vials, No Headspace: X Initials: SG

COMMENTS: purged ~500 mL prior to sampling start time

Total Purge Volume: 26600 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana ~~1Q13~~ 4Q12 GW PROJECT NUMBER: ~~21562850.03001~~ FIELD PERSONNEL: S. Jansen, D. Mattingly

DATE: 12/17/12 WEATHER: cloudy, light rain 39°

MONITORING WELL ID: MW-1 SAMPLE ID: MW1-ROX-121712

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 60.31 ft
Depth to Water (btoc): 41.64 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 49.98 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 18.67 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 44.98 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell : 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0 ppm
Wellbore PID/FID Reading: 0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
STABLE:					+/- 0.2	+/- 0.2 °C	+/- 3%	+/- 10%	+/- 0.2 mg/L	+/- 20 mV
0	1349	41.64	clear	none	7.58	14.94	677.6	11.66	2.01	62
11600	1353				7.60	16.31	876.3	37.04	0.71	22
~~3200~~ 4800	1357				7.62	16.68	1102	148.9	0.23	17
4800	1401				7.63	16.47	1187	303.9	0.13	12
16400	1405				7.64	16.79	1223	275.4	0.04	46
8000	1409				7.64	16.81	1219	309.6	0.07	30
9600	1413				7.64	16.47	1228	142.8	0.03	19
11200	1417				7.64	16.04	1224	114.7	0.07	15
12800	1421				7.64	14.84	1233	105.8	0.11	13
14400	1425				7.63	17.14	1216	70.17	0.08	6
16000	1429				7.63	17.31	1230	49.00	-0.00	-1
17600	1433				7.64	17.32	1233	37.14	-0.04	-3
19200	1437				7.64	17.16	1230	30.32	-0.04	-5
20800	1441				7.64	17.14	1224	20.04	-0.04	-7
22400	1445				7.64	16.98	1227	14.31	-0.04	-9
24000	1449				7.64	17.27	1227	11.25	-0.04	-10

Start Time: 1349
Stop Time: 1501
Elapsed Time (min): ~~59~~ 72
Average Purge Rate (mL/min): 400
Water Quality Meter ID: TROLL 9500
Date Calibrated: 12/17/12

SAMPLING DATA

Sample Date: 12/17/12
Sample Time: 1510
Lab Analysis: VOC, SVOC
Sample Method: Bladder Pump / Low Flow
Sample Flow Rate (mL/min): 400
QA/QCSamples: ~~FB~~ SB
VOA Vials, No Headspace ☒ Initials: SJ, DM

COMMENTS: purged ~200 mL prior to collecting readings

Total Purge Volume: 27800 mL

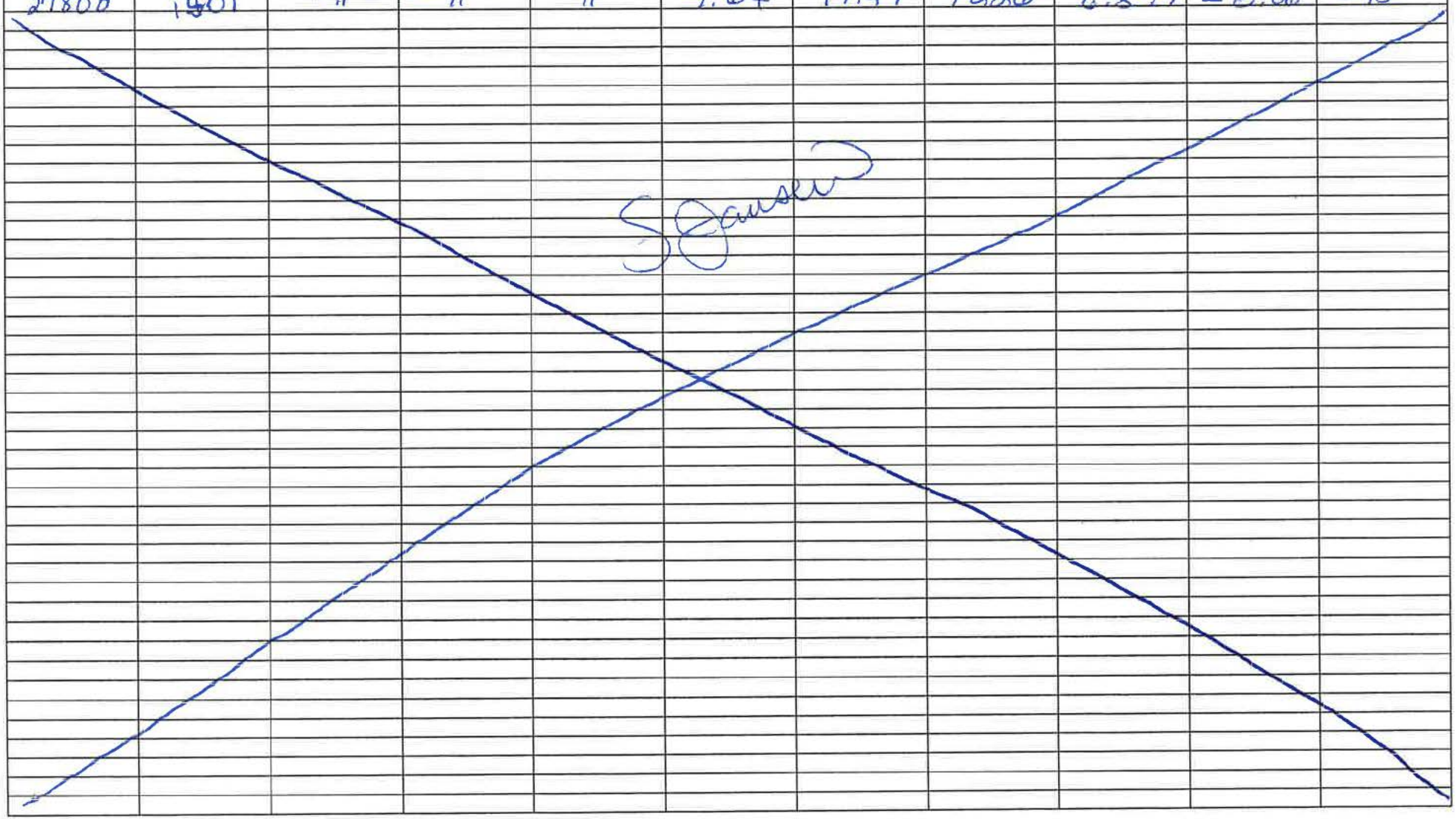
LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q GW 2012 PROJECT NUMBER: FIELD PERSONNEL: S Jansen, D. Mattingly

DATE: 12/17/12 MONITORING WELL ID: MW-~~10~~ 1 (KH) 17.77 11.25

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
25600	1453	41.64	clear	none	7.64	17.51	1227	11.40	-0.05	-11
26200	1457	41.64	clear	none	7.64	17.56	1228	10.41	-0.06	-12
27800	1501	"	"	"	7.64	17.47	1226	6.877	-0.06	-12

S Jansen



LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: S. Jansen, L. Rathnow

DATE: 10/26/12 WEATHER: 55° sunny, windy

MONITORING WELL ID: MW-2 SAMPLE ID: MW2-ROX-102612

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 62.19 ft
Depth to Water (btoc): 42.35 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 51.32 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 19.84 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 56.32 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0 ppm
Wellbore PID/FID Reading: 1.3 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	1340	42.35	NONE	NONE	6.65	17.73	3813	179.6	0.70	25
2000	1345	"	"	"	6.61	18.26	3889	121.4	0.27	1
4000	1350	"	"	"	6.61	18.51	3905	83.08	0.10	-11
6000	1355	"	"	"	"	18.74	3899	19.95	0.04	-18
8000	1400	"	"	"	"	18.97	3896	28.32	0.00	-24
10000	1405	"	"	"	"	19.01	3904	21.87	-0.04	-28
12000	1410	"	"	"	"	18.90	3902	15.21	-0.07	-31
14000	1415	"	"	"	"	18.90	3897	30.08	-0.09	-35
16400	1421	"	"	"	"	18.86	3887	6.411	-0.10	-37

Start Time: 1340 Elapsed Time (min): Water Quality Meter ID: TROLL 9500

Stop Time: Average Purge Rate (mL/min): 400mL Date Calibrated: 10/26/12

SAMPLING DATA

Sample Date: 10/26/12 Sample Time: 1430 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 400 QA/QCSamples: NONE

VOA Vials, No Headspace ☒ Initials: SG

COMMENTS: purged ~ 400 mL prior to sampling

Total Purge Volume: 16400 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: S. Jansen, L. Rathnow

DATE: 10/25/12 WEATHER: 65° sunny, winds N 5-15mph

MONITORING WELL ID: MW-3 SAMPLE ID: MW3-ROK-102512

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 45.98 ft
Depth to Water (btoc): 28.39 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 34.67 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 17.59 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 39.67 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0 ppm
Wellbore PID/FID Reading: 0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH (±.2 over 3 reads)	Temp (°C) (±.2 over 3 reads)	Cond. (mS/cm) (3 w/i 3%)	Turbidity (NTUs) (<10 or 3 w/i 10%)	DO (mg/L) (±.2 over 3 reads)	ORP (mV) (±20 over 3 reads)
~~400~~ 0	0953	28.39	clear	NO	6.66	19.64	17.32	63.07	0.17	36
1600 ~~800~~ 58	0957	"	"	"	6.71	19.85	1858	44.09	0.05	-1
3200	1001	"	"	"	6.74	20.01	1934	23.04	-0.01	-18
4800	1004	"	"	"	6.76	20.08	1994	20.08	-0.03	-28
6400	1008	"	"	"	6.77	20.30	2016	8.167	-0.06	-36
8000	1012	"	"	"	6.78	20.60	2026	6.092	-0.07	-42
9600	1016	"	"	"	6.78	20.82	2045	5.966	-0.08	-47
11200	1020	"	"	"	6.79	20.35	2110	4.971	-0.08	-51
12800	1024	"	"	"	6.79	20.22	2142	4.637	-0.09	-54
13460	1028	"	"	"	6.80	20.07	2173	4.846	-0.10	-57
15000	1032	"	"	"	6.80	19.98	2199	2,168	-0.10	-59
16600	1036	"	"	"	6.80	20.10	2205	1.807	-0.10	-61
				SG						

Start Time: 0953 Elapsed Time (min): 43 min. Water Quality Meter ID: TROLL 9500

Stop Time: 1036 Average Purge Rate (mL/min): 400 Date Calibrated: 10/25/12

SAMPLING DATA

Sample Date: 10/25/12 Sample Time: ~~1036~~ SG 1045 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / (Low Flow) Sample Flow Rate (mL/min): 400 QA/QCSamples: Equipment Blank

VOA Vials, No Headspace ☒ Initials: SG

COMMENTS:

Total Purge Volume: 16600 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW **PROJECT NUMBER:** 21562735.00009 **FIELD PERSONNEL:** D. Mattingly, L. Rathnow

DATE: 10/29/12 **WEATHER:** Sunny, 52°F

MONITORING WELL ID: MW-4 **SAMPLE ID:** MW4-ROX-102912

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 56.39 ft
Depth to Water (btoc): 39.45 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 46.06 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 16.94 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 51.39 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are < 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 48.6 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
* ~~0~~	~~1231~~		~~Cloudy~~	~~hydrocarbon~~	~~6.86~~	~~17.85~~	~~3309~~	~~779.3~~	~~0.37~~	~~-34~~
0	1244	39.45	Cloudy	hydrocarbon	6.79	18.65	3414	605.2	0.81	-44
1720	1249	39.45	Cloudy	hydrocarbon	6.78	19.16	3376	340.7	0.04	-49
3440	1254	39.45	Cloudy	hydrocarbon	6.78	19.17	3365	170.9	-0.06	-52
5160	1259	39.45	Cloudy	hydrocarbon	6.78	19.20	3352	91.19	-0.09	-56
6880	1302	39.45	Cloudy	hydrocarbon	6.78	19.21	3347	64.21	-0.09	-58
8600	1306	39.45	Cloudy	hydrocarbon	6.78	19.24	3327	45.70	-0.09	-60
10320	1311	39.45	Cloudy	hydrocarbon	6.78	19.22	3320	38.70	-0.10	-62
12040	1316	39.45	Clear	hydrocarbon	6.78	19.17	3325	25.56	-0.11	-63
13760	1321	39.45	Clear	hydrocarbon	6.78	19.13	3331	17.11	-0.11	-64
15480	1326	39.45	Clear	hydrocarbon	6.78	19.13	3325	11.18	-0.12	-65
17200	1330	39.45	Clear	hydrocarbon	6.78	19.13	3319	8.679	-0.12	-66
					DM					

Start Time: 1244
Stop Time: 1330
Elapsed Time (min): 46 min
Average Purge Rate (mL/min): 400mL/min
Water Quality Meter ID: TROLL 9500
Date Calibrated: 10/29/12

SAMPLING DATA

Sample Date: 10/29/12
Sample Time: 1335
Lab Analysis: VOC, SVOC
Sample Method: Bladder Pump / Low Flow
Sample Flow Rate (mL/min): 400mL/min
QA/QCSamples: none
VOA Vials, No Headspace ☒ Initials: DM

COMMENTS: * Had to restart purging + reconnect pump b/c of a minor complaint by a resident about being on his grass. Moved vehicle

Total Purge Volume: 17200 mL

Purged ~400mL prior to sampling + 450mL during sampling

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: D. Mattingly, L. Rathnow

DATE: 10/29/12 WEATHER: sunny, cold, 35°F

MONITORING WELL ID: MW-5 SAMPLE ID: MW5-ROX-102912

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 46.13 ft
Depth to Water (btoc): 28.16 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 33.97 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 17.97 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 41.13 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are < 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	1044	28.16	gray	hydrocarbon	6.80	17.91	2687	247.8	0.40	-24
☆ 3520	1053	28.16	gray	hydrocarbon	6.77	18.04	2572	123.10	-0.01	-46
5280	1056	28.16	gray	none	6.77	18.19	2534	71.20	-0.04	-52
7040	1100	28.16	gray	none	6.77	18.93	2509	42.10	-0.06	-57
8800	1104	28.16	gray	none	6.78	18.86	2484	26.43	-0.09	-61
10560	1108	28.16	gray	none	6.78	18.81	2454	12.85	-0.10	-65
12320	1112	28.16	gray	none	6.79	18.67	2428	8.721	-0.10	-67

DM

Start Time: 1044 Elapsed Time (min): 28 min Water Quality Meter ID: TROLL 9500
Stop Time: 1112 Average Purge Rate (mL/min): 400mL/min Date Calibrated: 10/29/12

SAMPLING DATA

Sample Date: 10/29/12 Sample Time: 1115 Lab Analysis: VOC, SVOC
Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 400mL/min QA/QCSamples: none
VOA Vials, No Headspace ☒ Initials: DM

COMMENTS:
☆ Missed reading. Purged ~400mL prior to sampling and ~450mL during sampling

Total Purge Volume: 12320 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: L. Rathbun, D. Mattingly

DATE: 10/24/12 WEATHER: partly sunny, 65°F, I

MONITORING WELL ID: MW-6A SAMPLE ID: MW6A-ROX-102412

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 46.98 ft
Depth to Water (btoc): 30.06 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 34.83 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 16.92 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 39.83 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	0909	30.06	gray	none	6.48	19.31	1506	80.29	0.34	24
1500	0914	30.08	gray	none	6.57	19.49	1750	124.5	0.03	-10
3000	0919	30.08	gray	none	6.61	19.61	1834	76.91	-0.05	-36
4500	0925	30.08	gray	none	6.63	19.47	1897	33.99	-0.07	-46
6000	0930	30.08	gray	none	6.64	19.39	1942	12.77	-0.08	-52
7500	0936	30.08	gray	none	6.65	19.52	1965	8.32	-0.08	-57

Start Time: 0909 Elapsed Time (min): 27 min Water Quality Meter ID: TROLL 9500

Stop Time: 0936 Average Purge Rate (mL/min): 300 mL/min Date Calibrated: 10/24/12

SAMPLING DATA

Sample Date: 10/24/12 Sample Time: 0940 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 300 mL/min QA/QCSamples: none

VOA Vials, No Headspace [X] Initials: DM

COMMENTS: Purged ~ 350 mL prior to sampling and ~ 500 mL during sampling.

Total Purge Volume: 1500 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: L. Rathnow, D. Mattingly

DATE: 10/24/12 WEATHER: partly sunny; 70°F

MONITORING WELL ID: MW-6B SAMPLE ID: MW6B-ROX-102412

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 69.38 ft
Depth to Water (btoc): 30.11 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 64.05 ft
Screen Length): 5 ft

Water Column Height (do not include LNAPL or DNAPL): 39.27 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is < 4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 66.88 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are < 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	1002	30.11	gray	none	7.01	19.27	2266	62.17	0.98	1
2040	1010	30.11	gray	none	6.93	19.38	2359	25.33	0.16	-17
4080	1017	30.11	gray	none	6.89	19.35	2353	9.815	0.02	-27
6120	1024	30.11	gray	none	6.89	19.49	2344	7.404	-0.01	-34

DM

Start Time: 1002 Elapsed Time (min): 24min Water Quality Meter ID: TROLL 9500

Stop Time: 1026 Average Purge Rate (mL/min): 300 mL/min Date Calibrated: 10/24/12

SAMPLING DATA

Sample Date: 10/24/12 Sample Time: 1030 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 300 mL/min QA/QCSamples: EB

VOA Vials, No Headspace ☒ Initials: DM

COMMENTS: Purged ~ 350mL prior to sampling & ~500mL during sampling

Total Purge Volume: 6120 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW **PROJECT NUMBER:** 21562735.00009 **FIELD PERSONNEL:** D. Mattingly, L. Rathrow

DATE: 10/24/12 **WEATHER:** Sunny, 80°F

MONITORING WELL ID: MW-6C **SAMPLE ID:** MW6C-ROX-102412

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 90.28 ft
Depth to Water (btoc): 27.85 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 84.95 ft
Screen Length): 5 ft

Water Column Height (do not include LNAPL or DNAPL): 62.43 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 87.78 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are < 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	1225	27.85	gray	none	7.31	19.96	1797	75.17	0.59	5
2550	1233	27.85	gray	none	7.04	19.43	2235	25.52	0.06	-28
5100	1243	27.85	gray	none	6.99	19.57	2339	7.578	0.03	-41
7650	1252	29.90	gray	none	6.96	19.61	2372	3.225	-0.01	-49
10200	1300	29.90	gray	none	6.95	19.00	2473	1.676	-0.07	-54
12750	1310	29.90	gray	none	6.94	19.25	2445	0.4359	-0.07	-58
15300	1318	29.90	gray	none	6.94	19.46	2421	0.6081	-0.06	-61
17850	1328	29.90	gray	none	6.94	19.04	2426	0.5059	-0.07	-63

DM

Start Time: 1225
Stop Time: 1329
Elapsed Time (min): 64 min
Average Purge Rate (mL/min): 300 mL/min
Water Quality Meter ID: TROLL 9500
Date Calibrated: 10/24/12

SAMPLING DATA

Sample Date: 10/24/12
Sample Time: 1332
Lab Analysis: VOC, SVOC
Sample Method: Bladder Pump / Low Flow
Sample Flow Rate (mL/min): 300 mL/min
QA/QCSamples: None
VOA Vials, No Headspace ☒ Initials: DM

COMMENTS: Purged ~400 mL prior to sampling & ~600 mL during sampling. Temperature had not stabilized after a little over 1 hr. of purging (was 0.4). So called K. Hurst and he said to sample.

Total Purge Volume: 17850 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: D. Nattingly, L. Rathbun

DATE: 10/24/12 WEATHER: sunny, 85°F

MONITORING WELL ID: MW-6D SAMPLE ID: MW6D-ROX-102412

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 110.05 ft
Depth to Water (btoc): 29.71 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 104.72 ft
Screen Length): 5 ft

Water Column Height (do not include LNAPL or DNAPL): 80.34 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 107.55 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are (4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	1358	29.71	cloudy	none	7.17	20.15	2586	206.3	0.61	-15
3000	1408	29.71	cloudy	none	7.05	19.09	2784	41.80	0.01	-45
* 6000	1418	29.71	clear	none	7.05	19.01	2807	27.15	-0.00	-48
9000	1418	29.71	clear	none	7.03	19.21	2771	11.30	-0.01	-56
12000	1426	29.71	clear	none	7.03	19.07	2753	5.160	-0.04	-61

DM

Start Time: 1358 Elapsed Time (min): 29 min Water Quality Meter ID: TROLL 9500

Stop Time: 1427 Average Purge Rate (mL/min): 400mL/min Date Calibrated: 10/24/12

SAMPLING DATA

Sample Date: 10/24/12 Sample Time: 1430 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 400mL/min QA/QCSamples: none

VOA Vials, No Headspace ☒ Initials: DM

COMMENTS: * Changed flow rate to 400mL/min. Purged ~350mL prior to sampling and ~500mL during sampling.

Total Purge Volume: 12000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: Jansen/Rathnow

DATE: 10/30/12 WEATHER: 50° sunny 10-20mph winds

MONITORING WELL ID: MW-7 SAMPLE ID: ~~MW-7-103012~~ MW7-ROX-103012

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 52.92 ft
Depth to Water (btoc): 41.23 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 42.92 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 11.69 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 47.92 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are (4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 8 ppm
Wellbore PID/FID Reading: 8 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	11:34	41.23	clear	strong	6.75	17.64	2245	60.03	1.12	69
1600	11:40	* "	"	"	6.74	17.74	2711	64.09	1.05	35
4000	11:46	"	"	"	6.74	17.90	2854	54.68	0.78	20
6000	11:51	"	"	"	6.75	18.07	2892	35.66	0.79	10
8000	11:56	"	"	"	6.75	18.00	2922	20.19	0.65	3
10000	12:01	"	"	"	6.76	18.09	2940	15.40	0.60	-2
12400	12:07	"	"	"	6.75	18.23	2939	11.83	0.50	-6
14400	12:12	"	"	"	6.75	18.21	2963	8.007	0.36	-10
16400	12:17	"	"	"	6.75	18.28	2974	6.75	0.25	-12
18400	12:22	"	"	"	6.75	18.34	2973	6.238	0.17	-15

Start Time: 1134 Elapsed Time (min): 48 Water Quality Meter ID: TROLL 9500

Stop Time: 1222 Average Purge Rate (mL/min): 400 Date Calibrated: 10/30/12

SAMPLING DATA

Sample Date: 10/30/12 Sample Time: 1230 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 400 QA/QCSamples: DUP

VOA Vials, No Headspace ☒ Initials:

COMMENTS:

purged ~350 mL prior to start of sampling

Total Purge Volume: 18400 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: Jansen/ Rathnow

DATE: 10/30/12 WEATHER: 50° sunny very windy - up to 40mph

MONITORING WELL ID: MW-8 SAMPLE ID: MW8-ROX-103012

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 43.60 ft
Depth to Water (btoc): 32.32 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 33.60 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 11.28 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 38.60 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0 ppm
Wellbore PID/FID Reading: 0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	1445	32.32	clear	none	6.73	17.39	3210	16.14	0.37	15
2000	1450	"	"	"	6.58	17.43	3700	21.74	0.20	16
4000	1455	"	"	"	6.55	17.27	3926	18.46	0.18	14
5600	1459	"	"	"	6.54	17.20	4035	17.20	0.19	11
7200 ~~7400~~	1503	"	"	"	6.53	17.91	3974	16.97	0.21	9
8800	1507	"	"	"	6.52	18.00	3991	11.26	0.16	6
10800	1512	"	"	"	6.52	18.07	3997	10.68	0.12	4
12400	1516	"	"	"	6.52	17.81	4015	8.316	0.07	3
14000	1520	"	"	"	6.52	17.82	4065	6.307	0.12	1
15600	1524	"	"	"	6.52	17.81	4075	5.827	0.12	0

Start Time: 1445 Elapsed Time (min): 1530 Water Quality Meter ID: TROLL 9500

Stop Time: 1530 Average Purge Rate (mL/min): 400 Date Calibrated: 10/30/12

SAMPLING DATA

Sample Date: 10/30/12 Sample Time: 45 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / (Low Flow) Sample Flow Rate (mL/min): 400 QA/QCSamples: NONE

VOA Vials, No Headspace ☒ Initials: SEC

COMMENTS: purged 400mL prior to sampling

Total Purge Volume: 15600 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: D. Mattingly, L. Rathnow

DATE: 10/29/12 WEATHER: sunny, cold, 30F

MONITORING WELL ID: MW-9 SAMPLE ID: MW9-ROX-102912

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 56.78 ft
Depth to Water (btoc): 43.17 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 46.45 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 13.61 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 51.78 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	0918	43.17	gray	none	6.63	16.14	3029	208.5	0.24	90
1760	0923	43.17	gray	none	6.64	16.53	3229	114.4	0.15	53
3520	0928	43.17	gray	none	6.65	16.57	3333	72.79	0.10	35
5280	0932	43.17	gray	none	6.66	16.78	3368	46.16	0.08	24
7040	0937	43.17	gray	none	6.67	16.89	3405	36.32	0.05	17
8800	0941	43.17	gray	none	6.67	17.30	3348	28.93	0.02	11
10560	0946	43.17	gray	none	6.68	17.19	3361	21.49	-0.01	6
12320	0952	43.17	gray	none	6.68	17.13	3373	16.18	-0.03	2
14080	0956	43.17	gray	none	6.68	16.98	3395	15.72	-0.04	-1
15840	1000	43.17	gray	none	6.68	17.50	3332	20.30	-0.04	-4
17600	1005	43.17	gray	none	6.68	17.26	3358	16.04	-0.09	-6
19360	1009	43.17	gray	none	6.69	17.10	3373	7.233	-0.09	-8
21120	1014	43.17	gray	none	6.69	17.19	3368	5.505	-0.10	-10
					DNC					

Start Time: 0918 Elapsed Time (min): 56min Water Quality Meter ID: TROLL 9500

Stop Time: 1014 Average Purge Rate (mL/min): 400mL/min Date Calibrated: 10/29/12

SAMPLING DATA

Sample Date: 10/29/12 Sample Time: 1020 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 400mL/min QA/QCSamples: none

VOA Vials, No Headspace ☒ Initials: DNC

COMMENTS: Purged ~ 450mL prior to sampling & ~ 500mL during sampling

Total Purge Volume: 21,120 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: S. Jansen / L. Rathnow

DATE: 10/26/12 WEATHER: 40° overcast

MONITORING WELL ID: MW-10 SAMPLE ID: MW10-ROX-102612

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 54.76 ft
Depth to Water (btoc): 43.08 ft
Depth to LNAPL/DNAPL (btoc): ft
Depth to Top of Screen (btoc): 44.43 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 11.68 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 49.43 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0 ppm
Wellbore PID/FID Reading: 0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	0915	43.08	clear	slight	6.70	17.19	2428	35.10	0.09	13
1600	0920	"	"	"	6.74	17.33	2510	19.69	-0.03	0
3200	0925	"	"	"	6.77	17.35	2605	11.84	-0.07	-9
4800	0930	"	"	"	6.77	17.32	2668	10.21	-0.06	-16
6400	0935	"	"	"	6.78	17.36	2686	7.573	-0.08	-20
~~8000~~										
~~9600~~										
~~11200~~										
~~12800~~										

SJ

SJ

Start Time: 0915
Stop Time: 0935

Elapsed Time (min): ~~SJ 0938~~ 20
Average Purge Rate (mL/min): 400

Water Quality Meter ID: TROLL 9500
Date Calibrated: 102612

SAMPLING DATA

Sample Date: 102612
Sample Time: 0938
Lab Analysis: VOC, SVOC
Sample Method: Bladder Pump / Low Flow
Sample Flow Rate (mL/min): 400
QA/QCSamples: NONE
VOA Vials, No Headspace [X] Initials: SJ

COMMENTS: purged ~ 500mL prior to sampling

Total Purge Volume: 6400 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 1Q13 GW PROJECT NUMBER: 21562850.03001 FIELD PERSONNEL: S. Sansen, D. Mattingly

DATE: 12/17/12 WEATHER: Cloudy, light rain 40°

MONITORING WELL ID: MW-10 SAMPLE ID: MW10-ROX-121712

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 54.76 ft
Depth to Water (btoc): 43.48 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 44.43 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 11.28 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = ~~39.43~~ 49.12 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell : 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0 ppm
Wellbore PID/FID Reading: 0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

STABLE: +/- 0.2 | +/- 0.2 °C | +/- 3% | +/- 10% | +/- 0.2 mg/L | +/- 20 mV

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	1111	43.48	cloudy	none	7.58	17.02	1260	606.9	0.17	-106
1600	1114				7.58	17.01	1251	602.93	0.06	-113
3200	1118				7.58	16.93	1151	121.6	0.10	-114
4800	1122				7.58	17.53	1074	105.1	0.04	-115
6400	1126				7.58	17.60	1075	113.6	0.00	-120
8000	1130				7.59	17.36	1110	55.25	0.06	-111
9600	1134				7.60	17.50	1147	35.14	0.01	-117
11200	1138				7.60	17.56	1180	22.63	-0.02	-121
12800	1142				7.60	17.55	1202	13.56	-0.02	-124
14400	1146				7.61	17.44	1219	10.17	-0.02	-125
16000	1150				7.61	17.42	1222	6.982	-0.02	-126

SQ sansen

Start Time: 1111 Elapsed Time (min): 39 min Water Quality Meter ID: TROLL 9500

Stop Time: 1150 Average Purge Rate (mL/min): 400 Date Calibrated: 12/17/12

SAMPLING DATA

Sample Date: 12/17/12 Sample Time: 1200 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / (Low Flow) Sample Flow Rate (mL/min): 400 QA/QCSamples: MS, MSD

VOA Vials, No Headspace ☒ Initials: SQ / SM

COMMENTS: 300 mL purged during/prior to start of readings

Total Purge Volume: 16000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: J. Jansen, L. Rathnow

DATE: 10/25/12 WEATHER: 75° partly sunny, threat of storms, winds 5-15mph

MONITORING WELL ID: MW-11 SAMPLE ID: MW11-ROX-102512

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 51.99 ft
Depth to Water (btoc): 40.59 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 41.66 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 9.40 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 46.66 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0 ppm
Wellbore PID/FID Reading: 0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	1405	40.59	Cloudy	None	6.78	18.78	4406	122.2	0.38	17
1600	1409	"	"	"	6.73	18.55	4575	116.5	0.13	-4
3200	1413	"	"	"	6.71	18.80	4529	82.34	0.09	-13
4800	1417	"	"	"	6.70	18.84	4494	54.06	0.04	-20
6400	1421	"	"	"	6.69	18.99	4425	37.06	0.01	-25
8000	1426	"	"	"	6.69	18.64	4430	30.73	-0.03	-29
9600	1430	"	"	"	6.69	18.81	4295	14.80	-0.03	-35
11200	1435	"	"	"	6.69	18.81	4244	11.84	-0.05	-38
12800	1440	"	"	"	6.69	18.79	4197	9.291	-0.05	-39
13400	1445	"	"	"	6.68	18.82	4141	8.442	-0.06	-41

SG

Start Time: 1405 Elapsed Time (min): 40 Water Quality Meter ID: TROLL 9500

Stop Time: 1445 Average Purge Rate (mL/min): 400 Date Calibrated: 10/25/12

SAMPLING DATA

Sample Date: 10/25/12 Sample Time: 1500 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / (Low Flow) Sample Flow Rate (mL/min): 400 QA/QCSamples: None

VOA Vials, No Headspace [X] Initials: SG

COMMENTS:

Total Purge Volume: 13400 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: S. Jansen, L. Rathbone

DATE: 10/25/12 WEATHER: 73° pt. cloudy, 5-15mph winds

MONITORING WELL ID: MW-12 SAMPLE ID: MW12-ROX-102512

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 52.25 ft
Depth to Water (btoc): 40.95 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 41.92 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 11.30 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 46.92 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are (4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0 ppm
Wellbore PID/FID Reading: 0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH (±.2 3 reads)	Temp (°C) (±.2 3 reads)	Cond. (mS/cm) (3 w/i 3%)	Turbidity (NTUs) (<10 or 3 w/i 10%)	DO (mg/L) (± .2 3 reads)	ORP (mV) (±20 3 reads below 50)
0	1235	40.95	clear	none	7.00	19.85	2293	198.4	0.33	87
1600	1240	"	"	"	6.91	19.24	2425	68.07	0.04	89
3200	1244	"	"	"	6.86	19.14	2465	22.93	0.00	89
4800	1248	"	"	"	6.84	19.12	2492	12.35	-0.02	90
6400	1252	"	"	"	6.82	19.29	2490	9.384	-0.03	90
8000	1256	"	"	"	6.81	19.19	2515	6.473	-0.04	90
~~9600 SG~~										
~~11200 SG~~										

SG

Start Time: 1235 Elapsed Time (min): 21 Water Quality Meter ID: TROLL 9500

Stop Time: 1256 Average Purge Rate (mL/min): 400 Date Calibrated: 10/25/12

SAMPLING DATA

Sample Date: 10/25/12 Sample Time: 1305 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / (Low Flow) Sample Flow Rate (mL/min): 400 QA/QCSamples: ms/msD

VOA Vials, No Headspace ☒ Initials: SG

COMMENTS: purged ~300 mL prior to sample

Total Purge Volume: 8000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW | PROJECT NUMBER: 21562735.00009 | FIELD PERSONNEL: L. Rathman / C. Kretzer

DATE: 11-08-12 | WEATHER: 60°F, Sunny

MONITORING WELL ID: MW-13 | SAMPLE ID: MW13-ROX-110812

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 35.82 ft
Depth to Water (btoc): 25.30 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 25.57 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 10.52 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 31 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH (±0.2)	Temp (°C) (±0.2)	Cond. (mS/cm) (3%)	Turbidity (NTUs) (3 vals ⟨10 or 10%)	DO (mg/L) (±0.2)	ORP (mV) (±20)
0	1424	25.30	~~Color~~	none	6.85	19.82	2661	70.90	0.55	31
1200	1427	25.30	clear	none	6.47	20.30	3008	43.37	0.32	7
2400	1430	25.30	clear	none	6.63	20.58	3087	35.12	0.22	-7
3600	1434	25.30	clear	none	6.61	20.63	3118	28.06	0.15	-16
4800	1437	25.30	clear	none	6.61	20.77	3124	23.62	0.11	-23
6000	1441	25.30	clear	none	6.60	20.85	3107	18.24	0.08	-28
7200	1444	25.30	clear	none	6.61	20.69	3082	12.76	0.05	-32
8400	1448	25.30	clear	none	6.60	20.73	3041	9.024	0.04	-35

Start Time: 1424 | Elapsed Time (min): 24 | Water Quality Meter ID: TROLL 9500

Stop Time: 1448 | Average Purge Rate (mL/min): 400 | Date Calibrated: 11-08-12

SAMPLING DATA

Sample Date: 11-08-12 | Sample Time: 1455 | Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow | Sample Flow Rate (mL/min): 400 | QA/QCSamples: none

VOA Vials, No Headspace ☒ Initials: CAK

COMMENTS:

Total Purge Volume: 8400 mL

3.48

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: D.Mattingly, M.Marsden

DATE: 10-31-12 WEATHER: Cool Sunny 46°

MONITORING WELL ID: MW-14 SAMPLE ID: MW14-Rox-103112

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 44.00 ft
Depth to Water (btoc): 32.02 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 33.42 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 11.98 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 39.00 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 17.8 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	1257	32.02	grey	hydrocarbon	6.62	19.61	1135	51.91	2.02	-103
1500	1300	32.02	grey	hydrocarbon	6.61	19.71	1136	46.25	0.02	-103
3000	1305	32.02	grey	hydrocarbon	6.62	19.58	1141	40.95	-0.00	-109
4500	1310	32.02	grey	hydrocarbon	6.62	19.45	1144	33.08	-0.01	-109
* — — —	— — —	32.02	grey	hydrocarbon	— — —	— — —	— — —	— — —	— — —	— — —
6000	1337	32.02	grey	hydrocarbon	6.64	18.72	1139	60.70	1.06	-85
7500	1340	32.02	grey	hydrocarbon	6.63	19.85	1140	53.54	0.21	-98
9000	1344	32.02	grey	hydrocarbon	6.62	19.63	1137	65.78	0.13	-103
10500	1349	32.02	grey	hydrocarbon	6.62	19.75	1140	92.52	0.13	-108
12000	1352	32.02	grey	hydrocarbon	6.66	19.63	1138	17.05	0.20	-111
13500	1356	32.02	grey	hydrocarbon	6.66	19.74	1136	13.56	0.10	-120
15000	1401	32.02	grey	hydrocarbon	6.61	19.59	1137	7.694	0.03	-129
				DM						

Start Time: 1337 Elapsed Time (min): 24 min Water Quality Meter ID: TROLL 9500

Stop Time: 1401 Average Purge Rate (mL/min): 400 mL/min Date Calibrated: 10-31-12

SAMPLING DATA

Sample Date: 10-31-12 Sample Time: 1405 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 400 mL/min QA/QCSamples: none

VOA Vials, No Headspace ☒ Initials: DM

COMMENTS: *Lost flow. Pulled up Pump, Not Working. Replaced Motor. Re-established flow.

Purged ~ 800 mL prior to sampling + ~ 900 mL during sampling Total Purge Volume: 15000 mL

4.25

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: D. Mattingly, M. Mansker

DATE: 10/30/12 WEATHER: Cool, sunny 54°

MONITORING WELL ID: P-54 SAMPLE ID: P-54-ROX-103012

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 63.00 ft
Depth to Water (btoc): 40.70 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 38.00 ft
Screen Length): 25 ft

Water Column Height (do not include LNAPL or DNAPL): 22.30 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = — ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are < 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = 51.85 ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 8.0 ppm
Wellbore PID/FID Reading: 8.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

+/- 0.2

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	1253	40.70	clear	—	6.72	18.29	1172	41.71	0.43	213
1780	1258	40.70	clear	—	6.72	17.84	1172	55.02	0.34	210
3560	1303	40.70	clear	—	6.71	18.99	1167	20.16	0.24	206
5340	1308	40.70	clear	—	6.71	19.65	1170	13.86	0.16	212
*										
0	1519	40.70	cloudy	—	6.71	18.50	1169	95.37	0.36	178
1780	1524	40.70	clear	—	6.71	18.53	1166	46.80	0.29	165
3560	1529	40.70	clear	—	6.71	18.11	1165	22.34	0.17	161
5346	1533	40.70	clear	—	6.72	17.80	1166	16.72	0.15	157
7120	1538	40.70	clear	—	6.72	17.72	1167	16.35	0.14	153
8900	1543	40.70	clear	—	6.72	17.65	1168	19.84	0.19	151
10680	1548	40.70	clear	—	6.72	17.62	1167	4.755	0.17	146
				DM						

Start Time: ~~1253~~ 1519 Elapsed Time (min): 29 minutes Water Quality Meter ID: TROLL 9500

Stop Time: 1548 Average Purge Rate (mL/min): 400 mL/min Date Calibrated: 10/30/12

SAMPLING DATA

Sample Date: 10/30/12 Sample Time: 1550 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 400 mL/min QA/QCSamples: None

VOA Vials, No Headspace ☐ Initials: DM

COMMENTS: *Re-calibrated Troll. Unsteady flow. DRP numbers are suspect still after 2nd Calibration.

Total Purge Volume: 10680 mL

Purged ~450mL prior to sampling + ~500 mL during sampling.

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: ~

DATE: ~ WEATHER: ~

MONITORING WELL ID: P-55 SAMPLE ID: ~

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 64.82 ft
Depth to Water (btoc): ~ ft
Depth to LNAPL/DNAPL (btoc): ~ ft
Depth to Top of Screen (btoc): 39.82 ft
Screen Length): 25 ft

Water Column Height (do not include LNAPL or DNAPL): ~ ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = ~ ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = ~ ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = ~ ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: ~ ppm
Wellbore PID/FID Reading: ~ ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
~										
				Well compromised						

Start Time: ~ Elapsed Time (min): ~ Water Quality Meter ID: TROLL 9500

Stop Time: ~ Average Purge Rate (mL/min): ~ Date Calibrated: ~

SAMPLING DATA

Sample Date: ~ Sample Time: ~ Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): ~ QA/QCSamples: ~

VOA Vials, No Headspace ☐ Initials: ~

COMMENTS:

~

Total Purge Volume: ~ mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: _____

DATE: _____ WEATHER: _____

MONITORING WELL ID: P-56 SAMPLE ID: _____

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 65.82 ft
Depth to Water (btoc): _____ ft
Depth to LNAPL/DNAPL (btoc): _____ ft
Depth to Top of Screen (btoc): 40.82 ft
Screen Length): 25 ft

Water Column Height (do not include LNAPL or DNAPL): _____ ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = _____ ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = _____ ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = _____ ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: _____ ppm
Wellbore PID/FID Reading: _____ ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)

Start Time: _____ Elapsed Time (min): _____ Water Quality Meter ID: TROLL 9500

Stop Time: _____ Average Purge Rate (mL/min): _____ Date Calibrated: _____

SAMPLING DATA

Sample Date: _____ Sample Time: _____ Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): _____ QA/QCSamples: _____

VOA Vials, No Headspace ☐ Initials: _____

COMMENTS: See 2nd sheet for sampling information

Total Purge Volume: _____ mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: 40 Roxana GW sampling **PROJECT NUMBER:** 21562735 **FIELD PERSONNEL:** Jansen / Kretzer

DATE: 10/31/12 **MONITORING WELL ID:** P-56

±0.2 (3) ±0.2 (3) 400 mL/min <10 % drawdown ±0.2 (3) ±10 (3)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Sp. Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	~~59~~ 1358	44.80	clear	slight	6.59	23.33	2176	3.128	0.40	40
2000	1403		clear	slight	6.52	22.24	2746	5.738	0.09	24
4000	1408		clear	slight	6.52	22.45	2882	4.668	0.05	13
6000	1413		clear	slight	6.52	22.51	2968	5.914	0.03	4
8000	1418		clear	slight	6.52	22.50	3036	8.699	0.02	-2
10,000	1423		clear	slight	6.51	22.60	3040	7.517	0.02	-7

SB

C. Kretzer

Purge rate 400mL
Troll cal'd 10/31/12
Sample time: 1430
low flow

No QAQC
Placed pump at 53.32 ft. BTOC
DTW = 44.80 ft btoc

* ~500 mL purged prior to sampling

DTB = 65.61 ft btoc
Water column height = 20.81 ft btoc

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: L. Rathnow, C. Kratzer

DATE: 11/5/12 WEATHER: 45°F Rainy

MONITORING WELL ID: P-57 SAMPLE ID: P57-ROX-110512

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 65.46 ft
Depth to Water (btoc): 44.98 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 40.46 ft
Screen Length): 25 ft

Water Column Height (do not include LNAPL or DNAPL): 20.48 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 57.48 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	15:17	44.98	clear	strong	6.73	17.80	3855	17.80	0.37	28
1800	15:22	nm	clear	strong	6.73	18.75	3877	7.341	-0.01	-0
3600	15:26	nm	clear	strong	6.59	18.78	3889	6.194	-0.03	-14
5400	15:31	nm	clear	strong	6.59	18.76	3870	7.449	-0.04	-22
7200	15:35	nm	clear	strong	6.59	18.72	3841	5.191	-0.03	-28
~~9000~~										
~~10800~~										
~~12600~~										

Start Time: 15:17
Stop Time: 15:35

Elapsed Time (min): ~~13~~ ~~15:40~~ 18
Average Purge Rate (mL/min): 400

Water Quality Meter ID: TROLL 9500
Date Calibrated: 11/5/12

SAMPLING DATA

Sample Date: 11/5/12
Sample Time: 15:40
Lab Analysis: VOC, SVOC
Sample Method: Bladder Pump / Low Flow
Sample Flow Rate (mL/min): 400
QA/QCSamples: none
VOA Vials, No Headspace ☒ Initials:

COMMENTS: Only had probe for initial DTW.

Total Purge Volume: 7200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: L. Rathbun, C. Kratzer

DATE: 11/6/12 WEATHER: 45°F Cloudy

MONITORING WELL ID: P-58 SAMPLE ID: P58-ROX-110612

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 65.21 ft
Depth to Water (btoc): 43.09 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 40.21 ft
Screen Length): 25 ft

Water Column Height (do not include LNAPL or DNAPL): 22.12 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 52 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH (±0.2)	Temp (°C) (±0.2)	Cond. (mS/cm) (3%)	Turbidity (NTUs) (<10 3 w/in 10%)	DO (mg/L) (±0.2)	ORP (mV) (±20)
0	10:48	43.09	clear	strong	6.59	17.11	2329	19.66	0.70	36
1800	10:52	43.09	clear	strong	6.48	17.99	2619	12.19	0.11	59
3600	10:57	43.09	clear	strong	6.48	18.21	2851	10.28	0.07	47
5400	11:02	43.09	clear	strong	6.48	18.31	2960	11.35	0.05	38
7200	11:06	43.09	clear	strong	6.49	18.36	2991	18.46	0.03	31
9000	11:11	43.09	clear	strong	6.49	18.35	3035	13.84	0.02	200
10,800	11:16	43.09	clear	strong	6.50	18.18	3041	20.39	0.01	22
12,600	11:20	43.09	clear	strong	6.50	17.67	3055	9.460	0.00	19
14,400	11:25	43.09	clear	strong	6.49	18.08	2880	8.897	0.04	14
16,200	11:30	43.09	clear	strong	6.49	18.91	2851	8.561	0.01	10
18,000	11:34	43.09	clear	strong	6.49	18.76	2836	8.219	0.00	11

Start Time: 10:48 Elapsed Time (min): 47min Water Quality Meter ID: TROLL 9500

Stop Time: 1135 Average Purge Rate (mL/min): 400 Date Calibrated: 11/6/12

SAMPLING DATA

Sample Date: 11/6/12 Sample Time: 1140 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / (Low Flow) Sample Flow Rate (mL/min): 400 QA/QCSamples: none

VOA Vials, No Headspace ☒ Initials: AAB

COMMENTS:

Total Purge Volume: mL

P-58

PURGE DATA CONTINUED:

12/10/12 J. Staeffer, M. Corbett

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (ms/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
	1824	43.62	colorless	odor less	7.30	17.88	1105	21.83	0.06	-99
					7.32	17.79	1124	24.09	0.05	-106
					7.34	17.89	1125	31.49	0.05	-109
					7.33	17.74	1133	16.06	0.03	-110
					7.34	17.94	1148	22.68	0.02	-111
					7.37	17.97	1166	11.50	0.02	-112
					7.38	17.94	1184	18.04	0.02	-113
					7.39	17.95	1204	21.61	0.01	-113
					7.43	17.92	1219	10.48	0.01	-112
					7.43	17.95	1229	23.96	0.01	-112
					7.44	17.99	1243	20.12	0.01	-112
					7.45	18.11	1252	13.98	0.01	-112
	1924				7.45	18.15	1259	13.60	0.01	-112

COMMENTS: 1330 - Sample P-58-WRR-1212

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW | PROJECT NUMBER: 21562735.00009 | FIELD PERSONNEL: L. Rathnow / C. Kretzer

DATE: 11-07-12 | WEATHER: 55°F, Sunny.

MONITORING WELL ID: P-59 | SAMPLE ID: P59-ROX-110212, P59-ROX-110212-Dup

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 72.91 ft
Depth to Water (btoc): 45.98 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 47.91 ft
Screen Length): 25 ft

Water Column Height (do not include LNAPL or DNAPL): 26.93 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 60.05 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are (4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: ~~389~~ 6.0 ppm
Wellbore PID/FID Reading: 389 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
					+/- 0.2	+/- 0.2	3%	1 <10 or 10%	+/- 0.2	+/- 20
0	1012	45.98	clear	slight	6.52	18.28	2592	3370	0.08	67
2000	1017	45.98	clear	slight	6.55	18.10	2833	14.73	0.01	44
4400	1023	45.98	clear	slight	6.55	18.01	2902	9.561	-0.02	31
6800	1029	45.98	clear	slight	6.56	17.88	2946	10.31	-0.03	22
9200	1035	45.98	clear	slight	6.57	17.90	2977	7.159	-0.05	14

Start Time: 1012 | Elapsed Time (min): 23 | Water Quality Meter ID: TROLL 9500

Stop Time: 1035 | Average Purge Rate (mL/min): 400 | Date Calibrated: 11/2/12

SAMPLING DATA

Sample Date: 11/2/12 | Sample Time: 1040 | Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow | Sample Flow Rate (mL/min): 400 | QA/QCSamples: Dup

VOA Vials, No Headspace ☑ Initials: MAR

COMMENTS: Purged 15 gallons for WRR before sampling.

Total Purge Volume: 9200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: L. Pathrow, C. Kretzer

DATE: 11/2/12 WEATHER: Sunny 50°F

MONITORING WELL ID: P-60-12S SAMPLE ID: —

INITIAL DATA

Well Diameter): 0.75 in
Total Well Depth (btoc): 23.84 ft
Depth to Water (btoc): 19.41 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 13.84 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 4.43 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = — ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: —

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)

Start Time: — Elapsed Time (min): — Water Quality Meter ID: TROLL 9500

Stop Time: — Average Purge Rate (mL/min): — Date Calibrated: —

SAMPLING DATA

Sample Date: — Sample Time: — Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): — QA/QCSamples: —

VOA Vials, No Headspace ☐ Initials: —

COMMENTS:

Not enough water to sample well. Per SOP.
(23.84 - 19.41) × 0.0408 = 0.180744 gallons of water in well.

Total Purge Volume: — mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: L. Rathnow, C. Kretzer

DATE: 11/2/12 WEATHER: Sunny 50°F

MONITORING WELL ID: P-60-13S SAMPLE ID: —

INITIAL DATA

Well Diameter): 0.75 in
Total Well Depth (btoc): 20.00 ft
Depth to Water (btoc): 17.65 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 10.00 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 2.35 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = — ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: _____

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)

Start Time: — Elapsed Time (min): — Water Quality Meter ID: TROLL 9500

Stop Time: — Average Purge Rate (mL/min): — Date Calibrated: —

SAMPLING DATA

Sample Date: — Sample Time: — Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): — QA/QCSamples: —

VOA Vials, No Headspace ☐ Initials: —

COMMENTS:

Not enough water to sample well. Per SOP
(20.00 - 17.65) * 0.0408 = 0.09588 gallons of water in well

Total Purge Volume: — mL

4.40

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: D. Mattingly, M. Mansker

DATE: 10/31/12 WEATHER: Cod 41° Sunny

MONITORING WELL ID: P-66 SAMPLE ID: P66-Rox-103112

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 59.72 ft
Depth to Water (btoc): 34.75 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 34.72 ft
Screen Length): 25 ft

Water Column Height (do not include LNAPL or DNAPL): 24.97 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are < 4ft,
Place Pump at: Total Well Depth ~~– (0.5 X Water Column Height + DNAPL Column Height)~~ = 47.23 ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: @ 5.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	1004	34.75	grey	hydrocarbon	6.42	18.98	1328	111.0	0.19	-46
1840	1009	34.75	grey	hydrocarbon	6.43	18.75	1338	102.7	0.05	-67
3680	1013	34.75	grey	hydrocarbon	6.44	18.49	1357	130.8	0.01	-86
5520	1018	34.75	grey	hydrocarbon	6.44	18.67	1344	54.09	0.03	-82
7360	1023	34.75	grey	hydrocarbon	6.44	18.22	1340	91.55	0.02	-90
9200	1028	34.75	grey	hydrocarbon	6.44	18.91	1344	117.2	0.02	-121
11040	1033	34.75	grey	hydrocarbon	6.44	18.77	1347	52.43	0.02	-144
12880	1037	34.75	grey	hydrocarbon	6.44	18.70	1350	29.37	0.01	-150
14720	1043	34.75	grey	hydrocarbon	6.44	18.74	1353	19.35	-0.00	-155
16560	1048	34.75	grey	hydrocarbon	6.44	18.76	1350	24.54	-0.01	-152
18400	1052	34.75	grey	hydrocarbon	6.44	16.94	1347	21.50	-0.01	-150
20240	1057	34.75	grey	hydrocarbon	6.44	17.19	1354	35.83	0.01	-150
* 22080	1103	34.75	grey	hydrocarbon	—	—	—	—	—	—
23920	1118	34.75	grey	hydrocarbon	6.44	18.47	1345	15.82	-0.01	-154
25760	1132	34.75	grey	hydrocarbon	6.44	18.44	1339	26.78	-0.01	-154

Start Time: ~~1004~~ 1128 Elapsed Time (min): 61 min + 43 min Water Quality Meter ID: TROLL 9500

Stop Time: 1211 Average Purge Rate (mL/min): 400 mL/min Date Calibrated: 10/31/12

SAMPLING DATA

Sample Date: ~~10/31/12~~ 10/31/12 Sample Time: 1215 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 400 mL/min QA/QCSamples: none

VOA Vials, No Headspace ☒ Initials: DM

COMMENTS:

* Rugged Reader froze, not displaying new readings, Reader displaying hardware errors, disconnected/reconnected cables

Purged ~ 700mL prior to sampling and ~ 800mL during sampling Total Purge Volume: 40,480 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12GW PROJECT NUMBER: 2156235.00009 FIELD PERSONNEL: D. Mattingly, M. Manske

DATE: 10/31/12 MONITORING WELL ID: P66-Rox-103112

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
27000	1137	34.75	grey	hydrocarbon	6.44	18.77	1345	22.99	-0.02	-156
29490	1142	34.75	grey	hydrocarbon	6.44	18.76	1345	20.06	-0.02	-156
31980	1147	34.75	grey	hydrocarbon	6.44	18.78	1345	19.93	-0.02	-156
33120	1152	34.75	grey	hydrocarbon	6.44	18.77	1341	23.21	-0.03	-155
37960	1157	34.75	grey	hydrocarbon	6.44	19.22	1352	49.25	-0.02	-161
36800	1202	34.75	grey	hydrocarbon	6.44	18.95	1357	19.38	-0.03	-162
38640	1206	34.75	grey	hydrocarbon	6.44	18.80	1353	21.19	-0.03	-161
40480	1211	34.75	grey	hydrocarbon						

DM

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: L. Rathbun, J. Stoeffler

DATE: 11/1/12 WEATHER: 55°F Cloudy

MONITORING WELL ID: P-68 SAMPLE ID: —

INITIAL DATA

Well Diameter): 4 in
Total Well Depth (btoc): 70.26 ft
Depth to Water (btoc): 43.90 ft
Depth to LNAPL/DNAPL (btoc): 43.79 ft
Depth to Top of Screen (btoc): 45.26 ft
Screen Length): 25 ft

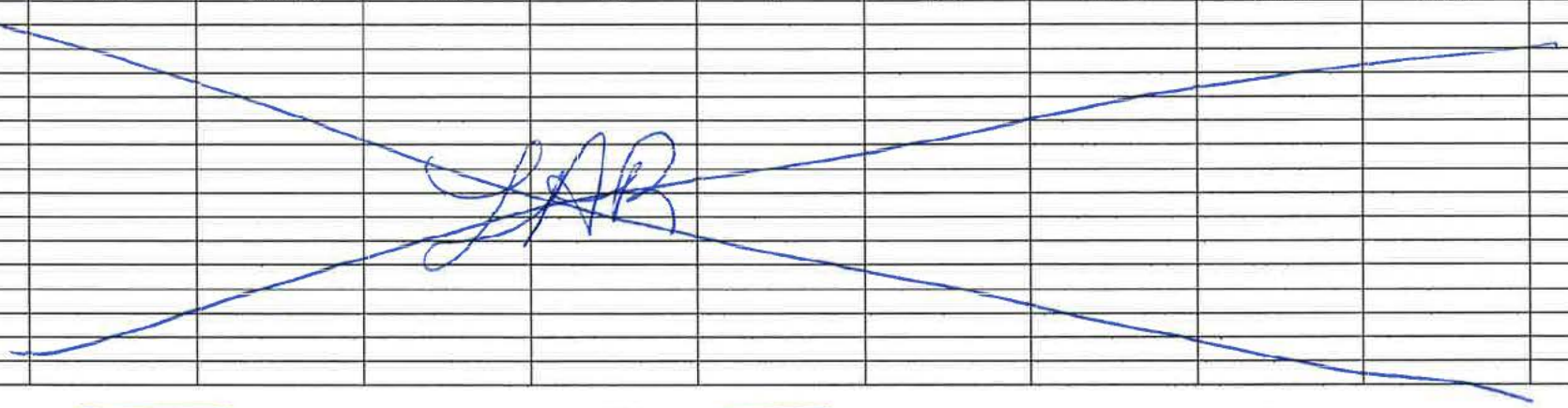
Water Column Height (do not include LNAPL or DNAPL): _____ ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = _____ ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are < 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: —

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)



Start Time: — Elapsed Time (min): — Water Quality Meter ID: TROLL 9500

Stop Time: — Average Purge Rate (mL/min): — Date Calibrated: —

SAMPLING DATA

Sample Date: — Sample Time: — Lab Analysis: VOC, SVOC

Sample Method: — Sample Flow Rate (mL/min): — QA/QC Samples: —

VOA Vials, No Headspace ☐ Initials: —

COMMENTS: Well not sampled due to product (LNAPL) in well

Total Purge Volume: — mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW | PROJECT NUMBER: 21562735.00009 | FIELD PERSONNEL: L. Rathbun, J. Stuckey

DATE: 11/1/12 | WEATHER: 59°F, Partly Cloudy

MONITORING WELL ID: P-74 | SAMPLE ID: P-74-ROX-110112

INITIAL DATA

Well Diameter): 4 in
Total Well Depth (btoc): 69.43 ft
Depth to Water (btoc): 41.72 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 44.43 ft
Screen Length): 25 ft

Water Column Height (do not include LNAPL or DNAPL): 27.71 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 56.93 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: — ppm
Wellbore PID/FID Reading: — ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	1443	41.72	clear	none	6.80	18.47	1843	18.97	0.30	26
2000	1448	41.72	clear	none	6.64	18.53	2046	20.16	0.06	4
4000	1454	41.72	clear	none	6.62	18.42	2063	19.22	0.02	-6
6000	1500	41.72	clear	none	6.61	18.28	2066	16.24	0.00	-13
8000	1505	41.72	clear	none	6.61	18.15	2059	15.10	-0.01	-18
10000	1510	41.72	clear	none	6.60	18.13	2047	14.87	-0.01	-22

Start Time: 1443 | Elapsed Time (min): 29 | Water Quality Meter ID: TROLL 9500

Stop Time: 1512 | Average Purge Rate (mL/min): 400 | Date Calibrated: 11/1/12

SAMPLING DATA

Sample Date: 11/1/12 | Sample Time: 1515 | Lab Analysis: VOC, SVOC

Sample Method: Low Flow | Sample Flow Rate (mL/min): 400 | QA/QCSamples: none

VOA Vials, No Headspace [X] Initials: JS

COMMENTS:

Total Purge Volume: 10,000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: Mittermeyer / Williams

DATE: 11/7/2012 WEATHER: High 55°F Overcast

MONITORING WELL ID: P93A SAMPLE ID: ~~P93A-WRR-110712~~ P93A-ROX-110712

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 63.17 ft
Depth to Water (btoc): ~~dry~~ ft
Depth to LNAPL/DNAPL (btoc): ~~N/E~~ ft
Depth to Top of Screen (btoc): 48.17 ft
Screen Length: 15 ft

Water Column Height (do not include LNAPL or DNAPL): 18.17 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 55.67 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are (4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = ~~N/A~~ ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = ~~N/A~~ ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0 ppm
Wellbore PID/FID Reading: 0 ppm

PURGE DATA

Pump Type: Dedicated Bladder

Purge Volume ~~(mL)~~ gal	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
					+/- 0.2	+/- 0.2	3%	1 reading <10 or 3 readings <50 and within 10%	+/- 0.2	+/- 20
2.5	1020	45.00	light brown	mild	6.59	20.34	2777	29.87	3.88	44
2.75	1029		"	"	6.62	20.40	2898	32.37	4.60	28
3.5	1035		"	"	6.63	20.49	2977	33.64	4.65	20
4.0	1043	45.00	"	"	6.63	20.47	3042	32.40	4.64	15

Start Time: 1010 Elapsed Time (min): 40 Water Quality Meter ID: TROLL 9500

Stop Time: 1050 Average Purge Rate (mL/min): 400 Date Calibrated: 11/7/2012

SAMPLING DATA

Sample Date: 11/7/2012 Sample Time: 1050 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 400 QA/QCSamples: DUP

VOA Vials, No Headspace ☒ Initials: MM

COMMENTS:

Total Purge Volume: 4 gal ~~mL~~

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: Mittermeyer, Williams

DATE: 11/7/2012 WEATHER: 52°F Overcast

MONITORING WELL ID: P93B SAMPLE ID: P93B-ROX-110712

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 76.60 ft
Depth to Water (btoc): 45.05 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 74.60 ft
Screen Length): 2 ft

Water Column Height (do not include LNAPL or DNAPL): 31.55 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 75.60 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0 ppm
Wellbore PID/FID Reading: 0 ppm

PURGE DATA

Pump Type: dedicated bladder

Purge Volume ~~(mL)~~ gal	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. ~~(mS/cm)~~ uS/cm	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0.25	14:37	45.05	clear	none	6.84	17.74	4376	0.2920	0.17	16
0.75	14:46		clear	none	6.77	14.13	4318	0.0894	0.00	-7
2.25	14:56		clear	none	6.76	14.34	4254	-0.0004	-0.04	-14
3.5	1505	45.05	clear	none	6.76	14.38	4132	1.020	-0.06	-27
4.5	1513		clear	none	6.76	14.13	4032	-0.0228	-0.04	-32
5.5	1524		clear	none	6.76	17.95	4009	0.0489	-0.07	-36
7.0	1535		clear	none	6.76	17.92	3810	0.0084	-0.08	-39
8.5	1545		clear	none	6.76	17.91	3703	2.074	-0.09	-41
10.0	1554		clear	none	6.77	17.40	3514	0.1863	-0.09	-43
11.5	1603		clear	none	6.77	17.83	3372	0.0575	-0.10	-45
13.0	1611		clear	none	6.77	17.86	3232	-0.0005	-0.10	-46
15.0	1620		clear	none	6.77	17.84	3146	1.654	-0.10	-47
16.0	1630		clear	none	6.77	17.99	3045	0.7645	-0.10	-48

Start Time: 1430 Elapsed Time (min): 120 Water Quality Meter ID: TROLL 9500

Stop Time: 1630 Average Purge Rate (mL/min): 400 Date Calibrated: 11/7/2012

SAMPLING DATA

Sample Date: 11/7/12 Sample Time: 1630 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 400 QA/QCSamples: DUP

VOA Vials, No Headspace ☐ Initials:

COMMENTS:

Total Purge Volume: 16 gal mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: L. Rathnow / C. Kreter

DATE: 10-08-12 WEATHER: 50°F, Sunny

MONITORING WELL ID: P93C SAMPLE ID: P93C - Rox - 110812

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 96.26 ft
Depth to Water (btoc): 44.98 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 94.26 ft
Screen Length): 2 ft

Water Column Height (do not include LNAPL or DNAPL): ~~49.28~~ 51.31 CK ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is <4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 95.26 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are < 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = ——— ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = ——— ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: ———

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH (±0.2)	Temp (°C) (±0.2)	Cond. (mS/cm) (3%)	Turbidity (NTUs) (<10 or 3 when wi.)	DO (mg/L) (±0.2)	ORP (mV) (±20)
0	1009	44.98	clear	none	6.78	18.23	2506	1.0169	0.61	79
2700	1018	44.98	clear	none	6.77	18.19	2714	-0.1693	0.15	53
5400	1028	44.98	clear	none	6.77	18.35	2806	-0.1261	0.07	37
8100	1037	44.98	clear	none	6.78	18.31	2859	-0.2909	0.03	27
10800	1046	44.98	clear	none	6.78	18.27	2904	-0.2612	0.02	19

Start Time: 1009
Stop Time: 1046

Elapsed Time (min): ~~8 CK~~ 37 min.
Average Purge Rate (mL/min): 300

Water Quality Meter ID: TROLL 9500
Date Calibrated: 11-08-12

SAMPLING DATA

Sample Date: 11-08-12
Sample Time: 1050
Lab Analysis: VOC, SVOC
Sample Method: Bladder Pump / Low Flow
Sample Flow Rate (mL/min): 300
QA/QCSamples: None
VOA Vials, No Headspace ☒ Initials: CAK

COMMENTS:

Total Purge Volume: 10,800 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: L. Rahnow / C. Kreter

DATE: 11-08-12 WEATHER: 55°F, Sunny

MONITORING WELL ID: P93D SAMPLE ID: P93D-ROX-110812

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 128.00 ft
Depth to Water (btoc): 45.12 ft
Depth to LNAPL/DNAPL (btoc): NF ft
Depth to Top of Screen (btoc): 125.75 ft
Screen Length): 2 ft

Water Column Height (do not include LNAPL or DNAPL): 80.63 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 127 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH (±0.2)	Temp (°C) (±0.2)	Cond. (mS/cm) (±3%)	Turbidity (NTUs) (40 or 3 when low)	DO (mg/L) (±0.2)	ORP (mV) (±20)
0	1109	45.12	clear	none	7.27	19.49	2404	7.215	1.66	-15
3600 ~~2800~~	1118	45.12	clear	none	6.98	18.65	2015	2.191	0.02	-8
7200	1127	45.12	clear	none	6.96	18.58	2096	0.5036	-0.04	-14
10,800	1137	45.12	clear	none	6.96	18.66	2732	0.3024	0.03	-20
14,460	1146	45.12	clear	none	6.96	18.77	2704	0.2422	-0.04	-24

Start Time: 1109 Elapsed Time (min): 37 Water Quality Meter ID: TROLL 9500

Stop Time: 1146 Average Purge Rate (mL/min): 400 Date Calibrated: 11-08-12

SAMPLING DATA

Sample Date: 11-08-12 Sample Time: 1150 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 400 QA/QCSamples: none

VOA Vials, No Headspace ☒ Initials: CAK

COMMENTS:

Total Purge Volume: 14,400 mL

52.67
-30.90
21.77

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: L. Rathmann / C. Kretzer

DATE: 11-09-12 WEATHER: 60°F, Sunny

MONITORING WELL ID: P114 SAMPLE ID: P114-ROX-110912

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 52.67 ft
Depth to Water (btoc): 30.90 ft
Depth to LNAPL/DNAPL (btoc): NC ft
Depth to Top of Screen (btoc): 32.67 ft
Screen Length): 20 ft

Water Column Height (do not include LNAPL or DNAPL): 21.77 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 42.67 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are (4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA Pump Type:

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH ±0.2	Temp (°C) ±0.2	Cond. (mS/cm) ±3%	Turbidity (NTUs) <10 or 3 w/in 10%	DO (mg/L) ±0.2	ORP (mV) ±20
0	1039	30.90	clear	~~strong~~	7.06	20.98	1726	12.45	2.34	85
1600	1043	30.90	clear	none	7.03	21.02	1894	11.816	2.31	70
3200	1047	30.90	clear	none	7.03	21.08	1967	9.199	1.66	58
4800	1051	30.90	clear	none	7.04	21.09	2017	12.11	2.79	49
6400	1055	30.90	clear	none	7.05	21.09	2060	11.69	2.43	42
8000	1059	30.90	clear	none	7.05	21.04	2069	11.97	2.31	38
9600	1103	30.90	clear	none	7.05	21.30	2080	10.23	1.90	33
11200	1107	30.90	clear	none	7.06	21.18	2117	8.932	2.76	29
12800	1111	30.90	clear	none	7.04	21.15	2140	10.26	1.86	27
14400	1115	30.40	clear	none	7.04	21.19	2157	1087.9	1.74	24
16000	1119	"	clear	none	7.08	21.22	2168	5.51	3.25	22
17600	1124	"	clear	none	7.10	21.33	2170	20.54	4.07	20
19200	1128	"	clear	none	7.13	21.38	2175	33.74	5.86	18
20800	1132	"	clear	none	7.12	21.58	2104	18.58	4.28	18
22400	1136	"	clear	none	7.12	21.18	2274	12.12	3.00	15

Start Time: 1039 Elapsed Time (min): 57 min Water Quality Meter ID: TROLL 9500

Stop Time: 1136 Average Purge Rate (mL/min): 400 Date Calibrated: 11-09-12

SAMPLING DATA

Sample Date: 11-09-12 Sample Time: 1140 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 400 QA/QCSamples: DUP

VOA Vials, No Headspace ☒ Initials: CAK

COMMENTS:

Total Purge Volume: 22,400 mL

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: J. Stauffer, L. Rathinam

DATE: 11/1/12 WEATHER: 37°F, Mostly Sunny

MONITORING WELL ID: Rost-3-PZ SAMPLE ID: ROST3PZ-ROX-110112

INITIAL DATA

Well Diameter): 1 in
Total Well Depth (btoc): 50.00 ft
Depth to Water (btoc): 40.82 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 40.00 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 9.18 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 45 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are (4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0 ppm
Wellbore PID/FID Reading: 0 ppm

PURGE DATA Pump Type: SS Bladder Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	1024	40.82	clear	none	6.83	15.50	1835	14.78	1.48	38
900	1027	40.82	clear	none	6.81	15.54	2082	12.49	1.12	25
1800	1030	40.82	clear	none	6.81	15.56	2205	12.17	1.02	15
2700	1033	40.82	clear	none	6.82	15.53	2283	8.067	0.84	8
3600	1036	40.82	clear	none	6.83	15.51	2339	9.208	0.74	2
4500	1039	40.82	clear	none	6.83	15.49	2387	7.987	0.70	-4
5400	1042	40.82	clear	none	6.84	15.50	2421	6.381	0.63	-9

Start Time: 1024 Elapsed Time (min): 18 Water Quality Meter ID: TROLL 9500

Stop Time: 1042 Average Purge Rate (mL/min): 300 Date Calibrated: 11/1/12

SAMPLING DATA

Sample Date: 11/1/12 Sample Time: 1045 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QCSamples: None

VOA Vials, No Headspace ☑ Initials: JS

COMMENTS:

Total Purge Volume: 5400 mL

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: DMattingly, L.Rathnow

DATE: 10/29/12 WEATHER: sunny, 52°F

MONITORING WELL ID: Rost-4-PZ (C) SAMPLE ID: ROST-4-PZ(C)-ROX-102912

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 45.50 ft
Depth to Water (btoc): 40.75 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 35.25 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 4.75 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = — ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are (4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = 43.12 ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 7.5 ppm

PURGE DATA Pump Type: SS Bladder Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	1405	40.75	clear	none	6.83	17.50	2940	10.23	0.43	-20
1600	1410	40.75	clear	none	6.77	18.06	2849	6.401	0.23	-30
3200	1414	40.75	clear	none	6.76	18.32	2811	2.607	0.08	-37
4800	1418	40.75	clear	none	6.75	18.44	2786	1.611	0.02	-42
6400	1422	40.75	clear	none	6.75	18.50	2754	0.8101	0.02	-47

Start Time: 1405 Elapsed Time (min): 18 min Water Quality Meter ID: TROLL 9500

Stop Time: 1423 Average Purge Rate (mL/min): 400mL/min Date Calibrated: 10/29/12

SAMPLING DATA

Sample Date: 10/29/12 Sample Time: 1425 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 400mL/min QA/QCSamples: none

VOA Vials, No Headspace ☒ Initials: DM

COMMENTS: Purged ~ 450mL prior to sampling - ~500mL during sampling.

Total Purge Volume: 6400 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: L. Rathbun, D. Mattingly

DATE: 10/24/12 WEATHER: Sunny, Warm

MONITORING WELL ID: ROST-5-PZ SAMPLE ID: —

INITIAL DATA

Well Diameter): 1 in
Total Well Depth (btoc): 23.20 ft
Depth to Water (btoc): Dry ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 13.20 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): Dry ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = — ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: SS Bladder Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)

Start Time: —
Stop Time: —
Elapsed Time (min): —
Average Purge Rate (mL/min): —
Water Quality Meter ID: TROLL 9500
Date Calibrated: —

SAMPLING DATA

Sample Date: —
Sample Time: —
Lab Analysis: VOC, SVOC
Sample Method: Bladder Pump / Low Flow
Sample Flow Rate (mL/min): —
QA/QCSamples: —
VOA Vials, No Headspace ☐ Initials: —

COMMENTS:

Well is dry. No sample taken.

Total Purge Volume: — mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: L. Rathmas, D. Mattingly

DATE: 10/24/12 WEATHER: Sunny, Warm

MONITORING WELL ID: ROST-7-PZ SAMPLE ID: —

INITIAL DATA

Well Diameter): 1 in
Total Well Depth (btoc): 30.00 ft
Depth to Water (btoc): 24.07 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 20.00 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 5.93 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = — ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: SS Bladder Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)

Start Time: — Elapsed Time (min): — Water Quality Meter ID: TROLL 9500

Stop Time: — Average Purge Rate (mL/min): — Date Calibrated: —

SAMPLING DATA

Sample Date: — Sample Time: — Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): — QA/QCSamples: —

VOA Vials, No Headspace ☐ Initials: —

COMMENTS: (30 - 24.07) x 0.0408 = 0.2419 gallons ~~of~~ water in well. Per SOP: not enough water in well to sample well.

Total Purge Volume: — mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: L. Rathnow, D. Mattingly

DATE: 10/24/12 WEATHER: Sunny, Warm

MONITORING WELL ID: ROST-10-PZ SAMPLE ID: —

INITIAL DATA

Well Diameter): 1 in
Total Well Depth (btoc): 20.00 ft
Depth to Water (btoc): Dry ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 10.00 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): Dry ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = — ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: SS Bladder Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)

Start Time: — Elapsed Time (min): — Water Quality Meter ID: TROLL 9500

Stop Time: — Average Purge Rate (mL/min): — Date Calibrated: —

SAMPLING DATA

Sample Date: — Sample Time: — Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): — QA/QCSamples: —

VOA Vials, No Headspace ☐ Initials: —

COMMENTS:

Well is dry. No sample taken.

Total Purge Volume: — mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: L. Rathnow, D. Mattingly

DATE: 10/24/12 WEATHER: Sunny, Warm

MONITORING WELL ID: ROST-21-PZ SAMPLE ID: —

INITIAL DATA

Well Diameter): 1 in
Total Well Depth (btoc): 20.00 ft
Depth to Water (btoc): Dry ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 10.00 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): Dry ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is ⟨4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = — ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ⟨ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: SS Bladder Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)

Start Time: — Elapsed Time (min): — Water Quality Meter ID: TROLL 9500

Stop Time: — Average Purge Rate (mL/min): — Date Calibrated: —

SAMPLING DATA

Sample Date: — Sample Time: — Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): — QA/QCSamples: —

VOA Vials, No Headspace ☐ Initials: —

COMMENTS:

Well is dry. No sample Taken.

Total Purge Volume: — mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q12 GW PROJECT NUMBER: 21562735.00009 FIELD PERSONNEL: L. Rathnow, C. Kretzer

DATE: 11/5/12 WEATHER: 40°F & Rainy

MONITORING WELL ID: T-12 SAMPLE ID: T12-ROX-110512

INITIAL DATA

Well Diameter): 6 in
Total Well Depth (btoc): 72.46 ft
Depth to Water (btoc): 43.91 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 46.46 ft
Screen Length): 26 ft

Water Column Height (do not include LNAPL or DNAPL): 28.55 ft btoc
If Depth to Top of Screen is > Depth to Water AND Screen Length is (4 feet,
Place Pump at: Total Well Depth – 0.5 (Screen Length + DNAPL Column Height) = 59.00 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are (4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell): 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	12:30	43.91	clear	strong	6.66	16.75	3.736	1.225	0.08	46
2000	12:35	nm	clear	strong	6.66	16.84	3342	2.670	0.04	26
4000	12:40	nm	clear	strong	6.67	16.65	3907	11.56	0.02	14
6000	12:45	nm	clear	strong	6.67	16.77	3916	2.077	0.00	5
8000	12:50	nm	clear	strong	6.68	16.64	3155	1.467	0.00	-2

Start Time: 12:30 Elapsed Time (min): 20 min Water Quality Meter ID: TROLL 9500

Stop Time: 12:50 Average Purge Rate (mL/min): 400 Date Calibrated: 11/5/12

SAMPLING DATA

Sample Date: 11/5/12 Sample Time: 12:55 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 400 QA/QCSamples: none

VOA Vials, No Headspace ☒ Initials: LR

COMMENTS:
Only had the probe for the initial DTW.

Total Purge Volume: 8000 mL

Roxana Groundwater Quarterly – 4th Quarter 2012 Data Review

Laboratory SDG: MC15232

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 11/29/2012

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Sample Identification	Sample Identification
MW6A-ROX-102412	MW6B-ROX-102412
MW6B-ROX-102412-EB	MW6C-ROX-102412
MW6D-ROX-102412	TB-102412-ST-R
TB-102412-HCL-R	-

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated that VOC LCS/LCSD recoveries for acrolein and acrylonitrile were outside evaluation criteria. SVOC and PAH surrogate recoveries in sample MW6B-ROX-102412-EB were outside evaluation criteria. Perylene-d_{12} internal standard area recovery for samples MW6D-ROX-102412 and MW6B-ROX-102412-EB, and chrysene-d_{12} internal standard area recovery for sample MW6B-ROX-102412-EB were outside evaluation criteria. Professional judgment was used to qualify acetone in sample MW6A-ROX-102412. Additionally, the initial calibration verification for acetone exceeded 50 percent difference (%D). These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated one of two coolers were received by the laboratory at a temperature of 1.5 ºC, which is outside the 4ºC ± 2ºC criteria. Samples were received in good condition; therefore, no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

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

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSN2618-BS/BSD	VOCs	Acrolein	**68/64**	7	70-130/25
MSN2618-BS/BSD	VOCs	Acrylonitrile	**528/520**	2	70-130/25

Analytical data that required qualification based on LCS data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. LCS/LCSD MSN2618-BS/BSD was associated with trip blank TB-102412-HCL-R and equipment blank MW6B-ROX-102412-EB. Trip blanks and equipment blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
MW6A-ROX-102412	VOCs	Acrolein	**UJ**
MW6B-ROX-102412	VOCs	Acrolein	**UJ**
MW6C-ROX-102412	VOCs	Acrolein	**UJ**
MW6D-ROX-102412	VOCs	Acrolein	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery	Criteria
MW6B-ROX-102412-EB Run #2	SVOCs	2-Fluorophenol	**11**	15-110
MW6B-ROX-102412-EB Run #1	SVOCs	Phenol-d_5	**12**	15-110
MW6B-ROX-102412-EB Run #2	SVOCs	Phenol-d_5	**9**	15-110
MW6B-ROX-102412-EB Run #1	PAHs	Phenol-d_5	**12**	15-110
MW6B-ROX-102412-EB Run #2	PAHs	Phenol-d_5	**12**	15-110

MW6B-ROX-102412-EB is a quality control sample and is not qualified. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

No

Sample ID	Parameter	Analyte	IS Area Recovery	IS Criteria
MW6D-ROX-102412	PAHs	Perylene-d_{12}	**629116**	154660-618640
MW6B-ROX-102412-EB	PAHs	Chrysene-d_{12}	**378438**	89415-357660
MW6B-ROX-102412-EB	PAHs	Perylene-d_{12}	**662140**	108468-433872

Analytical results reported as non-detect and associated with internal standard recoveries above evaluation criteria, indicating a high bias, did not require qualification. Equipment blanks are quality control samples and are not qualified. No qualification of data was required.

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

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

Not applicable; samples analyzed did not require dilution.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes, professional judgment was used to qualify the common laboratory contaminant acetone reported at concentrations greater than two times (>2X) the reporting limit (RL), since acetone is not representative of site conditions.

Sample ID	Analyte	New RL	Qualification	Comment
MW6A-ROX-102412	Acetone	120 ug/L	**U**	Professional Judgment

Additionally, the initial calibration verification recovery for acetone exceeded 50 percent difference (%D); analytes in associated samples were qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW6A-ROX-102412	VOCs	Acetone	**UJ**
MW6B-ROX-102412	VOCs	Acetone	**UJ**
MW6C-ROX-102412	VOCs	Acetone	**UJ**
MW6D-ROX-102412	VOCs	Acetone	**UJ**

New England ACCUTEST LABORATORIES

11/29/12





Technical Report for

Shell Oil

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana,

Accutest Job Number: MC15232

Sampling Date: 10/24/12

Report to:

URS Corporation

elizabeth.kunkel@URS.com

ATTN: Elizabeth Kunkel

Total number of pages in report: **96**

Reviewed on 11/29/12

Reza Tand
Lab Director

ACCREDITED IN ACCORDANCE WITH nelac

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

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Test results relate only to samples analyzed.

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Sample Summary

Shell Oil

Job No: MC15232

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC15232-1	10/24/12	09:40	DMLR	10/25/12	AQ	Ground Water	MW6A-ROX-102412
MC15232-2	10/24/12	10:30	DMLR	10/25/12	AQ	Ground Water	MW6B-ROX-102412
MC15232-3	10/24/12	10:45	DMLR	10/25/12	AQ	Equipment Blank	MW6B-ROX-102412EB
MC15232-4	10/24/12	13:32	DMLR	10/25/12	AQ	Ground Water	MW6C-ROX-102412
MC15232-5	10/24/12	14:30	DMLR	10/25/12	AQ	Ground Water	MW6D-ROX-102412
MC15232-6	10/24/12	00:00	DMLR	10/25/12	AQ	Ground Water	TB-102412-ST-R
MC15232-7	10/24/12	00:00	DMLR	10/25/12	AQ	Ground Water	TB-102412-HCL-R

ACCUTEST. Laboratories

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Shell Oil **Job No** MC15232

Site: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central **Report Date** 11/12/2012 4:08:31 PM

7 Sample(s) were collected on 10/24/2012 and were received at Accutest on 10/25/2012 properly preserved, at 2.2 Deg. C and intact. These Samples received an Accutest job number of MC15232. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. 1-Chlorohexane, Benzenethiol, Dibenz(a,h)acridine, Indene, and Quinoline were searched in the library search and reported only if detections were found.

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

Volatiles by GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** MSN2618

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15299-2MS, MC15299-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- BS/BSD Recovery(s) for Acrolein are outside control limits. Blank Spike meets program technical requirements.
- MS/MSD Recovery(s) for Acrolein are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Initial calibration verification MSN2591-ICV2591 for acetone exceeds 50% Difference. Acetone is within criteria in continuing calibration check standard MSN2618-CC2591.
- MC15299-2MS/MSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MSN2618-BS/BSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.

Extractables by GCMS By Method SW846 8270C

Matrix AQ **Batch ID:** OP30833

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15400-7MS, MC15400-7MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-Chloronaphthalene, Aniline, Hexachlorobenzene, Isophorone, Nitrobenzene, Pyridine are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-Chloronaphthalene, Hexachlorobenzene, Isophorone, Nitrobenzene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC15232-3: Confirmation run for surrogate recoveries.
- MC15232-3 for 2-Fluorophenol, Phenol-d5: Outside control limits due to possible matrix interference. Confirmed by reanalysis.
- Calibration check stanard MSW304-CC287 not associated with this job.
- Calibration check standard MSW305-CC300 utilized the same file as MSW306-CC300.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix AQ	Batch ID: OP30834

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC15400-8MS were used as the QC samples indicated.
- Sample(s) MC15232-3 has Phenol-d5 outside control limits. Outside control limits due to possible matrix interference. Confirmed by reanalysis.
- MC15232-3: Confirmation run for surrogate recoveries.
- MC 15400-8MSD were used as the QC samples indicated .
- MC15232-3: Internal standard outside control limits due to possible matrix inerference. Confirmed by reanalysis.
- MC15232-5 for Perylene-d12: Outside control limits. Target analytes not associated with this internal standard.

Volatiles by GC By Method SW846 8011

Matrix AQ	Batch ID: OP30822

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15278-6MS, MC15278-6MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

The Accutest Laboratories of 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 Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC15232).

Summary of Hits

Job Number: MC15232
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 10/24/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC15232-1	MW6A-ROX-102412					
Acetone		120	5.0	3.0	ug/l	SW846 8260B
Benzene		0.73	0.50	0.24	ug/l	SW846 8260B
MC15232-2	MW6B-ROX-102412					
Benzene		1.5	0.50	0.24	ug/l	SW846 8260B
Methyl Tert Butyl Ether		9.1	1.0	0.41	ug/l	SW846 8260B
Butyl benzyl phthalate		0.57 J	5.1	0.27	ug/l	SW846 8270C
Di-n-butyl phthalate		0.79 J	5.1	0.36	ug/l	SW846 8270C
MC15232-3	MW6B-ROX-102412EB					
No hits reported in this sample.						
MC15232-4	MW6C-ROX-102412					
Benzene		0.35 J	0.50	0.24	ug/l	SW846 8260B
MC15232-5	MW6D-ROX-102412					
Benzene		0.55	0.50	0.24	ug/l	SW846 8260B
MC15232-6	TB-102412-ST-R					
No hits reported in this sample.						
MC15232-7	TB-102412-HCL-R					
No hits reported in this sample.						

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW6A-ROX-102412		
Lab Sample ID:	MC15232-1	**Date Sampled:**	10/24/12
Matrix:	AQ - Ground Water	**Date Received:**	10/25/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69604.D	1	11/07/12	JP	n/a	n/a	MSN2618
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	~~120~~ U	~~5.0~~ 120	3.0	ug/l	UJ
107-02-8	Acrolein	ND	25	10	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	0.73	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.3	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:	MW6A-ROX-102412		
Lab Sample ID:	MC15232-1	**Date Sampled:**	10/24/12
Matrix:	AQ - Ground Water	**Date Received:**	10/25/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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	

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RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW6A-ROX-102412		
Lab Sample ID:	MC15232-1	Date Sampled:	10/24/12
Matrix:	AQ - Ground Water	Date Received:	10/25/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	86%		70-130%
2037-26-5	Toluene-D8	86%		70-130%
460-00-4	4-Bromofluorobenzene	90%		70-130%

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

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

Report of Analysis

Client Sample ID:	MW6A-ROX-102412		
Lab Sample ID:	MC15232-1	Date Sampled:	10/24/12
Matrix:	AQ - Ground Water	Date Received:	10/25/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6398.D	1	10/31/12	KR	10/29/12	OP30833	MSW289
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.3	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.39	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.39	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	2.9	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	5.3	ug/l	
95-48-7	2-Methylphenol	ND	11	0.64	ug/l	
	3&4-Methylphenol	ND	11	0.79	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.50	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.9	ug/l	
87-86-5	Pentachlorophenol	ND	11	0.67	ug/l	
108-95-2	Phenol	ND	5.3	0.98	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.52	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.37	ug/l	
62-53-3	Aniline	ND	11	2.1	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.3	0.34	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.3	0.28	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.28	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.3	0.19	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.67	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.3	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.3	0.40	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.3	0.30	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.3	0.31	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.3	0.23	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	2.1	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.22	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.3	0.94	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.23	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.3	0.38	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.3	0.25	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW6A-ROX-102412		
Lab Sample ID:	MC15232-1	Date Sampled:	10/24/12
Matrix:	AQ - Ground Water	Date Received:	10/25/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.3	0.20	ug/l	
131-11-3	Dimethyl phthalate	ND	5.3	5.3	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.1	0.39	ug/l	
118-74-1	Hexachlorobenzene	ND	5.3	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.3	ug/l	
67-72-1	Hexachloroethane	ND	5.3	2.1	ug/l	
78-59-1	Isophorone	ND	5.3	0.33	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.24	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.27	ug/l	
100-01-6	4-Nitroaniline	ND	11	2.1	ug/l	
98-95-3	Nitrobenzene	ND	5.3	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.3	0.62	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.3	0.29	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.3	0.46	ug/l	
110-86-1	Pyridine	ND	11	5.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	42%		15-110%
4165-62-2	Phenol-d5	28%		15-110%
118-79-6	2,4,6-Tribromophenol	88%		15-110%
4165-60-0	Nitrobenzene-d5	72%		30-130%
321-60-8	2-Fluorobiphenyl	66%		30-130%
1718-51-0	Terphenyl-d14	89%		30-130%

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

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

Report of Analysis

Client Sample ID:	MW6A-ROX-102412		
Lab Sample ID:	MC15232-1	**Date Sampled:**	10/24/12
Matrix:	AQ - Ground Water	**Date Received:**	10/25/12
Method:	SW846 8270C BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10459.D	1	10/31/12	NS	10/29/12	OP30834	MSU560
Run #2							

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

BN Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	37%		15-110%
4165-62-2	Phenol-d5	26%		15-110%
118-79-6	2,4,6-Tribromophenol	69%		15-110%
4165-60-0	Nitrobenzene-d5	67%		30-130%
321-60-8	2-Fluorobiphenyl	60%		30-130%
1718-51-0	Terphenyl-d14	69%		30-130%

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

Report of Analysis

Client Sample ID:	MW6A-ROX-102412		
Lab Sample ID:	MC15232-1	Date Sampled:	10/24/12
Matrix:	AQ - Ground Water	Date Received:	10/25/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18326.D	1	10/30/12	AP	10/26/12	OP30822	GBK670
Run #2							

	Initial Volume	Final Volume
Run #1	36.1 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	111%		36-173%
460-00-4	Bromofluorobenzene (S)	108%		36-173%

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

Report of Analysis

Client Sample ID:	MW6B-ROX-102412		
Lab Sample ID:	MC15232-2	Date Sampled:	10/24/12
Matrix:	AQ - Ground Water	Date Received:	10/25/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69605.D	1	11/07/12	JP	n/a	n/a	MSN2618
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	UJ
107-02-8	Acrolein	ND	25	10	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	1.5	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	

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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW6B-ROX-102412		
Lab Sample ID:	MC15232-2	**Date Sampled:**	10/24/12
Matrix:	AQ - Ground Water	**Date Received:**	10/25/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	9.1	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:	MW6B-ROX-102412		
Lab Sample ID:	MC15232-2	Date Sampled:	10/24/12
Matrix:	AQ - Ground Water	Date Received:	10/25/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	86%		70-130%
2037-26-5	Toluene-D8	87%		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	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:	MW6B-ROX-102412		
Lab Sample ID:	MC15232-2	Date Sampled:	10/24/12
Matrix:	AQ - Ground Water	Date Received:	10/25/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6399.D	1	10/31/12	KR	10/29/12	OP30833	MSW289
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.1	0.41	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.38	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.8	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.1	ug/l	
95-48-7	2-Methylphenol	ND	10	0.61	ug/l	
	3&4-Methylphenol	ND	10	0.76	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.48	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.1	0.94	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.50	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.36	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.1	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	0.57	5.1	0.27	ug/l	J
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.1	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.64	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.1	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.1	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.1	0.29	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.1	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.1	0.22	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.1	0.90	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	0.79	5.1	0.36	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.1	0.24	ug/l	

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

Report of Analysis

Client Sample ID:	MW6B-ROX-102412		
Lab Sample ID:	MC15232-2	Date Sampled:	10/24/12
Matrix:	AQ - Ground Water	Date Received:	10/25/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	42%		15-110%
4165-62-2	Phenol-d5	27%		15-110%
118-79-6	2,4,6-Tribromophenol	90%		15-110%
4165-60-0	Nitrobenzene-d5	74%		30-130%
321-60-8	2-Fluorobiphenyl	67%		30-130%
1718-51-0	Terphenyl-d14	95%		30-130%

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

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:	MW6B-ROX-102412		
Lab Sample ID:	MC15232-2	**Date Sampled:**	10/24/12
Matrix:	AQ - Ground Water	**Date Received:**	10/25/12
Method:	SW846 8270C BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10460.D	1	10/31/12	NS	10/29/12	OP30834	MSU560
Run #2							

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

BN Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	37%		15-110%
4165-62-2	Phenol-d5	25%		15-110%
118-79-6	2,4,6-Tribromophenol	71%		15-110%
4165-60-0	Nitrobenzene-d5	67%		30-130%
321-60-8	2-Fluorobiphenyl	63%		30-130%
1718-51-0	Terphenyl-d14	71%		30-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW6B-ROX-102412		
Lab Sample ID:	MC15232-2	Date Sampled:	10/24/12
Matrix:	AQ - Ground Water	Date Received:	10/25/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18327.D	1	10/30/12	AP	10/26/12	OP30822	GBK670
Run #2							

	Initial Volume	Final Volume
Run #1	36.7 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	117%		36-173%
460-00-4	Bromofluorobenzene (S)	121%		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:	MW6B-ROX-102412EB		
Lab Sample ID:	MC15232-3	**Date Sampled:**	10/24/12
Matrix:	AQ - Equipment Blank	**Date Received:**	10/25/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69602.D	1	11/07/12	JP	n/a	n/a	MSN2618
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	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:	MW6B-ROX-102412EB		
Lab Sample ID:	MC15232-3	**Date Sampled:**	10/24/12
Matrix:	AQ - Equipment Blank	**Date Received:**	10/25/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	MW6B-ROX-102412EB		
Lab Sample ID:	MC15232-3	Date Sampled:	10/24/12
Matrix:	AQ - Equipment Blank	Date Received:	10/25/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	86%		70-130%
2037-26-5	Toluene-D8	86%		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	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:	MW6B-ROX-102412EB		
Lab Sample ID:	MC15232-3	**Date Sampled:**	10/24/12
Matrix:	AQ - Equipment Blank	**Date Received:**	10/25/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6400.D	1	10/31/12	KR	10/29/12	OP30833	MSW289
Run #2 [a]	W6685.D	1	11/08/12	KR	10/29/12	OP30833	MSW306

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

ABN Special List

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

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

Report of Analysis

Client Sample ID:	MW6B-ROX-102412EB		
Lab Sample ID:	MC15232-3	**Date Sampled:**	10/24/12
Matrix:	AQ - Equipment Blank	**Date Received:**	10/25/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	17%	11% [b]	15-110%
4165-62-2	Phenol-d5	12% [b]	9% [b]	15-110%
118-79-6	2,4,6-Tribromophenol	60%	39%	15-110%
4165-60-0	Nitrobenzene-d5	33%	34%	30-130%
321-60-8	2-Fluorobiphenyl	36%	37%	30-130%
1718-51-0	Terphenyl-d14	92%	94%	30-130%

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

(a) Confirmation run for surrogate recoveries.
(b) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

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:	MW6B-ROX-102412EB		
Lab Sample ID:	MC15232-3	Date Sampled:	10/24/12
Matrix:	AQ - Equipment Blank	Date Received:	10/25/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10461.D	1	10/31/12	NS	10/29/12	OP30834	MSU560
Run #2 [a]	U10498.D	1	11/02/12	NS	10/29/12	OP30834	MSU560

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

BN Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	16%	15%	15-110%
4165-62-2	Phenol-d5	12% [b]	12% [b]	15-110%
118-79-6	2,4,6-Tribromophenol	51%	47%	15-110%
4165-60-0	Nitrobenzene-d5	33%	34%	30-130%
321-60-8	2-Fluorobiphenyl	37%	37%	30-130%
1718-51-0	Terphenyl-d14	71%	69%	30-130%

(a) Confirmation run for surrogate recoveries.
(b) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

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:	MW6B-ROX-102412EB		
Lab Sample ID:	MC15232-3	Date Sampled:	10/24/12
Matrix:	AQ - Equipment Blank	Date Received:	10/25/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18328.D	1	10/30/12	AP	10/26/12	OP30822	GBK670
Run #2							

	Initial Volume	Final Volume
Run #1	36.1 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	112%		36-173%
460-00-4	Bromofluorobenzene (S)	115%		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:	MW6C-ROX-102412		
Lab Sample ID:	MC15232-4	Date Sampled:	10/24/12
Matrix:	AQ - Ground Water	Date Received:	10/25/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69606.D	1	11/07/12	JP	n/a	n/a	MSN2618
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	UJ
107-02-8	Acrolein	ND	25	10	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	0.35	0.50	0.24	ug/l	J
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.3	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	

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Report of Analysis

Client Sample ID:	MW6C-ROX-102412		
Lab Sample ID:	MC15232-4	Date Sampled:	10/24/12
Matrix:	AQ - Ground Water	Date Received:	10/25/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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
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E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW6C-ROX-102412		
Lab Sample ID:	MC15232-4	**Date Sampled:**	10/24/12
Matrix:	AQ - Ground Water	**Date Received:**	10/25/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	86%		70-130%
2037-26-5	Toluene-D8	87%		70-130%
460-00-4	4-Bromofluorobenzene	90%		70-130%

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

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

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

Report of Analysis

Client Sample ID:	MW6C-ROX-102412		
Lab Sample ID:	MC15232-4	Date Sampled:	10/24/12
Matrix:	AQ - Ground Water	Date Received:	10/25/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6401.D	1	10/31/12	KR	10/29/12	OP30833	MSW289
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.1	0.41	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.38	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.8	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.1	ug/l	
95-48-7	2-Methylphenol	ND	10	0.62	ug/l	
	3&4-Methylphenol	ND	10	0.77	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.48	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.65	ug/l	
108-95-2	Phenol	ND	5.1	0.95	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.50	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.36	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.1	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.1	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.27	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.1	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.64	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.1	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.1	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.1	0.29	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.1	0.30	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.1	0.22	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.1	0.91	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.1	0.37	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.1	0.24	ug/l	

ND = Not detected MDL - Method Detection Limit
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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW6C-ROX-102412		
Lab Sample ID:	MC15232-4	**Date Sampled:**	10/24/12
Matrix:	AQ - Ground Water	**Date Received:**	10/25/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	42%		15-110%
4165-62-2	Phenol-d5	28%		15-110%
118-79-6	2,4,6-Tribromophenol	86%		15-110%
4165-60-0	Nitrobenzene-d5	72%		30-130%
321-60-8	2-Fluorobiphenyl	66%		30-130%
1718-51-0	Terphenyl-d14	90%		30-130%

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

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

Report of Analysis

Client Sample ID:	MW6C-ROX-102412		
Lab Sample ID:	MC15232-4	**Date Sampled:**	10/24/12
Matrix:	AQ - Ground Water	**Date Received:**	10/25/12
Method:	SW846 8270C BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10462.D	1	10/31/12	NS	10/29/12	OP30834	MSU560
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.014	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.051	0.031	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.051	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.060	ug/l	
218-01-9	Chrysene	ND	0.10	0.074	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.043	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.047	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.047	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.053	ug/l	
85-01-8	Phenanthrene	ND	0.051	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	38%		15-110%
4165-62-2	Phenol-d5	27%		15-110%
118-79-6	2,4,6-Tribromophenol	68%		15-110%
4165-60-0	Nitrobenzene-d5	65%		30-130%
321-60-8	2-Fluorobiphenyl	62%		30-130%
1718-51-0	Terphenyl-d14	68%		30-130%

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

Report of Analysis

Client Sample ID:	MW6C-ROX-102412		
Lab Sample ID:	MC15232-4	**Date Sampled:**	10/24/12
Matrix:	AQ - Ground Water	**Date Received:**	10/25/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18329.D	1	10/30/12	AP	10/26/12	OP30822	GBK670
Run #2							

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

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	118%		36-173%
460-00-4	Bromofluorobenzene (S)	124%		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:	MW6D-ROX-102412		
Lab Sample ID:	MC15232-5	Date Sampled:	10/24/12
Matrix:	AQ - Ground Water	Date Received:	10/25/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69607.D	1	11/07/12	JP	n/a	n/a	MSN2618
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	UJ
107-02-8	Acrolein	ND	25	10	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	0.55	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:	MW6D-ROX-102412		
Lab Sample ID:	MC15232-5	Date Sampled:	10/24/12
Matrix:	AQ - Ground Water	Date Received:	10/25/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	MW6D-ROX-102412		
Lab Sample ID:	MC15232-5	**Date Sampled:**	10/24/12
Matrix:	AQ - Ground Water	**Date Received:**	10/25/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, 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	87%		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	ug/l	

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

Report of Analysis

Client Sample ID:	MW6D-ROX-102412		
Lab Sample ID:	MC15232-5	**Date Sampled:**	10/24/12
Matrix:	AQ - Ground Water	**Date Received:**	10/25/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6402.D	1	10/31/12	KR	10/29/12	OP30833	MSW289
Run #2							

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

ABN Special List

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

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

Report of Analysis

Client Sample ID:	MW6D-ROX-102412		
Lab Sample ID:	MC15232-5	**Date Sampled:**	10/24/12
Matrix:	AQ - Ground Water	**Date Received:**	10/25/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	36%		15-110%
4165-62-2	Phenol-d5	24%		15-110%
118-79-6	2,4,6-Tribromophenol	76%		15-110%
4165-60-0	Nitrobenzene-d5	65%		30-130%
321-60-8	2-Fluorobiphenyl	61%		30-130%
1718-51-0	Terphenyl-d14	86%		30-130%

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

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

Report of Analysis

Client Sample ID:	MW6D-ROX-102412		
Lab Sample ID:	MC15232-5	**Date Sampled:**	10/24/12
Matrix:	AQ - Ground Water	**Date Received:**	10/25/12
Method:	SW846 8270C BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10463.D	1	10/31/12	NS	10/29/12	OP30834	MSU560
Run #2							

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

BN Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	33%		15-110%
4165-62-2	Phenol-d5	24%		15-110%
118-79-6	2,4,6-Tribromophenol	63%		15-110%
4165-60-0	Nitrobenzene-d5	60%		30-130%
321-60-8	2-Fluorobiphenyl	57%		30-130%
1718-51-0	Terphenyl-d14	66%		30-130%

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

Report of Analysis

Client Sample ID:	MW6D-ROX-102412		
Lab Sample ID:	MC15232-5	**Date Sampled:**	10/24/12
Matrix:	AQ - Ground Water	**Date Received:**	10/25/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18330.D	1	10/30/12	AP	10/26/12	OP30822	GBK670
Run #2							

	Initial Volume	Final Volume
Run #1	36.3 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.014	0.012	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	110%		36-173%
460-00-4	Bromofluorobenzene (S)	113%		36-173%

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

Report of Analysis

Client Sample ID:	TB-102412-ST-R		
Lab Sample ID:	MC15232-6	**Date Sampled:**	10/24/12
Matrix:	AQ - Ground Water	**Date Received:**	10/25/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18332.D	1	10/30/12	AP	10/26/12	OP30822	GBK670
Run #2							

	Initial Volume	Final Volume
Run #1	37.2 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	0.014	0.012	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0098	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	120%		36-173%
460-00-4	Bromofluorobenzene (S)	128%		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:	TB-102412-HCL-R		
Lab Sample ID:	MC15232-7	**Date Sampled:**	10/24/12
Matrix:	AQ - Ground Water	**Date Received:**	10/25/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69608.D	1	11/07/12	JP	n/a	n/a	MSN2618
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	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:	TB-102412-HCL-R		
Lab Sample ID:	MC15232-7	**Date Sampled:**	10/24/12
Matrix:	AQ - Ground Water	**Date Received:**	10/25/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	TB-102412-HCL-R		
Lab Sample ID:	MC15232-7	**Date Sampled:**	10/24/12
Matrix:	AQ - Ground Water	**Date Received:**	10/25/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, 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	87%		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	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

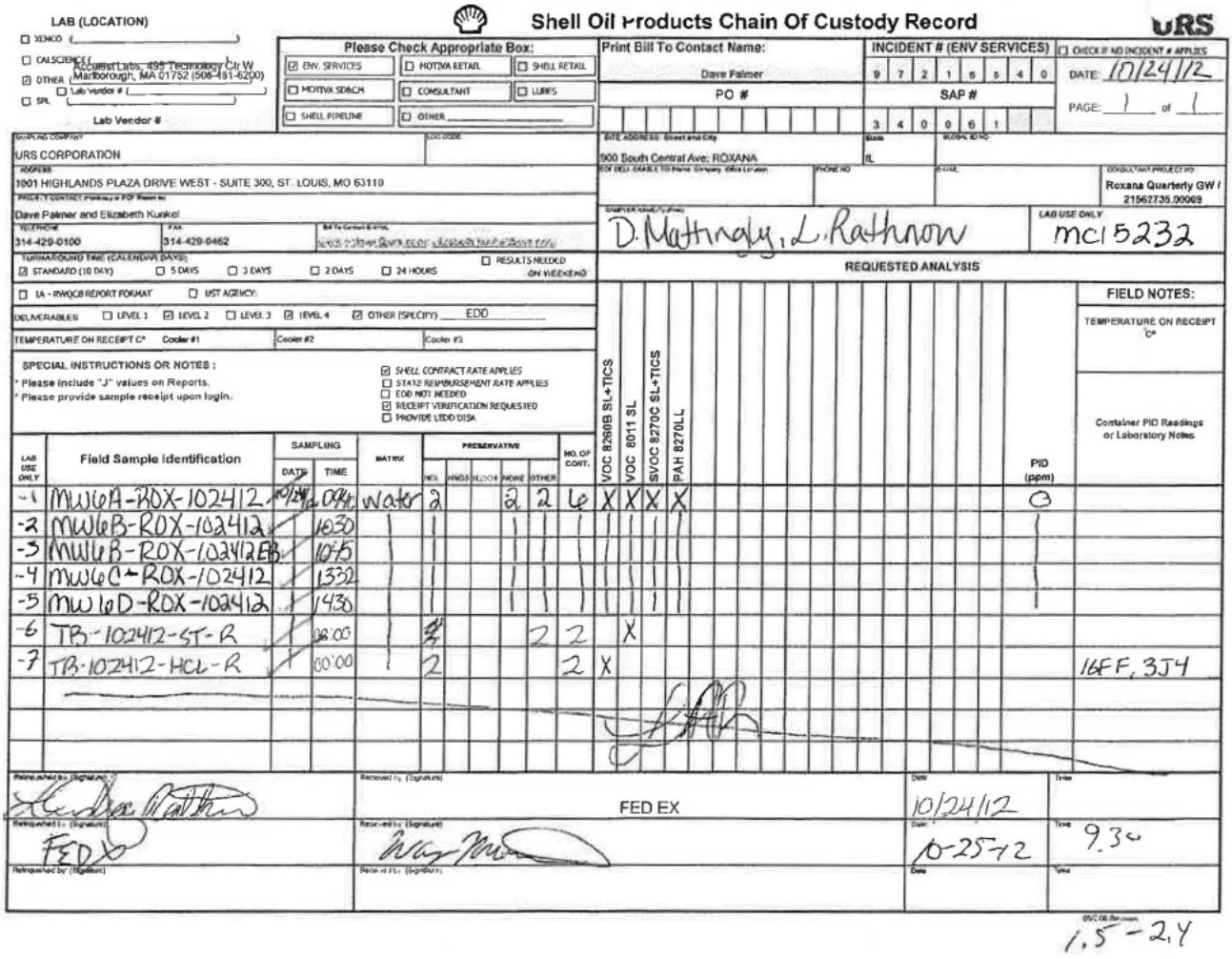
New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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



LAB (LOCATION)

☐ XENCO ( )
☐ CALSCIENCE ( )
☑ OTHER (Accutest Labs, 495 Technology Ctr W Marlborough, MA 01752 (508-481-6200))
☐ Lab Vendor # ( )
☐ SPL ( )

Lab Vendor #

Shell Oil Products Chain Of Custody Record

URS

Please Check Appropriate Box:

☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SD&CH ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Dave Palmer

PO #

INCIDENT # (ENV SERVICES): 9 7 2 1 6 5 4 0

SAP #: 3 4 0 0 6 1

☐ CHECK IF NO INCIDENT # APPLIES

DATE: 10/24/12

PAGE: 1 of 1

SAMPLING COMPANY: URS CORPORATION

LOG CODE:

SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA

State: IL

GLOBAL ID NO:

ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110

EDF DELIVERABLE TO Name, Company, Office Location:

PHONE NO:

E-MAIL:

CONSULTANT PROJECT NO: Roxana Quarterly GW / 21562735.00009

PROJECT CONTACT (Hardcopy or PDF Report to): Dave Palmer and Elizabeth Kunkel

TELEPHONE: 314-429-0100

FAX: 314-429-0462

Bill To Contact Email: [illegible]

SAMPLER NAME(s) (Print): D. Mattingly, L. Rathnow

LAB USE ONLY: MC15232

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

☐ IA - RWQCB REPORT FORMAT ☐ UST AGENCY:

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

TEMPERATURE ON RECEIPT C°: Cooler #1 Cooler #2 Cooler #3

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

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

FIELD NOTES:

TEMPERATURE ON RECEIPT °C°

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	VOC 8260B SL+TICS	VOC 8011 SL	SVOC 8270C SL+TICS	PAH 8270LL	PID (ppm)	Container PID Readings or Laboratory Notes
-1	MW6A-ROX-102412	10/24/12	0940	water	2			2	2	6	X	X	X	X	0	
-2	MW6B-ROX-102412		1030													
-3	MW6B-ROX-102412EB		1045													
-4	MW6C-ROX-102412		1332													
-5	MW6D-ROX-102412		1430													
-6	TB-102412-ST-R		00:00		2				2	2		X				
-7	TB-102412-HCL-R		00:00		2					2	X					16FF, 3J4

Relinquished by (Signature)	Received by (Signature)	Date	Time
[signature]	FED EX	10/24/12	
FED X	[signature]	10-25-12	9.30

05/06 Revision

1.5 - 2.4

MC15232: Chain of Custody
Page 1 of 2

5.1
5

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC15232 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 10/25/2012 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900SOUTH CENTRAL **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

MC15232: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15232

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15232-1 Collected: 24-OCT-12 09:40 By: DMLR Received: 25-OCT-12 By: MW6A-ROX-102412						
MC15232-1	SW846 8011	30-OCT-12 05:17	AP	26-OCT-12	CC	V8011SL
MC15232-1	SW846 8270C	31-OCT-12 12:08	KR	29-OCT-12	FC	AB8270SL+
MC15232-1	SW846 8270C BY SIM	31-OCT-12 20:47	NS	29-OCT-12	FC	B8270SIMSL
MC15232-1	SW846 8260B	07-NOV-12 17:20	JP			V8260SL+
MC15232-2 Collected: 24-OCT-12 10:30 By: DMLR Received: 25-OCT-12 By: MW6B-ROX-102412						
MC15232-2	SW846 8011	30-OCT-12 05:42	AP	26-OCT-12	CC	V8011SL
MC15232-2	SW846 8270C	31-OCT-12 12:30	KR	29-OCT-12	FC	AB8270SL+
MC15232-2	SW846 8270C BY SIM	31-OCT-12 21:10	NS	29-OCT-12	FC	B8270SIMSL
MC15232-2	SW846 8260B	07-NOV-12 17:48	JP			V8260SL+
MC15232-3 Collected: 24-OCT-12 10:45 By: DMLR Received: 25-OCT-12 By: MW6B-ROX-102412EB						
MC15232-3	SW846 8011	30-OCT-12 06:07	AP	26-OCT-12	CC	V8011SL
MC15232-3	SW846 8270C	31-OCT-12 12:52	KR	29-OCT-12	FC	AB8270SL+
MC15232-3	SW846 8270C BY SIM	31-OCT-12 21:32	NS	29-OCT-12	FC	B8270SIMSL
MC15232-3	SW846 8270C BY SIM	02-NOV-12 10:03	NS	29-OCT-12	FC	B8270SIMSL
MC15232-3	SW846 8260B	07-NOV-12 16:23	JP			V8260SL+
MC15232-3	SW846 8270C	08-NOV-12 13:33	KR	29-OCT-12	FC	AB8270SL+
MC15232-4 Collected: 24-OCT-12 13:32 By: DMLR Received: 25-OCT-12 By: MW6C-ROX-102412						
MC15232-4	SW846 8011	30-OCT-12 06:31	AP	26-OCT-12	CC	V8011SL
MC15232-4	SW846 8270C	31-OCT-12 13:14	KR	29-OCT-12	FC	AB8270SL+
MC15232-4	SW846 8270C BY SIM	31-OCT-12 21:56	NS	29-OCT-12	FC	B8270SIMSL
MC15232-4	SW846 8260B	07-NOV-12 18:16	JP			V8260SL+
MC15232-5 Collected: 24-OCT-12 14:30 By: DMLR Received: 25-OCT-12 By: MW6D-ROX-102412						
MC15232-5	SW846 8011	30-OCT-12 06:56	AP	26-OCT-12	CC	V8011SL
MC15232-5	SW846 8270C	31-OCT-12 13:36	KR	29-OCT-12	FC	AB8270SL+
MC15232-5	SW846 8270C BY SIM	31-OCT-12 22:18	NS	29-OCT-12	FC	B8270SIMSL

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15232

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15232-5	SW846 8260B	07-NOV-12 18:44	JP			V8260SL+
MC15232-6 Collected: 24-OCT-12 00:00 By: DMLR Received: 25-OCT-12 By: TB-102412-ST-R						
MC15232-6	SW846 8011	30-OCT-12 07:45	AP	26-OCT-12	CC	V8011SL
MC15232-7 Collected: 24-OCT-12 00:00 By: DMLR Received: 25-OCT-12 By: TB-102412-HCL-R						
MC15232-7	SW846 8260B	07-NOV-12 19:13	JP			V8260SL+

Accutest Internal Chain of Custody

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 10/25/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15232-1.1	Walk In Ref #22	Michael Rolo	10/29/12 07:48	Retrieve from Storage
MC15232-1.1	Michael Rolo		10/30/12 18:01	Depleted
MC15232-1.2	Walk In Ref #22	Michael Rolo	10/30/12 11:15	Retrieve from Storage
MC15232-1.2	Michael Rolo	Walk In Ref #22	10/30/12 15:24	Return to Storage
MC15232-1.3	VOC Ref #3	Jugal Patel	11/06/12 12:42	Retrieve from Storage
MC15232-1.3	Jugal Patel	GCMSN	11/06/12 12:43	Load on Instrument
MC15232-1.3	GCMSN	Jugal Patel	11/07/12 10:45	Unload from Instrument
MC15232-1.3	Jugal Patel	VOC Ref #3	11/07/12 10:45	Return to Storage
MC15232-1.6	VOC Ref #3	Nick Krasinski	10/26/12 20:07	Retrieve from Storage
MC15232-1.6	Nick Krasinski		10/26/12 20:07	Depleted
MC15232-2.1	Walk In Ref #22	Michael Rolo	10/29/12 07:48	Retrieve from Storage
MC15232-2.1	Michael Rolo		10/30/12 18:01	Depleted
MC15232-2.3	VOC Ref #3	Jugal Patel	11/06/12 12:42	Retrieve from Storage
MC15232-2.3	Jugal Patel	GCMSN	11/06/12 12:43	Load on Instrument
MC15232-2.3	GCMSN	Jugal Patel	11/07/12 10:45	Unload from Instrument
MC15232-2.3	Jugal Patel	VOC Ref #3	11/07/12 10:45	Return to Storage
MC15232-2.4	VOC Ref #3	Jugal Patel	11/07/12 13:21	Retrieve from Storage
MC15232-2.4	Jugal Patel	GCMSN	11/07/12 13:22	Load on Instrument
MC15232-2.4	GCMSN	Jugal Patel	11/08/12 12:29	Unload from Instrument
MC15232-2.4	Jugal Patel	VOC Ref #3	11/08/12 12:29	Return to Storage
MC15232-2.6	VOC Ref #3	Nick Krasinski	10/26/12 20:07	Retrieve from Storage
MC15232-2.6	Nick Krasinski		10/26/12 20:07	Depleted
MC15232-3.2	Walk In Ref #22	Michael Rolo	10/29/12 07:48	Retrieve from Storage
MC15232-3.2	Michael Rolo		10/30/12 18:01	Depleted
MC15232-3.3	VOC Ref #3	Jugal Patel	11/06/12 12:42	Retrieve from Storage
MC15232-3.3	Jugal Patel	GCMSN	11/06/12 12:43	Load on Instrument
MC15232-3.3	GCMSN	Jugal Patel	11/07/12 10:45	Unload from Instrument
MC15232-3.3	Jugal Patel	VOC Ref #3	11/07/12 10:45	Return to Storage
MC15232-3.5	VOC Ref #3	Nick Krasinski	10/26/12 20:07	Retrieve from Storage
MC15232-3.5	Nick Krasinski		10/26/12 20:07	Depleted
MC15232-4.1	Walk In Ref #22	Michael Rolo	10/29/12 07:48	Retrieve from Storage
MC15232-4.1	Michael Rolo		10/30/12 18:01	Depleted

Accutest Internal Chain of Custody

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 10/25/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15232-4.3	VOC Ref #3	Jugal Patel	11/06/12 12:42	Retrieve from Storage
MC15232-4.3	Jugal Patel	GCMSN	11/06/12 12:43	Load on Instrument
MC15232-4.3	GCMSN	Jugal Patel	11/07/12 10:45	Unload from Instrument
MC15232-4.3	Jugal Patel	VOC Ref #3	11/07/12 10:45	Return to Storage
MC15232-4.4	VOC Ref #3	Jugal Patel	11/07/12 13:21	Retrieve from Storage
MC15232-4.4	Jugal Patel	GCMSN	11/07/12 13:22	Load on Instrument
MC15232-4.4	GCMSN	Jugal Patel	11/08/12 12:29	Unload from Instrument
MC15232-4.4	Jugal Patel	VOC Ref #3	11/08/12 12:29	Return to Storage
MC15232-4.6	VOC Ref #3	Nick Krasinski	10/26/12 20:07	Retrieve from Storage
MC15232-4.6	Nick Krasinski		10/26/12 20:07	Depleted
MC15232-5.1	Walk In Ref #22	Michael Rolo	10/29/12 07:48	Retrieve from Storage
MC15232-5.1	Michael Rolo		10/30/12 18:01	Depleted
MC15232-5.3	VOC Ref #3	Jugal Patel	11/06/12 12:42	Retrieve from Storage
MC15232-5.3	Jugal Patel	GCMSN	11/06/12 12:43	Load on Instrument
MC15232-5.3	GCMSN	Jugal Patel	11/07/12 10:45	Unload from Instrument
MC15232-5.3	Jugal Patel	VOC Ref #3	11/07/12 10:45	Return to Storage
MC15232-5.4	VOC Ref #3	Jugal Patel	11/07/12 13:21	Retrieve from Storage
MC15232-5.4	Jugal Patel	GCMSN	11/07/12 13:22	Load on Instrument
MC15232-5.4	GCMSN	Jugal Patel	11/08/12 12:29	Unload from Instrument
MC15232-5.4	Jugal Patel	VOC Ref #3	11/08/12 12:29	Return to Storage
MC15232-5.5	VOC Ref #3	Nick Krasinski	10/26/12 20:07	Retrieve from Storage
MC15232-5.5	Nick Krasinski		10/26/12 20:07	Depleted
MC15232-6.1	VOC Ref #3	Nick Krasinski	10/26/12 20:07	Retrieve from Storage
MC15232-6.1	Nick Krasinski		10/26/12 20:07	Depleted
MC15232-7.1	VOC Ref #3	Jugal Patel	11/06/12 12:42	Retrieve from Storage
MC15232-7.1	Jugal Patel	GCMSN	11/06/12 12:43	Load on Instrument
MC15232-7.1	GCMSN	Jugal Patel	11/07/12 10:45	Unload from Instrument
MC15232-7.1	Jugal Patel	VOC Ref #3	11/07/12 10:45	Return to Storage
MC15232-7.2	VOC Ref #3	Jugal Patel	11/07/12 13:21	Retrieve from Storage
MC15232-7.2	Jugal Patel	GCMSN	11/07/12 13:22	Load on Instrument
MC15232-7.2	GCMSN	Jugal Patel	11/08/12 12:29	Unload from Instrument
MC15232-7.2	Jugal Patel	VOC Ref #3	11/08/12 12:29	Return to Storage

New England ACCUTEST LABORATORIES

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: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2618-MB	N69600.D	1	11/07/12	JP	n/a	n/a	MSN2618

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5, MC15232-7

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: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2618-MB	N69600.D	1	11/07/12	JP	n/a	n/a	MSN2618

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5, MC15232-7

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: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2618-MB	N69600.D	1	11/07/12	JP	n/a	n/a	MSN2618

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5, MC15232-7

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	86%	70-130%
2037-26-5	Toluene-D8	85%	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/l	

6.1.1

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Method Blank Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2618-MB1	N69654.D	1	11/08/12	JP	n/a	n/a	MSN2618

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

MC15299-2MS, MC15299-2MSD

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: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2618-MB1	N69654.D	1	11/08/12	JP	n/a	n/a	MSN2618

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

MC15299-2MS, MC15299-2MSD

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: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2618-MB1	N69654.D	1	11/08/12	JP	n/a	n/a	MSN2618

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

MC15299-2MS, MC15299-2MSD

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	83%	70-130%
2037-26-5	Toluene-D8	84%	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/l	

6.1.2

6

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2618-BS	N69597.D	1	11/07/12	JP	n/a	n/a	MSN2618
MSN2618-BSD	N69598.D	1	11/07/12	JP	n/a	n/a	MSN2618

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5, MC15232-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	41.3	83	40.2	80	3	70-130/25
107-02-8	Acrolein	250	171	68* a	160	64* a	7	70-130/25
107-13-1	Acrylonitrile	50	264	528* b	260	520* b	2	70-130/25
71-43-2	Benzene	50	53.8	108	51.7	103	4	70-130/25
108-86-1	Bromobenzene	50	49.8	100	48.1	96	3	70-130/25
74-97-5	Bromochloromethane	50	54.8	110	53.1	106	3	70-130/25
75-27-4	Bromodichloromethane	50	53.7	107	51.9	104	3	70-130/25
75-25-2	Bromoform	50	43.4	87	43.2	86	0	70-130/25
74-83-9	Bromomethane	50	65.0	130	63.2	126	3	70-130/25
78-93-3	2-Butanone (MEK)	50	47.7	95	46.2	92	3	70-130/25
104-51-8	n-Butylbenzene	50	56.5	113	53.9	108	5	70-130/25
135-98-8	sec-Butylbenzene	50	56.4	113	54.1	108	4	70-130/25
98-06-6	tert-Butylbenzene	50	53.1	106	50.3	101	5	70-130/25
75-15-0	Carbon disulfide	50	62.4	125	59.8	120	4	70-130/25
56-23-5	Carbon tetrachloride	50	47.1	94	44.7	89	5	70-130/25
108-90-7	Chlorobenzene	50	54.9	110	53.0	106	4	70-130/25
75-00-3	Chloroethane	50	59.7	119	56.8	114	5	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	55.2	110	53.9	108	2	70-130/25
67-66-3	Chloroform	50	54.2	108	52.0	104	4	70-130/25
74-87-3	Chloromethane	50	56.6	113	55.9	112	1	70-130/25
95-49-8	o-Chlorotoluene	50	54.0	108	51.8	104	4	70-130/25
106-43-4	p-Chlorotoluene	50	57.1	114	54.7	109	4	70-130/25
124-48-1	Dibromochloromethane	50	47.1	94	46.4	93	1	70-130/25
95-50-1	1,2-Dichlorobenzene	50	54.2	108	52.6	105	3	70-130/25
541-73-1	1,3-Dichlorobenzene	50	54.8	110	52.7	105	4	70-130/25
106-46-7	1,4-Dichlorobenzene	50	51.7	103	49.3	99	5	70-130/25
75-71-8	Dichlorodifluoromethane	50	56.9	114	53.8	108	6	70-130/25
75-34-3	1,1-Dichloroethane	50	58.6	117	56.0	112	5	70-130/25
107-06-2	1,2-Dichloroethane	50	48.8	98	48.6	97	0	70-130/25
75-35-4	1,1-Dichloroethene	50	55.5	111	53.0	106	5	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	54.8	110	52.7	105	4	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	55.7	111	53.2	106	5	70-130/25
78-87-5	1,2-Dichloropropane	50	55.2	110	53.9	108	2	70-130/25
142-28-9	1,3-Dichloropropane	50	50.7	101	49.3	99	3	70-130/25
594-20-7	2,2-Dichloropropane	50	50.6	101	48.0	96	5	70-130/25
563-58-6	1,1-Dichloropropene	50	54.1	108	52.3	105	3	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2618-BS	N69597.D	1	11/07/12	JP	n/a	n/a	MSN2618
MSN2618-BSD	N69598.D	1	11/07/12	JP	n/a	n/a	MSN2618

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5, MC15232-7

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	54.8	110	53.5	107	2	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	49.5	99	48.9	98	1	70-130/25
123-91-1	1,4-Dioxane	250	236	94	221	88	7	70-130/25
97-63-2	Ethyl methacrylate	50	49.4	99	49.4	99	0	77-137/25
100-41-4	Ethylbenzene	50	51.1	102	49.3	99	4	70-130/25
87-68-3	Hexachlorobutadiene	50	52.7	105	50.6	101	4	70-130/25
591-78-6	2-Hexanone	50	40.2	80	39.6	79	2	70-130/25
98-82-8	Isopropylbenzene	50	54.6	109	52.1	104	5	70-130/25
99-87-6	p-Isopropyltoluene	50	54.2	108	52.2	104	4	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	40.4	81	40.5	81	0	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	38.7	77	38.9	78	1	70-130/25
74-95-3	Methylene bromide	50	51.0	102	50.7	101	1	70-130/25
75-09-2	Methylene chloride	50	57.0	114	55.2	110	3	70-130/25
91-20-3	Naphthalene	50	49.9	100	49.0	98	2	70-130/25
103-65-1	n-Propylbenzene	50	55.6	111	53.3	107	4	70-130/25
100-42-5	Styrene	50	51.5	103	49.9	100	3	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	52.5	105	50.3	101	4	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	49.0	98	48.3	97	1	70-130/25
127-18-4	Tetrachloroethene	50	50.2	100	47.8	96	5	70-130/25
108-88-3	Toluene	50	54.1	108	51.5	103	5	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	53.9	108	52.8	106	2	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	54.6	109	53.0	106	3	70-130/25
71-55-6	1,1,1-Trichloroethane	50	54.5	109	52.1	104	5	70-130/25
79-00-5	1,1,2-Trichloroethane	50	52.3	105	50.6	101	3	70-130/25
79-01-6	Trichloroethene	50	50.2	100	48.6	97	3	70-130/25
75-69-4	Trichlorofluoromethane	50	52.3	105	49.5	99	6	70-130/25
96-18-4	1,2,3-Trichloropropane	50	51.7	103	51.1	102	1	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	49.8	100	48.0	96	4	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	49.2	98	47.6	95	3	70-130/25
108-05-4	Vinyl Acetate	50	52.6	105	51.6	103	2	70-130/25
75-01-4	Vinyl chloride	50	54.9	110	52.4	105	5	70-130/25
	m,p-Xylene	100	106	106	102	102	4	70-130/25
95-47-6	o-Xylene	50	54.9	110	53.4	107	3	70-130/25
1330-20-7	Xylene (total)	150	161	107	155	103	4	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2618-BS	N69597.D	1	11/07/12	JP	n/a	n/a	MSN2618
MSN2618-BSD	N69598.D	1	11/07/12	JP	n/a	n/a	MSN2618

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5, MC15232-7

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	87%	86%	70-130%
2037-26-5	Toluene-D8	87%	87%	70-130%
460-00-4	4-Bromofluorobenzene	84%	83%	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: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15299-2MS	N69672.D	5	11/09/12	JP	n/a	n/a	MSN2618
MC15299-2MSD	N69673.D	5	11/09/12	JP	n/a	n/a	MSN2618
MC15299-2	N69617.D	1	11/07/12	JP	n/a	n/a	MSN2618

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5, MC15232-7

CAS No.	Compound	MC15299-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	212	85	206	82	3	70-130/30
107-02-8	Acrolein	ND		1250	772	62* a	770	62* a	0	70-130/30
107-13-1	Acrylonitrile	ND		250	1330	532* b	1280	512* b	4	70-130/30
71-43-2	Benzene	ND		250	265	106	256	102	3	70-130/30
108-86-1	Bromobenzene	ND		250	241	96	240	96	0	70-130/30
74-97-5	Bromochloromethane	ND		250	261	104	251	100	4	70-130/30
75-27-4	Bromodichloromethane	ND		250	261	104	255	102	2	70-130/30
75-25-2	Bromoform	ND		250	213	85	213	85	0	70-130/30
74-83-9	Bromomethane	ND		250	192	77	254	102	28	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	209	84	215	86	3	70-130/30
104-51-8	n-Butylbenzene	ND		250	254	102	255	102	0	70-130/30
135-98-8	sec-Butylbenzene	ND		250	260	104	260	104	0	70-130/30
98-06-6	tert-Butylbenzene	ND		250	249	100	245	98	2	70-130/30
75-15-0	Carbon disulfide	ND		250	304	122	293	117	4	70-130/30
56-23-5	Carbon tetrachloride	ND		250	212	85	210	84	1	70-130/30
108-90-7	Chlorobenzene	ND		250	271	108	263	105	3	70-130/30
75-00-3	Chloroethane	ND		250	291	116	281	112	3	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	273	109	269	108	1	70-130/30
67-66-3	Chloroform	ND		250	259	104	254	102	2	70-130/30
74-87-3	Chloromethane	ND		250	216	86	213	85	1	70-130/30
95-49-8	o-Chlorotoluene	ND		250	261	104	260	104	0	70-130/30
106-43-4	p-Chlorotoluene	ND		250	272	109	272	109	0	70-130/30
124-48-1	Dibromochloromethane	ND		250	233	93	230	92	1	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	262	105	264	106	1	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	265	106	263	105	1	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	245	98	247	99	1	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	229	92	220	88	4	70-130/30
75-34-3	1,1-Dichloroethane	0.64		250	281	112	277	111	1	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	241	96	237	95	2	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	262	105	257	103	2	70-130/30
156-59-2	cis-1,2-Dichloroethene	244		250	482	95	470	90	3	70-130/30
156-60-5	trans-1,2-Dichloroethene	3.5		250	272	107	261	103	4	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	273	109	269	108	1	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	252	101	246	98	2	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	203	81	195	78	4	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	261	104	250	100	4	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15299-2MS	N69672.D	5	11/09/12	JP	n/a	n/a	MSN2618
MC15299-2MSD	N69673.D	5	11/09/12	JP	n/a	n/a	MSN2618
MC15299-2	N69617.D	1	11/07/12	JP	n/a	n/a	MSN2618

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5, MC15232-7

CAS No.	Compound	MC15299-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		250	257	103	251	100	2	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	228	91	229	92	0	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1160	93	1100	88	5	70-130/30
97-63-2	Ethyl methacrylate	ND		250	242	97	239	96	1	72-139/30
100-41-4	Ethylbenzene	ND		250	251	100	244	98	3	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	232	93	239	96	3	70-130/30
591-78-6	2-Hexanone	ND		250	195	78	197	79	1	70-130/30
98-82-8	Isopropylbenzene	ND		250	261	104	257	103	2	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	252	101	250	100	1	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		250	191	76	189	76	1	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	193	77	189	76	2	70-130/30
74-95-3	Methylene bromide	ND		250	252	101	249	100	1	70-130/30
75-09-2	Methylene chloride	ND		250	275	110	265	106	4	70-130/30
91-20-3	Naphthalene	ND		250	229	92	242	97	6	70-130/30
103-65-1	n-Propylbenzene	ND		250	264	106	262	105	1	70-130/30
100-42-5	Styrene	ND		250	247	99	242	97	2	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	258	103	251	100	3	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	245	98	241	96	2	70-130/30
127-18-4	Tetrachloroethene	ND		250	241	96	234	94	3	70-130/30
108-88-3	Toluene	ND		250	264	106	256	102	3	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	250	100	260	104	4	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	250	100	256	102	2	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	255	102	251	100	2	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	254	102	250	100	2	70-130/30
79-01-6	Trichloroethene	ND		250	245	98	239	96	2	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	233	93	226	90	3	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	252	101	255	102	1	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	237	95	236	94	0	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	236	94	233	93	1	70-130/30
108-05-4	Vinyl Acetate	ND		250	255	102	252	101	1	70-130/30
75-01-4	Vinyl chloride	193		250	397	82	388	78	2	70-130/30
	m,p-Xylene	ND		500	520	104	503	101	3	70-130/30
95-47-6	o-Xylene	ND		250	272	109	265	106	3	70-130/30
1330-20-7	Xylene (total)	ND		750	792	106	768	102	3	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15299-2MS	N69672.D	5	11/09/12	JP	n/a	n/a	MSN2618
MC15299-2MSD	N69673.D	5	11/09/12	JP	n/a	n/a	MSN2618
MC15299-2	N69617.D	1	11/07/12	JP	n/a	n/a	MSN2618

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5, MC15232-7

CAS No.	Surrogate Recoveries	MS	MSD	MC15299-2	Limits
1868-53-7	Dibromofluoromethane	85%	84%	85%	70-130%
2037-26-5	Toluene-D8	86%	86%	85%	70-130%
460-00-4	4-Bromofluorobenzene	81%	82%	87%	70-130%

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

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2618-CC2591	Injection Date:	11/07/12
Lab File ID:	N69596.D	Injection Time:	13:34
Instrument ID:	GCMSN	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	307330	9.01	412623	9.88	190966	13.14	214512	15.70	80959	6.56
Upper Limit [a]	614660	9.51	825246	10.38	381932	13.64	429024	16.20	161918	7.06
Lower Limit [b]	153665	8.51	206312	9.38	95483	12.64	107256	15.20	40480	6.06
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2618-BS	307627	9.01	412398	9.88	191433	13.14	213491	15.70	81271	6.56
MSN2618-BSD	311006	9.01	414387	9.88	192288	13.14	216233	15.70	96300	6.56
MSN2618-MB	306780	9.01	410498	9.88	185453	13.14	191068	15.70	86282	6.56
ZZZZZZ	306178	9.01	406434	9.88	185324	13.14	187241	15.70	77280	6.56
MC15232-3	302925	9.01	406305	9.88	185814	13.14	185894	15.70	78637	6.56
ZZZZZZ	302473	9.01	405720	9.88	185310	13.14	189834	15.70	74543	6.56
MC15232-1	274160	9.01	364979	9.88	164699	13.14	165260	15.70	61008	6.56
MC15232-2	293663	9.01	391255	9.88	178669	13.14	181827	15.70	66357	6.56
MC15232-4	297067	9.01	395856	9.88	178630	13.14	180548	15.70	66721	6.56
MC15232-5	289781	9.01	391901	9.88	178503	13.14	180415	15.70	67780	6.56
MC15232-7	295144	9.01	395539	9.88	181533	13.14	188057	15.70	85321	6.56
ZZZZZZ	296591	9.01	397199	9.88	180050	13.14	177924	15.70	68356	6.56
ZZZZZZ	292029	9.01	396574	9.88	183136	13.14	183288	15.70	75125	6.56
ZZZZZZ	284058	9.01	381997	9.88	171926	13.14	172471	15.70	72210	6.56
ZZZZZZ	294652	9.01	393935	9.88	177122	13.14	175604	15.70	69028	6.56
ZZZZZZ	295208	9.01	390989	9.88	175298	13.14	174878	15.70	63425	6.57
ZZZZZZ	296324	9.01	392186	9.88	175449	13.14	171777	15.70	67310	6.56
ZZZZZZ	292507	9.01	386909	9.88	173002	13.14	174435	15.70	63195	6.57
ZZZZZZ	292050	9.01	388183	9.88	173788	13.14	171841	15.70	64888	6.56
MC15299-2	294609	9.01	392157	9.88	175544	13.14	176339	15.70	64919	6.56
ZZZZZZ	295223	9.01	395511	9.88	177484	13.14	176233	15.70	66734	6.56

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

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

Volatile Internal Standard Area Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2620-CC2591	Injection Date:	11/08/12
Lab File ID:	N69650.D	Injection Time:	15:05
Instrument ID:	GCMSN	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	330534	9.01	436471	9.88	198365	13.14	224427	15.70	94352	6.56
Upper Limit [a]	661068	9.51	872942	10.38	396730	13.64	448854	16.20	188704	7.06
Lower Limit [b]	165267	8.51	218236	9.38	99183	12.64	112214	15.20	47176	6.06
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2620-BS	328894	9.01	431877	9.88	201638	13.14	220301	15.70	86897	6.56
MSN2618-BS1	328894	9.01	431877	9.88	201638	13.14	220301	15.70	86897	6.56
MSN2620-BSD	330663	9.01	434446	9.88	194291	13.14	222253	15.70	99385	6.56
MSN2618-BSD1	330663	9.01	434446	9.88	194291	13.14	222253	15.70	99385	6.56
MSN2620-MB	321501	9.01	423060	9.88	187153	13.14	200805	15.70	82205	6.57
MSN2618-MB1	321501	9.01	423060	9.88	187153	13.14	200805	15.70	82205	6.57
ZZZZZZ	315922	9.01	412788	9.88	183345	13.14	187354	15.70	75695	6.57
ZZZZZZ	314031	9.01	409583	9.88	181840	13.14	189482	15.70	79486	6.56
ZZZZZZ	310178	9.01	405863	9.88	180257	13.14	181504	15.70	72273	6.57
ZZZZZZ	306185	9.01	402104	9.88	180069	13.14	182367	15.70	76821	6.57
ZZZZZZ	300337	9.01	400093	9.88	177069	13.14	176122	15.70	80002	6.57
ZZZZZZ	299814	9.01	398947	9.88	177691	13.14	189210	15.70	72679	6.56
ZZZZZZ	300874	9.01	400018	9.88	177366	13.14	180276	15.70	77918	6.56
ZZZZZZ	273258	9.01	363613	9.88	163618	13.14	170267	15.70	74160	6.56
ZZZZZZ	289784	9.01	388239	9.88	173451	13.14	181797	15.70	77436	6.56
MC15301-3	300244	9.01	395735	9.88	177685	13.14	186275	15.70	72370	6.57
ZZZZZZ	296133	9.01	395969	9.88	176117	13.14	183317	15.70	73174	6.56
ZZZZZZ	295167	9.01	390878	9.88	175371	13.14	181301	15.70	70935	6.57
MC15299-2MS	301321	9.01	396891	9.88	181915	13.14	205407	15.70	79582	6.56
MC15299-2MSD	303438	9.01	399477	9.88	183104	13.14	202883	15.70	81048	6.56
MC15301-3MS	302753	9.01	402283	9.88	185632	13.14	209669	15.70	82509	6.56
MC15301-3MSD	307130	9.01	410550	9.88	193929	13.14	211322	15.70	87062	6.56

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

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

Volatile Surrogate Recovery Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8260B Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC15232-1	N69604.D	86.0	86.0	90.0
MC15232-2	N69605.D	86.0	87.0	89.0
MC15232-3	N69602.D	86.0	86.0	89.0
MC15232-4	N69606.D	86.0	87.0	90.0
MC15232-5	N69607.D	87.0	87.0	89.0
MC15232-7	N69608.D	87.0	87.0	89.0
MC15299-2MS	N69672.D	85.0	86.0	81.0
MC15299-2MSD	N69673.D	84.0	86.0	82.0
MSN2618-BS	N69597.D	87.0	87.0	84.0
MSN2618-BSD	N69598.D	86.0	87.0	83.0
MSN2618-MB	N69600.D	86.0	85.0	88.0
MSN2618-MB1	N69654.D	83.0	84.0	85.0

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

New England ACCUTEST LABORATORIES

GC/MS Semi-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: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30833-MB	W6389.D	1	10/31/12	KR	10/29/12	OP30833	MSW289

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5

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

Method Blank Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30833-MB	W6389.D	1	10/31/12	KR	10/29/12	OP30833	MSW289

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5

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

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	37%	15-110%
4165-62-2	Phenol-d5	24%	15-110%
118-79-6	2,4,6-Tribromophenol	80%	15-110%
4165-60-0	Nitrobenzene-d5	62%	30-130%
321-60-8	2-Fluorobiphenyl	57%	30-130%
1718-51-0	Terphenyl-d14	104%	30-130%

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

Method Blank Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30834-MB	U10451.D	1	10/31/12	NS	10/29/12	OP30834	MSU560

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5

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

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	33%	15-110%
4165-62-2	Phenol-d5	23%	15-110%
118-79-6	2,4,6-Tribromophenol	63%	15-110%
4165-60-0	Nitrobenzene-d5	59%	30-130%
321-60-8	2-Fluorobiphenyl	54%	30-130%
1718-51-0	Terphenyl-d14	69%	30-130%

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30833-BS	W6390.D	1	10/31/12	KR	10/29/12	OP30833	MSW289
OP30833-BSD	W6391.D	1	10/31/12	KR	10/29/12	OP30833	MSW289

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	100	32.1	32	35.6	36	10	30-130/20
95-57-8	2-Chlorophenol	100	70.6	71	72.9	73	3	30-130/20
59-50-7	4-Chloro-3-methyl phenol	100	72.8	73	75.2	75	3	30-130/20
120-83-2	2,4-Dichlorophenol	100	75.8	76	77.8	78	3	30-130/20
105-67-9	2,4-Dimethylphenol	100	69.0	69	73.6	74	6	30-130/20
51-28-5	2,4-Dinitrophenol	100	72.0	72	74.5	75	3	30-130/20
534-52-1	4,6-Dinitro-o-cresol	100	78.0	78	80.7	81	3	30-130/20
95-48-7	2-Methylphenol	100	61.4	61	64.3	64	5	30-130/20
	3&4-Methylphenol	200	117	59	123	62	5	30-130/20
88-75-5	2-Nitrophenol	100	78.3	78	81.0	81	3	30-130/20
100-02-7	4-Nitrophenol	100	44.0	44	46.4	46	5	30-130/20
87-86-5	Pentachlorophenol	100	76.7	77	76.9	77	0	30-130/20
108-95-2	Phenol	100	32.7	33	34.6	35	6	30-130/20
95-95-4	2,4,5-Trichlorophenol	100	80.4	80	80.1	80	0	30-130/20
88-06-2	2,4,6-Trichlorophenol	100	83.0	83	83.4	83	0	30-130/20
62-53-3	Aniline	50	21.1	42	21.9	44	4	40-140/20
101-55-3	4-Bromophenyl phenyl ether	50	37.9	76	38.2	76	1	40-140/20
85-68-7	Butyl benzyl phthalate	50	46.8	94	46.7	93	0	40-140/20
100-51-6	Benzyl Alcohol	50	31.5	63	32.6	65	3	40-140/20
91-58-7	2-Chloronaphthalene	100	76.3	76	78.4	78	3	40-140/20
106-47-8	4-Chloroaniline	50	28.7	57	28.3	57	1	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	50	34.1	68	35.3	71	3	40-140/20
111-44-4	bis(2-Chloroethyl)ether	50	39.0	78	40.4	81	4	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	50	44.4	89	45.9	92	3	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	50	36.8	74	36.8	74	0	40-140/20
122-66-7	1,2-Diphenylhydrazine	50	37.7	75	38.9	78	3	40-140/20
121-14-2	2,4-Dinitrotoluene	100	84.4	84	86.2	86	2	40-140/20
606-20-2	2,6-Dinitrotoluene	100	83.0	83	85.2	85	3	40-140/20
91-94-1	3,3'-Dichlorobenzidine	50	30.1	60	31.1	62	3	40-140/20
132-64-9	Dibenzofuran	50	35.9	72	36.4	73	1	40-140/20
84-74-2	Di-n-butyl phthalate	50	38.5	77	38.7	77	1	40-140/20
117-84-0	Di-n-octyl phthalate	50	59.3	119	57.5	115	3	40-140/20
84-66-2	Diethyl phthalate	50	39.8	80	39.7	79	0	40-140/20
131-11-3	Dimethyl phthalate	50	39.5	79	39.8	80	1	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	50	47.0	94	46.6	93	1	40-140/20
118-74-1	Hexachlorobenzene	50	91.0	91	90.6	91	0	40-140/20

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30833-BS	W6390.D	1	10/31/12	KR	10/29/12	OP30833	MSW289
OP30833-BSD	W6391.D	1	10/31/12	KR	10/29/12	OP30833	MSW289

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	50	65.9	132	66.8	134	1	40-140/20
67-72-1	Hexachloroethane	50	54.4	109	57.0	114	5	40-140/20
78-59-1	Isophorone	100	79.1	79	82.4	82	4	40-140/20
88-74-4	2-Nitroaniline	50	39.2	78	40.0	80	2	40-140/20
99-09-2	3-Nitroaniline	50	29.5	59	29.4	59	0	40-140/20
100-01-6	4-Nitroaniline	50	35.9	72	36.4	73	1	40-140/20
98-95-3	Nitrobenzene	100	75.7	76	79.0	79	4	40-140/20
62-75-9	n-Nitrosodimethylamine	50	25.6	51	27.5	55	7	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	50	43.2	86	45.5	91	5	40-140/20
86-30-6	N-Nitrosodiphenylamine	50	38.7	77	38.7	77	0	40-140/20
110-86-1	Pyridine	50	21.1	42	22.4	45	6	40-140/20

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	49%	50%	15-110%
4165-62-2	Phenol-d5	33%	35%	15-110%
118-79-6	2,4,6-Tribromophenol	93%	92%	15-110%
4165-60-0	Nitrobenzene-d5	79%	79%	30-130%
321-60-8	2-Fluorobiphenyl	73%	73%	30-130%
1718-51-0	Terphenyl-d14	104%	102%	30-130%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30834-BS	U10452.D	1	10/31/12	NS	10/29/12	OP30834	MSU560
OP30834-BSD	U10453.D	1	10/31/12	NS	10/29/12	OP30834	MSU560

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	50	33.9	68	34.7	69	2	40-140/30
208-96-8	Acenaphthylene	50	26.7	53	27.5	55	3	40-140/30
120-12-7	Anthracene	50	33.4	67	33.8	68	1	40-140/30
56-55-3	Benzo(a)anthracene	50	43.5	87	43.9	88	1	40-140/30
50-32-8	Benzo(a)pyrene	50	28.9	58	29.2	58	1	40-140/30
205-99-2	Benzo(b)fluoranthene	50	32.0	64	33.0	66	3	40-140/30
191-24-2	Benzo(g,h,i)perylene	50	31.7	63	32.3	65	2	40-140/30
207-08-9	Benzo(k)fluoranthene	50	33.3	67	32.7	65	2	40-140/30
218-01-9	Chrysene	50	36.5	73	37.0	74	1	40-140/30
53-70-3	Dibenzo(a,h)anthracene	50	33.0	66	33.7	67	2	40-140/30
206-44-0	Fluoranthene	50	33.7	67	34.4	69	2	40-140/30
86-73-7	Fluorene	50	34.2	68	35.0	70	2	40-140/30
193-39-5	Indeno(1,2,3-cd)pyrene	50	32.6	65	33.3	67	2	40-140/30
90-12-0	1-Methylnaphthalene	50	31.2	62	32.8	66	5	40-140/30
91-57-6	2-Methylnaphthalene	50	28.8	58	29.6	59	3	40-140/30
85-01-8	Phenanthrene	50	35.1	70	35.4	71	1	40-140/30
129-00-0	Pyrene	50	30.6	61	31.1	62	2	40-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	44%	45%	15-110%
4165-62-2	Phenol-d5	31%	32%	15-110%
118-79-6	2,4,6-Tribromophenol	72%	72%	15-110%
4165-60-0	Nitrobenzene-d5	72%	71%	30-130%
321-60-8	2-Fluorobiphenyl	66%	67%	30-130%
1718-51-0	Terphenyl-d14	72%	72%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30833-MS	W6393.D	1	10/31/12	KR	10/29/12	OP30833	MSW289
OP30833-MSD	W6394.D	1	10/31/12	KR	10/29/12	OP30833	MSW289
MC15400-7	W6395.D	1	10/31/12	KR	10/29/12	OP30833	MSW289

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5

CAS No.	Compound	MC15400-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		100	30.7	31	33.3	33	8	30-130/20
95-57-8	2-Chlorophenol	ND		100	66.4	66	69.1	69	4	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		100	69.0	69	71.7	72	4	30-130/20
120-83-2	2,4-Dichlorophenol	ND		100	71.3	71	73.3	73	3	30-130/20
105-67-9	2,4-Dimethylphenol	ND		100	66.2	66	68.9	69	4	30-130/20
51-28-5	2,4-Dinitrophenol	ND		100	69.1	69	71.0	71	3	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		100	74.1	74	79.5	80	7	30-130/20
95-48-7	2-Methylphenol	ND		100	58.0	58	61.3	61	6	30-130/20
	3&4-Methylphenol	ND		200	109	55	117	59	7	30-130/20
88-75-5	2-Nitrophenol	ND		100	74.5	75	76.8	77	3	30-130/20
100-02-7	4-Nitrophenol	ND		100	41.6	42	46.2	46	10	30-130/20
87-86-5	Pentachlorophenol	ND		100	72.1	72	76.7	77	6	30-130/20
108-95-2	Phenol	ND		100	30.1	30	33.8	34	12	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		100	74.9	75	78.0	78	4	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		100	77.9	78	79.8	80	2	30-130/20
62-53-3	Aniline	ND		50	19.4	39* [a]	21.2	42	9	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		50	35.1	70	37.8	76	7	40-140/20
85-68-7	Butyl benzyl phthalate	ND		50	41.9	84	44.2	88	5	40-140/20
100-51-6	Benzyl Alcohol	ND		50	29.4	59	31.2	62	6	40-140/20
91-58-7	2-Chloronaphthalene	ND		50	71.2	142* [a]	76.0	152* [a]	7	40-140/20
106-47-8	4-Chloroaniline	ND		50	26.1	52	29.3	59	12	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		50	32.2	64	33.4	67	4	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		50	36.7	73	37.7	75	3	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		50	41.8	84	43.5	87	4	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		50	34.0	68	36.6	73	7	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		50	35.0	70	38.2	76	9	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		50	79.1	158* [a]	85.6	171* [a]	8	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		50	78.4	157* [a]	83.4	167* [a]	6	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		50	28.6	57	32.6	65	13	40-140/20
132-64-9	Dibenzofuran	ND		50	32.9	66	35.4	71	7	40-140/20
84-74-2	Di-n-butyl phthalate	ND		50	35.9	72	39.0	78	8	40-140/20
117-84-0	Di-n-octyl phthalate	ND		50	49.5	99	50.0	100	1	40-140/20
84-66-2	Diethyl phthalate	ND		50	36.7	73	39.3	79	7	40-140/20
131-11-3	Dimethyl phthalate	ND		50	35.9	72	38.8	78	8	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND		50	42.4	85	43.5	87	3	40-140/20
118-74-1	Hexachlorobenzene	ND		50	83.8	168* [a]	91.9	184* [a]	9	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30833-MS	W6393.D	1	10/31/12	KR	10/29/12	OP30833	MSW289
OP30833-MSD	W6394.D	1	10/31/12	KR	10/29/12	OP30833	MSW289
MC15400-7	W6395.D	1	10/31/12	KR	10/29/12	OP30833	MSW289

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5

CAS No.	Compound	MC15400-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		50	61.9	124	65.0	130	5	40-140/20
67-72-1	Hexachloroethane	ND		50	50.2	100	55.1	110	9	40-140/20
78-59-1	Isophorone	ND		50	75.2	150* [a]	77.9	156* [a]	4	40-140/20
88-74-4	2-Nitroaniline	ND		50	36.2	72	38.5	77	6	40-140/20
99-09-2	3-Nitroaniline	ND		50	26.8	54	31.7	63	17	40-140/20
100-01-6	4-Nitroaniline	ND		50	32.9	66	36.0	72	9	40-140/20
98-95-3	Nitrobenzene	ND		50	71.2	142* [a]	74.2	148* [a]	4	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		50	23.9	48	26.5	53	10	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		50	40.6	81	42.0	84	3	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		50	35.8	72	38.9	78	8	40-140/20
110-86-1	Pyridine	ND		50	19.7	39* [a]	21.0	42	6	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15400-7	Limits
367-12-4	2-Fluorophenol	45%	50%	45%	15-110%
4165-62-2	Phenol-d5	31%	34%	30%	15-110%
118-79-6	2,4,6-Tribromophenol	86%	92%	87%	15-110%
4165-60-0	Nitrobenzene-d5	74%	76%	75%	30-130%
321-60-8	2-Fluorobiphenyl	67%	71%	68%	30-130%
1718-51-0	Terphenyl-d14	95%	97%	103%	30-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30834-MS	U10454.D	1	10/31/12	NS	10/29/12	OP30834	MSU560
OP30834-MSD	U10455.D	1	10/31/12	NS	10/29/12	OP30834	MSU560
MC15400-8	U10456.D	1	10/31/12	NS	10/29/12	OP30834	MSU560

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5

CAS No.	Compound	MC15400-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		50	31.9	64	33.4	67	5	40-140/20
208-96-8	Acenaphthylene	ND		50	25.2	50	26.1	52	4	40-140/20
120-12-7	Anthracene	ND		50	31.4	63	33.3	67	6	40-140/20
56-55-3	Benzo(a)anthracene	ND		50	40.7	81	43.5	87	7	40-140/20
50-32-8	Benzo(a)pyrene	ND		50	27.5	55	28.9	58	5	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		50	30.5	61	32.7	65	7	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND		50	30.4	61	32.0	64	5	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		50	31.3	63	33.0	66	5	40-140/20
218-01-9	Chrysene	ND		50	34.5	69	36.6	73	6	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		50	31.2	62	33.1	66	6	40-140/20
206-44-0	Fluoranthene	ND		50	31.6	63	33.9	68	7	40-140/20
86-73-7	Fluorene	ND		50	32.1	64	33.6	67	5	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		50	30.9	62	32.9	66	6	40-140/20
90-12-0	1-Methylnaphthalene	ND		50	30.9	62	32.0	64	3	40-140/20
91-57-6	2-Methylnaphthalene	ND		50	27.4	55	28.1	56	3	40-140/20
85-01-8	Phenanthrene	ND		50	33.1	66	34.8	70	5	40-140/20
129-00-0	Pyrene	ND		50	28.9	58	30.4	61	5	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15400-8	Limits
367-12-4	2-Fluorophenol	40%	44%	40%	15-110%
4165-62-2	Phenol-d5	29%	31%	28%	15-110%
118-79-6	2,4,6-Tribromophenol	67%	70%	69%	15-110%
4165-60-0	Nitrobenzene-d5	67%	68%	68%	30-130%
321-60-8	2-Fluorobiphenyl	62%	63%	61%	30-130%
1718-51-0	Terphenyl-d14	68%	71%	74%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSU560-CC550	Injection Date:	10/31/12
Lab File ID:	U10442.D	Injection Time:	14:16
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	200930	3.73	595140	4.70	281510	6.12	475880	7.43	246735	10.21	309320	11.65
Upper Limit [a]	401860	4.23	1190280	5.20	563020	6.62	951760	7.93	493470	10.71	618640	12.15
Lower Limit [b]	100465	3.23	297570	4.20	140755	5.62	237940	6.93	123368	9.71	154660	11.15

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30827-MB	234484	3.73	690604	4.70	333680	6.12	543774	7.43	317148	10.21	559398	11.65
OP30827-BS	209962	3.73	610408	4.71	283587	6.12	470690	7.43	256268	10.22	453770	11.66
ZZZZZZ	213863	3.73	635690	4.70	313577	6.12	504173	7.43	295806	10.21	510858	11.65
ZZZZZZ	229559	3.73	678642	4.70	330111	6.12	537514	7.43	313435	10.21	542204	11.66
ZZZZZZ	219029	3.73	649935	4.70	310403	6.12	506818	7.43	299835	10.21	525422	11.65
ZZZZZZ	229795	3.73	677330	4.70	328811	6.12	531728	7.43	314513	10.21	544770	11.65
ZZZZZZ	223544	3.73	669032	4.70	329685	6.12	537223	7.43	316713	10.21	546056	11.65
ZZZZZZ	213442	3.73	640225	4.70	310486	6.12	502366	7.43	293307	10.21	505268	11.65
OP30834-MB	239423	3.73	719812	4.70	344640	6.12	577793	7.43	309035	10.21	445300	11.65
OP30834-BS	210307	3.73	625357	4.71	296856	6.12	500567	7.44	250899	10.22	365774	11.65
OP30834-BSD	202196	3.73	597759	4.71	282155	6.12	476699	7.43	247431	10.22	357218	11.65
OP30834-MS	215433	3.73	628292	4.71	305875	6.12	515020	7.44	267420	10.22	417118	11.65
OP30834-MSD	198906	3.73	596635	4.71	282913	6.12	483458	7.44	260164	10.22	406852	11.65
MC15400-8	209942	3.73	626881	4.70	305414	6.12	502058	7.43	290705	10.21	456961	11.65
ZZZZZZ	213648	3.73	638904	4.70	309795	6.12	516187	7.43	299825	10.21	482624	11.65
ZZZZZZ	222724	3.73	669926	4.70	322027	6.12	533285	7.43	312452	10.21	519151	11.65
MC15232-1	210751	3.73	628842	4.70	308626	6.12	485231	7.43	293210	10.21	507892	11.65
MC15232-2	217621	3.73	648071	4.70	301170	6.12	495618	7.43	300177	10.21	520893	11.66
MC15232-3	226029	3.73	674269	4.70	323515	6.12	539421	7.43	324624	10.21	564153	11.65
MC15232-4	227700	3.73	689740	4.70	326194	6.12	534608	7.43	320298	10.21	566204	11.66
MC15232-5	230059	3.73	686974	4.70	330269	6.12	545888	7.43	333942	10.21	629116[c]	11.66
ZZZZZZ	227520	3.73	669935	4.70	323146	6.12	536175	7.43	313993	10.21	541272	11.66
ZZZZZZ	234210	3.73	690856	4.70	327202	6.12	539331	7.43	316336	10.21	539718	11.65
ZZZZZZ	208798	3.73	625644	4.70	302112	6.12	518218	7.43	307999	10.21	534986	11.65
ZZZZZZ	226389	3.73	670846	4.70	319321	6.12	518810	7.43	293693	10.21	497074	11.65
ZZZZZZ	218898	3.73	642495	4.70	306054	6.12	515482	7.43	301312	10.21	525107	11.65
ZZZZZZ	221571	3.73	625767	4.71	320066	6.12	538515	7.43	310649	10.21	523817	11.65
ZZZZZZ	208893	3.73	618284	4.70	300456	6.12	487613	7.43	282485	10.21	478658	11.66

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

7.4.1

7

Semivolatile Internal Standard Area Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSU560-CC550	Injection Date:	10/31/12
Lab File ID:	U10442.D	Injection Time:	14:16
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

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

(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.

Semivolatile Internal Standard Area Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSU561-CC550	Injection Date:	11/01/12
Lab File ID:	U10475.D	Injection Time:	09:35
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	183403	3.71	540108	4.68	256247	6.10	429152	7.41	178830	10.19	216936	11.62
Upper Limit [a]	366806	4.21	1080216	5.18	512494	6.60	858304	7.91	357660	10.69	433872	12.12
Lower Limit [b]	91702	3.21	270054	4.18	128124	5.60	214576	6.91	89415	9.69	108468	11.12
Lab Sample ID	**IS 1 AREA**	**RT**	**IS 2 AREA**	**RT**	**IS 3 AREA**	**RT**	**IS 4 AREA**	**RT**	**IS 5 AREA**	**RT**	**IS 6 AREA**	**RT**
OP30852-MB	194443	3.71	582923	4.68	276273	6.10	450390	7.41	266877	10.19	434777[c]	11.62
OP30852-BS	175832	3.71	524362	4.68	241791	6.10	406820	7.41	223939	10.19	375436	11.62
OP30852-BSD	190073	3.71	554010	4.68	257327	6.10	428818	7.41	233704	10.19	391387	11.62
OP30852-MS	186866	3.71	549494	4.68	260853	6.10	433993	7.41	243488	10.19	451970[c]	11.63
OP30852-MSD	193115	3.71	565266	4.68	266252	6.10	447035	7.41	251842	10.19	419831	11.63
MC15310-1	182217	3.71	547406	4.68	259520	6.10	428207	7.41	251575	10.19	413234	11.62
ZZZZZZ	199096	3.71	583400	4.68	275708	6.10	451245	7.41	262627	10.19	441806[c]	11.62
OP30785-MB	195599	3.71	584869	4.68	283315	6.10	456131	7.41	265234	10.19	450191[c]	11.62
OP30785-BS	201932	3.71	584714	4.68	273066	6.10	455636	7.41	254046	10.20	432749	11.63
ZZZZZZ	190709	3.71	561136	4.68	264510	6.10	436757	7.41	259060	10.19	434662[c]	11.62
ZZZZZZ	192528	3.71	574108	4.68	270595	6.10	442259	7.41	262593	10.19	457992[c]	11.63
ZZZZZZ	194604	3.71	579860	4.68	274436	6.10	450723	7.41	266480	10.19	449298[c]	11.62
OP30842-MB	207906	3.71	609269	4.68	289897	6.10	478159	7.41	283338	10.19	477178[c]	11.62
OP30842-BS	197354	3.71	588912	4.68	269659	6.10	457832	7.41	254887	10.20	441891[c]	11.63
ZZZZZZ	200326	3.71	600477	4.68	289526	6.10	468109	7.41	277217	10.19	481179[c]	11.63
ZZZZZZ	200053	3.71	589637	4.68	280473	6.10	460862	7.41	271389	10.19	472512[c]	11.63
ZZZZZZ	192784	3.71	554254	4.68	270203	6.10	445627	7.41	260785	10.19	451739[c]	11.62
ZZZZZZ	198413	3.71	565830	4.68	278849	6.10	452094	7.41	272274	10.19	464983[c]	11.63
OP30843-MB [d]	367803*	3.70	1065248	4.68	492961	6.10	798774	7.41	464102*	10.19	823981*	11.63
OP30843-BS	212824	3.70	621442	4.68	281514	6.10	466346	7.41	257767	10.19	454972[c]	11.63
ZZZZZZ	211302	3.70	617037	4.68	287695	6.10	464781	7.41	266696	10.19	462892[c]	11.63
MC15232-3 [e]	271669	3.68	809167	4.66	386123	6.08	636257	7.39	378438[f]	10.17	662140[f]	11.60
ZZZZZZ	254683	3.68	740628	4.66	355969	6.08	588435	7.38	342652	10.17	598882*	11.60

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

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Outside control limits. Target analytes not associated with this internal standard.
(d) Internal standard spiked at 2x concentration.

Semivolatile Internal Standard Area Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSU561-CC550	Injection Date:	11/01/12
Lab File ID:	U10475.D	Injection Time:	09:35
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

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

(e) Confirmation run for surrogate recoveries.
(f) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

Semivolatile Internal Standard Area Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW289-CC287	Injection Date:	10/31/12
Lab File ID:	W6388.D	Injection Time:	08:28
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	107585	3.49	421003	4.47	250550	5.88	439563	7.16	554445	9.99	482278	11.55
Upper Limit [a]	215170	3.99	842006	4.97	501100	6.38	879126	7.66	1108890	10.49	964556	12.05
Lower Limit [b]	53793	2.99	210502	3.97	125275	5.38	219782	6.66	277223	9.49	241139	11.05
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30833-MB	128199	3.49	505036	4.47	301800	5.88	543772	7.16	552851	9.99	429645	11.55
OP30833-BS	129385	3.49	509942	4.47	297800	5.88	519847	7.16	557797	9.99	383323	11.55
OP30833-BSD	119142	3.49	470909	4.47	282163	5.88	489013	7.16	540572	9.99	382767	11.55
ZZZZZZ	124090	3.49	491069	4.47	292281	5.88	497979	7.16	510782	9.99	341504	11.55
OP30833-MS	133461	3.49	521467	4.47	309349	5.88	535232	7.16	591846	9.99	442253	11.55
OP30833-MSD	121178	3.49	480839	4.47	281398	5.88	484072	7.16	559172	9.99	430580	11.55
MC15400-7	121418	3.49	473450	4.47	283035	5.88	505382	7.15	543460	9.99	463569	11.55
ZZZZZZ	123844	3.49	482058	4.47	289336	5.88	500744	7.16	557642	9.99	481681	11.55
ZZZZZZ	117793	3.49	476939	4.47	287256	5.88	510210	7.15	566494	9.99	524737	11.55
MC15232-1	117395	3.49	465557	4.47	278568	5.88	502809	7.16	582960	9.99	558593	11.55
MC15232-2	115876	3.49	466945	4.47	286243	5.88	504235	7.16	577687	9.99	549494	11.55
MC15232-3	114869	3.49	460685	4.47	280173	5.88	503473	7.16	590555	9.99	579443	11.55
MC15232-4	117270	3.49	469920	4.47	282956	5.88	507151	7.16	599644	9.99	596696	11.55
MC15232-5	124588	3.49	496159	4.47	294053	5.88	529230	7.16	608843	9.99	654991	11.55
MC15400-4	98533	3.49	387918	4.47	229416	5.88	406804	7.15	449750	9.99	436943	11.55
OP30828-MB	95395	3.49	379505	4.47	220899	5.88	393713	7.15	435149	9.99	425222	11.55
OP30828-BS	104709	3.49	405469	4.47	238318	5.88	409302	7.16	486733	9.99	422818	11.55
OP30828-MS	99048	3.49	389920	4.47	230284	5.88	400965	7.16	488361	9.99	426104	11.55
OP30828-MSD	100993	3.49	395252	4.47	230811	5.88	405620	7.16	481429	9.99	420128	11.55
ZZZZZZ	98329	3.49	389237	4.47	236412	5.88	413878	7.15	461396	9.99	449776	11.55
ZZZZZZ	96614	3.49	379757	4.47	223947	5.88	393249	7.15	439736	9.99	427075	11.55
ZZZZZZ	96333	3.49	380982	4.47	224853	5.88	403474	7.15	454391	9.99	437351	11.55
ZZZZZZ	98812	3.49	392025	4.47	230304	5.88	411521	7.15	448407	9.99	438080	11.55
ZZZZZZ	99257	3.49	393809	4.47	234130	5.88	407260	7.15	463294	9.99	450478	11.55
ZZZZZZ	99544	3.49	396020	4.47	234958	5.88	413408	7.15	464736	9.99	451763	11.55
ZZZZZZ	94889	3.49	382581	4.47	228366	5.88	409583	7.16	457605	9.99	437495	11.55
ZZZZZZ	94262	3.49	376175	4.47	223134	5.88	396593	7.15	441366	9.99	430770	11.55
ZZZZZZ	102680	3.49	407911	4.47	243059	5.88	424685	7.15	473525	9.99	454194	11.55
ZZZZZZ	95080	3.49	384956	4.47	225098	5.88	396994	7.15	449625	9.99	431593	11.55
ZZZZZZ	120875	3.49	482288	4.47	284138	5.88	497881	7.15	574614	9.99	628771	11.55
ZZZZZZ	108991	3.49	450532	4.47	263978	5.88	476291	7.15	523673	9.99	378140	11.55

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10

Semivolatile Internal Standard Area Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW289-CC287	Injection Date:	10/31/12
Lab File ID:	W6388.D	Injection Time:	08:28
Instrument ID:	GCMSW	Method:	SW846 8270C

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

IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

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

Semivolatile Internal Standard Area Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW305-CC300	Injection Date:	11/08/12
Lab File ID:	W6669.D	Injection Time:	07:28
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	124427	3.44	503102	4.43	283233	5.84	570469	7.11	703701	9.94	673604	11.50
Upper Limit [a]	248854	3.94	1006204	4.93	566466	6.34	1140938	7.61	1407402	10.44	1347208	12.00
Lower Limit [b]	62214	2.94	251551	3.93	141617	5.34	285235	6.61	351851	9.44	336802	11.00
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30882-MB	120311	3.44	475031	4.43	277782	5.84	501579	7.10	569446	9.93	562291	11.49
OP30882-BS	110695	3.44	441142	4.43	263552	5.84	467353	7.11	564497	9.94	505129	11.49
ZZZZZZ	155009	3.44	621328	4.43	367923	5.84	665071	7.10	834378	9.93	763048	11.50
ZZZZZZ	149337	3.45	601448	4.43	346678	5.84	629240	7.11	779266	9.93	701272	11.50
ZZZZZZ	152304	3.44	593142	4.43	356038	5.84	646362	7.11	809330	9.93	744506	11.50
ZZZZZZ	152304	3.44	593867	4.43	356056	5.84	646340	7.11	805208	9.93	744087	11.50
ZZZZZZ	122971	3.44	481215	4.43	286898	5.84	518014	7.10	637879	9.93	595013	11.50
ZZZZZZ	122976	3.44	481351	4.43	286893	5.84	518014	7.10	636990	9.93	593642	11.50
ZZZZZZ	149579	3.44	591585	4.43	358031	5.84	656284	7.11	821856	9.94	775378	11.50
ZZZZZZ	149633	3.44	591661	4.43	357785	5.84	658528	7.11	817884	9.94	770659	11.50
ZZZZZZ	144262	3.44	571101	4.43	342430	5.84	619959	7.11	768323	9.93	717784	11.49
OP30882-MS	123735	3.44	489357	4.43	289744	5.84	519149	7.11	656265	9.94	594895	11.50
OP30882-MSD	123800	3.44	489767	4.43	288561	5.84	511676	7.11	618597	9.94	546644	11.49
MC15506-3	116893	3.44	463050	4.43	270707	5.84	498145	7.10	574186	9.93	567815	11.49
ZZZZZZ	103315	3.44	407763	4.43	248533	5.84	452444	7.11	526357	9.94	523023	11.50
MC15232-3 [c]	129734	3.44	532129	4.43	316400	5.84	579518	7.11	700729	9.93	685697	11.49
ZZZZZZ	109086	3.44	439236	4.43	271123	5.84	488199	7.11	563598	9.94	542628	11.50
ZZZZZZ	114808	3.44	449243	4.43	271989	5.84	493320	7.11	585085	9.93	566985	11.50
ZZZZZZ	116683	3.44	458784	4.43	276559	5.84	492827	7.11	573958	9.93	568332	11.50
ZZZZZZ	110443	3.44	440750	4.43	263360	5.84	467295	7.11	544656	9.93	540699	11.49

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

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Confirmation run for surrogate recoveries.

Semivolatile Surrogate Recovery Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15232-1	W6398.D	42.0	28.0	88.0	72.0	66.0	89.0
MC15232-2	W6399.D	42.0	27.0	90.0	74.0	67.0	95.0
MC15232-3	W6685.D	11.0* [a]	9.0* [a]	39.0	34.0	37.0	94.0
MC15232-3	W6400.D	17.0	12.0* [a]	60.0	33.0	36.0	92.0
MC15232-4	W6401.D	42.0	28.0	86.0	72.0	66.0	90.0
MC15232-5	W6402.D	36.0	24.0	76.0	65.0	61.0	86.0
OP30833-BS	W6390.D	49.0	33.0	93.0	79.0	73.0	104.0
OP30833-BSD	W6391.D	50.0	35.0	92.0	79.0	73.0	102.0
OP30833-MB	W6389.D	37.0	24.0	80.0	62.0	57.0	104.0
OP30833-MS	W6393.D	45.0	31.0	86.0	74.0	67.0	95.0
OP30833-MSD	W6394.D	50.0	34.0	92.0	76.0	71.0	97.0

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

(a) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

Semivolatile Surrogate Recovery Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15232-1	U10459.D	37.0	26.0	69.0	67.0	60.0	69.0
MC15232-2	U10460.D	37.0	25.0	71.0	67.0	63.0	71.0
MC15232-3	U10498.D	15.0	12.0* [a]	47.0	34.0	37.0	69.0
MC15232-3	U10461.D	16.0	12.0* [a]	51.0	33.0	37.0	71.0
MC15232-4	U10462.D	38.0	27.0	68.0	65.0	62.0	68.0
MC15232-5	U10463.D	33.0	24.0	63.0	60.0	57.0	66.0
OP30834-BS	U10452.D	44.0	31.0	72.0	72.0	66.0	72.0
OP30834-BSD	U10453.D	45.0	32.0	72.0	71.0	67.0	72.0
OP30834-MB	U10451.D	33.0	23.0	63.0	59.0	54.0	69.0
OP30834-MS	U10454.D	40.0	29.0	67.0	67.0	62.0	68.0
OP30834-MSD	U10455.D	44.0	31.0	70.0	68.0	63.0	71.0

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

(a) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

New England ACCUTEST LABORATORIES

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: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30822-MB	BK18310A.D	1	10/29/12	AP	10/26/12	OP30822	GBK670

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5, MC15232-6

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

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	106%	36-173%
460-00-4	Bromofluorobenzene (S)	112%	36-173%

Blank Spike Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30822-BS	BK18311A.D	1	10/29/12	AP	10/26/12	OP30822	GBK670

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5, MC15232-6

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	0.082	115	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	122%	36-173%
460-00-4	Bromofluorobenzene (S)	123%	36-173%

8.2.1

8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30822-MS	BK18312A.D1		10/29/12	AP	10/26/12	OP30822	GBK670
OP30822-MSD	BK18313A.D1		10/29/12	AP	10/26/12	OP30822	GBK670
MC15278-6	BK18317A.D1		10/30/12	AP	10/29/12	OP30822	GBK670

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

MC15232-1, MC15232-2, MC15232-3, MC15232-4, MC15232-5, MC15232-6

CAS No.	Compound	MC15278-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		0.0692	0.067	97	0.074	106	10	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.0692	0.070	101	0.075	108	7	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC15278-6	Limits
460-00-4	Bromofluorobenzene (S)	113%	110%	110%	36-173%
460-00-4	Bromofluorobenzene (S)	116%	114%	108%	36-173%

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8011 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC15232-1	BK18326.D	111.0	108.0
MC15232-2	BK18327.D	117.0	121.0
MC15232-3	BK18328.D	112.0	115.0
MC15232-4	BK18329.D	118.0	124.0
MC15232-5	BK18330.D	110.0	113.0
MC15232-6	BK18332.D	120.0	128.0
OP30822-BS	BK18311A.D	122.0	123.0
OP30822-MB	BK18310A.D	106.0	112.0
OP30822-MS	BK18312A.D	113.0	116.0
OP30822-MSD	BK18313A.D	110.0	114.0

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

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

8.4.1

8

GC Surrogate Retention Time Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBK670-CC670	Injection Date:	10/30/12
Lab File ID:	BK18320.D	Injection Time:	02:44
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.86	4.64

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK18321.D	10/30/12	03:09	4.86	4.64
ZZZZZZ	BK18322.D	10/30/12	03:35	4.86	4.64
ZZZZZZ	BK18323.D	10/30/12	04:00	4.86	4.64
ZZZZZZ	BK18324.D	10/30/12	04:26	4.86	4.64
ZZZZZZ	BK18325.D	10/30/12	04:51	4.86	4.64
MC15232-1	BK18326.D	10/30/12	05:17	4.86	4.64
MC15232-2	BK18327.D	10/30/12	05:42	4.86	4.64
MC15232-3	BK18328.D	10/30/12	06:07	4.86	4.64
MC15232-4	BK18329.D	10/30/12	06:31	4.86	4.64
MC15232-5	BK18330.D	10/30/12	06:56	4.86	4.64

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBK670-ICC670	Injection Date:	10/29/12
Lab File ID:	BK18305.D	Injection Time:	20:22
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.86	4.64

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK18308A.D	10/29/12	21:37	4.86	4.64
ZZZZZZ	BK18308B.D	10/29/12	21:37	4.86	4.64
OP30821-MB	BK18310.D	10/29/12	22:28	4.86	4.64
OP30822-MB	BK18310A.D	10/29/12	22:28	4.86	4.64
OP30821-BS	BK18311.D	10/29/12	22:53	4.86	4.64
OP30822-BS	BK18311A.D	10/29/12	22:53	4.86	4.64
OP30821-MS	BK18312.D	10/29/12	23:19	4.86	4.64
OP30822-MS	BK18312A.D	10/29/12	23:19	4.86	4.64
OP30821-MSD	BK18313.D	10/29/12	23:45	4.86	4.64
OP30822-MSD	BK18313A.D	10/29/12	23:45	4.86	4.64
ZZZZZZ	BK18314.D	10/30/12	00:10	4.86	4.64
ZZZZZZ	BK18315.D	10/30/12	00:36	4.86	4.64
ZZZZZZ	BK18316.D	10/30/12	01:01	4.86	4.64
MC15050-4	BK18317.D	10/30/12	01:27	4.86	4.64
MC15278-6	BK18317A.D	10/30/12	01:27	4.86	4.64
ZZZZZZ	BK18318.D	10/30/12	01:52	4.86	4.64
ZZZZZZ	BK18319.D	10/30/12	02:18	4.86	4.64

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

8.5.2

8

GC Surrogate Retention Time Summary

Job Number: MC15232
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBK670-CC670	**Injection Date:**	10/30/12
Lab File ID:	BK18331.D	**Injection Time:**	07:20
Instrument ID:	GCBK	**Method:**	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.86	4.64

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
MC15232-6	BK18332.D	10/30/12	07:45	4.86	4.64
GBK670-ECC670	BK18333.D	10/30/12	08:09	4.86	4.64

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

8.5.3

8

Roxana Groundwater Quarterly – 4th Quarter 2012 Data Review

Laboratory SDG: MC15301

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 11/20/2012

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Sample Identification	Sample Identification
MW3-ROX-102512	MW3-ROX-102512-EB
MW12-ROX-102512	MW11-ROX-102512
TB-102512-HCL-R	TB-102512-ST-R

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated that VOC LCS/LCSD recoveries and SVOC LCS recoveries were outside evaluation criteria. VOC and SVOC MS/MSD recoveries and SVOC MS/MSD RPDs were outside evaluation criteria. Although not indicated in the laboratory case narrative, diethyl phthalate was detected in the blanks. Additionally, the initial calibration verification for acetone exceeded 50 percent difference (%D). These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated samples were received by the laboratory at temperatures of 1.1ºC and 1.5 ºC, which is outside the 4ºC ± 2ºC criteria. Samples were received in good condition; therefore, no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

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

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MW3-ROX-102512-EB	SVOCs	Diethyl phthalate	0.47 ug/L
OP30844-MB	SVOCs	Diethyl phthalate	1.1 ug/L

Qualifications due to blank contamination are included in the table below. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
MW3-ROX-102512	SVOCs	Diethyl phthalate	-	**U**
MW12-ROX-102512	SVOCs	Diethyl phthalate	-	**U**
MW11-ROX-102512	SVOCs	Diethyl phthalate	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSN2620-BS/BSD	VOCs	Acrolein	**61/64**	5	70-130/25
MSN2620-BS/BSD	VOCs	Acrylonitrile	**488/502**	3	70-130/25
OP30844-BS	SVOCs	Phenol	**28**	NA	30-130
OP30844-BS	SVOCs	Aniline	**38**	NA	40-140
OP30844-BS	SVOCs	Di-n-octyl phthalate	**141**	NA	40-140
OP30844-BS	SVOCs	Pyridine	**34**	NA	40-140

Analytical data that required qualification based on LCS data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. LCS/LCSD MSN2620-BS/BSD and LCS OP30844-BS were associated with equipment blank MW3-ROX-102512-EB. LSC/LCSD MSN2620-BS/BSD was also associated with trip blank TB-102512-HCL-R. Trip blanks and equipment blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
MW3-ROX-102512	VOCs	Acrolein	**UJ**
MW3-ROX-102512	SVOCs	Phenol	**UJ**
MW3-ROX-102512	SVOCs	Aniline	**UJ**
MW3-ROX-102512	SVOCs	Pyridine	**UJ**
MW12-ROX-102512	VOCs	Acrolein	**UJ**
MW12-ROX-102512	SVOCs	Phenol	**UJ**
MW12-ROX-102512	SVOCs	Aniline	**UJ**
MW12-ROX-102512	SVOCs	Pyridine	**UJ**
MW11-ROX-102512	VOCs	Acrolein	**UJ**
MW11-ROX-102512	SVOCs	Phenol	**UJ**
MW11-ROX-102512	SVOCs	Aniline	**UJ**
MW11-ROX-102512	SVOCs	Pyridine	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

Yes, sample MW12-ROX-102512 was spiked and analyzed for VOCs, SVOCs, PAHs, and 8011 VOCs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
MW12-ROX-102512	VOCs	Acrolein	**63/65**	3	70-130/30
MW12-ROX-102512	VOCs	Acrylonitrile	**532/524**	2	70-130/30
MW12-ROX-102512	SVOCs	Benzoic acid	33/**27**	**23**	30-130/20
MW12-ROX-102512	SVOCs	Phenol	30/**24**	**23**	30-130/20
MW12-ROX-102512	SVOCs	Aniline	**37/35**	8	40-140/20
MW12-ROX-102512	SVOCs	Pyridine	**36/34**	9	40-140/20

Analytical results reported as non-detect and associated with MS/MSD recoveries above evaluation criteria, indicating a high bias, did not require qualification. USEPA National Functional Guidelines for Organic Data Review indicates that organic data does not require qualification based on MS/MSD data alone. LCS/LCSD recoveries were within evaluation criteria with the exception of compounds listed and qualified as appropriate in Section 5.0 of this data review. No further qualification of data was required.

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

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

Not applicable; samples analyzed did not require dilution.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes, the initial calibration verification recovery for acetone exceeded 50 percent difference (%D); acetone in associated samples was qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW3-ROX-102512	VOCs	Acetone	**UJ**
MW12-ROX-102512	VOCs	Acetone	**UJ**
MW11-ROX-102512	VOCs	Acetone	**UJ**

New England ACCUTEST LABORATORIES

11/19/12



Technical Report for

Shell Oil

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana,

Accutest Job Number: MC15301

Sampling Date: 10/25/12

Report to:

URS Corporation

elizabeth.kunkel@URS.com

ATTN: Elizabeth Kunkel

Total number of pages in report: **79**

Reviewed on 11/20/12

Reza Tand
Lab Director

ACCREDITED IN ACCORDANCE WITH nelac

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

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Test results relate only to samples analyzed.

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Sample Summary

Shell Oil

Job No: MC15301

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC15301-1	10/25/12	10:45	LRSJ	10/26/12	AQ	Ground Water	MW3-ROX-102512
MC15301-2	10/25/12	11:00	LRSJ	10/26/12	AQ	Equipment Blank	MW3-ROX-102512-EB
MC15301-3	10/25/12	13:05	LRSJ	10/26/12	AQ	Ground Water	MW12-ROX-102512
MC15301-3D	10/25/12	13:05	LRSJ	10/26/12	AQ	Water Dup/MSD	MW12-ROX-102512
MC15301-3S	10/25/12	13:05	LRSJ	10/26/12	AQ	Water Matrix Spike	MW12-ROX-102512
MC15301-4	10/25/12	15:00	LRSJ	10/26/12	AQ	Ground Water	MW11-ROX-102512
MC15301-5	10/25/12	00:00	LRSJ	10/26/12	AQ	Trip Blank Water	TB-102512-HCL-R
MC15301-6	10/25/12	00:00	LRSJ	10/26/12	AQ	Trip Blank Water	TB-102512-ST-R

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Shell Oil **Job No** MC15301

Site: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central **Report Date** 11/13/2012 2:30:25 PM

4 Sample(s), 2 Trip Blank(s) were collected on 10/25/2012 and were received at Accutest on 10/26/2012 properly preserved, at 1.5 Deg. C and intact. These Samples received an Accutest job number of MC15301. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. 1-Chlorohexane, Benzenethiol, Dibenz(a,h)acridine, Indene, and Quinoline were searched in the library search and reported only if detections were found.

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

Volatiles by GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** MSN2620

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15301-3MS, MC15301-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- BS/BSD Recovery(s) for Acrolein are outside control limits. Blank Spike meets program technical requirements.
- MS/MSD Recovery(s) for Acrolein are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC15301-3MS/MSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MSN2620-BS/BSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- Initial calibration verification MSN2591-ICV2591 for acetone exceeds 50% Difference(response bias high). Associated samples are non-detect for this compound.

Extractables by GCMS By Method SW846 8270C

Matrix AQ **Batch ID:** OP30844

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC15301-3MS, MC15301-3MSD were used as the QC samples indicated.
- Blank Spike Recovery(s) for Aniline, Di-n-octyl phthalate, Phenol, Pyridine are outside control limits. Blank Spike meets program technical requirements.its.
- Matrix Spike Recovery(s) for Aniline, Pyridine are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for Aniline, Pyridine, Benzoic Acid, Phenol are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- RPD(s) for MSD for Benzoic Acid, Phenol are outside control limits for sample OP30844-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix AQ **Batch ID:** OP30845

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC15301-3MS, MC15301-3MSD were used as the QC samples indicated.

Volatiles by GC By Method SW846 8011

Matrix AQ	Batch ID: OP30848

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC15301-3MS, MC15301-3MSD were used as the QC samples indicated.

The Accutest Laboratories of 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 Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC15301).

Summary of Hits

Job Number: MC15301
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 10/25/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC15301-1	MW3-ROX-102512					
Benzene		1.7	0.50	0.24	ug/l	SW846 8260B
Methyl Tert Butyl Ether		2.7	1.0	0.41	ug/l	SW846 8260B
Diethyl phthalate		0.59 J	5.1	0.19	ug/l	SW846 8270C
MC15301-2	MW3-ROX-102512-EB					
Diethyl phthalate		0.47 J	5.3	0.20	ug/l	SW846 8270C
MC15301-3	MW12-ROX-102512					
Diethyl phthalate		0.77 J	5.3	0.20	ug/l	SW846 8270C
MC15301-4	MW11-ROX-102512					
Diethyl phthalate		0.42 J	5.4	0.21	ug/l	SW846 8270C
MC15301-5	TB-102512-HCL-R					
No hits reported in this sample.						
MC15301-6	TB-102512-ST-R					
No hits reported in this sample.						

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW3-ROX-102512		
Lab Sample ID:	MC15301-1	Date Sampled:	10/25/12
Matrix:	AQ - Ground Water	Date Received:	10/26/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69666.D	1	11/08/12	JP	n/a	n/a	MSN2620
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	UJ
107-02-8	Acrolein	ND	25	10	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	1.7	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:	MW3-ROX-102512		
Lab Sample ID:	MC15301-1	Date Sampled:	10/25/12
Matrix:	AQ - Ground Water	Date Received:	10/26/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.7	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:	MW3-ROX-102512		
Lab Sample ID:	MC15301-1	**Date Sampled:**	10/25/12
Matrix:	AQ - Ground Water	**Date Received:**	10/26/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, 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	85%		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/l	

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

Report of Analysis

Client Sample ID:	MW3-ROX-102512		
Lab Sample ID:	MC15301-1	**Date Sampled:**	10/25/12
Matrix:	AQ - Ground Water	**Date Received:**	10/26/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6436.D	1	11/01/12	KR	10/30/12	OP30844	MSW290
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.1	0.41	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.38	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.8	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	5.1	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.61	ug/l	
	3&4-Methylphenol	ND	10	0.76	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.48	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.1	0.94	ug/l	UJ
95-95-4	2,4,5-Trichlorophenol	ND	10	0.50	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.36	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	UJ
101-55-3	4-Bromophenyl phenyl ether	ND	5.1	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.1	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.1	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.64	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.1	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.1	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.1	0.29	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.1	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.1	0.22	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.1	0.90	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.1	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.1	0.24	ug/l	

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

Report of Analysis

Client Sample ID:	MW3-ROX-102512		
Lab Sample ID:	MC15301-1	**Date Sampled:**	10/25/12
Matrix:	AQ - Ground Water	**Date Received:**	10/26/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	~~0.59~~ U	5.1	0.19	ug/l	J U
131-11-3	Dimethyl phthalate	ND	5.1	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.1	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.1	ug/l	
67-72-1	Hexachloroethane	ND	5.1	0.28	ug/l	
78-59-1	Isophorone	ND	5.1	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	0.48	ug/l	
98-95-3	Nitrobenzene	ND	5.1	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.1	0.60	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.1	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.1	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.47	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	36%		15-110%
4165-62-2	Phenol-d5	25%		15-110%
118-79-6	2,4,6-Tribromophenol	92%		15-110%
4165-60-0	Nitrobenzene-d5	65%		30-130%
321-60-8	2-Fluorobiphenyl	62%		30-130%
1718-51-0	Terphenyl-d14	103%		30-130%

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

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

Report of Analysis

Client Sample ID:	MW3-ROX-102512		
Lab Sample ID:	MC15301-1	Date Sampled:	10/25/12
Matrix:	AQ - Ground Water	Date Received:	10/26/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I79858.D	1	11/01/12	NS	10/30/12	OP30845	MSI2972
Run #2							

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

BN Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	28%		15-110%
4165-62-2	Phenol-d5	24%		15-110%
118-79-6	2,4,6-Tribromophenol	74%		15-110%
4165-60-0	Nitrobenzene-d5	57%		30-130%
321-60-8	2-Fluorobiphenyl	58%		30-130%
1718-51-0	Terphenyl-d14	92%		30-130%

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

Report of Analysis

Client Sample ID:	MW3-ROX-102512		
Lab Sample ID:	MC15301-1	Date Sampled:	10/25/12
Matrix:	AQ - Ground Water	Date Received:	10/26/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ76794.D	1	10/31/12	CZ	10/30/12	OP30848	GYZ6962
Run #2							

	Initial Volume	Final Volume
Run #1	35.0 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	97%		36-173%
460-00-4	Bromofluorobenzene (S)	115%		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:	MW3-ROX-102512-EB		
Lab Sample ID:	MC15301-2	Date Sampled:	10/25/12
Matrix:	AQ - Equipment Blank	Date Received:	10/26/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69658.D	1	11/08/12	JP	n/a	n/a	MSN2620
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	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:	MW3-ROX-102512-EB		
Lab Sample ID:	MC15301-2	Date Sampled:	10/25/12
Matrix:	AQ - Equipment Blank	Date Received:	10/26/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	MW3-ROX-102512-EB		
Lab Sample ID:	MC15301-2	Date Sampled:	10/25/12
Matrix:	AQ - Equipment Blank	Date Received:	10/26/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, 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	85%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%

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

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

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

Report of Analysis

Client Sample ID:	MW3-ROX-102512-EB		
Lab Sample ID:	MC15301-2	Date Sampled:	10/25/12
Matrix:	AQ - Equipment Blank	Date Received:	10/26/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6437.D	1	11/01/12	KR	10/30/12	OP30844	MSW290
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.3	0.43	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.40	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.40	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	2.9	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	5.3	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	2.7	ug/l	
95-48-7	2-Methylphenol	ND	11	0.64	ug/l	
	3&4-Methylphenol	ND	11	0.80	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.50	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.9	ug/l	
87-86-5	Pentachlorophenol	ND	11	0.68	ug/l	
108-95-2	Phenol	ND	5.3	0.99	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.52	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.38	ug/l	
62-53-3	Aniline	ND	11	2.1	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.3	0.35	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.3	0.28	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.28	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.3	0.27	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.67	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.3	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.3	0.40	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.3	0.30	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.3	0.31	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.3	0.23	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.27	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.27	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.3	0.95	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.23	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.3	0.38	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.3	0.25	ug/l	

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

Report of Analysis

Client Sample ID:	MW3-ROX-102512-EB		
Lab Sample ID:	MC15301-2	**Date Sampled:**	10/25/12
Matrix:	AQ - Equipment Blank	**Date Received:**	10/26/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	0.47	5.3	0.20	ug/l	J
131-11-3	Dimethyl phthalate	ND	5.3	0.24	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.1	0.40	ug/l	
118-74-1	Hexachlorobenzene	ND	5.3	0.27	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.3	ug/l	
67-72-1	Hexachloroethane	ND	5.3	0.30	ug/l	
78-59-1	Isophorone	ND	5.3	0.34	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.27	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.27	ug/l	
100-01-6	4-Nitroaniline	ND	11	0.51	ug/l	
98-95-3	Nitrobenzene	ND	5.3	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.3	0.63	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.3	0.29	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.3	0.46	ug/l	
110-86-1	Pyridine	ND	11	0.49	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	31%		15-110%
4165-62-2	Phenol-d5	21%		15-110%
118-79-6	2,4,6-Tribromophenol	74%		15-110%
4165-60-0	Nitrobenzene-d5	55%		30-130%
321-60-8	2-Fluorobiphenyl	53%		30-130%
1718-51-0	Terphenyl-d14	102%		30-130%

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

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

Report of Analysis

Client Sample ID:	MW3-ROX-102512-EB		
Lab Sample ID:	MC15301-2	**Date Sampled:**	10/25/12
Matrix:	AQ - Equipment Blank	**Date Received:**	10/26/12
Method:	SW846 8270C BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I79859.D	1	11/01/12	NS	10/30/12	OP30845	MSI2972
Run #2							

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

BN Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	28%		15-110%
4165-62-2	Phenol-d5	22%		15-110%
118-79-6	2,4,6-Tribromophenol	63%		15-110%
4165-60-0	Nitrobenzene-d5	49%		30-130%
321-60-8	2-Fluorobiphenyl	52%		30-130%
1718-51-0	Terphenyl-d14	91%		30-130%

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

Report of Analysis

Client Sample ID:	MW3-ROX-102512-EB		
Lab Sample ID:	MC15301-2	Date Sampled:	10/25/12
Matrix:	AQ - Equipment Blank	Date Received:	10/26/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ76795.D	1	10/31/12	CZ	10/30/12	OP30848	GYZ6962
Run #2							

	Initial Volume	Final Volume
Run #1	35.6 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	102%		36-173%
460-00-4	Bromofluorobenzene (S)	102%		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:	MW12-ROX-102512		
Lab Sample ID:	MC15301-3	Date Sampled:	10/25/12
Matrix:	AQ - Ground Water	Date Received:	10/26/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69668.D	1	11/08/12	JP	n/a	n/a	MSN2620
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	UJ
107-02-8	Acrolein	ND	25	10	ug/l	UJ
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:	MW12-ROX-102512		
Lab Sample ID:	MC15301-3	Date Sampled:	10/25/12
Matrix:	AQ - Ground Water	Date Received:	10/26/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	MW12-ROX-102512		
Lab Sample ID:	MC15301-3	**Date Sampled:**	10/25/12
Matrix:	AQ - Ground Water	**Date Received:**	10/26/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

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

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

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

Report of Analysis

Client Sample ID:	MW12-ROX-102512		
Lab Sample ID:	MC15301-3	Date Sampled:	10/25/12
Matrix:	AQ - Ground Water	Date Received:	10/26/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6432.D	1	11/01/12	KR	10/30/12	OP30844	MSW290
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.3	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.39	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.39	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	2.9	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	5.3	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	2.6	ug/l	
95-48-7	2-Methylphenol	ND	11	0.64	ug/l	
	3&4-Methylphenol	ND	11	0.79	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.50	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.9	ug/l	
87-86-5	Pentachlorophenol	ND	11	0.67	ug/l	
108-95-2	Phenol	ND	5.3	0.98	ug/l	uJ
95-95-4	2,4,5-Trichlorophenol	ND	11	0.52	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.37	ug/l	
62-53-3	Aniline	ND	11	2.1	ug/l	uJ
101-55-3	4-Bromophenyl phenyl ether	ND	5.3	0.34	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.3	0.28	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.28	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.3	0.26	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.67	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.3	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.3	0.40	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.3	0.30	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.3	0.31	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.3	0.23	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.26	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.26	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.3	0.94	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.23	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.3	0.38	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.3	0.25	ug/l	

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

Report of Analysis

Client Sample ID:	MW12-ROX-102512		
Lab Sample ID:	MC15301-3	Date Sampled:	10/25/12
Matrix:	AQ - Ground Water	Date Received:	10/26/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	~~0.77~~ U	5.3	0.20	ug/l	J U
131-11-3	Dimethyl phthalate	ND	5.3	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.1	0.39	ug/l	
118-74-1	Hexachlorobenzene	ND	5.3	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.3	ug/l	
67-72-1	Hexachloroethane	ND	5.3	0.30	ug/l	
78-59-1	Isophorone	ND	5.3	0.33	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.26	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.27	ug/l	
100-01-6	4-Nitroaniline	ND	11	0.50	ug/l	
98-95-3	Nitrobenzene	ND	5.3	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.3	0.62	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.3	0.29	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.3	0.46	ug/l	
110-86-1	Pyridine	ND	11	0.49	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	40%		15-110%
4165-62-2	Phenol-d5	28%		15-110%
118-79-6	2,4,6-Tribromophenol	84%		15-110%
4165-60-0	Nitrobenzene-d5	69%		30-130%
321-60-8	2-Fluorobiphenyl	64%		30-130%
1718-51-0	Terphenyl-d14	104%		30-130%

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

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

Report of Analysis

Client Sample ID:	MW12-ROX-102512		
Lab Sample ID:	MC15301-3	Date Sampled:	10/25/12
Matrix:	AQ - Ground Water	Date Received:	10/26/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I79860.D	1	11/01/12	NS	10/30/12	OP30845	MSI2972
Run #2							

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

BN Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	33%		15-110%
4165-62-2	Phenol-d5	29%		15-110%
118-79-6	2,4,6-Tribromophenol	65%		15-110%
4165-60-0	Nitrobenzene-d5	61%		30-130%
321-60-8	2-Fluorobiphenyl	64%		30-130%
1718-51-0	Terphenyl-d14	91%		30-130%

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

Report of Analysis

Client Sample ID:	MW12-ROX-102512		
Lab Sample ID:	MC15301-3	Date Sampled:	10/25/12
Matrix:	AQ - Ground Water	Date Received:	10/26/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ76796.D	1	10/31/12	CZ	10/30/12	OP30848	GYZ6962
Run #2							

	Initial Volume	Final Volume
Run #1	34.5 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	91%		36-173%
460-00-4	Bromofluorobenzene (S)	102%		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:	MW11-ROX-102512		
Lab Sample ID:	MC15301-4	Date Sampled:	10/25/12
Matrix:	AQ - Ground Water	Date Received:	10/26/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69667.D	1	11/08/12	JP	n/a	n/a	MSN2620
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	UJ
107-02-8	Acrolein	ND	25	10	ug/l	UJ
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
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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW11-ROX-102512		
Lab Sample ID:	MC15301-4	**Date Sampled:**	10/25/12
Matrix:	AQ - Ground Water	**Date Received:**	10/26/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	MW11-ROX-102512		
Lab Sample ID:	MC15301-4	**Date Sampled:**	10/25/12
Matrix:	AQ - Ground Water	**Date Received:**	10/26/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

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

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

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

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

Report of Analysis

Client Sample ID:	MW11-ROX-102512		
Lab Sample ID:	MC15301-4	**Date Sampled:**	10/25/12
Matrix:	AQ - Ground Water	**Date Received:**	10/26/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6438.D	1	11/01/12	KR	10/30/12	OP30844	MSW290
Run #2							

	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.4	ug/l	
95-57-8	2-Chlorophenol	ND	5.4	0.44	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.41	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.41	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	3.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	5.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	2.7	ug/l	
95-48-7	2-Methylphenol	ND	11	0.66	ug/l	
	3&4-Methylphenol	ND	11	0.82	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.51	ug/l	
100-02-7	4-Nitrophenol	ND	22	3.0	ug/l	
87-86-5	Pentachlorophenol	ND	11	0.69	ug/l	
108-95-2	Phenol	ND	5.4	1.0	ug/l	ui
95-95-4	2,4,5-Trichlorophenol	ND	11	0.53	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.38	ug/l	
62-53-3	Aniline	ND	11	2.2	ug/l	ui
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.36	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	0.29	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.28	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	0.27	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.69	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.4	0.24	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.4	0.41	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.31	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.32	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.23	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.27	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.27	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.97	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.23	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.4	0.39	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	0.26	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW11-ROX-102512		
Lab Sample ID:	MC15301-4	**Date Sampled:**	10/25/12
Matrix:	AQ - Ground Water	**Date Received:**	10/26/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	~~0.42~~ U	5.4	0.21	ug/l	J U
131-11-3	Dimethyl phthalate	ND	5.4	0.24	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.41	ug/l	
118-74-1	Hexachlorobenzene	ND	5.4	0.27	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.4	ug/l	
67-72-1	Hexachloroethane	ND	5.4	0.31	ug/l	
78-59-1	Isophorone	ND	5.4	0.35	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.27	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.28	ug/l	
100-01-6	4-Nitroaniline	ND	11	0.52	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.64	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.30	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.47	ug/l	
110-86-1	Pyridine	ND	11	0.50	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	35%		15-110%
4165-62-2	Phenol-d5	26%		15-110%
118-79-6	2,4,6-Tribromophenol	80%		15-110%
4165-60-0	Nitrobenzene-d5	63%		30-130%
321-60-8	2-Fluorobiphenyl	59%		30-130%
1718-51-0	Terphenyl-d14	108%		30-130%

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

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

Report of Analysis

Client Sample ID:	MW11-ROX-102512		
Lab Sample ID:	MC15301-4	Date Sampled:	10/25/12
Matrix:	AQ - Ground Water	Date Received:	10/26/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I79861.D	1	11/01/12	NS	10/30/12	OP30845	MSI2972
Run #2							

	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	ND	0.11	0.014	ug/l	
120-12-7	Anthracene	ND	0.11	0.019	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.054	0.033	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.054	0.026	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.041	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.064	ug/l	
218-01-9	Chrysene	ND	0.11	0.079	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.045	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.035	ug/l	
86-73-7	Fluorene	ND	0.11	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.050	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.22	0.056	ug/l	
85-01-8	Phenanthrene	ND	0.054	0.014	ug/l	
129-00-0	Pyrene	ND	0.11	0.039	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	32%		15-110%
4165-62-2	Phenol-d5	23%		15-110%
118-79-6	2,4,6-Tribromophenol	64%		15-110%
4165-60-0	Nitrobenzene-d5	57%		30-130%
321-60-8	2-Fluorobiphenyl	59%		30-130%
1718-51-0	Terphenyl-d14	94%		30-130%

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

Report of Analysis

Client Sample ID:	MW11-ROX-102512		
Lab Sample ID:	MC15301-4	**Date Sampled:**	10/25/12
Matrix:	AQ - Ground Water	**Date Received:**	10/26/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ76797.D	1	10/31/12	CZ	10/30/12	OP30848	GYZ6962
Run #2							

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

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	87%		36-173%
460-00-4	Bromofluorobenzene (S)	101%		36-173%

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

Report of Analysis

Client Sample ID:	TB-102512-HCL-R		
Lab Sample ID:	MC15301-5	Date Sampled:	10/25/12
Matrix:	AQ - Trip Blank Water	Date Received:	10/26/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69657.D	1	11/08/12	JP	n/a	n/a	MSN2620
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	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:	TB-102512-HCL-R		
Lab Sample ID:	MC15301-5	**Date Sampled:**	10/25/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/26/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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
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J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-102512-HCL-R		
Lab Sample ID:	MC15301-5	**Date Sampled:**	10/25/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/26/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	81%		70-130%
2037-26-5	Toluene-D8	84%		70-130%
460-00-4	4-Bromofluorobenzene	87%		70-130%

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

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

Report of Analysis

Client Sample ID:	TB-102512-ST-R		
Lab Sample ID:	MC15301-6	**Date Sampled:**	10/25/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/26/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ76798.D	1	10/31/12	CZ	10/30/12	OP30848	GYZ6962
Run #2							

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

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	94%		36-173%
460-00-4	Bromofluorobenzene (S)	93%		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

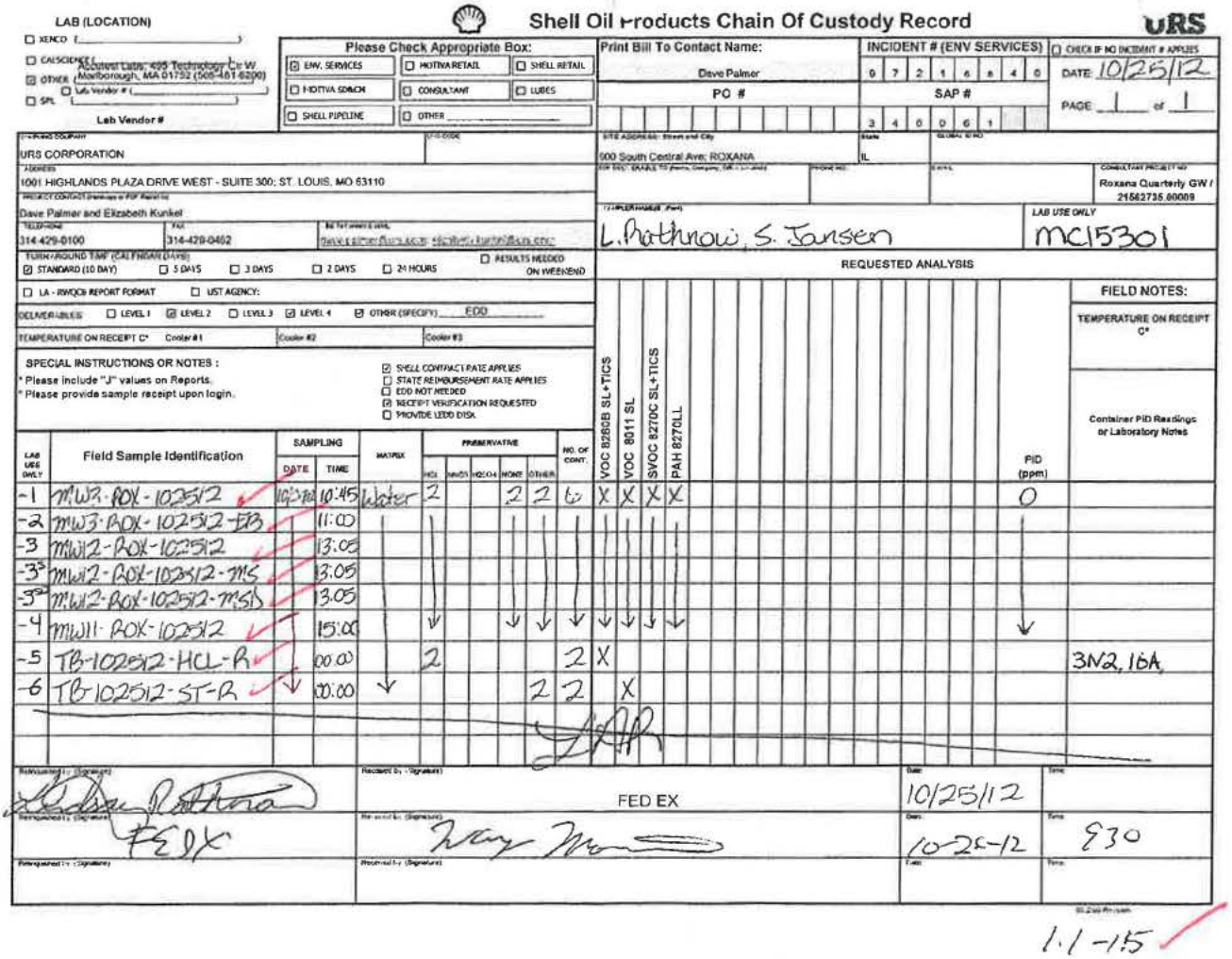
New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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



LAB (LOCATION)

☐ XENCO (_____)
☐ CALSCIENCE (_____)
☑ OTHER (Accutest Labs; 495 Technology Ctr W Marlborough, MA 01752 (508-481-6200))
☐ SPL ☐ Lab Vendor # (_____)

Lab Vendor #

Shell Oil Products Chain Of Custody Record

URS

Please Check Appropriate Box:
☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA S/MOH ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Dave Palmer
PO #
INCIDENT # (ENV SERVICES): 0 7 2 1 6 8 4 0
SAP #: 3 4 6 0 6 1
☐ CHECK IF NO INCIDENT # APPLIES
DATE: 10/25/12
PAGE: 1 of 1

URS CORPORATION
1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
Dave Palmer and Elizabeth Kunkel
314-429-0100 | FAX: 314-429-0462
SITE ADDRESS: 600 South Central Ave; ROXANA | State: IL
CONSULTANT PROJECT NO: Roxana Quarterly GW / 21562735.00009
SAMPLER NAME: L. Rathnow, S. Jansen
LAB USE ONLY: MC15301

TURN AROUND TIME (CALENDAR DAYS):
☑ STANDARD (10 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

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

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

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

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE EDD DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	VOC 8260B SL+TICS	VOC 8011 SL	SVOC 8270C SL+TICS	PAH 8270LL	PID (ppm)	FIELD NOTES: Container PID Readings or Laboratory Notes
-1	MW3-BOX-102512	10/25/12	10:45	Water	2			2	2	6	X	X	X	X	0	
-2	MW3-BOX-102512-FB		11:00													
-3	MW2-BOX-102512		13:05													
-3S	MW2-BOX-102512-MS		13:05													
-3D	MW2-BOX-102512-MSD		13:05													
-4	MW11-BOX-102512		15:00		↓			↓	↓	↓	↓	↓	↓	↓	↓	
-5	TB-102512-HCL-R		00:00		2				2	2	X					3N2, 16A
-6	TB-102512-ST-R	↓	00:00	↓					2	2		X				

TEMPERATURE ON RECEIPT C°: Container PID Readings or Laboratory Notes

Relinquished by (Signature)	Received by (Signature)	Date	Time
	FED EX	10/25/12	
FEDX			
		10-25-12	830

1.1 -15

5.1 5

MC15301: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC15301 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 10/26/2012 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900 SOUTH CENTRAL **No. Coolers:** 2 **Airbill #'s:**

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

Cooler Temperature	Y or N
1. Temp criteria achieved:	☑ ☐
2. Cooler temp verification:	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

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15301

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15301-1 Collected: 25-OCT-12 10:45 By: LRSJ Received: 26-OCT-12 By: MW3-ROX-102512						
MC15301-1	SW846 8011	31-OCT-12 21:10	CZ	30-OCT-12	NK	V8011SL
MC15301-1	SW846 8270C	01-NOV-12 12:13	KR	30-OCT-12	MT	AB8270SL+
MC15301-1	SW846 8270C BY SIM	01-NOV-12 15:37	NS	30-OCT-12	MT	B8270SIMSL
MC15301-1	SW846 8260B	08-NOV-12 22:35	JP			V8260SL+
MC15301-2 Collected: 25-OCT-12 11:00 By: LRSJ Received: 26-OCT-12 By: MW3-ROX-102512-EB						
MC15301-2	SW846 8011	31-OCT-12 21:35	CZ	30-OCT-12	NK	V8011SL
MC15301-2	SW846 8270C	01-NOV-12 12:35	KR	30-OCT-12	MT	AB8270SL+
MC15301-2	SW846 8270C BY SIM	01-NOV-12 15:59	NS	30-OCT-12	MT	B8270SIMSL
MC15301-2	SW846 8260B	08-NOV-12 18:50	JP			V8260SL+
MC15301-3 Collected: 25-OCT-12 13:05 By: LRSJ Received: 26-OCT-12 By: MW12-ROX-102512						
MC15301-3	SW846 8011	31-OCT-12 22:01	CZ	30-OCT-12	NK	V8011SL
MC15301-3	SW846 8270C	01-NOV-12 10:44	KR	30-OCT-12	MT	AB8270SL+
MC15301-3	SW846 8270C BY SIM	01-NOV-12 16:22	NS	30-OCT-12	MT	B8270SIMSL
MC15301-3	SW846 8260B	08-NOV-12 23:32	JP			V8260SL+
MC15301-4 Collected: 25-OCT-12 15:00 By: LRSJ Received: 26-OCT-12 By: MW11-ROX-102512						
MC15301-4	SW846 8011	31-OCT-12 22:26	CZ	30-OCT-12	NK	V8011SL
MC15301-4	SW846 8270C	01-NOV-12 12:57	KR	30-OCT-12	MT	AB8270SL+
MC15301-4	SW846 8270C BY SIM	01-NOV-12 16:46	NS	30-OCT-12	MT	B8270SIMSL
MC15301-4	SW846 8260B	08-NOV-12 23:04	JP			V8260SL+
MC15301-5 Collected: 25-OCT-12 00:00 By: LRSJ Received: 26-OCT-12 By: TB-102512-HCL-R						
MC15301-5	SW846 8260B	08-NOV-12 18:22	JP			V8260SL+
MC15301-6 Collected: 25-OCT-12 00:00 By: LRSJ Received: 26-OCT-12 By: TB-102512-ST-R						

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15301

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15301-6	SW846 8011	31-OCT-12 22:51	CZ	30-OCT-12	NK	V8011SL

Accutest Internal Chain of Custody

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 10/26/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15301-1.1	Walk In Ref #22	Michael Rolo	10/30/12 11:15	Retrieve from Storage
MC15301-1.1	Michael Rolo		10/30/12 18:01	Depleted
MC15301-1.3	VOC Ref #3	Jugal Patel	11/07/12 15:13	Retrieve from Storage
MC15301-1.3	Jugal Patel	GCMSN	11/07/12 15:13	Load on Instrument
MC15301-1.3	GCMSN	Jugal Patel	11/08/12 12:29	Unload from Instrument
MC15301-1.3	Jugal Patel	VOC Ref #3	11/08/12 12:29	Return to Storage
MC15301-1.4	VOC Ref #3	Jugal Patel	11/08/12 13:47	Retrieve from Storage
MC15301-1.4	Jugal Patel	GCMSN	11/08/12 13:47	Load on Instrument
MC15301-1.4	GCMSN	Jugal Patel	11/09/12 13:11	Unload from Instrument
MC15301-1.4	Jugal Patel	VOC Ref #3	11/09/12 13:11	Return to Storage
MC15301-1.5	VOC Ref #3	Nick Krasinski	10/30/12 18:00	Retrieve from Storage
MC15301-1.5	Nick Krasinski		10/30/12 18:01	Depleted
MC15301-2.1	Walk In Ref #22	Michael Rolo	10/30/12 11:15	Retrieve from Storage
MC15301-2.1	Michael Rolo		10/30/12 18:01	Depleted
MC15301-2.3	VOC Ref #3	Jugal Patel	11/08/12 15:15	Retrieve from Storage
MC15301-2.3	Jugal Patel	GCMSN	11/08/12 15:15	Load on Instrument
MC15301-2.3	GCMSN	Jugal Patel	11/09/12 13:11	Unload from Instrument
MC15301-2.3	Jugal Patel	VOC Ref #3	11/09/12 13:11	Return to Storage
MC15301-2.6	VOC Ref #3	Nick Krasinski	10/30/12 18:00	Retrieve from Storage
MC15301-2.6	Nick Krasinski		10/30/12 18:01	Depleted
MC15301-3.3	Walk In Ref #22	Michael Rolo	10/30/12 11:15	Retrieve from Storage
MC15301-3.3	Michael Rolo		10/30/12 18:01	Depleted
MC15301-3.4	Walk In Ref #22	Michael Rolo	10/30/12 11:15	Retrieve from Storage
MC15301-3.4	Michael Rolo		10/30/12 18:01	Depleted
MC15301-3.5	Walk In Ref #22	Michael Rolo	10/30/12 11:15	Retrieve from Storage
MC15301-3.5	Michael Rolo		10/30/12 18:01	Depleted
MC15301-3.7	VOC Ref #3	Jugal Patel	11/08/12 15:15	Retrieve from Storage
MC15301-3.7	Jugal Patel	GCMSN	11/08/12 15:15	Load on Instrument
MC15301-3.7	GCMSN	Jugal Patel	11/09/12 13:11	Unload from Instrument
MC15301-3.7	Jugal Patel	VOC Ref #3	11/09/12 13:11	Return to Storage
MC15301-3.8	VOC Ref #3	Jugal Patel	11/08/12 15:15	Retrieve from Storage
MC15301-3.8	Jugal Patel	GCMSN	11/08/12 15:15	Load on Instrument
MC15301-3.8	GCMSN	Jugal Patel	11/09/12 13:11	Unload from Instrument

Accutest Internal Chain of Custody

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 10/26/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15301-3.8	Jugal Patel	VOC Ref #3	11/09/12 13:11	Return to Storage
MC15301-3.9	VOC Ref #3	Jugal Patel	11/08/12 15:15	Retrieve from Storage
MC15301-3.9	Jugal Patel	GCMSN	11/08/12 15:15	Load on Instrument
MC15301-3.9	GCMSN	Jugal Patel	11/09/12 13:11	Unload from Instrument
MC15301-3.9	Jugal Patel	VOC Ref #3	11/09/12 13:11	Return to Storage
MC15301-3.10	VOC Ref #3	Jugal Patel	11/08/12 15:15	Retrieve from Storage
MC15301-3.10	Jugal Patel	GCMSN	11/08/12 15:15	Load on Instrument
MC15301-3.10	GCMSN	Jugal Patel	11/09/12 13:11	Unload from Instrument
MC15301-3.10	Jugal Patel	VOC Ref #3	11/09/12 13:11	Return to Storage
MC15301-3.16	VOC Ref #3	Nick Krasinski	10/30/12 18:00	Retrieve from Storage
MC15301-3.16	Nick Krasinski		10/30/12 18:01	Depleted
MC15301-3.17	VOC Ref #3	Nick Krasinski	10/30/12 18:00	Retrieve from Storage
MC15301-3.17	Nick Krasinski		10/30/12 18:01	Depleted
MC15301-3.18	VOC Ref #3	Nick Krasinski	10/30/12 18:00	Retrieve from Storage
MC15301-3.18	Nick Krasinski		10/30/12 18:01	Depleted
MC15301-4.2	Walk In Ref #22	Michael Rolo	10/30/12 11:15	Retrieve from Storage
MC15301-4.2	Michael Rolo		10/30/12 18:01	Depleted
MC15301-4.3	VOC Ref #3	Jugal Patel	11/07/12 15:13	Retrieve from Storage
MC15301-4.3	Jugal Patel	GCMSN	11/07/12 15:13	Load on Instrument
MC15301-4.3	GCMSN	Jugal Patel	11/08/12 12:29	Unload from Instrument
MC15301-4.3	Jugal Patel	VOC Ref #3	11/08/12 12:29	Return to Storage
MC15301-4.3	VOC Ref #3	Jugal Patel	11/08/12 13:47	Retrieve from Storage
MC15301-4.3	Jugal Patel	GCMSN	11/08/12 13:47	Load on Instrument
MC15301-4.3	GCMSN	Jugal Patel	11/09/12 13:11	Unload from Instrument
MC15301-4.3	Jugal Patel	VOC Ref #3	11/09/12 13:11	Return to Storage
MC15301-4.6	VOC Ref #3	Nick Krasinski	10/30/12 18:00	Retrieve from Storage
MC15301-4.6	Nick Krasinski		10/30/12 18:01	Depleted
MC15301-5.1	VOC Ref #3	Jugal Patel	11/08/12 15:15	Retrieve from Storage
MC15301-5.1	Jugal Patel	GCMSN	11/08/12 15:15	Load on Instrument
MC15301-5.1	GCMSN	Jugal Patel	11/09/12 13:11	Unload from Instrument
MC15301-5.1	Jugal Patel	VOC Ref #3	11/09/12 13:11	Return to Storage
MC15301-6.1	VOC Ref #3	Nick Krasinski	10/30/12 18:00	Retrieve from Storage
MC15301-6.1	Nick Krasinski		10/30/12 18:01	Depleted

New England ACCUTEST LABORATORIES

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: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2620-MB	N69654.D	1	11/08/12	JP	n/a	n/a	MSN2620

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4, MC15301-5

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: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2620-MB	N69654.D	1	11/08/12	JP	n/a	n/a	MSN2620

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4, MC15301-5

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: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2620-MB	N69654.D	1	11/08/12	JP	n/a	n/a	MSN2620

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4, MC15301-5

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	83%	70-130%
2037-26-5	Toluene-D8	84%	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/l	

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2620-BS	N69651.D	1	11/08/12	JP	n/a	n/a	MSN2620
MSN2620-BSD	N69652.D	1	11/08/12	JP	n/a	n/a	MSN2620

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4, MC15301-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	38.8	78	38.1	76	2	70-130/25
107-02-8	Acrolein	250	152	61* a	159	64* a	5	70-130/25
107-13-1	Acrylonitrile	50	244	488* b	251	502* b	3	70-130/25
71-43-2	Benzene	50	51.7	103	50.5	101	2	70-130/25
108-86-1	Bromobenzene	50	49.5	99	48.7	97	2	70-130/25
74-97-5	Bromochloromethane	50	51.2	102	51.2	102	0	70-130/25
75-27-4	Bromodichloromethane	50	52.0	104	50.9	102	2	70-130/25
75-25-2	Bromoform	50	42.6	85	44.6	89	5	70-130/25
74-83-9	Bromomethane	50	52.1	104	53.7	107	3	70-130/25
78-93-3	2-Butanone (MEK)	50	43.4	87	43.3	87	0	70-130/25
104-51-8	n-Butylbenzene	50	57.2	114	55.3	111	3	70-130/25
135-98-8	sec-Butylbenzene	50	56.7	113	55.0	110	3	70-130/25
98-06-6	tert-Butylbenzene	50	52.9	106	50.9	102	4	70-130/25
75-15-0	Carbon disulfide	50	59.0	118	57.2	114	3	70-130/25
56-23-5	Carbon tetrachloride	50	45.5	91	44.7	89	2	70-130/25
108-90-7	Chlorobenzene	50	53.0	106	54.2	108	2	70-130/25
75-00-3	Chloroethane	50	54.6	109	53.6	107	2	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	53.2	106	52.0	104	2	70-130/25
67-66-3	Chloroform	50	51.8	104	50.7	101	2	70-130/25
74-87-3	Chloromethane	50	42.4	85	44.0	88	4	70-130/25
95-49-8	o-Chlorotoluene	50	53.9	108	52.2	104	3	70-130/25
106-43-4	p-Chlorotoluene	50	55.8	112	54.8	110	2	70-130/25
124-48-1	Dibromochloromethane	50	46.0	92	47.6	95	3	70-130/25
95-50-1	1,2-Dichlorobenzene	50	54.5	109	53.3	107	2	70-130/25
541-73-1	1,3-Dichlorobenzene	50	54.3	109	53.0	106	2	70-130/25
106-46-7	1,4-Dichlorobenzene	50	51.6	103	50.0	100	3	70-130/25
75-71-8	Dichlorodifluoromethane	50	48.0	96	46.2	92	4	70-130/25
75-34-3	1,1-Dichloroethane	50	55.1	110	53.7	107	3	70-130/25
107-06-2	1,2-Dichloroethane	50	47.9	96	47.3	95	1	70-130/25
75-35-4	1,1-Dichloroethene	50	52.5	105	51.4	103	2	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	52.4	105	51.3	103	2	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	52.9	106	51.3	103	3	70-130/25
78-87-5	1,2-Dichloropropane	50	53.2	106	52.0	104	2	70-130/25
142-28-9	1,3-Dichloropropane	50	49.0	98	50.5	101	3	70-130/25
594-20-7	2,2-Dichloropropane	50	48.4	97	47.2	94	3	70-130/25
563-58-6	1,1-Dichloropropene	50	53.0	106	51.0	102	4	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2620-BS	N69651.D	1	11/08/12	JP	n/a	n/a	MSN2620
MSN2620-BSD	N69652.D	1	11/08/12	JP	n/a	n/a	MSN2620

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4, MC15301-5

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	52.7	105	51.8	104	2	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	48.0	96	47.8	96	0	70-130/25
123-91-1	1,4-Dioxane	250	215	86	225	90	5	70-130/25
97-63-2	Ethyl methacrylate	50	48.2	96	48.7	97	1	77-137/25
100-41-4	Ethylbenzene	50	49.8	100	50.5	101	1	70-130/25
87-68-3	Hexachlorobutadiene	50	54.5	109	52.9	106	3	70-130/25
591-78-6	2-Hexanone	50	39.0	78	40.1	80	3	70-130/25
98-82-8	Isopropylbenzene	50	54.6	109	52.8	106	3	70-130/25
99-87-6	p-Isopropyltoluene	50	54.6	109	52.8	106	3	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	38.8	78	39.1	78	1	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	37.5	75	37.5	75	0	70-130/25
74-95-3	Methylene bromide	50	50.0	100	49.6	99	1	70-130/25
75-09-2	Methylene chloride	50	53.7	107	52.7	105	2	70-130/25
91-20-3	Naphthalene	50	50.1	100	50.4	101	1	70-130/25
103-65-1	n-Propylbenzene	50	55.5	111	54.0	108	3	70-130/25
100-42-5	Styrene	50	49.7	99	50.9	102	2	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	51.0	102	51.8	104	2	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	47.9	96	47.9	96	0	70-130/25
127-18-4	Tetrachloroethene	50	49.4	99	49.6	99	0	70-130/25
108-88-3	Toluene	50	52.3	105	50.8	102	3	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	54.1	108	53.9	108	0	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	55.1	110	54.8	110	1	70-130/25
71-55-6	1,1,1-Trichloroethane	50	52.5	105	50.6	101	4	70-130/25
79-00-5	1,1,2-Trichloroethane	50	50.3	101	49.1	98	2	70-130/25
79-01-6	Trichloroethene	50	48.6	97	47.8	96	2	70-130/25
75-69-4	Trichlorofluoromethane	50	49.3	99	47.9	96	3	70-130/25
96-18-4	1,2,3-Trichloropropane	50	51.9	104	52.4	105	1	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	50.1	100	48.5	97	3	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	49.4	99	48.4	97	2	70-130/25
108-05-4	Vinyl Acetate	50	49.1	98	49.4	99	1	70-130/25
75-01-4	Vinyl chloride	50	49.1	98	48.0	96	2	70-130/25
	m,p-Xylene	100	103	103	105	105	2	70-130/25
95-47-6	o-Xylene	50	53.5	107	54.5	109	2	70-130/25
1330-20-7	Xylene (total)	150	156	104	159	106	2	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2620-BS	N69651.D	1	11/08/12	JP	n/a	n/a	MSN2620
MSN2620-BSD	N69652.D	1	11/08/12	JP	n/a	n/a	MSN2620

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4, MC15301-5

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	83%	84%	70-130%
2037-26-5	Toluene-D8	84%	85%	70-130%
460-00-4	4-Bromofluorobenzene	82%	81%	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: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15301-3MS	N69674.D	1	11/09/12	JP	n/a	n/a	MSN2620
MC15301-3MSD	N69675.D	1	11/09/12	JP	n/a	n/a	MSN2620
MC15301-3	N69668.D	1	11/08/12	JP	n/a	n/a	MSN2620

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4, MC15301-5

CAS No.	Compound	MC15301-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		50	44.3	89	44.1	88	0	70-130/30
107-02-8	Acrolein	ND		250	158	63* a	162	65* a	3	70-130/30
107-13-1	Acrylonitrile	ND		50	266	532* b	262	524* b	2	70-130/30
71-43-2	Benzene	ND		50	52.8	106	51.5	103	2	70-130/30
108-86-1	Bromobenzene	ND		50	49.2	98	48.3	97	2	70-130/30
74-97-5	Bromochloromethane	ND		50	53.6	107	51.7	103	4	70-130/30
75-27-4	Bromodichloromethane	ND		50	52.7	105	50.8	102	4	70-130/30
75-25-2	Bromoform	ND		50	44.4	89	41.9	84	6	70-130/30
74-83-9	Bromomethane	ND		50	57.2	114	59.3	119	4	70-130/30
78-93-3	2-Butanone (MEK)	ND		50	48.5	97	46.2	92	5	70-130/30
104-51-8	n-Butylbenzene	ND		50	54.9	110	53.4	107	3	70-130/30
135-98-8	sec-Butylbenzene	ND		50	55.4	111	54.7	109	1	70-130/30
98-06-6	tert-Butylbenzene	ND		50	51.4	103	50.7	101	1	70-130/30
75-15-0	Carbon disulfide	ND		50	61.5	123	59.8	120	3	70-130/30
56-23-5	Carbon tetrachloride	ND		50	45.2	90	44.3	89	2	70-130/30
108-90-7	Chlorobenzene	ND		50	54.2	108	51.1	102	6	70-130/30
75-00-3	Chloroethane	ND		50	57.6	115	55.9	112	3	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		50	55.6	111	54.0	108	3	70-130/30
67-66-3	Chloroform	ND		50	52.8	106	51.8	104	2	70-130/30
74-87-3	Chloromethane	ND		50	43.7	87	42.4	85	3	70-130/30
95-49-8	o-Chlorotoluene	ND		50	53.1	106	52.0	104	2	70-130/30
106-43-4	p-Chlorotoluene	ND		50	55.9	112	54.5	109	3	70-130/30
124-48-1	Dibromochloromethane	ND		50	47.6	95	45.1	90	5	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		50	53.9	108	52.8	106	2	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		50	53.6	107	52.4	105	2	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		50	50.4	101	49.4	99	2	70-130/30
75-71-8	Dichlorodifluoromethane	ND		50	47.4	95	45.8	92	3	70-130/30
75-34-3	1,1-Dichloroethane	ND		50	57.0	114	56.2	112	1	70-130/30
107-06-2	1,2-Dichloroethane	ND		50	48.9	98	47.4	95	3	70-130/30
75-35-4	1,1-Dichloroethene	ND		50	55.1	110	53.0	106	4	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		50	53.3	107	52.2	104	2	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		50	53.4	107	52.1	104	2	70-130/30
78-87-5	1,2-Dichloropropane	ND		50	55.6	111	54.0	108	3	70-130/30
142-28-9	1,3-Dichloropropane	ND		50	51.1	102	48.6	97	5	70-130/30
594-20-7	2,2-Dichloropropane	ND		50	43.5	87	42.1	84	3	70-130/30
563-58-6	1,1-Dichloropropene	ND		50	53.9	108	52.8	106	2	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15301-3MS	N69674.D	1	11/09/12	JP	n/a	n/a	MSN2620
MC15301-3MSD	N69675.D	1	11/09/12	JP	n/a	n/a	MSN2620
MC15301-3	N69668.D	1	11/08/12	JP	n/a	n/a	MSN2620

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4, MC15301-5

CAS No.	Compound	MC15301-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		50	53.2	106	51.5	103	3	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		50	48.0	96	47.0	94	2	70-130/30
123-91-1	1,4-Dioxane	ND		250	233	93	228	91	2	70-130/30
97-63-2	Ethyl methacrylate	ND		50	50.8	102	49.1	98	3	72-139/30
100-41-4	Ethylbenzene	ND		50	50.5	101	48.3	97	4	70-130/30
87-68-3	Hexachlorobutadiene	ND		50	52.5	105	52.4	105	0	70-130/30
591-78-6	2-Hexanone	ND		50	41.9	84	39.2	78	7	70-130/30
98-82-8	Isopropylbenzene	ND		50	53.6	107	52.9	106	1	70-130/30
99-87-6	p-Isopropyltoluene	ND		50	52.7	105	52.5	105	0	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		50	41.2	82	40.5	81	2	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		50	40.9	82	40.2	80	2	70-130/30
74-95-3	Methylene bromide	ND		50	51.7	103	49.8	100	4	70-130/30
75-09-2	Methylene chloride	ND		50	55.4	111	53.9	108	3	70-130/30
91-20-3	Naphthalene	ND		50	50.4	101	49.3	99	2	70-130/30
103-65-1	n-Propylbenzene	ND		50	54.6	109	53.5	107	2	70-130/30
100-42-5	Styrene	ND		50	50.5	101	47.8	96	5	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		50	52.5	105	49.1	98	7	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		50	49.8	100	48.9	98	2	70-130/30
127-18-4	Tetrachloroethene	ND		50	49.3	99	47.2	94	4	70-130/30
108-88-3	Toluene	ND		50	52.9	106	51.4	103	3	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		50	53.8	108	52.4	105	3	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		50	54.3	109	52.7	105	3	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		50	52.3	105	51.5	103	2	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		50	52.5	105	50.9	102	3	70-130/30
79-01-6	Trichloroethene	ND		50	49.7	99	47.9	96	4	70-130/30
75-69-4	Trichlorofluoromethane	ND		50	49.8	100	48.5	97	3	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		50	52.9	106	52.1	104	2	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		50	48.6	97	47.8	96	2	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		50	48.4	97	47.7	95	1	70-130/30
108-05-4	Vinyl Acetate	ND		50	50.4	101	49.1	98	3	70-130/30
75-01-4	Vinyl chloride	ND		50	50.7	101	49.6	99	2	70-130/30
	m,p-Xylene	ND		100	104	104	98.6	99	5	70-130/30
95-47-6	o-Xylene	ND		50	54.5	109	51.7	103	5	70-130/30
1330-20-7	Xylene (total)	ND		150	158	105	150	100	5	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15301-3MS	N69674.D	1	11/09/12	JP	n/a	n/a	MSN2620
MC15301-3MSD	N69675.D	1	11/09/12	JP	n/a	n/a	MSN2620
MC15301-3	N69668.D	1	11/08/12	JP	n/a	n/a	MSN2620

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4, MC15301-5

CAS No.	Surrogate Recoveries	MS	MSD	MC15301-3	Limits
1868-53-7	Dibromofluoromethane	86%	86%	84%	70-130%
2037-26-5	Toluene-D8	86%	85%	85%	70-130%
460-00-4	4-Bromofluorobenzene	81%	82%	84%	70-130%

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

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2620-CC2591	Injection Date:	11/08/12
Lab File ID:	N69650.D	Injection Time:	15:05
Instrument ID:	GCMSN	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	330534	9.01	436471	9.88	198365	13.14	224427	15.70	94352	6.56
Upper Limit [a]	661068	9.51	872942	10.38	396730	13.64	448854	16.20	188704	7.06
Lower Limit [b]	165267	8.51	218236	9.38	99183	12.64	112214	15.20	47176	6.06
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2620-BS	328894	9.01	431877	9.88	201638	13.14	220301	15.70	86897	6.56
MSN2618-BS1	328894	9.01	431877	9.88	201638	13.14	220301	15.70	86897	6.56
MSN2620-BSD	330663	9.01	434446	9.88	194291	13.14	222253	15.70	99385	6.56
MSN2618-BSD1	330663	9.01	434446	9.88	194291	13.14	222253	15.70	99385	6.56
MSN2620-MB	321501	9.01	423060	9.88	187153	13.14	200805	15.70	82205	6.57
MSN2618-MB1	321501	9.01	423060	9.88	187153	13.14	200805	15.70	82205	6.57
MC15301-5	315922	9.01	412788	9.88	183345	13.14	187354	15.70	75695	6.57
MC15301-2	314031	9.01	409583	9.88	181840	13.14	189482	15.70	79486	6.56
ZZZZZZ	310178	9.01	405863	9.88	180257	13.14	181504	15.70	72273	6.57
ZZZZZZ	306185	9.01	402104	9.88	180069	13.14	182367	15.70	76821	6.57
ZZZZZZ	300337	9.01	400093	9.88	177069	13.14	176122	15.70	80002	6.57
ZZZZZZ	299814	9.01	398947	9.88	177691	13.14	189210	15.70	72679	6.56
ZZZZZZ	300874	9.01	400018	9.88	177366	13.14	180276	15.70	77918	6.56
MC15301-1	273258	9.01	363613	9.88	163618	13.14	170267	15.70	74160	6.56
MC15301-4	289784	9.01	388239	9.88	173451	13.14	181797	15.70	77436	6.56
MC15301-3	300244	9.01	395735	9.88	177685	13.14	186275	15.70	72370	6.57
ZZZZZZ	296133	9.01	395969	9.88	176117	13.14	183317	15.70	73174	6.56
ZZZZZZ	295167	9.01	390878	9.88	175371	13.14	181301	15.70	70935	6.57
MC15299-2MS	301321	9.01	396891	9.88	181915	13.14	205407	15.70	79582	6.56
MC15299-2MSD	303438	9.01	399477	9.88	183104	13.14	202883	15.70	81048	6.56
MC15301-3MS	302753	9.01	402283	9.88	185632	13.14	209669	15.70	82509	6.56
MC15301-3MSD	307130	9.01	410550	9.88	193929	13.14	211322	15.70	87062	6.56

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

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

Volatile Surrogate Recovery Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8260B Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC15301-1	N69666.D	83.0	85.0	85.0
MC15301-2	N69658.D	83.0	85.0	86.0
MC15301-3	N69668.D	84.0	85.0	84.0
MC15301-4	N69667.D	84.0	85.0	84.0
MC15301-5	N69657.D	81.0	84.0	87.0
MC15301-3MS	N69674.D	86.0	86.0	81.0
MC15301-3MSD	N69675.D	86.0	85.0	82.0
MSN2620-BS	N69651.D	83.0	84.0	82.0
MSN2620-BSD	N69652.D	84.0	85.0	81.0
MSN2620-MB	N69654.D	83.0	84.0	85.0

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

New England ACCUTEST LABORATORIES

GC/MS Semi-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: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30844-MB	W6428.D	1	11/01/12	KR	10/30/12	OP30844	MSW290

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.2	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	1.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	5.0	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.18	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.21	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	
84-66-2	Diethyl phthalate	1.1	5.0	0.19	ug/l	J
131-11-3	Dimethyl phthalate	ND	5.0	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	

Method Blank Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30844-MB	W6428.D	1	11/01/12	KR	10/30/12	OP30844	MSW290

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4

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

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	32%	15-110%
4165-62-2	Phenol-d5	21%	15-110%
118-79-6	2,4,6-Tribromophenol	70%	15-110%
4165-60-0	Nitrobenzene-d5	60%	30-130%
321-60-8	2-Fluorobiphenyl	54%	30-130%
1718-51-0	Terphenyl-d14	103%	30-130%

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

Method Blank Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30845-MB	I79847.D	1	11/01/12	NS	10/30/12	OP30845	MSI2972

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4

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

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	30%	15-110%
4165-62-2	Phenol-d5	22%	15-110%
118-79-6	2,4,6-Tribromophenol	55%	15-110%
4165-60-0	Nitrobenzene-d5	49%	30-130%
321-60-8	2-Fluorobiphenyl	53%	30-130%
1718-51-0	Terphenyl-d14	89%	30-130%

Blank Spike Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30844-BS	W6429.D	1	11/01/12	KR	10/30/12	OP30844	MSW290

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	29.7	30	30-130
95-57-8	2-Chlorophenol	100	58.9	59	30-130
59-50-7	4-Chloro-3-methyl phenol	100	71.6	72	30-130
120-83-2	2,4-Dichlorophenol	100	68.0	68	30-130
105-67-9	2,4-Dimethylphenol	100	66.1	66	30-130
51-28-5	2,4-Dinitrophenol	100	72.6	73	30-130
534-52-1	4,6-Dinitro-o-cresol	100	82.6	83	30-130
95-48-7	2-Methylphenol	100	53.4	53	30-130
	3&4-Methylphenol	200	103	52	30-130
88-75-5	2-Nitrophenol	100	69.5	70	30-130
100-02-7	4-Nitrophenol	100	44.3	44	30-130
87-86-5	Pentachlorophenol	100	84.7	85	30-130
108-95-2	Phenol	100	27.6	28* a	30-130
95-95-4	2,4,5-Trichlorophenol	100	79.8	80	30-130
88-06-2	2,4,6-Trichlorophenol	100	82.1	82	30-130
62-53-3	Aniline	50	18.9	38* a	40-140
101-55-3	4-Bromophenyl phenyl ether	50	39.9	80	40-140
85-68-7	Butyl benzyl phthalate	50	48.8	98	40-140
100-51-6	Benzyl Alcohol	50	28.7	57	40-140
91-58-7	2-Chloronaphthalene	50	36.3	73	40-140
106-47-8	4-Chloroaniline	50	30.7	61	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	30.9	62	40-140
111-44-4	bis(2-Chloroethyl)ether	50	33.8	68	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	39.1	78	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	37.8	76	40-140
122-66-7	1,2-Diphenylhydrazine	50	41.0	82	40-140
121-14-2	2,4-Dinitrotoluene	50	44.6	89	40-140
606-20-2	2,6-Dinitrotoluene	50	41.1	82	40-140
91-94-1	3,3'-Dichlorobenzidine	50	36.9	74	40-140
132-64-9	Dibenzofuran	50	36.8	74	40-140
84-74-2	Di-n-butyl phthalate	50	43.1	86	40-140
117-84-0	Di-n-octyl phthalate	50	70.7	141* a	40-140
84-66-2	Diethyl phthalate	50	43.4	87	40-140
131-11-3	Dimethyl phthalate	50	41.2	82	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	48.6	97	40-140
118-74-1	Hexachlorobenzene	50	42.1	84	40-140

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30844-BS	W6429.D	1	11/01/12	KR	10/30/12	OP30844	MSW290

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	25.7	51	40-140
67-72-1	Hexachloroethane	50	23.8	48	40-140
78-59-1	Isophorone	50	37.8	76	40-140
88-74-4	2-Nitroaniline	50	40.6	81	40-140
99-09-2	3-Nitroaniline	50	36.4	73	40-140
100-01-6	4-Nitroaniline	50	39.1	78	40-140
98-95-3	Nitrobenzene	50	34.0	68	40-140
62-75-9	n-Nitrosodimethylamine	50	23.1	46	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	40.7	81	40-140
86-30-6	N-Nitrosodiphenylamine	50	42.4	85	40-140
110-86-1	Pyridine	50	17.2	34* [a]	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	39%	15-110%
4165-62-2	Phenol-d5	28%	15-110%
118-79-6	2,4,6-Tribromophenol	97%	15-110%
4165-60-0	Nitrobenzene-d5	68%	30-130%
321-60-8	2-Fluorobiphenyl	69%	30-130%
1718-51-0	Terphenyl-d14	104%	30-130%

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

* = Outside of Control Limits.

7.2.1

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Blank Spike Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30845-BS	I79848.D	1	11/01/12	NS	10/30/12	OP30845	MSI2972

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	38.2	76	40-140
208-96-8	Acenaphthylene	50	29.0	58	40-140
120-12-7	Anthracene	50	40.1	80	40-140
56-55-3	Benzo(a)anthracene	50	48.1	96	40-140
50-32-8	Benzo(a)pyrene	50	39.7	79	40-140
205-99-2	Benzo(b)fluoranthene	50	43.6	87	40-140
191-24-2	Benzo(g,h,i)perylene	50	42.7	85	40-140
207-08-9	Benzo(k)fluoranthene	50	47.2	94	40-140
218-01-9	Chrysene	50	50.0	100	40-140
53-70-3	Dibenzo(a,h)anthracene	50	45.1	90	40-140
206-44-0	Fluoranthene	50	43.5	87	40-140
86-73-7	Fluorene	50	40.3	81	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	44.4	89	40-140
90-12-0	1-Methylnaphthalene	50	55.4	111	40-140
91-57-6	2-Methylnaphthalene	50	31.6	63	40-140
85-01-8	Phenanthrene	50	41.2	82	40-140
129-00-0	Pyrene	50	40.9	82	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	35%	15-110%
4165-62-2	Phenol-d5	27%	15-110%
118-79-6	2,4,6-Tribromophenol	80%	15-110%
4165-60-0	Nitrobenzene-d5	62%	30-130%
321-60-8	2-Fluorobiphenyl	64%	30-130%
1718-51-0	Terphenyl-d14	95%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30844-MS	W6430.D	1	11/01/12	KR	10/30/12	OP30844	MSW290
OP30844-MSD	W6431.D	1	11/01/12	KR	10/30/12	OP30844	MSW290
MC15301-3	W6432.D	1	11/01/12	KR	10/30/12	OP30844	MSW290

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4

CAS No.	Compound	MC15301-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		106	35.1	33	27.8	27* a	23* b	30-130/20
95-57-8	2-Chlorophenol	ND		106	65.4	61	56.7	54	14	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		106	77.4	73	70.0	67	10	30-130/20
120-83-2	2,4-Dichlorophenol	ND		106	72.5	68	63.6	61	13	30-130/20
105-67-9	2,4-Dimethylphenol	ND		106	70.4	66	61.0	59	14	30-130/20
51-28-5	2,4-Dinitrophenol	ND		106	82.5	78	77.7	75	6	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		106	88.1	83	85.0	82	4	30-130/20
95-48-7	2-Methylphenol	ND		106	59.1	56	49.6	48	17	30-130/20
	3&4-Methylphenol	ND		213	114	54	93.8	45	19	30-130/20
88-75-5	2-Nitrophenol	ND		106	75.5	71	66.6	64	13	30-130/20
100-02-7	4-Nitrophenol	ND		106	50.0	47	44.4	43	12	30-130/20
87-86-5	Pentachlorophenol	ND		106	88.2	83	82.9	80	6	30-130/20
108-95-2	Phenol	ND		106	31.4	30	24.8	24* a	23* b	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		106	85.4	80	76.6	74	11	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		106	88.5	83	75.9	73	15	30-130/20
62-53-3	Aniline	ND		53.2	19.9	37* a	18.4	35* a	8	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		53.2	39.1	74	34.6	66	12	40-140/20
85-68-7	Butyl benzyl phthalate	ND		53.2	47.0	88	41.6	80	12	40-140/20
100-51-6	Benzyl Alcohol	ND		53.2	30.8	58	26.6	51	15	40-140/20
91-58-7	2-Chloronaphthalene	ND		53.2	36.9	69	33.1	64	11	40-140/20
106-47-8	4-Chloroaniline	ND		53.2	32.2	61	29.4	56	9	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		53.2	32.9	62	29.4	56	11	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		53.2	36.7	69	33.0	63	11	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		53.2	42.4	80	38.8	74	9	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		53.2	38.5	72	33.0	63	15	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		53.2	41.8	79	38.6	74	8	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		53.2	47.0	88	43.9	84	7	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		53.2	43.5	82	41.0	79	6	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		53.2	30.5	57	31.3	60	3	40-140/20
132-64-9	Dibenzofuran	ND		53.2	37.6	71	33.5	64	12	40-140/20
84-74-2	Di-n-butyl phthalate	ND		53.2	41.7	78	38.1	73	9	40-140/20
117-84-0	Di-n-octyl phthalate	ND		53.2	58.1	109	48.4	93	18	40-140/20
84-66-2	Diethyl phthalate	0.77	J	53.2	45.1	83	43.2	81	4	40-140/20
131-11-3	Dimethyl phthalate	ND		53.2	43.5	82	40.7	78	7	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND		53.2	42.8	80	37.1	71	14	40-140/20
118-74-1	Hexachlorobenzene	ND		53.2	39.0	73	34.0	65	14	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30844-MS	W6430.D	1	11/01/12	KR	10/30/12	OP30844	MSW290
OP30844-MSD	W6431.D	1	11/01/12	KR	10/30/12	OP30844	MSW290
MC15301-3	W6432.D	1	11/01/12	KR	10/30/12	OP30844	MSW290

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4

7.3.1

7

CAS No.	Compound	MC15301-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		53.2	26.1	49	23.7	46	10	40-140/20
67-72-1	Hexachloroethane	ND		53.2	24.8	47	24.3	47	2	40-140/20
78-59-1	Isophorone	ND		53.2	40.0	75	35.9	69	11	40-140/20
88-74-4	2-Nitroaniline	ND		53.2	42.0	79	39.1	75	7	40-140/20
99-09-2	3-Nitroaniline	ND		53.2	38.2	72	36.9	71	3	40-140/20
100-01-6	4-Nitroaniline	ND		53.2	40.2	76	39.0	75	3	40-140/20
98-95-3	Nitrobenzene	ND		53.2	36.6	69	33.2	64	10	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		53.2	25.4	48	22.6	43	12	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		53.2	42.7	80	37.8	73	12	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		53.2	42.3	80	40.2	77	5	40-140/20
110-86-1	Pyridine	ND		53.2	19.2	36* a	17.5	34* a	9	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15301-3	Limits
367-12-4	2-Fluorophenol	41%	35%	40%	15-110%
4165-62-2	Phenol-d5	29%	23%	28%	15-110%
118-79-6	2,4,6-Tribromophenol	92%	89%	84%	15-110%
4165-60-0	Nitrobenzene-d5	69%	64%	69%	30-130%
321-60-8	2-Fluorobiphenyl	68%	60%	64%	30-130%
1718-51-0	Terphenyl-d14	57%	60%	104%	30-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30845-MS	I79849.D	1	11/01/12	NS	10/30/12	OP30845	MSI2972
OP30845-MSD	I79850.D	1	11/01/12	NS	10/30/12	OP30845	MSI2972
MC15301-3	I79860.D	1	11/01/12	NS	10/30/12	OP30845	MSI2972

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4

CAS No.	Compound	MC15301-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		53.2	37.6	71	35.4	68	6	40-140/20
208-96-8	Acenaphthylene	ND		53.2	29.6	56	27.7	53	7	40-140/20
120-12-7	Anthracene	ND		53.2	38.6	73	36.2	70	6	40-140/20
56-55-3	Benzo(a)anthracene	ND		53.2	44.4	83	39.4	76	12	40-140/20
50-32-8	Benzo(a)pyrene	ND		53.2	34.5	65	30.4	58	13	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		53.2	38.4	72	34.2	66	12	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND		53.2	37.1	70	32.1	62	14	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		53.2	40.1	75	34.9	67	14	40-140/20
218-01-9	Chrysene	ND		53.2	45.3	85	40.5	78	11	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		53.2	39.2	74	34.0	65	14	40-140/20
206-44-0	Fluoranthene	ND		53.2	41.6	78	37.9	73	9	40-140/20
86-73-7	Fluorene	ND		53.2	40.7	77	37.5	72	8	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		53.2	38.3	72	33.3	64	14	40-140/20
90-12-0	1-Methylnaphthalene	ND		53.2	36.2	68	31.8	61	13	40-140/20
91-57-6	2-Methylnaphthalene	ND		53.2	33.9	64	30.3	58	11	40-140/20
85-01-8	Phenanthrene	ND		53.2	41.8	79	37.5	72	11	40-140/20
129-00-0	Pyrene	ND		53.2	40.3	76	35.3	68	13	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15301-3	Limits
367-12-4	2-Fluorophenol	37%	31%	33%	15-110%
4165-62-2	Phenol-d5	29%	23%	29%	15-110%
118-79-6	2,4,6-Tribromophenol	78%	75%	65%	15-110%
4165-60-0	Nitrobenzene-d5	64%	58%	61%	30-130%
321-60-8	2-Fluorobiphenyl	68%	59%	64%	30-130%
1718-51-0	Terphenyl-d14	56%	57%	91%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSI2972-CC2969	Injection Date:	11/01/12
Lab File ID:	I79846.D	Injection Time:	10:58
Instrument ID:	GCMSI	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	322877	3.96	1003923	4.94	525002	6.35	980915	7.67	869502	0.00	1090963	0.00
Upper Limit [a]	645754	4.46	2007846	5.44	1050004	6.85	1961830	8.17	1739004	0.50	2181926	0.50
Lower Limit [b]	161439	3.46	501962	4.44	262501	5.85	490458	7.17	434751	-0.50	545482	-0.50
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30845-MB	343173	3.96	1082989	4.94	553668	6.35	905860	7.67	824092	0.00	1012394	0.00
OP30845-BS	363026	3.96	1124684	4.94	592831	6.35	1006359	7.68	896645	0.00	1120023	0.00
OP30845-MS	354337	3.96	1046967	4.94	570912	6.35	947744	7.68	854561	0.00	1081953	0.00
OP30845-MSD	337498	3.96	1033120	4.94	553504	6.35	937013	7.68	852409	0.00	1117542	0.00
ZZZZZZ	315329	3.96	968813	4.94	514814	6.35	696337	7.67	729218	0.00	1206381	0.00
ZZZZZZ	325030	3.96	997129	4.94	522416	6.35	857563	7.67	824939	0.00	1220623	0.00
ZZZZZZ	344111	3.96	1037205	4.94	539404	6.34	878422	7.67	813208	0.00	996351	0.00
ZZZZZZ	317688	3.96	972067	4.94	514988	6.35	878720	7.67	818210	0.00	1013136	0.00
ZZZZZZ	308779	3.96	1017646	4.94	524902	6.35	871491	7.67	821699	0.00	1000507	0.00
ZZZZZZ	335280	3.96	1023231	4.94	558386	6.35	935040	7.67	799139	0.00	990945	0.00
ZZZZZZ	340355	3.96	1044010	4.94	523142	6.35	888905	7.67	779543	0.00	935027	0.00
MC15301-1	337762	3.96	1039900	4.94	535623	6.35	904982	7.67	845973	0.00	1142953	0.00
MC15301-2	332340	3.96	1007597	4.94	555209	6.35	897211	7.67	818415	0.00	1084704	0.00
MC15301-3	330782	3.96	999378	4.94	527677	6.35	915303	7.67	828501	0.00	1081695	0.00
MC15301-4	333747	3.96	1029453	4.94	542062	6.35	913680	7.67	833614	0.00	1201075	0.00
ZZZZZZ	319018	3.96	1050492	4.94	574063	6.35	945643	7.67	879671	0.00	1517551	0.00
ZZZZZZ	336201	3.96	1021312	4.94	571842	6.34	935320	7.67	875649	0.00	1534632	0.00
ZZZZZZ	294911	3.96	936514	4.94	536667	6.34	912118	7.67	839293	0.00	1536268	0.00
ZZZZZZ	330377	3.96	981252	4.94	541332	6.35	922754	7.67	871999	0.00	1551102	0.00
ZZZZZZ	337542	3.96	1014240	4.94	565983	6.35	920376	7.67	884309	0.00	1587340	0.00

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

(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.

Semivolatile Internal Standard Area Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW290-CC287	Injection Date:	11/01/12
Lab File ID:	W6427.D	Injection Time:	08:55
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	106063	3.48	424008	4.46	249814	5.87	433848	7.15	552592	9.98	478419	11.54
Upper Limit [a]	212126	3.98	848016	4.96	499628	6.37	867696	7.65	1105184	10.48	956838	12.04
Lower Limit [b]	53032	2.98	212004	3.96	124907	5.37	216924	6.65	276296	9.48	239210	11.04
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30844-MB	109085	3.48	426021	4.46	252190	5.87	442624	7.15	464643	9.97	309775	11.54
OP30844-BS	117856	3.48	465003	4.46	270413	5.87	462103	7.15	531724	9.98	321184	11.54
OP30844-MS	109959	3.48	432881	4.46	252202	5.87	442092	7.15	500934	9.98	322997	11.54
OP30844-MSD	112707	3.48	438820	4.46	258190	5.87	442657	7.15	506743	9.98	333540	11.54
MC15301-3	111849	3.48	444426	4.46	259536	5.87	459313	7.15	501082	9.97	349365	11.54
ZZZZZZ	114920	3.48	455565	4.46	265417	5.87	474226	7.15	516737	9.97	515653	11.54
ZZZZZZ	114865	3.48	450382	4.46	261291	5.87	464944	7.15	498938	9.97	468196	11.54
ZZZZZZ	112555	3.48	453309	4.46	268555	5.87	478937	7.15	540442	9.97	543445	11.54
MC15301-1	108996	3.48	431912	4.46	253811	5.87	455817	7.15	499987	9.97	360172	11.54
MC15301-2	107816	3.48	424571	4.46	245692	5.87	429174	7.15	466353	9.97	336253	11.54
MC15301-4	112466	3.48	439988	4.46	259376	5.87	458214	7.15	489469	9.97	383896	11.54
ZZZZZZ	106273	3.48	411553	4.46	242881	5.87	549647	7.15	475757	10.00	370237	11.54
ZZZZZZ	110720	3.48	439870	4.46	258387	5.87	450232	7.15	494704	9.97	375006	11.54
ZZZZZZ	112035	3.48	442478	4.46	257687	5.87	465296	7.15	483569	9.97	310440	11.54
ZZZZZZ	116241	3.48	454878	4.46	268448	5.87	472022	7.15	518128	9.97	462770	11.54
ZZZZZZ	110443	3.48	439227	4.46	256517	5.87	457368	7.15	458402	9.97	298634	11.54
ZZZZZZ	112831	3.48	440337	4.46	260020	5.87	460073	7.15	466003	9.97	293761	11.54
ZZZZZZ	111548	3.48	438095	4.46	256626	5.87	458490	7.15	464453	9.97	308543	11.54
ZZZZZZ	114782	3.48	454333	4.46	263997	5.87	466460	7.14	463024	9.97	282776	11.54
ZZZZZZ	107948	3.48	427002	4.46	248111	5.87	436287	7.15	426522	9.97	269323	11.53
ZZZZZZ	111657	3.48	455328	4.46	260301	5.87	452752	7.14	442793	9.97	264335	11.53
ZZZZZZ	108726	3.48	431811	4.46	257822	5.87	443576	7.15	431549	9.97	271193	11.53
ZZZZZZ	105189	3.48	412649	4.46	245089	5.87	429385	7.14	431095	9.97	259822	11.53
ZZZZZZ	117800	3.48	459532	4.46	269466	5.87	463211	7.15	636882	9.99	637605	11.56
ZZZZZZ	130633	3.48	523662	4.46	308327	5.87	540022	7.15	614048	9.97	636589	11.54
ZZZZZZ	135480	3.48	534751	4.46	319297	5.87	572047	7.15	631680	9.97	677827	11.54

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

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

Semivolatile Internal Standard Area Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW290-CC287	Injection Date:	11/01/12
Lab File ID:	W6427.D	Injection Time:	08:55
Instrument ID:	GCMSW	Method:	SW846 8270C

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

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

7.4.2

7

Semivolatile Surrogate Recovery Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15301-1	W6436.D	36.0	25.0	92.0	65.0	62.0	103.0
MC15301-2	W6437.D	31.0	21.0	74.0	55.0	53.0	102.0
MC15301-3	W6432.D	40.0	28.0	84.0	69.0	64.0	104.0
MC15301-4	W6438.D	35.0	26.0	80.0	63.0	59.0	108.0
OP30844-BS	W6429.D	39.0	28.0	97.0	68.0	69.0	104.0
OP30844-MB	W6428.D	32.0	21.0	70.0	60.0	54.0	103.0
OP30844-MS	W6430.D	41.0	29.0	92.0	69.0	68.0	57.0
OP30844-MSD	W6431.D	35.0	23.0	89.0	64.0	60.0	60.0

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

Semivolatile Surrogate Recovery Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15301-1	I79858.D	28.0	24.0	74.0	57.0	58.0	92.0
MC15301-2	I79859.D	28.0	22.0	63.0	49.0	52.0	91.0
MC15301-3	I79860.D	33.0	29.0	65.0	61.0	64.0	91.0
MC15301-4	I79861.D	32.0	23.0	64.0	57.0	59.0	94.0
OP30845-BS	I79848.D	35.0	27.0	80.0	62.0	64.0	95.0
OP30845-MB	I79847.D	30.0	22.0	55.0	49.0	53.0	89.0
OP30845-MS	I79849.D	37.0	29.0	78.0	64.0	68.0	56.0
OP30845-MSD	I79850.D	31.0	23.0	75.0	58.0	59.0	57.0

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

New England ACCUTEST LABORATORIES

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: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30848-MB	YZ76790.D	1	10/31/12	CZ	10/30/12	OP30848	GYZ6962

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4, MC15301-6

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

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	95%	36-173%
460-00-4	Bromofluorobenzene (S)	96%	36-173%

Blank Spike Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30848-BS	YZ76791.D	1	10/31/12	CZ	10/30/12	OP30848	GYZ6962

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4, MC15301-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.075	106	60-140
106-93-4	1,2-Dibromoethane	0.071	0.075	106	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	98%	36-173%
460-00-4	Bromofluorobenzene (S)	106%	36-173%

8.2.1

8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30848-MS	YZ76792.D	1	10/31/12	CZ	10/30/12	OP30848	GYZ6962
OP30848-MSD	YZ76793.D	1	10/31/12	CZ	10/30/12	OP30848	GYZ6962
MC15301-3	YZ76796.D	1	10/31/12	CZ	10/30/12	OP30848	GYZ6962

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

MC15301-1, MC15301-2, MC15301-3, MC15301-4, MC15301-6

CAS No.	Compound	MC15301-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		0.0744	0.073	98	0.068	93	7	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.0744	0.071	95	0.068	93	4	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC15301-3	Limits
460-00-4	Bromofluorobenzene (S)	97%	84%	91%	36-173%
460-00-4	Bromofluorobenzene (S)	101%	91%	102%	36-173%

8.3.1

8

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8011 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC15301-1	YZ76794.D	97.0	115.0
MC15301-2	YZ76795.D	102.0	102.0
MC15301-3	YZ76796.D	91.0	102.0
MC15301-4	YZ76797.D	87.0	101.0
MC15301-6	YZ76798.D	94.0	93.0
OP30848-BS	YZ76791.D	98.0	106.0
OP30848-MB	YZ76790.D	95.0	96.0
OP30848-MS	YZ76792.D	97.0	101.0
OP30848-MSD	YZ76793.D	84.0	91.0

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

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

8.4.1

8

GC Surrogate Retention Time Summary

Job Number: MC15301
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GYZ6962-ICC6962	Injection Date:	10/31/12
Lab File ID:	YZ76785.D	Injection Time:	17:25
Instrument ID:	GCYZ	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	3.61	3.30

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	YZ76788A.D	10/31/12	18:41	3.61	3.30
OP30848-MB	YZ76790.D	10/31/12	19:30	3.61	3.30
OP30848-BS	YZ76791.D	10/31/12	19:55	3.61	3.30
OP30848-MS	YZ76792.D	10/31/12	20:20	3.61	3.30
OP30848-MSD	YZ76793.D	10/31/12	20:45	3.61	3.30
MC15301-1	YZ76794.D	10/31/12	21:10	3.61	3.30
MC15301-2	YZ76795.D	10/31/12	21:35	3.61	3.30
MC15301-3	YZ76796.D	10/31/12	22:01	3.61	3.30
MC15301-4	YZ76797.D	10/31/12	22:26	3.61	3.30
MC15301-6	YZ76798.D	10/31/12	22:51	3.61	3.30
ZZZZZZ	YZ76799.D	10/31/12	23:17	3.61	3.30

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

Roxana Groundwater Quarterly – 4th Quarter 2012 Data Review

Laboratory SDG: MC15334

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 12/12/2012

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Sample Identification	Sample Identification
MW10-ROX-102612	MW1-ROX-102612
MW1-ROX-102612-EB	MW2-ROX-102612
TB-102612-HCL-R	TB-102612-ST-R

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated that samples MW10-ROX-102612 and MW1-ROX-102612 were re-analyzed for VOCs outside holding time criteria. Wells MW-10 and MW-1 were resampled for VOCs on December 17, 2012, and data is reported in SDG MV16960. VOC LCS/LCSD and SVOC LCS recoveries were outside evaluation criteria. Samples were diluted due to high levels of target analytes. The PAH method blank internal standard area recovery for perylene-d_{12} was outside criteria. Additionally, the initial calibration verification for acetone exceeded 50 percent difference (%D) in sample MW2-ROX-102612, equipment blank MW1-ROX-102612-EB, and trip blank TB-102612-HCL-R. These issues are addressed further in the appropriate sections below.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

No, samples MW10-ROX-102612 and MW1-ROX-102612 were re-analyzed for VOCs five (5) days outside the fourteen (14) day holding time criteria for analysis. Wells MW-10 and MW-1 were resampled for VOCs on December 17, 2012, and data is reported in SDG MV16960.

Sample ID	Parameter	Analyte	Qualification
MW10-ROX-102612-Run#1	VOCs	All non-detects	**R**
MW10-ROX-102612-Run#1	VOCs	m,p-Xylene	**J**
MW10-ROX-102612-Run#1	VOCs	Xylene (total)	**J**
MW1-ROX-102612-Run#1	VOCs	All non-detects	**R**
MW1-ROX-102612-Run#1	VOCs	Methyl tert butyl ether	**J**

4.0 Blank Contamination

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

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSN2622-BS/BSD	VOCs	Acrolein	**65/65**	0	70-130/25
MSN2622-BS/BSD	VOCs	Acrylonitrile	**508/498**	2	70-130/25
MSN2631-BS/BSD	VOCs	Acrolein	**60/62**	3	70-130/25
MSN2631-BS/BSD	VOCs	Acrylonitrile	**468/466**	0	70-130/25
OP30851-BS	SVOCs	Benzoic acid	**21**	NA	30-130

Analytical data that required qualification based on LCS data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. LCS/LCSD MSN2622-BS/BSD was associated with trip blank TB-102612-HCL-R and equipment blank MW1-ROX-102612-EB. LCS OP30851-BS was also associated with equipment blank MW1-ROX-102612-EB. Trip blanks and equipment blanks are quality control samples and are not qualified. Acrolein in samples MW10-ROX-102612 and MW1-ROX-102612 were previously qualified due to holding time criteria in Section 3.0 of this report.

Sample ID	Parameter	Analyte	Qualification
MW2-ROX-102612	VOCs	Acrolein	**UJ**
MW10-ROX-102612	SVOCs	Benzoic acid	**UJ**
MW1-ROX-102612	SVOCs	Benzoic acid	**UJ**
MW2-ROX-102612	SVOCs	Benzoic acid	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

No

Sample ID	Parameter	Analyte	IS Area Recovery	IS Criteria
OP30852-MB	PAH	Perylene-d_{12}	**434777**	108468-433872

Method blank OP30852-MB is a quality control sample and is not qualified. No qualification of data was required.

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

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

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes, the initial calibration verification recovery for acetone exceeded 50 percent difference (%D) in sample MW2-ROX-102612, equipment blank MW1-ROX-102612-EB, and trip blank TB-102612-HCL-R; analytes in associated samples were qualified as summarized in the following table. Equipment blank MW1-ROX-102612-EB and trip blank TB-102612-HCL-R are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
MW2-ROX-102612	VOCs	Acetone	**UJ**

New England ACCUTEST LABORATORIES

12/11/12



Technical Report for

Shell Oil

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana,

Accutest Job Number: MC15334

Sampling Date: 10/26/12

Report to:

URS Corporation

elizabeth.kunkel@URS.com

ATTN: Elizabeth Kunkel

Total number of pages in report: 95

Reviewed on 12/12/12

Reza Tand
Lab Director

ACCREDITED IN ACCORDANCE WITH nelac

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

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Sample Summary

Shell Oil

Job No: MC15334

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC15334-1	10/26/12	09:38	LRSJ	10/27/12	AQ	Ground Water	MW10-ROX-102612
MC15334-2	10/26/12	11:47	LRSJ	10/27/12	AQ	Ground Water	MW1-ROX-102612
MC15334-3	10/26/12	12:00	LRSJ	10/27/12	AQ	Equipment Blank	MW1-ROX-102612-EB
MC15334-4	10/26/12	14:30	LRSJ	10/27/12	AQ	Ground Water	MW2-ROX-102612
MC15334-5	10/26/12	00:00	LRSJ	10/27/12	AQ	Trip Blank Water	TB-102612-HCL-R
MC15334-6	10/26/12	00:00	LRSJ	10/27/12	AQ	Trip Blank Water	TB-102612-ST-R

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Shell Oil **Job No** MC15334

Site: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central **Report Date** 11/29/2012 11:10:51 AM

4 Sample(s), 2 Trip Blank(s) were collected on 10/26/2012 and were received at Accutest on 10/27/2012 properly preserved, at 2.2 Deg. C and intact. These Samples received an Accutest job number of MC15334. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. 1-Chlorohexane, Benzenethiol, Dibenz(a,h)acridine, Indene, and Quinoline were searched in the library search and reported only if detections were found.

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

Volatiles by GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** MSN2620

- MC15334-1,2: Confirmation run.

Matrix AQ **Batch ID:** MSN2622

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15914-5MS, MC15914-5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- BS/BSD Recovery(s) for Acrolein are outside control limits. Blank Spike meets program technical requirements.
- MS/MSD Recovery(s) for Acrolein are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC15914-5MS/MSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MSN2622-BS/BSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- Initial calibration verification MSN2591-ICV2591 for acetone exceeds 50% Difference (response bias high). Associated sample is non-detect for this compound.

Matrix AQ **Batch ID:** MSN2631

- Sample(s) MC15557-5MS, MC15557-5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- BS/BSD Recovery(s) for Acrolein are outside control limits. Blank Spike meets program technical requirements.
- MS/MSD Recovery(s) for Acrolein are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC15334-1,2: Sample reanalyzed past recommended hold time.
- MC15557-5MS/MSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MSN2631-BS/BSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.

Extractables by GCMS By Method SW846 8270C

Matrix AQ	Batch ID: OP30851

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15400-2MS, MC15400-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- OP30851-BS/MS/MSD Recovery(s) for Benzoic Acid are outside control limits. Blank Spike meets program technical requirements.
- MS/MSD Recovery(s) for Aniline, Benzyl Alcohol, Hexachloroethane, n-Nitrosodimethylamine, Phenol, Pyridine are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix AQ	Batch ID: OP30852

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15310-1MS, MC15310-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MS/MSD Recovery(s) for 1-Methylnaphthalene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.

Volatiles by GC By Method SW846 8011

Matrix AQ	Batch ID: OP30848

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15301-3MS, MC15301-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

The Accutest Laboratories of 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 Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC15334).

Summary of Hits

Job Number: MC15334
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 10/26/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC15334-1	MW10-ROX-102612					
m,p-Xylene [a]		1.0	1.0	0.73	ug/l	SW846 8260B
Xylene (total) [a]		1.0	1.0	0.58	ug/l	SW846 8260B
Fluoranthene		0.052 J	0.11	0.036	ug/l	SW846 8270C BY SIM
Fluorene		0.086 J	0.11	0.051	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		0.090 J	0.22	0.058	ug/l	SW846 8270C BY SIM
Phenanthrene		0.076	0.056	0.014	ug/l	SW846 8270C BY SIM
Pyrene		0.040 J	0.11	0.039	ug/l	SW846 8270C BY SIM
MC15334-2	MW1-ROX-102612					
Methyl Tert Butyl Ether [a]		3.5	1.0	0.41	ug/l	SW846 8260B
bis(2-Ethylhexyl)phthalate		0.99 J	2.3	0.43	ug/l	SW846 8270C
MC15334-3	MW1-ROX-102612-EB					
No hits reported in this sample.						
MC15334-4	MW2-ROX-102612					
Benzene		14.2	2.5	1.2	ug/l	SW846 8260B
p-Chlorotoluene		17.2 J	25	2.4	ug/l	SW846 8260B
Ethylbenzene		763	5.0	2.5	ug/l	SW846 8260B
Isopropylbenzene		76.4	25	2.5	ug/l	SW846 8260B
Methyl Tert Butyl Ether		11.5	5.0	2.1	ug/l	SW846 8260B
Naphthalene		82.1	25	2.5	ug/l	SW846 8260B
n-Propylbenzene		104	25	2.9	ug/l	SW846 8260B
Toluene		21.6	5.0	2.5	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		299	25	1.7	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		129	25	2.3	ug/l	SW846 8260B
m,p-Xylene		878	5.0	3.7	ug/l	SW846 8260B
o-Xylene		52.0	5.0	2.9	ug/l	SW846 8260B
Xylene (total)		930	5.0	2.9	ug/l	SW846 8260B
2,4-Dimethylphenol		3.4 J	11	2.9	ug/l	SW846 8270C
Acenaphthene		0.093 J	0.11	0.015	ug/l	SW846 8270C BY SIM
Benzo(a)anthracene		0.16	0.054	0.032	ug/l	SW846 8270C BY SIM
Fluoranthene		0.061 J	0.11	0.035	ug/l	SW846 8270C BY SIM
Fluorene		0.11	0.11	0.050	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		9.1	0.22	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		18.2	0.22	0.056	ug/l	SW846 8270C BY SIM
Phenanthrene		0.11	0.054	0.014	ug/l	SW846 8270C BY SIM
Pyrene		0.046 J	0.11	0.038	ug/l	SW846 8270C BY SIM

Summary of Hits

Job Number: MC15334
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 10/26/12

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

MC15334-5 **TB-102612-HCL-R**

No hits reported in this sample.

MC15334-6 **TB-102612-ST-R**

No hits reported in this sample.

(a) Sample reanalyzed past recommended hold time.

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW10-ROX-102612		
Lab Sample ID:	MC15334-1	Date Sampled:	10/26/12
Matrix:	AQ - Ground Water	Date Received:	10/27/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	N69954.D	1	11/14/12	JP	n/a	n/a	MSN2631
Run #2 [b]	N69669.D	100	11/09/12	JP	n/a	n/a	MSN2620

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

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	R
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	

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

Report of Analysis

Client Sample ID:	MW10-ROX-102612		
Lab Sample ID:	MC15334-1	**Date Sampled:**	10/26/12
Matrix:	AQ - Ground Water	**Date Received:**	10/27/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	R
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	1.0	1.0	0.73	ug/l	J
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	R
1330-20-7	Xylene (total)	1.0	1.0	0.58	ug/l	J

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

Report of Analysis

Client Sample ID:	MW10-ROX-102612		
Lab Sample ID:	MC15334-1	Date Sampled:	10/26/12
Matrix:	AQ - Ground Water	Date Received:	10/27/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	82%	84%	70-130%
2037-26-5	Toluene-D8	84%	84%	70-130%
460-00-4	4-Bromofluorobenzene	85%	86%	70-130%

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

(a) Sample reanalyzed past recommended hold time.
(b) Confirmation run.

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

Report of Analysis

Client Sample ID:	MW10-ROX-102612		
Lab Sample ID:	MC15334-1	**Date Sampled:**	10/26/12
Matrix:	AQ - Ground Water	**Date Received:**	10/27/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6490.D	1	11/02/12	KR	10/31/12	OP30851	MSW294
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.4	ug/l	UJ
95-57-8	2-Chlorophenol	ND	5.6	0.45	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.42	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.42	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	3.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	5.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	2.8	ug/l	
95-48-7	2-Methylphenol	ND	11	0.67	ug/l	
	3&4-Methylphenol	ND	11	0.84	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.53	ug/l	
100-02-7	4-Nitrophenol	ND	22	3.1	ug/l	
87-86-5	Pentachlorophenol	ND	11	0.71	ug/l	
108-95-2	Phenol	ND	5.6	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.55	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.39	ug/l	
62-53-3	Aniline	ND	11	2.2	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.6	0.36	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.6	0.29	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.29	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.6	0.28	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.70	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.6	0.24	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.6	0.42	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.6	0.32	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.6	0.32	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.6	0.24	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.28	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.28	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.6	0.99	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.24	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.6	0.40	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.6	0.26	ug/l	

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Report of Analysis

Client Sample ID:	MW10-ROX-102612		
Lab Sample ID:	MC15334-1	**Date Sampled:**	10/26/12
Matrix:	AQ - Ground Water	**Date Received:**	10/27/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.6	0.21	ug/l	
131-11-3	Dimethyl phthalate	ND	5.6	0.25	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.42	ug/l	
118-74-1	Hexachlorobenzene	ND	5.6	0.28	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.6	ug/l	
67-72-1	Hexachloroethane	ND	5.6	0.31	ug/l	
78-59-1	Isophorone	ND	5.6	0.35	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.28	ug/l	
100-01-6	4-Nitroaniline	ND	11	0.53	ug/l	
98-95-3	Nitrobenzene	ND	5.6	0.28	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.6	0.66	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.6	0.31	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.6	0.48	ug/l	
110-86-1	Pyridine	ND	11	0.52	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	47%		15-110%
4165-62-2	Phenol-d5	31%		15-110%
118-79-6	2,4,6-Tribromophenol	93%		15-110%
4165-60-0	Nitrobenzene-d5	79%		30-130%
321-60-8	2-Fluorobiphenyl	75%		30-130%
1718-51-0	Terphenyl-d14	116%		30-130%

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

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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW10-ROX-102612		
Lab Sample ID:	MC15334-1	Date Sampled:	10/26/12
Matrix:	AQ - Ground Water	Date Received:	10/27/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10506.D	1	11/05/12	NS	10/31/12	OP30852	MSU562
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	ND	0.11	0.015	ug/l	
120-12-7	Anthracene	ND	0.11	0.020	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.056	0.033	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.056	0.026	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.042	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.065	ug/l	
218-01-9	Chrysene	ND	0.11	0.081	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.046	ug/l	
206-44-0	Fluoranthene	0.052	0.11	0.036	ug/l	J
86-73-7	Fluorene	0.086	0.11	0.051	ug/l	J
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.051	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.22	0.16	ug/l	
91-57-6	2-Methylnaphthalene	0.090	0.22	0.058	ug/l	J
85-01-8	Phenanthrene	0.076	0.056	0.014	ug/l	
129-00-0	Pyrene	0.040	0.11	0.039	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	41%		15-110%
4165-62-2	Phenol-d5	29%		15-110%
118-79-6	2,4,6-Tribromophenol	76%		15-110%
4165-60-0	Nitrobenzene-d5	72%		30-130%
321-60-8	2-Fluorobiphenyl	68%		30-130%
1718-51-0	Terphenyl-d14	79%		30-130%

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

Report of Analysis

Client Sample ID:	MW10-ROX-102612		
Lab Sample ID:	MC15334-1	**Date Sampled:**	10/26/12
Matrix:	AQ - Ground Water	**Date Received:**	10/27/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ76799.D	1	10/31/12	CZ	10/30/12	OP30848	GYZ6962
Run #2							

	Initial Volume	Final Volume
Run #1	35.2 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	100%		36-173%
460-00-4	Bromofluorobenzene (S)	116%		36-173%

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

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

Report of Analysis

Client Sample ID:	MW1-ROX-102612		
Lab Sample ID:	MC15334-2	Date Sampled:	10/26/12
Matrix:	AQ - Ground Water	Date Received:	10/27/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	N69955.D	1	11/14/12	JP	n/a	n/a	MSN2631
Run #2 [b]	N69670.D	100	11/09/12	JP	n/a	n/a	MSN2620

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

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	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:	MW1-ROX-102612		
Lab Sample ID:	MC15334-2	**Date Sampled:**	10/26/12
Matrix:	AQ - Ground Water	**Date Received:**	10/27/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	3.5	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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
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J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW1-ROX-102612		
Lab Sample ID:	MC15334-2	**Date Sampled:**	10/26/12
Matrix:	AQ - Ground Water	**Date Received:**	10/27/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	81%	84%	70-130%
2037-26-5	Toluene-D8	84%	85%	70-130%
460-00-4	4-Bromofluorobenzene	87%	86%	70-130%

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

(a) Sample reanalyzed past recommended hold time.
(b) Confirmation run.

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:	MW1-ROX-102612		
Lab Sample ID:	MC15334-2	Date Sampled:	10/26/12
Matrix:	AQ - Ground Water	Date Received:	10/27/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6491.D	1	11/02/12	KR	10/31/12	OP30851	MSW294
Run #2							

	Initial Volume	Final Volume
Run #1	880 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.4	ug/l	UJ
95-57-8	2-Chlorophenol	ND	5.7	0.46	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.43	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.42	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	3.1	ug/l	
51-28-5	2,4-Dinitrophenol	ND	23	5.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	2.8	ug/l	
95-48-7	2-Methylphenol	ND	11	0.69	ug/l	
	3&4-Methylphenol	ND	11	0.86	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.54	ug/l	
100-02-7	4-Nitrophenol	ND	23	3.1	ug/l	
87-86-5	Pentachlorophenol	ND	11	0.72	ug/l	
108-95-2	Phenol	ND	5.7	1.1	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.56	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.40	ug/l	
62-53-3	Aniline	ND	11	2.3	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.7	0.37	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.7	0.30	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.30	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.7	0.28	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.72	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.7	0.25	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.7	0.43	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.7	0.32	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.7	0.33	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.7	0.24	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.28	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.28	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.7	1.0	ug/l	
132-64-9	Dibenzofuran	ND	2.3	0.24	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.7	0.41	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.7	0.27	ug/l	

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

Report of Analysis

Client Sample ID:	MW1-ROX-102612		
Lab Sample ID:	MC15334-2	**Date Sampled:**	10/26/12
Matrix:	AQ - Ground Water	**Date Received:**	10/27/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.7	0.21	ug/l	
131-11-3	Dimethyl phthalate	ND	5.7	0.25	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.99	2.3	0.43	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.7	0.28	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.7	ug/l	
67-72-1	Hexachloroethane	ND	5.7	0.32	ug/l	
78-59-1	Isophorone	ND	5.7	0.36	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.29	ug/l	
100-01-6	4-Nitroaniline	ND	11	0.54	ug/l	
98-95-3	Nitrobenzene	ND	5.7	0.28	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.7	0.67	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.7	0.31	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.7	0.50	ug/l	
110-86-1	Pyridine	ND	11	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	48%		15-110%
4165-62-2	Phenol-d5	31%		15-110%
118-79-6	2,4,6-Tribromophenol	92%		15-110%
4165-60-0	Nitrobenzene-d5	81%		30-130%
321-60-8	2-Fluorobiphenyl	78%		30-130%
1718-51-0	Terphenyl-d14	90%		30-130%

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

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

Report of Analysis

Client Sample ID:	MW1-ROX-102612		
Lab Sample ID:	MC15334-2	**Date Sampled:**	10/26/12
Matrix:	AQ - Ground Water	**Date Received:**	10/27/12
Method:	SW846 8270C BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10507.D	1	11/05/12	NS	10/31/12	OP30852	MSU562
Run #2							

	Initial Volume	Final Volume
Run #1	880 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	ND	0.11	0.015	ug/l	
120-12-7	Anthracene	ND	0.11	0.020	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.057	0.034	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.020	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.057	0.027	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.043	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.066	ug/l	
218-01-9	Chrysene	ND	0.11	0.083	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.047	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.037	ug/l	
86-73-7	Fluorene	ND	0.11	0.053	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.052	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.23	0.16	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.23	0.059	ug/l	
85-01-8	Phenanthrene	ND	0.057	0.014	ug/l	
129-00-0	Pyrene	ND	0.11	0.040	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	42%		15-110%
4165-62-2	Phenol-d5	29%		15-110%
118-79-6	2,4,6-Tribromophenol	77%		15-110%
4165-60-0	Nitrobenzene-d5	76%		30-130%
321-60-8	2-Fluorobiphenyl	70%		30-130%
1718-51-0	Terphenyl-d14	65%		30-130%

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

Report of Analysis

Client Sample ID:	MW1-ROX-102612		
Lab Sample ID:	MC15334-2	**Date Sampled:**	10/26/12
Matrix:	AQ - Ground Water	**Date Received:**	10/27/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ76801.D	1	11/01/12	CZ	10/30/12	OP30848	GYZ6962
Run #2							

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

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	97%		36-173%
460-00-4	Bromofluorobenzene (S)	98%		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:	MW1-ROX-102612-EB		
Lab Sample ID:	MC15334-3	Date Sampled:	10/26/12
Matrix:	AQ - Equipment Blank	Date Received:	10/27/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69711.D	1	11/09/12	JP	n/a	n/a	MSN2622
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	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:	MW1-ROX-102612-EB		
Lab Sample ID:	MC15334-3	Date Sampled:	10/26/12
Matrix:	AQ - Equipment Blank	Date Received:	10/27/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	MW1-ROX-102612-EB		
Lab Sample ID:	MC15334-3	**Date Sampled:**	10/26/12
Matrix:	AQ - Equipment Blank	**Date Received:**	10/27/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, 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	85%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%

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

ND = Not detected MDL - Method Detection Limit
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:	MW1-ROX-102612-EB		
Lab Sample ID:	MC15334-3	**Date Sampled:**	10/26/12
Matrix:	AQ - Equipment Blank	**Date Received:**	10/27/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6492.D	1	11/02/12	KR	10/31/12	OP30851	MSW294
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.4	ug/l	
95-57-8	2-Chlorophenol	ND	5.6	0.45	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.42	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.42	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	3.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	5.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	2.8	ug/l	
95-48-7	2-Methylphenol	ND	11	0.67	ug/l	
	3&4-Methylphenol	ND	11	0.84	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.53	ug/l	
100-02-7	4-Nitrophenol	ND	22	3.1	ug/l	
87-86-5	Pentachlorophenol	ND	11	0.71	ug/l	
108-95-2	Phenol	ND	5.6	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.55	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.39	ug/l	
62-53-3	Aniline	ND	11	2.2	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.6	0.36	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.6	0.29	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.29	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.6	0.28	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.70	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.6	0.24	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.6	0.42	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.6	0.32	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.6	0.32	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.6	0.24	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.28	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.28	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.6	0.99	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.24	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.6	0.40	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.6	0.26	ug/l	

ND = Not detected MDL - Method Detection Limit
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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW1-ROX-102612-EB		
Lab Sample ID:	MC15334-3	Date Sampled:	10/26/12
Matrix:	AQ - Equipment Blank	Date Received:	10/27/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.6	0.21	ug/l	
131-11-3	Dimethyl phthalate	ND	5.6	0.25	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.42	ug/l	
118-74-1	Hexachlorobenzene	ND	5.6	0.28	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.6	ug/l	
67-72-1	Hexachloroethane	ND	5.6	0.31	ug/l	
78-59-1	Isophorone	ND	5.6	0.35	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.28	ug/l	
100-01-6	4-Nitroaniline	ND	11	0.53	ug/l	
98-95-3	Nitrobenzene	ND	5.6	0.28	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.6	0.66	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.6	0.31	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.6	0.48	ug/l	
110-86-1	Pyridine	ND	11	0.52	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	39%		15-110%
4165-62-2	Phenol-d5	25%		15-110%
118-79-6	2,4,6-Tribromophenol	76%		15-110%
4165-60-0	Nitrobenzene-d5	70%		30-130%
321-60-8	2-Fluorobiphenyl	64%		30-130%
1718-51-0	Terphenyl-d14	106%		30-130%

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

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

Report of Analysis

Client Sample ID:	MW1-ROX-102612-EB		
Lab Sample ID:	MC15334-3	Date Sampled:	10/26/12
Matrix:	AQ - Equipment Blank	Date Received:	10/27/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10508.D	1	11/05/12	NS	10/31/12	OP30852	MSU562
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	ND	0.11	0.015	ug/l	
120-12-7	Anthracene	ND	0.11	0.020	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.056	0.033	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.056	0.026	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.042	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.065	ug/l	
218-01-9	Chrysene	ND	0.11	0.081	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.046	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.036	ug/l	
86-73-7	Fluorene	ND	0.11	0.051	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.051	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.22	0.16	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.22	0.058	ug/l	
85-01-8	Phenanthrene	ND	0.056	0.014	ug/l	
129-00-0	Pyrene	ND	0.11	0.039	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	35%		15-110%
4165-62-2	Phenol-d5	24%		15-110%
118-79-6	2,4,6-Tribromophenol	65%		15-110%
4165-60-0	Nitrobenzene-d5	64%		30-130%
321-60-8	2-Fluorobiphenyl	60%		30-130%
1718-51-0	Terphenyl-d14	71%		30-130%

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

Report of Analysis

Client Sample ID:	MW1-ROX-102612-EB		
Lab Sample ID:	MC15334-3	Date Sampled:	10/26/12
Matrix:	AQ - Equipment Blank	Date Received:	10/27/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ76802.D	1	11/01/12	CZ	10/30/12	OP30848	GYZ6962
Run #2							

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

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	109%		36-173%
460-00-4	Bromofluorobenzene (S)	104%		36-173%

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

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

Report of Analysis

Client Sample ID:	MW2-ROX-102612		
Lab Sample ID:	MC15334-4	**Date Sampled:**	10/26/12
Matrix:	AQ - Ground Water	**Date Received:**	10/27/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69714.D	5	11/09/12	JP	n/a	n/a	MSN2622
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	25	15	ug/l	UJ
107-02-8	Acrolein	ND	130	51	ug/l	UJ
107-13-1	Acrylonitrile	ND	25	16	ug/l	
71-43-2	Benzene	14.2	2.5	1.2	ug/l	
108-86-1	Bromobenzene	ND	25	3.1	ug/l	
74-97-5	Bromochloromethane	ND	25	6.3	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	2.9	ug/l	
75-25-2	Bromoform	ND	5.0	3.9	ug/l	
74-83-9	Bromomethane	ND	10	5.1	ug/l	
78-93-3	2-Butanone (MEK)	ND	25	12	ug/l	
104-51-8	n-Butylbenzene	ND	25	3.0	ug/l	
135-98-8	sec-Butylbenzene	ND	25	2.8	ug/l	
98-06-6	tert-Butylbenzene	ND	25	3.2	ug/l	
75-15-0	Carbon disulfide	ND	25	3.1	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	4.3	ug/l	
108-90-7	Chlorobenzene	ND	5.0	2.3	ug/l	
75-00-3	Chloroethane	ND	10	2.5	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	25	6.3	ug/l	
67-66-3	Chloroform	ND	5.0	2.5	ug/l	
74-87-3	Chloromethane	ND	10	3.7	ug/l	
95-49-8	o-Chlorotoluene	ND	25	3.2	ug/l	
106-43-4	p-Chlorotoluene	17.2	25	2.4	ug/l	J
124-48-1	Dibromochloromethane	ND	5.0	2.6	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	4.6	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	2.3	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	3.2	ug/l	
75-71-8	Dichlorodifluoromethane	ND	10	8.6	ug/l	
75-34-3	1,1-Dichloroethane	ND	5.0	3.1	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	3.2	ug/l	
75-35-4	1,1-Dichloroethene	ND	5.0	2.1	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	5.0	3.2	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	5.0	4.7	ug/l	

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

Report of Analysis

Client Sample ID:	MW2-ROX-102612		
Lab Sample ID:	MC15334-4	Date Sampled:	10/26/12
Matrix:	AQ - Ground Water	Date Received:	10/27/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	10	3.6	ug/l	
142-28-9	1,3-Dichloropropane	ND	25	3.2	ug/l	
594-20-7	2,2-Dichloropropane	ND	25	7.9	ug/l	
563-58-6	1,1-Dichloropropene	ND	25	4.6	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.5	2.2	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.5	0.98	ug/l	
123-91-1	1,4-Dioxane	ND	130	74	ug/l	
97-63-2	Ethyl methacrylate	ND	25	4.1	ug/l	
100-41-4	Ethylbenzene	763	5.0	2.5	ug/l	
87-68-3	Hexachlorobutadiene	ND	25	10	ug/l	
591-78-6	2-Hexanone	ND	25	9.8	ug/l	
98-82-8	Isopropylbenzene	76.4	25	2.5	ug/l	
99-87-6	p-Isopropyltoluene	ND	25	2.9	ug/l	
1634-04-4	Methyl Tert Butyl Ether	11.5	5.0	2.1	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	25	15	ug/l	
74-95-3	Methylene bromide	ND	25	5.5	ug/l	
75-09-2	Methylene chloride	ND	10	4.2	ug/l	
91-20-3	Naphthalene	82.1	25	2.5	ug/l	
103-65-1	n-Propylbenzene	104	25	2.9	ug/l	
100-42-5	Styrene	ND	25	2.3	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	25	2.9	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	3.0	ug/l	
127-18-4	Tetrachloroethene	ND	5.0	2.1	ug/l	
108-88-3	Toluene	21.6	5.0	2.5	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	25	6.3	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	25	6.4	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	5.0	4.2	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	2.5	ug/l	
79-01-6	Trichloroethene	ND	5.0	3.9	ug/l	
75-69-4	Trichlorofluoromethane	ND	5.0	1.4	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	25	4.2	ug/l	
95-63-6	1,2,4-Trimethylbenzene	299	25	1.7	ug/l	
108-67-8	1,3,5-Trimethylbenzene	129	25	2.3	ug/l	
108-05-4	Vinyl Acetate	ND	25	6.3	ug/l	
75-01-4	Vinyl chloride	ND	5.0	3.1	ug/l	
	m,p-Xylene	878	5.0	3.7	ug/l	
95-47-6	o-Xylene	52.0	5.0	2.9	ug/l	
1330-20-7	Xylene (total)	930	5.0	2.9	ug/l	

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

Report of Analysis

Client Sample ID:	MW2-ROX-102612		
Lab Sample ID:	MC15334-4	**Date Sampled:**	10/26/12
Matrix:	AQ - Ground Water	**Date Received:**	10/27/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		70-130%
2037-26-5	Toluene-D8	86%		70-130%
460-00-4	4-Bromofluorobenzene	84%		70-130%

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

ND = Not detected MDL - Method Detection Limit
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:	MW2-ROX-102612		
Lab Sample ID:	MC15334-4	**Date Sampled:**	10/26/12
Matrix:	AQ - Ground Water	**Date Received:**	10/27/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6493.D	1	11/02/12	KR	10/31/12	OP30851	MSW294
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.3	ug/l	UJ
95-57-8	2-Chlorophenol	ND	5.4	0.43	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.40	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.40	ug/l	
105-67-9	2,4-Dimethylphenol	3.4	11	2.9	ug/l	J
51-28-5	2,4-Dinitrophenol	ND	22	5.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	2.7	ug/l	
95-48-7	2-Methylphenol	ND	11	0.65	ug/l	
	3&4-Methylphenol	ND	11	0.81	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.51	ug/l	
100-02-7	4-Nitrophenol	ND	22	3.0	ug/l	
87-86-5	Pentachlorophenol	ND	11	0.68	ug/l	
108-95-2	Phenol	ND	5.4	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.53	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.38	ug/l	
62-53-3	Aniline	ND	11	2.2	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.35	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	0.28	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.28	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	0.27	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.68	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.4	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.4	0.40	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.31	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.31	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.23	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.27	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.27	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.96	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.23	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.4	0.39	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	0.25	ug/l	

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

Report of Analysis

Client Sample ID:	MW2-ROX-102612		
Lab Sample ID:	MC15334-4	**Date Sampled:**	10/26/12
Matrix:	AQ - Ground Water	**Date Received:**	10/27/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.4	0.20	ug/l	
131-11-3	Dimethyl phthalate	ND	5.4	0.24	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.40	ug/l	
118-74-1	Hexachlorobenzene	ND	5.4	0.27	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.4	ug/l	
67-72-1	Hexachloroethane	ND	5.4	0.30	ug/l	
78-59-1	Isophorone	ND	5.4	0.34	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.27	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.27	ug/l	
100-01-6	4-Nitroaniline	ND	11	0.51	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.64	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.30	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.47	ug/l	
110-86-1	Pyridine	ND	11	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	47%		15-110%
4165-62-2	Phenol-d5	28%		15-110%
118-79-6	2,4,6-Tribromophenol	93%		15-110%
4165-60-0	Nitrobenzene-d5	78%		30-130%
321-60-8	2-Fluorobiphenyl	72%		30-130%
1718-51-0	Terphenyl-d14	88%		30-130%

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

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

Report of Analysis

Client Sample ID:	MW2-ROX-102612		
Lab Sample ID:	MC15334-4	Date Sampled:	10/26/12
Matrix:	AQ - Ground Water	Date Received:	10/27/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10509.D	1	11/05/12	NS	10/31/12	OP30852	MSU562
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.093	0.11	0.015	ug/l	J
208-96-8	Acenaphthylene	ND	0.11	0.014	ug/l	
120-12-7	Anthracene	ND	0.11	0.019	ug/l	
56-55-3	Benzo(a)anthracene	0.16	0.054	0.032	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.054	0.025	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.041	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.063	ug/l	
218-01-9	Chrysene	ND	0.11	0.078	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.045	ug/l	
206-44-0	Fluoranthene	0.061	0.11	0.035	ug/l	J
86-73-7	Fluorene	0.11	0.11	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.049	ug/l	
90-12-0	1-Methylnaphthalene	9.1	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	18.2	0.22	0.056	ug/l	
85-01-8	Phenanthrene	0.11	0.054	0.014	ug/l	
129-00-0	Pyrene	0.046	0.11	0.038	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	36%		15-110%
4165-62-2	Phenol-d5	26%		15-110%
118-79-6	2,4,6-Tribromophenol	75%		15-110%
4165-60-0	Nitrobenzene-d5	72%		30-130%
321-60-8	2-Fluorobiphenyl	66%		30-130%
1718-51-0	Terphenyl-d14	65%		30-130%

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

Report of Analysis

Client Sample ID:	MW2-ROX-102612		
Lab Sample ID:	MC15334-4	**Date Sampled:**	10/26/12
Matrix:	AQ - Ground Water	**Date Received:**	10/27/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ76803.D	1	11/01/12	CZ	10/30/12	OP30848	GYZ6962
Run #2							

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

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	83%		36-173%
460-00-4	Bromofluorobenzene (S)	93%		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:	TB-102612-HCL-R		
Lab Sample ID:	MC15334-5	**Date Sampled:**	10/26/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/27/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69710.D	1	11/09/12	JP	n/a	n/a	MSN2622
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	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:	TB-102612-HCL-R		
Lab Sample ID:	MC15334-5	**Date Sampled:**	10/26/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/27/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	TB-102612-HCL-R		
Lab Sample ID:	MC15334-5	**Date Sampled:**	10/26/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/27/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		70-130%
2037-26-5	Toluene-D8	86%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%

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

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

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

Report of Analysis

Client Sample ID:	TB-102612-ST-R		
Lab Sample ID:	MC15334-6	Date Sampled:	10/26/12
Matrix:	AQ - Trip Blank Water	Date Received:	10/27/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	YZ76804.D	1	11/01/12	CZ	10/30/12	OP30848	GYZ6962
Run #2							

	Initial Volume	Final Volume
Run #1	34.5 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	111%		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

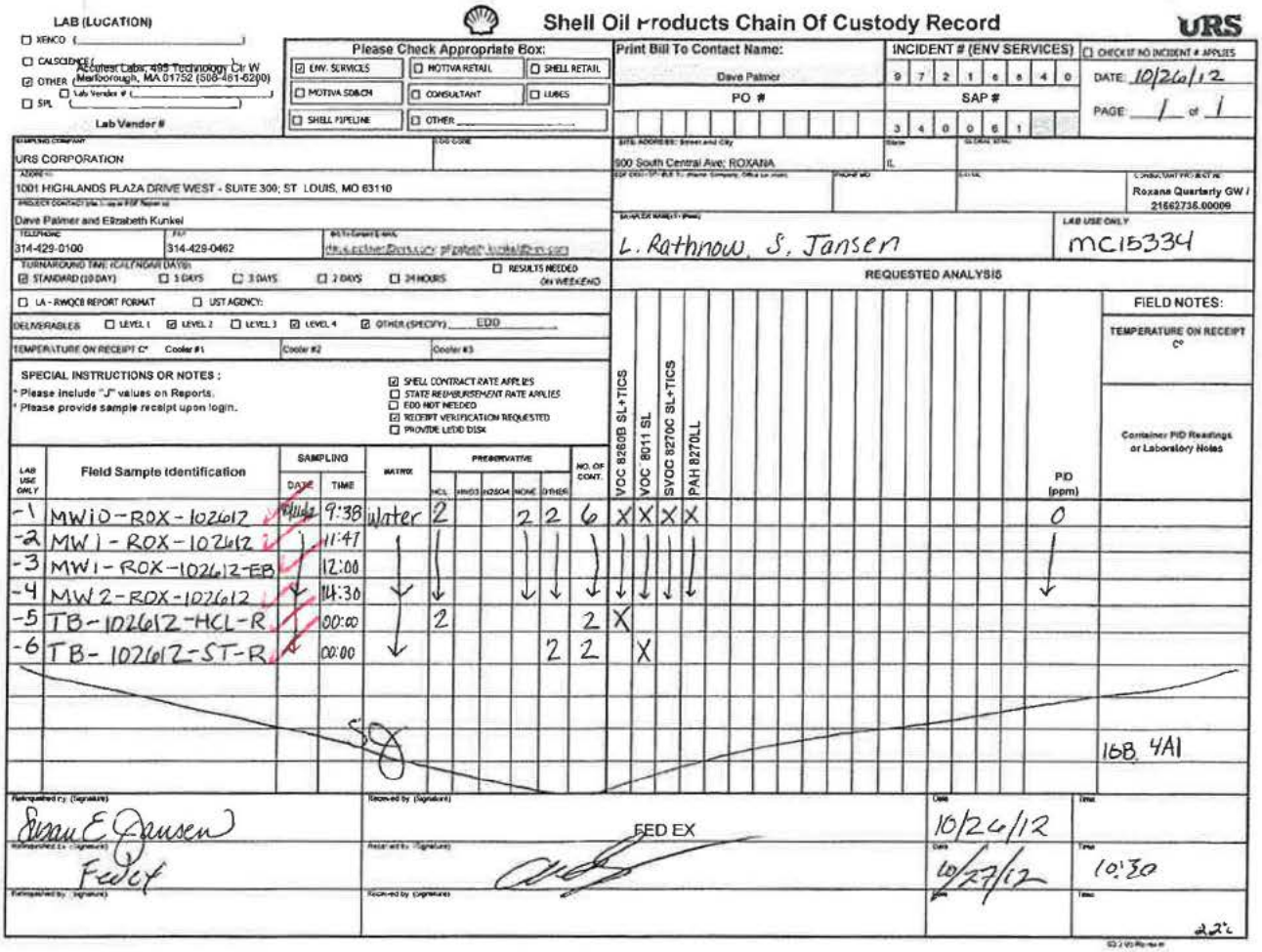
New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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



LAB (LOCATION)

☐ XENCO ( )
☐ CALSCIENCE ( )
☑ OTHER (Accutest Labs, 495 Technology Ctr W Marlborough, MA 01752 (508-481-6200)
☐ Lab Vendor # ( )
☐ SPL ( )
Lab Vendor #

Shell Oil Products Chain Of Custody Record

URS

Please Check Appropriate Box:
☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SD&CH ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Dave Palmer
PO #

INCIDENT # (ENV SERVICES): 9 7 2 1 6 8 4 0
SAP #: 3 4 0 0 6 1

☐ CHECK IF NO INCIDENT # APPLIES
DATE: 10/26/12
PAGE: 1 of 1

SAMPLING COMPANY: URS CORPORATION
LOG CODE:
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST LOUIS, MO 63110
PROJECT CONTACT (Hard Copy or PDF Report to): Dave Palmer and Elizabeth Kunkel
TELEPHONE: 314-429-0100
FAX: 314-429-0462
BILL TO CONTACT E-MAIL: dave.palmer@urs.com; elizabeth.kunkel@urs.com
TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (10 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD
TEMPERATURE ON RECEIPT C°: Cooler #1 Cooler #2 Cooler #3

SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA
State: IL
GLOBAL STAR:
PHONE NO:
CONSULTANT PROJECT #: Roxana Quarterly GW / 21662736.00009
SAMPLER NAME(S) (Print): L. Rathnow, S. Jansen
LAB USE ONLY: MC15334

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

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

FIELD NOTES:
TEMPERATURE ON RECEIPT C°

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	VOC 8260B SL+TICS	VOC 8011 SL	SVOC 8270C SL+TICS	PAH 8270LL	PID (ppm)	Container PID Readings or Laboratory Notes
-1	MW10-ROX-102612	10/26/12	9:38	Water	2			2	2	6	X	X	X	X	0	
-2	MW1-ROX-102612	↓	11:47	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	
-3	MW1-ROX-102612-EB	↓	12:00	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	
-4	MW2-ROX-102612	↓	14:30	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	
-5	TB-102612-HCL-R	↓	00:00	↓	2					2	X					
-6	TB-102612-ST-R	↓	00:00	↓					2	2		X				

SJ

16B, 4A1

Relinquished by (Signature)	Received by (Signature)	Date	Time
Susan E Jansen	FED EX	10/26/12	
Relinquished by (Signature): Fedex	Received by (Signature): [signature]	10/27/12	10:30
Relinquished by (Signature)	Received by (Signature)		22°C

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MC15334: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC15334 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 10/27/2012 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900 SO CENTRAL AVE **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

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MC15334: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15334

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15334-1 Collected: 26-OCT-12 09:38 By: LRSJ Received: 27-OCT-12 By: MW10-ROX-102612						
MC15334-1	SW846 8011	31-OCT-12 23:17	CZ	30-OCT-12	NK	V8011SL
MC15334-1	SW846 8270C	02-NOV-12 19:54	KR	31-OCT-12	CA	AB8270SL+
MC15334-1	SW846 8270C BY SIM	05-NOV-12 09:48	NS	31-OCT-12	CA	B8270SIMSL
MC15334-1	SW846 8260B	09-NOV-12	JP			V8260SL+
MC15334-1	SW846 8260B	14-NOV-12 16:11	JP			V8260SL+
MC15334-2 Collected: 26-OCT-12 11:47 By: LRSJ Received: 27-OCT-12 By: MW1-ROX-102612						
MC15334-2	SW846 8011	01-NOV-12 00:08	CZ	30-OCT-12	NK	V8011SL
MC15334-2	SW846 8270C	02-NOV-12 20:16	KR	31-OCT-12	CA	AB8270SL+
MC15334-2	SW846 8270C BY SIM	05-NOV-12 10:11	NS	31-OCT-12	CA	B8270SIMSL
MC15334-2	SW846 8260B	09-NOV-12 00:28	JP			V8260SL+
MC15334-2	SW846 8260B	14-NOV-12 16:39	JP			V8260SL+
MC15334-3 Collected: 26-OCT-12 12:00 By: LRSJ Received: 27-OCT-12 By: MW1-ROX-102612-EB						
MC15334-3	SW846 8011	01-NOV-12 00:34	CZ	30-OCT-12	NK	V8011SL
MC15334-3	SW846 8270C	02-NOV-12 20:38	KR	31-OCT-12	CA	AB8270SL+
MC15334-3	SW846 8270C BY SIM	05-NOV-12 10:34	NS	31-OCT-12	CA	B8270SIMSL
MC15334-3	SW846 8260B	09-NOV-12 19:52	JP			V8260SL+
MC15334-4 Collected: 26-OCT-12 14:30 By: LRSJ Received: 27-OCT-12 By: MW2-ROX-102612						
MC15334-4	SW846 8011	01-NOV-12 01:00	CZ	30-OCT-12	NK	V8011SL
MC15334-4	SW846 8270C	02-NOV-12 21:00	KR	31-OCT-12	CA	AB8270SL+
MC15334-4	SW846 8270C BY SIM	05-NOV-12 10:56	NS	31-OCT-12	CA	B8270SIMSL
MC15334-4	SW846 8260B	09-NOV-12 21:16	JP			V8260SL+
MC15334-5 Collected: 26-OCT-12 00:00 By: LRSJ Received: 27-OCT-12 By: TB-102612-HCL-R						
MC15334-5	SW846 8260B	09-NOV-12 19:23	JP			V8260SL+

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15334

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15334-6 Collected: 26-OCT-12 00:00 By: LRSJ Received: 27-OCT-12 By: TB-102612-ST-R						
MC15334-6	SW846 8011	01-NOV-12 01:26	CZ	30-OCT-12	NK	V8011SL

Accutest Internal Chain of Custody

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 10/27/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15334-1.1	Walk In Ref #22	Nick Krasinski	10/31/12 06:31	Retrieve from Storage
MC15334-1.1	Nick Krasinski		11/06/12 07:05	Depleted
MC15334-1.3	VOC Ref #4	Jugal Patel	11/14/12 13:12	Retrieve from Storage
MC15334-1.3	Jugal Patel	GCMSN	11/14/12 13:13	Load on Instrument
MC15334-1.3	GCMSN	Jugal Patel	11/15/12 14:20	Unload from Instrument
MC15334-1.3	Jugal Patel	VOC Ref #4	11/15/12 14:20	Return to Storage
MC15334-1.4	VOC Ref #4	Jugal Patel	11/08/12 16:33	Retrieve from Storage
MC15334-1.4	Jugal Patel	GCMSN	11/08/12 16:33	Load on Instrument
MC15334-1.4	GCMSN	Jugal Patel	11/09/12 13:12	Unload from Instrument
MC15334-1.4	Jugal Patel	VOC Ref #4	11/09/12 13:12	Return to Storage
MC15334-1.6	VOC Ref #4	Nick Krasinski	10/30/12 18:01	Retrieve from Storage
MC15334-1.6	Nick Krasinski		10/30/12 18:01	Depleted
MC15334-2.2	Walk In Ref #22	Nick Krasinski	10/31/12 06:31	Retrieve from Storage
MC15334-2.2	Nick Krasinski		11/06/12 07:05	Depleted
MC15334-2.3	VOC Ref #4	Jugal Patel	11/14/12 13:12	Retrieve from Storage
MC15334-2.3	Jugal Patel	GCMSN	11/14/12 13:13	Load on Instrument
MC15334-2.3	GCMSN	Jugal Patel	11/15/12 14:20	Unload from Instrument
MC15334-2.3	Jugal Patel	VOC Ref #4	11/15/12 14:20	Return to Storage
MC15334-2.4	VOC Ref #4	Jugal Patel	11/08/12 16:33	Retrieve from Storage
MC15334-2.4	Jugal Patel	GCMSN	11/08/12 16:33	Load on Instrument
MC15334-2.4	GCMSN	Jugal Patel	11/09/12 13:12	Unload from Instrument
MC15334-2.4	Jugal Patel	VOC Ref #4	11/09/12 13:12	Return to Storage
MC15334-2.6	VOC Ref #4	Nick Krasinski	10/30/12 18:01	Retrieve from Storage
MC15334-2.6	Nick Krasinski		10/30/12 18:01	Depleted
MC15334-3.1	Walk In Ref #22	Nick Krasinski	10/31/12 06:31	Retrieve from Storage
MC15334-3.1	Nick Krasinski		11/06/12 07:05	Depleted
MC15334-3.3	VOC Ref #4	Jugal Patel	11/09/12 15:07	Retrieve from Storage
MC15334-3.3	Jugal Patel	GCMSN	11/09/12 15:07	Load on Instrument
MC15334-3.3	GCMSN	Jugal Patel	11/13/12 11:24	Unload from Instrument
MC15334-3.3	Jugal Patel	VOC Ref #4	11/13/12 11:24	Return to Storage
MC15334-3.6	VOC Ref #4	Nick Krasinski	10/30/12 18:01	Retrieve from Storage
MC15334-3.6	Nick Krasinski		10/30/12 18:01	Depleted
MC15334-4.1	Walk In Ref #22	Nick Krasinski	10/31/12 06:31	Retrieve from Storage

Accutest Internal Chain of Custody

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 10/27/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15334-4.1	Nick Krasinski		11/06/12 07:05	Depleted
MC15334-4.4	VOC Ref #4	Jugal Patel	11/08/12 16:33	Retrieve from Storage
MC15334-4.4	Jugal Patel	GCMSN	11/08/12 16:33	Load on Instrument
MC15334-4.4	GCMSN	Jugal Patel	11/09/12 13:12	Unload from Instrument
MC15334-4.4	Jugal Patel	VOC Ref #4	11/09/12 13:12	Return to Storage
MC15334-4.6	VOC Ref #4	Nick Krasinski	10/30/12 18:01	Retrieve from Storage
MC15334-4.6	Nick Krasinski		10/30/12 18:01	Depleted
MC15334-5.1	VOC Ref #4	Jugal Patel	11/09/12 15:07	Retrieve from Storage
MC15334-5.1	Jugal Patel	GCMSN	11/09/12 15:07	Load on Instrument
MC15334-5.1	GCMSN	Jugal Patel	11/13/12 11:24	Unload from Instrument
MC15334-5.1	Jugal Patel	VOC Ref #4	11/13/12 11:24	Return to Storage
MC15334-6.2	VOC Ref #4	Nick Krasinski	10/30/12 18:01	Retrieve from Storage
MC15334-6.2	Nick Krasinski		10/30/12 18:01	Depleted

New England ACCUTEST LABORATORIES

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: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2622-MB	N69705.D	1	11/09/12	JP	n/a	n/a	MSN2622

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

MC15334-3, MC15334-4, MC15334-5

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: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2622-MB	N69705.D	1	11/09/12	JP	n/a	n/a	MSN2622

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

MC15334-3, MC15334-4, MC15334-5

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: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2622-MB	N69705.D	1	11/09/12	JP	n/a	n/a	MSN2622

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

MC15334-3, MC15334-4, MC15334-5

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	83%	70-130%
2037-26-5	Toluene-D8	84%	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/l	

Method Blank Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2631-MB	N69953.D	1	11/14/12	JP	n/a	n/a	MSN2631

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

MC15334-1, MC15334-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.3	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: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2631-MB	N69953.D	1	11/14/12	JP	n/a	n/a	MSN2631

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

MC15334-1, MC15334-2

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2631-MB	N69953.D	1	11/14/12	JP	n/a	n/a	MSN2631

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

MC15334-1, MC15334-2

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	83%	70-130%
2037-26-5	Toluene-D8	83%	70-130%
460-00-4	4-Bromofluorobenzene	86%	70-130%

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

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2622-BS	N69702.D	1	11/09/12	JP	n/a	n/a	MSN2622
MSN2622-BSD	N69703.D	1	11/09/12	JP	n/a	n/a	MSN2622

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

MC15334-3, MC15334-4, MC15334-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	39.7	79	38.7	77	3	70-130/25
107-02-8	Acrolein	250	163	65* a	163	65* a	0	70-130/25
107-13-1	Acrylonitrile	50	254	508* b	249	498* b	2	70-130/25
71-43-2	Benzene	50	51.7	103	51.3	103	1	70-130/25
108-86-1	Bromobenzene	50	49.2	98	49.0	98	0	70-130/25
74-97-5	Bromochloromethane	50	51.8	104	52.4	105	1	70-130/25
75-27-4	Bromodichloromethane	50	51.8	104	51.7	103	0	70-130/25
75-25-2	Bromoform	50	44.4	89	43.1	86	3	70-130/25
74-83-9	Bromomethane	50	54.4	109	54.8	110	1	70-130/25
78-93-3	2-Butanone (MEK)	50	46.1	92	44.4	89	4	70-130/25
104-51-8	n-Butylbenzene	50	56.4	113	56.1	112	1	70-130/25
135-98-8	sec-Butylbenzene	50	56.7	113	56.0	112	1	70-130/25
98-06-6	tert-Butylbenzene	50	52.7	105	52.1	104	1	70-130/25
75-15-0	Carbon disulfide	50	58.9	118	57.2	114	3	70-130/25
56-23-5	Carbon tetrachloride	50	45.6	91	45.1	90	1	70-130/25
108-90-7	Chlorobenzene	50	54.7	109	51.9	104	5	70-130/25
75-00-3	Chloroethane	50	55.0	110	53.9	108	2	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	53.5	107	53.3	107	0	70-130/25
67-66-3	Chloroform	50	51.8	104	51.2	102	1	70-130/25
74-87-3	Chloromethane	50	42.3	85	45.0	90	6	70-130/25
95-49-8	o-Chlorotoluene	50	53.6	107	53.0	106	1	70-130/25
106-43-4	p-Chlorotoluene	50	56.0	112	55.5	111	1	70-130/25
124-48-1	Dibromochloromethane	50	47.5	95	45.4	91	5	70-130/25
95-50-1	1,2-Dichlorobenzene	50	53.5	107	53.6	107	0	70-130/25
541-73-1	1,3-Dichlorobenzene	50	54.3	109	54.0	108	1	70-130/25
106-46-7	1,4-Dichlorobenzene	50	50.5	101	50.6	101	0	70-130/25
75-71-8	Dichlorodifluoromethane	50	42.8	86	42.2	84	1	70-130/25
75-34-3	1,1-Dichloroethane	50	54.9	110	54.1	108	1	70-130/25
107-06-2	1,2-Dichloroethane	50	47.8	96	48.2	96	1	70-130/25
75-35-4	1,1-Dichloroethene	50	52.4	105	51.7	103	1	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	52.4	105	51.5	103	2	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	52.7	105	52.2	104	1	70-130/25
78-87-5	1,2-Dichloropropane	50	53.5	107	53.3	107	0	70-130/25
142-28-9	1,3-Dichloropropane	50	50.7	101	48.4	97	5	70-130/25
594-20-7	2,2-Dichloropropane	50	48.6	97	46.9	94	4	70-130/25
563-58-6	1,1-Dichloropropene	50	53.2	106	52.3	105	2	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2622-BS	N69702.D	1	11/09/12	JP	n/a	n/a	MSN2622
MSN2622-BSD	N69703.D	1	11/09/12	JP	n/a	n/a	MSN2622

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

MC15334-3, MC15334-4, MC15334-5

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	52.9	106	53.2	106	1	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	48.0	96	48.9	98	2	70-130/25
123-91-1	1,4-Dioxane	250	227	91	234	94	3	70-130/25
97-63-2	Ethyl methacrylate	50	48.7	97	49.6	99	2	77-137/25
100-41-4	Ethylbenzene	50	51.2	102	48.8	98	5	70-130/25
87-68-3	Hexachlorobutadiene	50	53.9	108	52.9	106	2	70-130/25
591-78-6	2-Hexanone	50	40.7	81	38.1	76	7	70-130/25
98-82-8	Isopropylbenzene	50	54.4	109	53.8	108	1	70-130/25
99-87-6	p-Isopropyltoluene	50	54.4	109	53.8	108	1	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	39.2	78	39.7	79	1	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	38.8	78	38.6	77	1	70-130/25
74-95-3	Methylene bromide	50	50.5	101	51.2	102	1	70-130/25
75-09-2	Methylene chloride	50	53.5	107	53.8	108	1	70-130/25
91-20-3	Naphthalene	50	50.0	100	50.5	101	1	70-130/25
103-65-1	n-Propylbenzene	50	55.5	111	54.7	109	1	70-130/25
100-42-5	Styrene	50	51.2	102	48.8	98	5	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	52.2	104	50.1	100	4	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	49.0	98	48.5	97	1	70-130/25
127-18-4	Tetrachloroethene	50	50.6	101	48.0	96	5	70-130/25
108-88-3	Toluene	50	52.2	104	51.9	104	1	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	53.2	106	53.9	108	1	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	54.0	108	54.5	109	1	70-130/25
71-55-6	1,1,1-Trichloroethane	50	52.0	104	51.2	102	2	70-130/25
79-00-5	1,1,2-Trichloroethane	50	50.1	100	50.7	101	1	70-130/25
79-01-6	Trichloroethene	50	49.0	98	48.5	97	1	70-130/25
75-69-4	Trichlorofluoromethane	50	49.2	98	48.2	96	2	70-130/25
96-18-4	1,2,3-Trichloropropane	50	53.0	106	52.7	105	1	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	49.8	100	49.1	98	1	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	48.9	98	48.6	97	1	70-130/25
108-05-4	Vinyl Acetate	50	51.0	102	50.7	101	1	70-130/25
75-01-4	Vinyl chloride	50	48.7	97	47.4	95	3	70-130/25
	m,p-Xylene	100	107	107	101	101	6	70-130/25
95-47-6	o-Xylene	50	55.1	110	52.2	104	5	70-130/25
1330-20-7	Xylene (total)	150	162	108	153	102	6	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2622-BS	N69702.D	1	11/09/12	JP	n/a	n/a	MSN2622
MSN2622-BSD	N69703.D	1	11/09/12	JP	n/a	n/a	MSN2622

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

MC15334-3, MC15334-4, MC15334-5

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	84%	84%	70-130%
2037-26-5	Toluene-D8	85%	86%	70-130%
460-00-4	4-Bromofluorobenzene	82%	82%	70-130%

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

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2631-BS	N69950.D	1	11/14/12	JP	n/a	n/a	MSN2631
MSN2631-BSD	N69951.D	1	11/14/12	JP	n/a	n/a	MSN2631

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

MC15334-1, MC15334-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	36.7	73	37.4	75	2	70-130/25
107-02-8	Acrolein	250	149	60* a	154	62* a	3	70-130/25
107-13-1	Acrylonitrile	50	234	468* b	233	466* b	0	70-130/25
71-43-2	Benzene	50	50.4	101	49.0	98	3	70-130/25
108-86-1	Bromobenzene	50	50.5	101	49.0	98	3	70-130/25
74-97-5	Bromochloromethane	50	52.2	104	50.7	101	3	70-130/25
75-27-4	Bromodichloromethane	50	52.3	105	50.5	101	4	70-130/25
75-25-2	Bromoform	50	45.0	90	42.7	85	5	70-130/25
74-83-9	Bromomethane	50	49.7	99	49.8	100	0	70-130/25
78-93-3	2-Butanone (MEK)	50	42.2	84	41.1	82	3	70-130/25
104-51-8	n-Butylbenzene	50	57.2	114	55.0	110	4	70-130/25
135-98-8	sec-Butylbenzene	50	57.4	115	55.1	110	4	70-130/25
98-06-6	tert-Butylbenzene	50	53.1	106	51.3	103	3	70-130/25
75-15-0	Carbon disulfide	50	52.4	105	50.5	101	4	70-130/25
56-23-5	Carbon tetrachloride	50	46.8	94	45.3	91	3	70-130/25
108-90-7	Chlorobenzene	50	55.2	110	52.1	104	6	70-130/25
75-00-3	Chloroethane	50	48.9	98	47.2	94	4	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	52.6	105	51.0	102	3	70-130/25
67-66-3	Chloroform	50	51.2	102	49.5	99	3	70-130/25
74-87-3	Chloromethane	50	42.8	86	41.8	84	2	70-130/25
95-49-8	o-Chlorotoluene	50	53.7	107	51.9	104	3	70-130/25
106-43-4	p-Chlorotoluene	50	56.7	113	54.7	109	4	70-130/25
124-48-1	Dibromochloromethane	50	48.1	96	45.9	92	5	70-130/25
95-50-1	1,2-Dichlorobenzene	50	54.7	109	53.2	106	3	70-130/25
541-73-1	1,3-Dichlorobenzene	50	55.2	110	53.6	107	3	70-130/25
106-46-7	1,4-Dichlorobenzene	50	52.3	105	50.8	102	3	70-130/25
75-71-8	Dichlorodifluoromethane	50	45.8	92	43.9	88	4	70-130/25
75-34-3	1,1-Dichloroethane	50	53.1	106	51.5	103	3	70-130/25
107-06-2	1,2-Dichloroethane	50	47.5	95	46.6	93	2	70-130/25
75-35-4	1,1-Dichloroethene	50	49.9	100	48.3	97	3	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	51.4	103	50.3	101	2	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	51.0	102	49.1	98	4	70-130/25
78-87-5	1,2-Dichloropropane	50	52.6	105	51.0	102	3	70-130/25
142-28-9	1,3-Dichloropropane	50	50.2	100	47.9	96	5	70-130/25
594-20-7	2,2-Dichloropropane	50	48.8	98	46.8	94	4	70-130/25
563-58-6	1,1-Dichloropropene	50	51.9	104	50.3	101	3	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2631-BS	N69950.D	1	11/14/12	JP	n/a	n/a	MSN2631
MSN2631-BSD	N69951.D	1	11/14/12	JP	n/a	n/a	MSN2631

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

MC15334-1, MC15334-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	50	52.8	106	51.6	103	2	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	48.2	96	47.8	96	1	70-130/25
123-91-1	1,4-Dioxane	250	219	88	216	86	1	70-130/25
97-63-2	Ethyl methacrylate	50	47.8	96	47.3	95	1	77-137/25
100-41-4	Ethylbenzene	50	51.7	103	48.8	98	6	70-130/25
87-68-3	Hexachlorobutadiene	50	55.3	111	53.3	107	4	70-130/25
591-78-6	2-Hexanone	50	38.1	76	36.9	74	3	70-130/25
98-82-8	Isopropylbenzene	50	55.2	110	53.2	106	4	70-130/25
99-87-6	p-Isopropyltoluene	50	55.2	110	53.0	106	4	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	39.3	79	40.1	80	2	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	36.5	73	36.3	73	1	70-130/25
74-95-3	Methylene bromide	50	49.9	100	48.9	98	2	70-130/25
75-09-2	Methylene chloride	50	52.4	105	50.6	101	3	70-130/25
91-20-3	Naphthalene	50	51.5	103	50.1	100	3	70-130/25
103-65-1	n-Propylbenzene	50	56.4	113	53.6	107	5	70-130/25
100-42-5	Styrene	50	52.1	104	49.1	98	6	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	53.9	108	51.1	102	5	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	48.1	96	47.1	94	2	70-130/25
127-18-4	Tetrachloroethene	50	51.9	104	48.3	97	7	70-130/25
108-88-3	Toluene	50	52.3	105	50.7	101	3	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	55.6	111	53.8	108	3	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	56.3	113	54.3	109	4	70-130/25
71-55-6	1,1,1-Trichloroethane	50	52.2	104	50.5	101	3	70-130/25
79-00-5	1,1,2-Trichloroethane	50	50.0	100	49.5	99	1	70-130/25
79-01-6	Trichloroethene	50	49.1	98	47.3	95	4	70-130/25
75-69-4	Trichlorofluoromethane	50	46.9	94	44.6	89	5	70-130/25
96-18-4	1,2,3-Trichloropropane	50	51.7	103	50.7	101	2	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	50.3	101	48.4	97	4	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	49.9	100	47.7	95	5	70-130/25
108-05-4	Vinyl Acetate	50	47.3	95	47.6	95	1	70-130/25
75-01-4	Vinyl chloride	50	42.7	85	41.5	83	3	70-130/25
	m,p-Xylene	100	107	107	101	101	6	70-130/25
95-47-6	o-Xylene	50	55.7	111	52.6	105	6	70-130/25
1330-20-7	Xylene (total)	150	163	109	154	103	6	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2631-BS	N69950.D	1	11/14/12	JP	n/a	n/a	MSN2631
MSN2631-BSD	N69951.D	1	11/14/12	JP	n/a	n/a	MSN2631

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

MC15334-1, MC15334-2

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	84%	84%	70-130%
2037-26-5	Toluene-D8	85%	85%	70-130%
460-00-4	4-Bromofluorobenzene	82%	82%	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: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15914-5MS	N69726.D	5	11/10/12	JP	n/a	n/a	MSN2622
MC15914-5MSD	N69727.D	5	11/10/12	JP	n/a	n/a	MSN2622
MC15914-5	N69718.D	1	11/09/12	JP	n/a	n/a	MSN2622

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

MC15334-3, MC15334-4, MC15334-5

CAS No.	Compound	MC15914-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	207	83	208	83	0	70-130/30
107-02-8	Acrolein	ND		1250	774	62* [a]	779	62* [a]	1	70-130/30
107-13-1	Acrylonitrile	ND		250	1260	504* [b]	1270	508* [b]	1	70-130/30
71-43-2	Benzene	ND		250	264	106	257	103	3	70-130/30
108-86-1	Bromobenzene	ND		250	244	98	243	97	0	70-130/30
74-97-5	Bromochloromethane	ND		250	264	106	258	103	2	70-130/30
75-27-4	Bromodichloromethane	ND		250	265	106	259	104	2	70-130/30
75-25-2	Bromoform	ND		250	209	84	216	86	3	70-130/30
74-83-9	Bromomethane	ND		250	245	98	275	110	12	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	219	88	211	84	4	70-130/30
104-51-8	n-Butylbenzene	ND		250	268	107	269	108	0	70-130/30
135-98-8	sec-Butylbenzene	ND		250	280	112	275	110	2	70-130/30
98-06-6	tert-Butylbenzene	ND		250	262	105	253	101	3	70-130/30
75-15-0	Carbon disulfide	ND		250	301	120	294	118	2	70-130/30
56-23-5	Carbon tetrachloride	ND		250	231	92	225	90	3	70-130/30
108-90-7	Chlorobenzene	ND		250	273	109	270	108	1	70-130/30
75-00-3	Chloroethane	ND		250	285	114	274	110	4	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	275	110	266	106	3	70-130/30
67-66-3	Chloroform	ND		250	262	105	258	103	2	70-130/30
74-87-3	Chloromethane	ND		250	218	87	224	90	3	70-130/30
95-49-8	o-Chlorotoluene	ND		250	266	106	261	104	2	70-130/30
106-43-4	p-Chlorotoluene	ND		250	278	111	276	110	1	70-130/30
124-48-1	Dibromochloromethane	ND		250	233	93	234	94	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	263	105	266	106	1	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	267	107	266	106	0	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	252	101	253	101	0	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	212	85	205	82	3	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	286	114	277	111	3	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	237	95	237	95	0	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	270	108	261	104	3	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	264	106	260	104	2	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	266	106	262	105	2	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	275	110	266	106	3	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	251	100	253	101	1	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	215	86	206	82	4	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	267	107	263	105	2	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15914-5MS	N69726.D	5	11/10/12	JP	n/a	n/a	MSN2622
MC15914-5MSD	N69727.D	5	11/10/12	JP	n/a	n/a	MSN2622
MC15914-5	N69718.D	1	11/09/12	JP	n/a	n/a	MSN2622

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

MC15334-3, MC15334-4, MC15334-5

CAS No.	Compound	MC15914-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		250	263	105	258	103	2	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	235	94	235	94	0	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1130	90	1140	91	1	70-130/30
97-63-2	Ethyl methacrylate	ND		250	239	96	240	96	0	72-139/30
100-41-4	Ethylbenzene	ND		250	257	103	253	101	2	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	248	99	249	100	0	70-130/30
591-78-6	2-Hexanone	ND		250	190	76	193	77	2	70-130/30
98-82-8	Isopropylbenzene	ND		250	272	109	268	107	1	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	266	106	263	105	1	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		250	202	81	198	79	2	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	184	74	187	75	2	70-130/30
74-95-3	Methylene bromide	ND		250	253	101	252	101	0	70-130/30
75-09-2	Methylene chloride	ND		250	275	110	269	108	2	70-130/30
91-20-3	Naphthalene	ND		250	228	91	242	97	6	70-130/30
103-65-1	n-Propylbenzene	ND		250	276	110	273	109	1	70-130/30
100-42-5	Styrene	ND		250	253	101	252	101	0	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	257	103	259	104	1	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	240	96	240	96	0	70-130/30
127-18-4	Tetrachloroethene	16.4		250	253	95	250	93	1	70-130/30
108-88-3	Toluene	ND		250	266	106	259	104	3	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	249	100	262	105	5	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	254	102	261	104	3	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	264	106	255	102	3	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	254	102	248	99	2	70-130/30
79-01-6	Trichloroethene	ND		250	253	101	246	98	3	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	249	100	241	96	3	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	252	101	255	102	1	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	244	98	240	96	2	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	245	98	241	96	2	70-130/30
108-05-4	Vinyl Acetate	ND		250	250	100	251	100	0	70-130/30
75-01-4	Vinyl chloride	ND		250	247	99	237	95	4	70-130/30
	m,p-Xylene	ND		500	532	106	526	105	1	70-130/30
95-47-6	o-Xylene	ND		250	278	111	273	109	2	70-130/30
1330-20-7	Xylene (total)	ND		750	810	108	799	107	1	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15914-5MS	N69726.D	5	11/10/12	JP	n/a	n/a	MSN2622
MC15914-5MSD	N69727.D	5	11/10/12	JP	n/a	n/a	MSN2622
MC15914-5	N69718.D	1	11/09/12	JP	n/a	n/a	MSN2622

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

MC15334-3, MC15334-4, MC15334-5

CAS No.	Surrogate Recoveries	MS	MSD	MC15914-5	Limits
1868-53-7	Dibromofluoromethane	84%	84%	83%	70-130%
2037-26-5	Toluene-D8	86%	86%	85%	70-130%
460-00-4	4-Bromofluorobenzene	81%	82%	86%	70-130%

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

6.3.1

6

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15557-5MS	N69971.D	5	11/15/12	JP	n/a	n/a	MSN2631
MC15557-5MSD	N69972.D	5	11/15/12	JP	n/a	n/a	MSN2631
MC15557-5	N69970.D	1	11/15/12	JP	n/a	n/a	MSN2631

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

MC15334-1, MC15334-2

CAS No.	Compound	MC15557-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	206	82	202	81	2	70-130/30
107-02-8	Acrolein	ND		1250	753	60* [a]	770	62* [a]	2	70-130/30
107-13-1	Acrylonitrile	ND		250	1230	492* [b]	1180	472* [b]	4	70-130/30
71-43-2	Benzene	ND		250	259	104	250	100	4	70-130/30
108-86-1	Bromobenzene	ND		250	252	101	247	99	2	70-130/30
74-97-5	Bromochloromethane	ND		250	266	106	259	104	3	70-130/30
75-27-4	Bromodichloromethane	ND		250	262	105	255	102	3	70-130/30
75-25-2	Bromoform	ND		250	217	87	214	86	1	70-130/30
74-83-9	Bromomethane	ND		250	269	108	287	115	6	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	223	89	224	90	0	70-130/30
104-51-8	n-Butylbenzene	ND		250	265	106	258	103	3	70-130/30
135-98-8	sec-Butylbenzene	ND		250	275	110	266	106	3	70-130/30
98-06-6	tert-Butylbenzene	ND		250	259	104	249	100	4	70-130/30
75-15-0	Carbon disulfide	ND		250	277	111	266	106	4	70-130/30
56-23-5	Carbon tetrachloride	ND		250	215	86	208	83	3	70-130/30
108-90-7	Chlorobenzene	ND		250	275	110	264	106	4	70-130/30
75-00-3	Chloroethane	ND		250	264	106	252	101	5	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	271	108	262	105	3	70-130/30
67-66-3	Chloroform	ND		250	264	106	256	102	3	70-130/30
74-87-3	Chloromethane	ND		250	243	97	245	98	1	70-130/30
95-49-8	o-Chlorotoluene	ND		250	269	108	261	104	3	70-130/30
106-43-4	p-Chlorotoluene	ND		250	282	113	276	110	2	70-130/30
124-48-1	Dibromochloromethane	ND		250	237	95	232	93	2	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	269	108	263	105	2	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	272	109	265	106	3	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	258	103	251	100	3	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	236	94	225	90	5	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	277	111	265	106	4	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	236	94	230	92	3	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	259	104	253	101	2	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	266	106	254	102	5	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	262	105	255	102	3	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	271	108	262	105	3	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	252	101	247	99	2	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	215	86	202	81	6	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	266	106	255	102	4	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15557-5MS	N69971.D	5	11/15/12	JP	n/a	n/a	MSN2631
MC15557-5MSD	N69972.D	5	11/15/12	JP	n/a	n/a	MSN2631
MC15557-5	N69970.D	1	11/15/12	JP	n/a	n/a	MSN2631

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

MC15334-1, MC15334-2

CAS No.	Compound	MC15557-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		250	258	103	249	100	4	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	240	96	234	94	3	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1140	91	1170	94	3	70-130/30
97-63-2	Ethyl methacrylate	ND		250	237	95	239	96	1	72-139/30
100-41-4	Ethylbenzene	ND		250	255	102	247	99	3	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	215	86	213	85	1	70-130/30
591-78-6	2-Hexanone	ND		250	200	80	204	82	2	70-130/30
98-82-8	Isopropylbenzene	ND		250	274	110	265	106	3	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	262	105	254	102	3	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		250	235	94	234	94	0	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	188	75	193	77	3	70-130/30
74-95-3	Methylene bromide	ND		250	250	100	248	99	1	70-130/30
75-09-2	Methylene chloride	ND		250	270	108	261	104	3	70-130/30
91-20-3	Naphthalene	ND		250	224	90	230	92	3	70-130/30
103-65-1	n-Propylbenzene	ND		250	276	110	269	108	3	70-130/30
100-42-5	Styrene	ND		250	254	102	244	98	4	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	263	105	254	102	3	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	243	97	243	97	0	70-130/30
127-18-4	Tetrachloroethene	ND		250	253	101	244	98	4	70-130/30
108-88-3	Toluene	ND		250	263	105	255	102	3	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	227	91	231	92	2	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	245	98	248	99	1	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	259	104	249	100	4	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	254	102	248	99	2	70-130/30
79-01-6	Trichloroethene	ND		250	250	100	239	96	4	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	236	94	228	91	3	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	258	103	259	104	0	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	246	98	237	95	4	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	242	97	235	94	3	70-130/30
108-05-4	Vinyl Acetate	ND		250	246	98	244	98	1	70-130/30
75-01-4	Vinyl chloride	ND		250	227	91	219	88	4	70-130/30
	m,p-Xylene	ND		500	528	106	505	101	4	70-130/30
95-47-6	o-Xylene	ND		250	276	110	262	105	5	70-130/30
1330-20-7	Xylene (total)	ND		750	804	107	767	102	5	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15557-5MS	N69971.D	5	11/15/12	JP	n/a	n/a	MSN2631
MC15557-5MSD	N69972.D	5	11/15/12	JP	n/a	n/a	MSN2631
MC15557-5	N69970.D	1	11/15/12	JP	n/a	n/a	MSN2631

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

MC15334-1, MC15334-2

CAS No.	Surrogate Recoveries	MS	MSD	MC15557-5	Limits
1868-53-7	Dibromofluoromethane	85%	86%	84%	70-130%
2037-26-5	Toluene-D8	85%	85%	84%	70-130%
460-00-4	4-Bromofluorobenzene	82%	83%	84%	70-130%

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

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2620-CC2591	Injection Date:	11/08/12
Lab File ID:	N69650.D	Injection Time:	15:05
Instrument ID:	GCMSN	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	330534	9.01	436471	9.88	198365	13.14	224427	15.70	94352	6.56
Upper Limit [a]	661068	9.51	872942	10.38	396730	13.64	448854	16.20	188704	7.06
Lower Limit [b]	165267	8.51	218236	9.38	99183	12.64	112214	15.20	47176	6.06
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2620-BS	328894	9.01	431877	9.88	201638	13.14	220301	15.70	86897	6.56
MSN2618-BS1	328894	9.01	431877	9.88	201638	13.14	220301	15.70	86897	6.56
MSN2620-BSD	330663	9.01	434446	9.88	194291	13.14	222253	15.70	99385	6.56
MSN2618-BSD1	330663	9.01	434446	9.88	194291	13.14	222253	15.70	99385	6.56
MSN2620-MB	321501	9.01	423060	9.88	187153	13.14	200805	15.70	82205	6.57
MSN2618-MB1	321501	9.01	423060	9.88	187153	13.14	200805	15.70	82205	6.57
ZZZZZZ	315922	9.01	412788	9.88	183345	13.14	187354	15.70	75695	6.57
ZZZZZZ	314031	9.01	409583	9.88	181840	13.14	189482	15.70	79486	6.56
ZZZZZZ	310178	9.01	405863	9.88	180257	13.14	181504	15.70	72273	6.57
ZZZZZZ	306185	9.01	402104	9.88	180069	13.14	182367	15.70	76821	6.57
ZZZZZZ	300337	9.01	400093	9.88	177069	13.14	176122	15.70	80002	6.57
ZZZZZZ	299814	9.01	398947	9.88	177691	13.14	189210	15.70	72679	6.56
ZZZZZZ	300874	9.01	400018	9.88	177366	13.14	180276	15.70	77918	6.56
ZZZZZZ	273258	9.01	363613	9.88	163618	13.14	170267	15.70	74160	6.56
ZZZZZZ	289784	9.01	388239	9.88	173451	13.14	181797	15.70	77436	6.56
MC15301-3	300244	9.01	395735	9.88	177685	13.14	186275	15.70	72370	6.57
MC15334-1 [c]	296133	9.01	395969	9.88	176117	13.14	183317	15.70	73174	6.56
MC15334-2 [c]	295167	9.01	390878	9.88	175371	13.14	181301	15.70	70935	6.57
MC15299-2MS	301321	9.01	396891	9.88	181915	13.14	205407	15.70	79582	6.56
MC15299-2MSD	303438	9.01	399477	9.88	183104	13.14	202883	15.70	81048	6.56
MC15301-3MS	302753	9.01	402283	9.88	185632	13.14	209669	15.70	82509	6.56
MC15301-3MSD	307130	9.01	410550	9.88	193929	13.14	211322	15.70	87062	6.56

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

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

Volatile Internal Standard Area Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2622-CC2591	Injection Date:	11/09/12
Lab File ID:	N69702.D	Injection Time:	15:38
Instrument ID:	GCMSN	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	322802	9.01	425699	9.88	191881	13.14	216591	15.70	94361	6.56
Upper Limit [a]	645604	9.51	851398	10.38	383762	13.64	433182	16.20	188722	7.06
Lower Limit [b]	161401	8.51	212850	9.38	95941	12.64	108296	15.20	47181	6.06
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2622-BS	322802	9.01	425699	9.88	191881	13.14	216591	15.70	94361	6.56
MSN2622-BSD	324389	9.01	425351	9.88	201419	13.14	218437	15.70	92482	6.56
MSN2622-MB	319039	9.01	418663	9.88	185169	13.14	190199	15.70	87699	6.56
ZZZZZZ	314648	9.01	412593	9.88	183297	13.14	188539	15.70	80650	6.57
ZZZZZZ	311956	9.01	412148	9.88	183542	13.14	187913	15.70	82311	6.56
ZZZZZZ	315008	9.01	412869	9.88	179977	13.14	185194	15.70	82469	6.56
ZZZZZZ	303930	9.01	408588	9.88	181021	13.14	183103	15.70	76466	6.57
MC15334-5	300411	9.01	395432	9.88	178843	13.14	184817	15.70	79206	6.56
MC15334-3	299824	9.01	395393	9.88	179162	13.14	184475	15.70	85060	6.56
ZZZZZZ	306571	9.01	404311	9.88	182894	13.14	206269	15.70	118367	6.59
ZZZZZZ	303792	9.01	406547	9.88	182918	13.14	206011	15.70	117909	6.60
MC15334-4	284183	9.01	379798	9.88	171375	13.14	183599	15.70	79464	6.57
ZZZZZZ	303755	9.01	402640	9.88	181254	13.14	189870	15.70	82796	6.56
ZZZZZZ	305520	9.01	405229	9.88	181983	13.14	187580	15.70	84365	6.56
ZZZZZZ	289381	9.01	380313	9.88	171978	13.14	173678	15.70	70734	6.56
MC15914-5	308758	9.01	407318	9.88	179894	13.14	181484	15.70	76381	6.56
ZZZZZZ	300431	9.01	392983	9.88	175799	13.14	179981	15.70	74630	6.56
ZZZZZZ	291316	9.01	382799	9.88	171958	13.14	180187	15.70	73087	6.56
ZZZZZZ	298470	9.01	390205	9.88	174589	13.14	178272	15.70	72768	6.56
ZZZZZZ	297070	9.01	391109	9.88	173713	13.14	179246	15.70	68035	6.56
MC15914-5MS	300022	9.01	394588	9.88	180675	13.14	202498	15.70	73416	6.56
MC15914-5MSD	305463	9.01	402206	9.88	182577	13.14	205743	15.70	74350	6.56

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

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

Volatile Internal Standard Area Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2631-CC2591	Injection Date:	11/14/12
Lab File ID:	N69949.D	Injection Time:	13:50
Instrument ID:	GCMSN	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	329455	9.01	429470	9.88	194298	13.14	223922	15.70	92325	6.56
Upper Limit [a]	658910	9.51	858940	10.38	388596	13.64	447844	16.20	184650	7.06
Lower Limit [b]	164728	8.51	214735	9.38	97149	12.64	111961	15.20	46163	6.06
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2631-BS	333737	9.01	436190	9.88	195687	13.14	220643	15.70	88398	6.56
MSN2631-BSD	331172	9.01	433459	9.88	201065	13.14	222175	15.70	85610	6.56
MSN2631-MB	332687	9.01	437978	9.88	189291	13.14	202925	15.70	83878	6.57
MC15334-1 [c]	328023	9.01	428624	9.88	191196	13.14	200502	15.70	88647	6.56
MC15334-2 [c]	323595	9.01	425133	9.88	186569	13.14	194513	15.70	81697	6.56
ZZZZZZ	324326	9.01	429075	9.88	189116	13.14	196471	15.70	82272	6.56
ZZZZZZ	298767	9.01	395835	9.88	172115	13.14	178748	15.70	86986	6.56
ZZZZZZ	323087	9.01	421387	9.88	186521	13.14	195401	15.70	83477	6.56
ZZZZZZ	319164	9.01	421104	9.88	183891	13.14	195134	15.70	78552	6.56
ZZZZZZ	321580	9.01	422960	9.88	185839	13.14	191181	15.70	75974	6.57
ZZZZZZ	316447	9.01	417535	9.88	183011	13.14	188621	15.70	80504	6.56
ZZZZZZ	317446	9.01	417430	9.88	184437	13.14	191992	15.70	86846	6.56
ZZZZZZ	313536	9.01	414134	9.88	190885	13.14	211931	15.70	85742	6.56
ZZZZZZ	319494	9.01	428360	9.88	192385	13.14	227199	15.70	131893	6.59
ZZZZZZ	318807	9.01	427177	9.88	195794	13.14	220128	15.70	137734	6.60
ZZZZZZ	314423	9.06	424486	9.92	184634	13.15	192888	15.70	147534	6.70
ZZZZZZ	322055	9.01	432817	9.88	193570	13.14	218575	15.70	96596	6.56
ZZZZZZ	327235	9.01	437834	9.88	196458	13.14	215394	15.70	92140	6.56
ZZZZZZ	325180	9.01	433558	9.88	191190	13.14	207765	15.70	89140	6.56
ZZZZZZ	328977	9.01	436787	9.88	190402	13.14	202973	15.70	80082	6.56
MC15557-5	329866	9.01	433891	9.88	191620	13.14	202717	15.70	85642	6.56
MC15557-5MS	323044	9.01	426527	9.88	192438	13.14	212482	15.70	86713	6.56
MC15557-5MSD	326992	9.01	435481	9.88	197971	13.14	215510	15.70	85277	6.56

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

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Sample reanalyzed past recommended hold time.

Volatile Surrogate Recovery Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8260B Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC15334-1	N69669.D	84.0	84.0	86.0
MC15334-1	N69954.D	82.0	84.0	85.0
MC15334-2	N69955.D	81.0	84.0	87.0
MC15334-2	N69670.D	84.0	85.0	86.0
MC15334-3	N69711.D	85.0	85.0	86.0
MC15334-4	N69714.D	84.0	86.0	84.0
MC15334-5	N69710.D	84.0	86.0	86.0
MC15557-5MS	N69971.D	85.0	85.0	82.0
MC15557-5MSD	N69972.D	86.0	85.0	83.0
MC15914-5MS	N69726.D	84.0	86.0	81.0
MC15914-5MSD	N69727.D	84.0	86.0	82.0
MSN2622-BS	N69702.D	84.0	85.0	82.0
MSN2622-BSD	N69703.D	84.0	86.0	82.0
MSN2622-MB	N69705.D	83.0	84.0	88.0
MSN2631-BS	N69950.D	84.0	85.0	82.0
MSN2631-BSD	N69951.D	84.0	85.0	82.0
MSN2631-MB	N69953.D	83.0	83.0	86.0

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

New England ACCUTEST LABORATORIES

GC/MS Semi-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: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30851-MB	W6462.D	1	11/02/12	KR	10/31/12	OP30851	MSW291

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

MC15334-1, MC15334-2, MC15334-3, MC15334-4

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

Method Blank Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30851-MB	W6462.D	1	11/02/12	KR	10/31/12	OP30851	MSW291

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

MC15334-1, MC15334-2, MC15334-3, MC15334-4

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

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	35%	15-110%
4165-62-2	Phenol-d5	24%	15-110%
118-79-6	2,4,6-Tribromophenol	79%	15-110%
4165-60-0	Nitrobenzene-d5	65%	30-130%
321-60-8	2-Fluorobiphenyl	63%	30-130%
1718-51-0	Terphenyl-d14	98%	30-130%

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

Method Blank Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30852-MB	U10476.D	1	11/01/12	NS	10/31/12	OP30852	MSU561

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

MC15334-1, MC15334-2, MC15334-3, MC15334-4

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

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	32%	15-110%
4165-62-2	Phenol-d5	24%	15-110%
118-79-6	2,4,6-Tribromophenol	65%	15-110%
4165-60-0	Nitrobenzene-d5	61%	30-130%
321-60-8	2-Fluorobiphenyl	56%	30-130%
1718-51-0	Terphenyl-d14	72%	30-130%

Blank Spike Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30851-BS	W6463.D	1	11/02/12	KR	10/31/12	OP30851	MSW291

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

MC15334-1, MC15334-2, MC15334-3, MC15334-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	20.6	21* a	30-130
95-57-8	2-Chlorophenol	100	67.1	67	30-130
59-50-7	4-Chloro-3-methyl phenol	100	74.7	75	30-130
120-83-2	2,4-Dichlorophenol	100	73.5	74	30-130
105-67-9	2,4-Dimethylphenol	100	69.7	70	30-130
51-28-5	2,4-Dinitrophenol	100	75.0	75	30-130
534-52-1	4,6-Dinitro-o-cresol	100	81.7	82	30-130
95-48-7	2-Methylphenol	100	59.7	60	30-130
	3&4-Methylphenol	200	115	58	30-130
88-75-5	2-Nitrophenol	100	78.0	78	30-130
100-02-7	4-Nitrophenol	100	44.2	44	30-130
87-86-5	Pentachlorophenol	100	78.8	79	30-130
108-95-2	Phenol	100	31.4	31	30-130
95-95-4	2,4,5-Trichlorophenol	100	81.0	81	30-130
88-06-2	2,4,6-Trichlorophenol	100	82.1	82	30-130
62-53-3	Aniline	50	21.4	43	40-140
101-55-3	4-Bromophenyl phenyl ether	50	38.4	77	40-140
85-68-7	Butyl benzyl phthalate	50	44.2	88	40-140
100-51-6	Benzyl Alcohol	50	30.6	61	40-140
91-58-7	2-Chloronaphthalene	50	39.0	78	40-140
106-47-8	4-Chloroaniline	50	31.3	63	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	33.2	66	40-140
111-44-4	bis(2-Chloroethyl)ether	50	38.1	76	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	43.8	88	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	37.2	74	40-140
122-66-7	1,2-Diphenylhydrazine	50	39.7	79	40-140
121-14-2	2,4-Dinitrotoluene	50	41.9	84	40-140
606-20-2	2,6-Dinitrotoluene	50	40.1	80	40-140
91-94-1	3,3'-Dichlorobenzidine	50	37.2	74	40-140
132-64-9	Dibenzofuran	50	37.2	74	40-140
84-74-2	Di-n-butyl phthalate	50	41.1	82	40-140
117-84-0	Di-n-octyl phthalate	50	47.1	94	40-140
84-66-2	Diethyl phthalate	50	41.9	84	40-140
131-11-3	Dimethyl phthalate	50	40.3	81	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	44.0	88	40-140
118-74-1	Hexachlorobenzene	50	39.0	78	40-140

* = Outside of Control Limits.

7.2.1

7

Blank Spike Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30851-BS	W6463.D	1	11/02/12	KR	10/31/12	OP30851	MSW291

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

MC15334-1, MC15334-2, MC15334-3, MC15334-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	28.7	57	40-140
67-72-1	Hexachloroethane	50	31.6	63	40-140
78-59-1	Isophorone	50	38.9	78	40-140
88-74-4	2-Nitroaniline	50	39.6	79	40-140
99-09-2	3-Nitroaniline	50	35.3	71	40-140
100-01-6	4-Nitroaniline	50	37.6	75	40-140
98-95-3	Nitrobenzene	50	37.3	75	40-140
62-75-9	n-Nitrosodimethylamine	50	25.0	50	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	43.6	87	40-140
86-30-6	N-Nitrosodiphenylamine	50	40.4	81	40-140
110-86-1	Pyridine	50	19.8	40	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	45%	15-110%
4165-62-2	Phenol-d5	31%	15-110%
118-79-6	2,4,6-Tribromophenol	91%	15-110%
4165-60-0	Nitrobenzene-d5	75%	30-130%
321-60-8	2-Fluorobiphenyl	74%	30-130%
1718-51-0	Terphenyl-d14	95%	30-130%

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

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30852-BS	U10477.D	1	11/01/12	NS	10/31/12	OP30852	MSU561
OP30852-BSD	U10478.D	1	11/01/12	NS	10/31/12	OP30852	MSU561

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

MC15334-1, MC15334-2, MC15334-3, MC15334-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	50	35.1	70	36.3	73	3	40-140/30
208-96-8	Acenaphthylene	50	27.8	56	28.5	57	2	40-140/30
120-12-7	Anthracene	50	34.4	69	35.5	71	3	40-140/30
56-55-3	Benzo(a)anthracene	50	44.9	90	45.3	91	1	40-140/30
50-32-8	Benzo(a)pyrene	50	30.7	61	30.7	61	0	40-140/30
205-99-2	Benzo(b)fluoranthene	50	33.4	67	33.5	67	0	40-140/30
191-24-2	Benzo(g,h,i)perylene	50	32.9	66	33.3	67	1	40-140/30
207-08-9	Benzo(k)fluoranthene	50	34.5	69	35.0	70	1	40-140/30
218-01-9	Chrysene	50	37.2	74	38.2	76	3	40-140/30
53-70-3	Dibenzo(a,h)anthracene	50	33.9	68	34.6	69	2	40-140/30
206-44-0	Fluoranthene	50	35.1	70	35.6	71	1	40-140/30
86-73-7	Fluorene	50	35.4	71	35.8	72	1	40-140/30
193-39-5	Indeno(1,2,3-cd)pyrene	50	33.7	67	34.4	69	2	40-140/30
90-12-0	1-Methylnaphthalene	50	28.8	58	30.5	61	6	40-140/30
91-57-6	2-Methylnaphthalene	50	29.3	59	31.5	63	7	40-140/30
85-01-8	Phenanthrene	50	36.1	72	36.7	73	2	40-140/30
129-00-0	Pyrene	50	31.8	64	31.8	64	0	40-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	41%		15-110%
4165-62-2	Phenol-d5	29%		15-110%
118-79-6	2,4,6-Tribromophenol	72%		15-110%
4165-60-0	Nitrobenzene-d5	67%	72%	30-130%
321-60-8	2-Fluorobiphenyl	67%	70%	30-130%
1718-51-0	Terphenyl-d14	73%	74%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30851-MS	W6464.D	1	11/02/12	KR	10/31/12	OP30851	MSW291
OP30851-MSD	W6465.D	1	11/02/12	KR	10/31/12	OP30851	MSW291
MC15400-2	W6466.D	1	11/02/12	KR	10/31/12	OP30851	MSW291

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

MC15334-1, MC15334-2, MC15334-3, MC15334-4

CAS No.	Compound	MC15400-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		110	29.1	26* [a]	25.9	24* [a]	12	30-130/20
95-57-8	2-Chlorophenol	ND		110	44.7	41	42.3	39	6	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		110	65.2	59	59.7	56	9	30-130/20
120-83-2	2,4-Dichlorophenol	ND		110	50.6	46	49.5	46	2	30-130/20
105-67-9	2,4-Dimethylphenol	ND		110	50.4	46	48.5	45	4	30-130/20
51-28-5	2,4-Dinitrophenol	ND		110	79.6	72	75.6	70	5	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		110	83.4	76	79.8	74	4	30-130/20
95-48-7	2-Methylphenol	ND		110	40.2	37	38.0	35	6	30-130/20
	3&4-Methylphenol	ND		220	79.0	36	74.0	34	7	30-130/20
88-75-5	2-Nitrophenol	ND		110	51.6	47	49.8	46	4	30-130/20
100-02-7	4-Nitrophenol	ND		110	49.1	45	45.1	42	8	30-130/20
87-86-5	Pentachlorophenol	ND		110	84.2	77	81.8	76	3	30-130/20
108-95-2	Phenol	ND		110	21.7	20* [b]	20.2	19* [b]	7	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		110	69.9	64	64.8	60	8	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		110	67.8	62	62.5	58	8	30-130/20
62-53-3	Aniline	ND		54.9	14.7	27* [b]	14.1	26* [b]	4	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		54.9	37.1	68	34.6	64	7	40-140/20
85-68-7	Butyl benzyl phthalate	ND		54.9	43.7	80	41.7	78	5	40-140/20
100-51-6	Benzyl Alcohol	ND		54.9	21.0	38* [b]	20.0	37* [b]	5	40-140/20
91-58-7	2-Chloronaphthalene	ND		54.9	29.1	53	27.7	52	5	40-140/20
106-47-8	4-Chloroaniline	ND		54.9	24.2	44	23.2	43	4	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		54.9	22.3	41	21.9	41	2	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		54.9	24.5	45	24.2	45	1	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		54.9	28.5	52	28.0	52	2	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		54.9	34.3	62	30.9	57	10	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		54.9	37.3	68	34.7	65	7	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		54.9	42.6	78	40.7	76	5	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		54.9	38.1	69	34.9	65	9	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		54.9	35.7	65	35.4	66	1	40-140/20
132-64-9	Dibenzofuran	ND		54.9	32.2	59	29.8	55	8	40-140/20
84-74-2	Di-n-butyl phthalate	ND		54.9	40.4	74	39.2	73	3	40-140/20
117-84-0	Di-n-octyl phthalate	ND		54.9	41.6	76	44.8	83	7	40-140/20
84-66-2	Diethyl phthalate	ND		54.9	40.9	74	37.9	70	8	40-140/20
131-11-3	Dimethyl phthalate	ND		54.9	38.2	70	36.0	67	6	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND		54.9	43.5	79	41.7	78	4	40-140/20
118-74-1	Hexachlorobenzene	ND		54.9	39.2	71	37.1	69	6	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30851-MS	W6464.D	1	11/02/12	KR	10/31/12	OP30851	MSW291
OP30851-MSD	W6465.D	1	11/02/12	KR	10/31/12	OP30851	MSW291
MC15400-2	W6466.D	1	11/02/12	KR	10/31/12	OP30851	MSW291

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

MC15334-1, MC15334-2, MC15334-3, MC15334-4

CAS No.	Compound	MC15400-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		54.9	23.4	43	24.0	45	3	40-140/20
67-72-1	Hexachloroethane	ND		54.9	21.3	39* b	20.5	38* b	4	40-140/20
78-59-1	Isophorone	ND		54.9	29.2	53	27.8	52	5	40-140/20
88-74-4	2-Nitroaniline	ND		54.9	36.3	66	34.4	64	5	40-140/20
99-09-2	3-Nitroaniline	ND		54.9	36.2	66	34.1	63	6	40-140/20
100-01-6	4-Nitroaniline	ND		54.9	38.0	69	36.2	67	5	40-140/20
98-95-3	Nitrobenzene	ND		54.9	25.1	46	24.6	46	2	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		54.9	17.6	32* b	16.5	31* b	6	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		54.9	29.7	54	28.2	52	5	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		54.9	39.6	72	37.4	70	6	40-140/20
110-86-1	Pyridine	ND		54.9	13.5	25* b	12.8	24* b	5	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15400-2	Limits
367-12-4	2-Fluorophenol	27%	26%	20%	15-110%
4165-62-2	Phenol-d5	20%	18%	15%	15-110%
118-79-6	2,4,6-Tribromophenol	81%	79%	60%	15-110%
4165-60-0	Nitrobenzene-d5	46%	46%	35%	30-130%
321-60-8	2-Fluorobiphenyl	49%	47%	32%	30-130%
1718-51-0	Terphenyl-d14	87%	83%	82%	30-130%

(a) Outside control limits. Blank Spike meets program technical requirements.
(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: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30852-MS	U10479.D	1	11/01/12	NS	10/31/12	OP30852	MSU561
OP30852-MSD	U10480.D	1	11/01/12	NS	10/31/12	OP30852	MSU561
MC15310-1	U10481.D	1	11/01/12	NS	10/31/12	OP30852	MSU561

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

MC15334-1, MC15334-2, MC15334-3, MC15334-4

CAS No.	Compound	MC15310-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		54.9	29.7	54	27.9	52	6	40-140/20
208-96-8	Acenaphthylene	ND		54.9	23.4	43	22.2	41	5	40-140/20
120-12-7	Anthracene	ND		54.9	35.7	65	33.8	63	5	40-140/20
56-55-3	Benzo(a)anthracene	ND		54.9	47.4	86	45.2	84	5	40-140/20
50-32-8	Benzo(a)pyrene	ND		54.9	31.9	58	30.7	57	4	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		54.9	34.3	62	33.0	61	4	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND		54.9	34.3	62	32.7	61	5	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		54.9	36.9	67	35.2	65	5	40-140/20
218-01-9	Chrysene	ND		54.9	39.5	72	37.4	70	5	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		54.9	35.4	64	34.1	63	4	40-140/20
206-44-0	Fluoranthene	ND		54.9	36.7	67	35.0	65	5	40-140/20
86-73-7	Fluorene	ND		54.9	33.0	60	31.5	59	5	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		54.9	35.2	64	33.9	63	4	40-140/20
90-12-0	1-Methylnaphthalene	ND		54.9	21.4	39*	21.0	39*	2	40-140/20
91-57-6	2-Methylnaphthalene	ND		54.9	21.8	40	21.4	40	2	40-140/20
85-01-8	Phenanthrene	ND		54.9	37.1	68	35.2	65	5	40-140/20
129-00-0	Pyrene	ND		54.9	33.1	60	31.4	58	5	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15310-1	Limits
367-12-4	2-Fluorophenol	25%	25%		15-110%
4165-62-2	Phenol-d5	19%	18%		15-110%
118-79-6	2,4,6-Tribromophenol	66%	63%		15-110%
4165-60-0	Nitrobenzene-d5	43%	43%	33%	30-130%
321-60-8	2-Fluorobiphenyl	46%	45%	32%	30-130%
1718-51-0	Terphenyl-d14	70%	67%	63%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSU561-CC550	Injection Date:	11/01/12
Lab File ID:	U10475.D	Injection Time:	09:35
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	183403	3.71	540108	4.68	256247	6.10	429152	7.41	178830	10.19	216936	11.62
Upper Limit [a]	366806	4.21	1080216	5.18	512494	6.60	858304	7.91	357660	10.69	433872	12.12
Lower Limit [b]	91702	3.21	270054	4.18	128124	5.60	214576	6.91	89415	9.69	108468	11.12
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30852-MB	194443	3.71	582923	4.68	276273	6.10	450390	7.41	266877	10.19	434777[c]	11.62
OP30852-BS	175832	3.71	524362	4.68	241791	6.10	406820	7.41	223939	10.19	375436	11.62
OP30852-BSD	190073	3.71	554010	4.68	257327	6.10	428818	7.41	233704	10.19	391387	11.62
OP30852-MS	186866	3.71	549494	4.68	260853	6.10	433993	7.41	243488	10.19	451970[c]	11.63
OP30852-MSD	193115	3.71	565266	4.68	266252	6.10	447035	7.41	251842	10.19	419831	11.63
MC15310-1	182217	3.71	547406	4.68	259520	6.10	428207	7.41	251575	10.19	413234	11.62
ZZZZZZ	199096	3.71	583400	4.68	275708	6.10	451245	7.41	262627	10.19	441806[c]	11.62
OP30785-MB	195599	3.71	584869	4.68	283315	6.10	456131	7.41	265234	10.19	450191[c]	11.62
OP30785-BS	201932	3.71	584714	4.68	273066	6.10	455636	7.41	254046	10.20	432749	11.63
ZZZZZZ	190709	3.71	561136	4.68	264510	6.10	436757	7.41	259060	10.19	434662[c]	11.62
ZZZZZZ	192528	3.71	574108	4.68	270595	6.10	442259	7.41	262593	10.19	457992[c]	11.63
ZZZZZZ	194604	3.71	579860	4.68	274436	6.10	450723	7.41	266480	10.19	449298[c]	11.62
OP30842-MB	207906	3.71	609269	4.68	289897	6.10	478159	7.41	283338	10.19	477178[c]	11.62
OP30842-BS	197354	3.71	588912	4.68	269659	6.10	457832	7.41	254887	10.20	441891[c]	11.63
ZZZZZZ	200326	3.71	600477	4.68	289526	6.10	468109	7.41	277217	10.19	481179[c]	11.63
ZZZZZZ	200053	3.71	589637	4.68	280473	6.10	460862	7.41	271389	10.19	472512[c]	11.63
ZZZZZZ	192784	3.71	554254	4.68	270203	6.10	445627	7.41	260785	10.19	451739[c]	11.62
ZZZZZZ	198413	3.71	565830	4.68	278849	6.10	452094	7.41	272274	10.19	464983[c]	11.63
OP30843-MB [d]	367803*	3.70	1065248	4.68	492961	6.10	798774	7.41	464102*	10.19	823981*	11.63
OP30843-BS	212824	3.70	621442	4.68	281514	6.10	466346	7.41	257767	10.19	454972[c]	11.63
ZZZZZZ	211302	3.70	617037	4.68	287695	6.10	464781	7.41	266696	10.19	462892[c]	11.63
ZZZZZZ	271669	3.68	809167	4.66	386123	6.08	636257	7.39	378438[e]	10.17	662140[e]	11.60
ZZZZZZ	254683	3.68	740628	4.66	355969	6.08	588435	7.38	342652	10.17	598882*	11.60

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

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Outside control limits. Target analytes not associated with this internal standard.
(d) Internal standard spiked at 2x concentration.

7.5.1

7

Semivolatile Internal Standard Area Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSU561-CC550	Injection Date:	11/01/12
Lab File ID:	U10475.D	Injection Time:	09:35
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

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

(e) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

Semivolatile Internal Standard Area Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSU562-CC550	Injection Date:	11/05/12
Lab File ID:	U10505.D	Injection Time:	09:25
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	184192	3.68	534581	4.66	249284	6.08	412853	7.38	172876	10.16	219324	11.59
Upper Limit [a]	368384	4.18	1069162	5.16	498568	6.58	825706	7.88	345752	10.66	438648	12.09
Lower Limit [b]	92096	3.18	267291	4.16	124642	5.58	206427	6.88	86438	9.66	109662	11.09

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
MC15334-1	197220	3.68	574949	4.66	267926	6.08	438911	7.38	256111	10.16	363535	11.59
MC15334-2	223422	3.68	644378	4.66	301714	6.08	496097	7.38	285081	10.16	416524	11.59
MC15334-3	203937	3.68	598035	4.66	277750	6.08	461861	7.38	262740	10.16	377924	11.59
MC15334-4	199852	3.68	570525	4.66	274774	6.08	467932	7.38	278521	10.16	399605	11.59
ZZZZZZ	201557	3.68	570808	4.66	280126	6.08	471666	7.38	284382	10.16	406749	11.59
ZZZZZZ	210588	3.68	609485	4.66	291424	6.08	486777	7.38	276527	10.16	401310	11.59
ZZZZZZ	215875	3.68	596719	4.66	294392	6.08	492557	7.38	275940	10.16	387037	11.59
ZZZZZZ	197985	3.68	565128	4.66	263499	6.08	440440	7.38	243846	10.16	336187	11.59
ZZZZZZ	177710	3.68	512608	4.66	249871	6.08	428848	7.38	239433	10.16	325805	11.59
OP30909-MB	193921	3.68	568227	4.66	269473	6.08	439174	7.38	283826	10.16	424892	11.59
OP30909-BS	196867	3.68	570479	4.66	267202	6.08	452332	7.38	272633	10.17	417046	11.60
OP30909-MS	195856	3.68	564091	4.66	265495	6.08	454621	7.38	273677	10.17	407897	11.60
OP30909-MSD	184938	3.68	533191	4.66	255458	6.08	434842	7.38	259308	10.17	394606	11.60
MC15652-6	189795	3.68	564782	4.66	268020	6.08	442476	7.38	284427	10.16	415656	11.59
ZZZZZZ	177981	3.68	518442	4.66	240115	6.08	396465	7.38	244569	10.16	326715	11.59
OP30880-MB	174028	3.68	517710	4.66	245388	6.08	410833	7.38	263366	10.16	458182[c]	11.59
OP30880-BS	192215	3.68	543726	4.66	258756	6.08	442465	7.38	261450	10.17	472225[c]	11.60
OP30880-BSD	177853	3.68	519061	4.66	244543	6.08	419944	7.38	243466	10.17	385130	11.60
OP30880-MS	171873	3.69	509452	4.67	234219	6.09	413597	7.39	256981	10.17	456051[c]	11.60
OP30880-MSD	160978	3.68	483549	4.67	222888	6.08	392163	7.39	243115	10.17	436730	11.60
MC15402-1	162933	3.68	478534	4.66	230001	6.08	400481	7.39	265246	10.17	475541[c]	11.60
ZZZZZZ	172473	3.68	508369	4.66	244375	6.08	408524	7.38	269507	10.16	499324[c]	11.60
ZZZZZZ	170386	3.68	487808	4.66	232137	6.08	391012	7.38	261983	10.17	440621[c]	11.60
ZZZZZZ	175901	3.68	504642	4.66	240801	6.08	404617	7.38	265211	10.16	447799[c]	11.60
ZZZZZZ	170177	3.68	489474	4.66	238068	6.08	400090	7.38	263573	10.16	437977	11.60
ZZZZZZ	176466	3.68	510746	4.66	244690	6.08	405637	7.38	246856	10.16	383719	11.59
ZZZZZZ	177962	3.68	512137	4.66	238535	6.08	406158	7.38	245756	10.16	379436	11.59
ZZZZZZ	179725	3.68	514208	4.66	243287	6.08	416315	7.38	252534	10.16	400460	11.59
ZZZZZZ	182838	3.68	523672	4.66	252986	6.08	416854	7.38	257277	10.16	395832	11.59
ZZZZZZ	170588	3.68	484952	4.66	237164	6.08	406235	7.38	255914	10.16	399890	11.59

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10

Semivolatile Internal Standard Area Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSU562-CC550	Injection Date:	11/05/12
Lab File ID:	U10505.D	Injection Time:	09:25
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

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

IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Outside control limits. Target analytes not associated with this internal standard.

Semivolatile Internal Standard Area Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW291-CC287	Injection Date:	11/02/12
Lab File ID:	W6461.D	Injection Time:	08:42
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	100097	3.46	393380	4.44	234953	5.86	409936	7.12	528112	9.95	455812	11.51
Upper Limit [a]	200194	3.96	786760	4.94	469906	6.36	819872	7.62	1056224	10.45	911624	12.01
Lower Limit [b]	50049	2.96	196690	3.94	117477	5.36	204968	6.62	264056	9.45	227906	11.01

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30851-MB	105727	3.46	420769	4.44	243269	5.85	435663	7.12	496693	9.95	443174	11.51
OP30851-BS	87754	3.46	346170	4.44	203319	5.85	353258	7.12	435453	9.95	357212	11.51
OP30851-MS	103690	3.46	408454	4.44	243067	5.85	427815	7.12	533032	9.96	496087	11.51
OP30851-MSD	118006	3.46	456520	4.44	272352	5.85	475496	7.12	588815	9.96	482791	11.51
MC15400-2	92842	3.46	370097	4.44	217342	5.85	387996	7.12	436853	9.95	399887	11.51
ZZZZZZ	109172	3.46	434847	4.44	253734	5.85	451186	7.12	486056	9.95	363040	11.51
ZZZZZZ	107633	3.46	419315	4.44	245797	5.85	435580	7.12	470473	9.95	344758	11.51
ZZZZZZ	108199	3.46	425637	4.44	253211	5.85	451811	7.12	477070	9.95	371119	11.51
ZZZZZZ	99172	3.46	397735	4.44	232879	5.85	411068	7.12	442536	9.95	344363	11.51

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

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

Semivolatile Internal Standard Area Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW294-CC287	Injection Date:	11/02/12
Lab File ID:	W6473.D	Injection Time:	13:36
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	97322	3.46	383760	4.44	228875	5.86	398359	7.12	514058	9.95	445556	11.51
Upper Limit [a]	194644	3.96	767520	4.94	457750	6.36	796718	7.62	1028116	10.45	891112	12.01
Lower Limit [b]	48661	2.96	191880	3.94	114438	5.36	199180	6.62	257029	9.45	222778	11.01
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
MC15334-1	100970	3.46	397579	4.44	230175	5.85	407736	7.12	440415	9.95	316011	11.51
MC15334-2	101567	3.46	404985	4.44	233401	5.85	418760	7.12	456655	9.95	339746	11.51
MC15334-3	99342	3.46	387333	4.44	228133	5.85	396246	7.12	428964	9.95	324427	11.51
MC15334-4	102514	3.46	402240	4.44	237592	5.85	412652	7.12	452943	9.95	342964	11.51
ZZZZZZ	103447	3.46	428767	4.44	238064	5.85	424513	7.12	460447	9.95	334637	11.51
ZZZZZZ	106572	3.46	417955	4.44	244101	5.85	428685	7.12	476583	9.95	350548	11.51
ZZZZZZ	103235	3.46	407245	4.44	238878	5.85	418632	7.12	443956	9.95	318535	11.51
ZZZZZZ	111150	3.46	450346	4.44	270283	5.86	538498	7.13	509163	9.96	372269	11.52
ZZZZZZ	108416	3.46	435996	4.44	258714	5.86	530151	7.13	491492	9.96	358218	11.52

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

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

7.5.4

7

Semivolatile Surrogate Recovery Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15334-1	W6490.D	47.0	31.0	93.0	79.0	75.0	116.0
MC15334-2	W6491.D	48.0	31.0	92.0	81.0	78.0	90.0
MC15334-3	W6492.D	39.0	25.0	76.0	70.0	64.0	106.0
MC15334-4	W6493.D	47.0	28.0	93.0	78.0	72.0	88.0
OP30851-BS	W6463.D	45.0	31.0	91.0	75.0	74.0	95.0
OP30851-MB	W6462.D	35.0	24.0	79.0	65.0	63.0	98.0
OP30851-MS	W6464.D	27.0	20.0	81.0	46.0	49.0	87.0
OP30851-MSD	W6465.D	26.0	18.0	79.0	46.0	47.0	83.0

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

Semivolatile Surrogate Recovery Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15334-1	U10506.D	41.0	29.0	76.0	72.0	68.0	79.0
MC15334-2	U10507.D	42.0	29.0	77.0	76.0	70.0	65.0
MC15334-3	U10508.D	35.0	24.0	65.0	64.0	60.0	71.0
MC15334-4	U10509.D	36.0	26.0	75.0	72.0	66.0	65.0
OP30852-BS	U10477.D	41.0	29.0	72.0	67.0	67.0	73.0
OP30852-BSD	U10478.D				72.0	70.0	74.0
OP30852-MB	U10476.D	32.0	24.0	65.0	61.0	56.0	72.0
OP30852-MS	U10479.D	25.0	19.0	66.0	43.0	46.0	70.0
OP30852-MSD	U10480.D	25.0	18.0	63.0	43.0	45.0	67.0

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

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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: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30848-MB	YZ76790.D	1	10/31/12	CZ	10/30/12	OP30848	GYZ6962

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

MC15334-1, MC15334-2, MC15334-3, MC15334-4, MC15334-6

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

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	95%	36-173%
460-00-4	Bromofluorobenzene (S)	96%	36-173%

8.1.1

8

Blank Spike Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30848-BS	YZ76791.D	1	10/31/12	CZ	10/30/12	OP30848	GYZ6962

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

MC15334-1, MC15334-2, MC15334-3, MC15334-4, MC15334-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.075	106	60-140
106-93-4	1,2-Dibromoethane	0.071	0.075	106	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	98%	36-173%
460-00-4	Bromofluorobenzene (S)	106%	36-173%

8.2.1

8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30848-MS	YZ76792.D	1	10/31/12	CZ	10/30/12	OP30848	GYZ6962
OP30848-MSD	YZ76793.D	1	10/31/12	CZ	10/30/12	OP30848	GYZ6962
MC15301-3	YZ76796.D	1	10/31/12	CZ	10/30/12	OP30848	GYZ6962

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

MC15334-1, MC15334-2, MC15334-3, MC15334-4, MC15334-6

CAS No.	Compound	MC15301-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		0.0744	0.073	98	0.068	93	7	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.0744	0.071	95	0.068	93	4	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC15301-3	Limits
460-00-4	Bromofluorobenzene (S)	97%	84%	91%	36-173%
460-00-4	Bromofluorobenzene (S)	101%	91%	102%	36-173%

8.3.1

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8011 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC15334-1	YZ76799.D	100.0	116.0
MC15334-2	YZ76801.D	97.0	98.0
MC15334-3	YZ76802.D	109.0	104.0
MC15334-4	YZ76803.D	83.0	93.0
MC15334-6	YZ76804.D	111.0	105.0
OP30848-BS	YZ76791.D	98.0	106.0
OP30848-MB	YZ76790.D	95.0	96.0
OP30848-MS	YZ76792.D	97.0	101.0
OP30848-MSD	YZ76793.D	84.0	91.0

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

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

8.4.1

8

GC Surrogate Retention Time Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GYZ6962-ICC6962	Injection Date:	10/31/12
Lab File ID:	YZ76785.D	Injection Time:	17:25
Instrument ID:	GCYZ	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	3.61	3.30

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	YZ76788A.D	10/31/12	18:41	3.61	3.30
OP30848-MB	YZ76790.D	10/31/12	19:30	3.61	3.30
OP30848-BS	YZ76791.D	10/31/12	19:55	3.61	3.30
OP30848-MS	YZ76792.D	10/31/12	20:20	3.61	3.30
OP30848-MSD	YZ76793.D	10/31/12	20:45	3.61	3.30
ZZZZZZ	YZ76794.D	10/31/12	21:10	3.61	3.30
ZZZZZZ	YZ76795.D	10/31/12	21:35	3.61	3.30
MC15301-3	YZ76796.D	10/31/12	22:01	3.61	3.30
ZZZZZZ	YZ76797.D	10/31/12	22:26	3.61	3.30
ZZZZZZ	YZ76798.D	10/31/12	22:51	3.61	3.30
MC15334-1	YZ76799.D	10/31/12	23:17	3.61	3.30

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC15334
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GYZ6962-CC6962	Injection Date:	10/31/12
Lab File ID:	YZ76800.D	Injection Time:	23:43
Instrument ID:	GCYZ	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	3.61	3.30

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
MC15334-2	YZ76801.D	11/01/12	00:08	3.61	3.30
MC15334-3	YZ76802.D	11/01/12	00:34	3.61	3.30
MC15334-4	YZ76803.D	11/01/12	01:00	3.60	3.30
MC15334-6	YZ76804.D	11/01/12	01:26	3.61	3.30
ZZZZZZ	YZ76805.D	11/01/12	01:51	3.60	3.30
ZZZZZZ	YZ76806.D	11/01/12	02:17	3.60	3.30
OP30564-MB	YZ76807.D	11/01/12	02:43	3.61	3.30
OP30563-MB	YZ76807A.D	11/01/12	02:43	3.61	3.30
ZZZZZZ	YZ76808.D	11/01/12	03:08	3.61	3.30
ZZZZZZ	YZ76808A.D	11/01/12	03:08	3.61	3.30
GYZ6962-ECC6962	YZ76809.D	11/01/12	03:34	3.61	3.30

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

8.5.2

8

Roxana Groundwater Quarterly – 4th Quarter 2012 Data Review

Laboratory SDG: MC15421

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 11/28/2012

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Sample Identification	Sample Identification
MW7-ROX-103012	MW7-ROX-103012-Dup
MW8-ROX-103012	P54-ROX-103012
TB-103012-HCL-R	TB-103012-ST-R
TB-103012-HCL-R2	TB-103012-ST-R2

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated that VOC LCS/LCSD recoveries and SVOC LCS recoveries were outside evaluation criteria. Although not indicated in the laboratory case narrative, PAHs were detected in the method blank. Sample MW8-ROX-103012 and field duplicate pair MW7-ROX-103012/MW7-ROX-103012-Dup were diluted due to high levels of benzene. 1-Methylnaphthalene and phenol were qualified due to field duplicate RPD outside evaluation criteria in field duplicate pair MW7-ROX-103012/MW7-ROX-103012-Dup. Additionally, the initial calibration verification for acetone, 4-chloroaniline, and aniline exceeded 50 percent difference (%D). These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated samples were received by the laboratory at a temperature of 0.5 ºC, which is outside the 4ºC ± 2ºC criteria. Samples were received in good condition; therefore, no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

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

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
OP30924-MB	PAHs	Benzo(a)anthracene	0.25 ug/L
OP30924-MB	PAHs	Benzo(a)pyrene	0.082 ug/L

Blank ID	Parameter	Analyte	Concentration/ Amount
OP30924-MB	PAHs	Benzo(b)fluoranthene	0.11 ug/L
OP30924-MB	PAHs	Benzo(g,h,i)perylene	0.11 ug/L
OP30924-MB	PAHs	Benzo(k)fluoranthene	0.12 ug/L
OP30924-MB	PAHs	Chrysene	0.13 ug/L
OP30924-MB	PAHs	Dibenzo(a,h)anthracene	0.11 ug/L
OP30924-MB	PAHs	Fluoranthene	0.096 ug/L
OP30924-MB	PAHs	Indeno(1,2,3-cd)pyrene	0.10 ug/L
OP30924-MB	PAHs	Pyrene	0.089 ug/L

Qualifications due to blank contamination are included in the table below. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
MW7-ROX-103012	PAHs	Pyrene	-	**U**
MW7-ROX-103012-Dup	PAHs	Pyrene	-	**U**
MW8-ROX-103012	PAHs	Benzo(a)anthracene	0.87 ug/L	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSN2627-BS/BSD	VOCs	Acrylonitrile	**544/526**	3	70-130/25
MSN2627-BS/BSD	VOCs	Chloromethane	**60/59**	1	70-130/25
MSN2627-BS/BSD	VOCs	Dichlorodifluoromethane	**63/60**	6	70-130/25
MSN2627-BS/BSD	VOCs	Vinyl chloride	**66/63**	4	70-130/25
MSN2629-BS/BSD	VOCs	Acrolein	**61/62**	2	70-130/25
MSN2629-BS/BSD	VOCs	Acrylonitrile	**492/494**	0	70-130/25
OP30923-BS	SVOCs	Phenol	**23**	NA	30-130
OP30923-BS	SVOCs	Aniline	**30**	NA	40-140
OP30923-BS	SVOCs	n-Nitrosodimethylamine	**34**	NA	40-140
OP30923-BS	SVOCs	Pyridine	**24**	NA	40-140

Analytical data that required qualification based on LCS data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries

above evaluation criteria, indicating a possible high bias, did not require qualification. LCS/LCSD MSN2627-BS/BSD was associated with trip blanks TB-103012-HCL-R and TB-103012-HCL-R2. Trip blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
MW7-ROX-103012	VOCs	Acrolein	**UJ**
MW7-ROX-103012	VOCs	Chloromethane	**UJ**
MW7-ROX-103012	VOCs	Dichlorodifluoromethane	**UJ**
MW7-ROX-103012	VOCs	Vinyl chloride	**UJ**
MW7-ROX-103012	SVOCs	Phenol	**J**
MW7-ROX-103012	SVOCs	Aniline	**UJ**
MW7-ROX-103012	SVOCs	n-Nitrosodimethylamine	**UJ**
MW7-ROX-103012	SVOCs	Pyridine	**UJ**
MW7-ROX-103012-Dup	VOCs	Acrolein	**UJ**
MW7-ROX-103012-Dup	VOCs	Chloromethane	**UJ**
MW7-ROX-103012-Dup	VOCs	Dichlorodifluoromethane	**UJ**
MW7-ROX-103012-Dup	VOCs	Vinyl chloride	**UJ**
MW7-ROX-103012-Dup	SVOCs	Phenol	**J**
MW7-ROX-103012-Dup	SVOCs	Aniline	**UJ**
MW7-ROX-103012-Dup	SVOCs	n-Nitrosodimethylamine	**UJ**
MW7-ROX-103012-Dup	SVOCs	Pyridine	**UJ**
MW8-ROX-103012	VOCs	Acrolein	**UJ**
MW8-ROX-103012	VOCs	Chloromethane	**UJ**
MW8-ROX-103012	VOCs	Dichlorodifluoromethane	**UJ**
MW8-ROX-103012	VOCs	Vinyl chloride	**UJ**
MW8-ROX-103012	SVOCs	Phenol	**J**
MW8-ROX-103012	SVOCs	Aniline	**UJ**
MW8-ROX-103012	SVOCs	n-Nitrosodimethylamine	**UJ**
MW8-ROX-103012	SVOCs	Pyridine	**UJ**
P54-ROX-103012	VOCs	Acrolein	**UJ**
P54-ROX-103012	SVOCs	Phenol	**UJ**
P54-ROX-103012	SVOCs	Aniline	**UJ**
P54-ROX-103012	SVOCs	n-Nitrosodimethylamine	**UJ**
P54-ROX-103012	SVOCs	Pyridine	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
MW7-ROX-103012	MW7-ROX-103012-Dup

Were field duplicates within evaluation criteria?

No

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
MW7-ROX-103012	MW7-ROX-103012-Dup	PAHs	1-Methylnaphthalene	**27**	**J/J**
MW7-ROX-103012	MW7-ROX-103012-Dup	SVOCs	Phenol	**28**	**J/J**

11.0 Sample Dilutions

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

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes, the initial calibration verification recovery for acetone, 4-chloroaniline, and aniline exceeded 50 percent difference (%D); analytes in associated samples were qualified as summarized in the following table. Aniline was previously qualified in samples due to LSC recovery data in section 5.0 of this report; no further qualification of aniline was necessary.

Sample ID	Parameter	Analyte	Qualification
MW7-ROX-103012	VOCs	Acetone	**UJ**
MW7-ROX-103012	SVOCs	4-Chloroaniline	**UJ**
MW7-ROX-103012-Dup	VOCs	Acetone	**UJ**
MW7-ROX-103012-Dup	SVOCs	4-Chloroaniline	**UJ**
MW8-ROX-103012	VOCs	Acetone	**UJ**
MW8-ROX-103012	SVOCs	4-Chloroaniline	**UJ**
P54-ROX-103012	VOCs	Acetone	**UJ**
P54-ROX-103012	SVOCs	4-Chloroaniline	**UJ**

New England ACCUTEST LABORATORIES

12/04/12



Technical Report for

Shell Oil

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana,

Accutest Job Number: MC15421

Sampling Date: 10/30/12

Report to:

URS Corporation

elizabeth.kunkel@URS.com

ATTN: Elizabeth Kunkel

Total number of pages in report: **97**

Reviewed on 11/28/12

Reza Tand
Lab Director

ACCREDITED IN ACCORDANCE WITH nelac

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

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Sample Summary

Shell Oil

Job No: MC15421

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC15421-1	10/30/12	12:30	LRSJ	11/01/12	AQ	Ground Water	MW7-ROX-103012
MC15421-2	10/30/12	12:30	LRSJ	11/01/12	AQ	Ground Water	MW7-ROX-103012-DUP
MC15421-3	10/30/12	15:30	LRSJ	11/01/12	AQ	Ground Water	MW8-ROX-103012
MC15421-4	10/30/12	15:50	LRSJ	11/01/12	AQ	Ground Water	P54-ROX-103012
MC15421-5	10/30/12	00:00	LRSJ	11/01/12	AQ	Trip Blank Water	TB-103012-HCL-R
MC15421-6	10/30/12	00:00	LRSJ	11/01/12	AQ	Trip Blank Water	TB-103012-ST-R
MC15421-7	10/30/12	00:00	LRSJ	11/01/12	AQ	Trip Blank Water	TB-103012-HCL-R2
MC15421-8	10/30/12	00:00	LRSJ	11/01/12	AQ	Trip Blank Water	TB-103012-ST-R2

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	**Job No**	MC15421
Site:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central	**Report Date**	11/28/2012 9:23:04 AM

4 Sample(s), 4 Trip Blank(s) and 0 Field Blank(s) were collected on 10/30/2012 and were received at Accutest on 11/01/2012 properly preserved, at 0.5 Deg. C and intact. These Samples received an Accutest job number of MC15421. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. 1-Chlorohexane, Benzenethiol, Dibenz(a,h)acridine, Indene, and Quinoline were searched in the library search and reported only if detections were found.

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

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ **Batch ID:** MSN2627

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15425-1MS, MC15425-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MSN2627-BS/BSD for Chloromethane, Dichlorodifluoromethane, Vinyl chloride are outside control limits. Blank Spike meets program technical requirements.
- MC15425-1MS for Chloromethane, Dichlorodifluoromethane are outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC15425-1MSD for Acrolein, Chloromethane, Dichlorodifluoromethane, Vinyl chloride are outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC15425-1MS/MSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MSN2627-BS/BSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- Initial calibration verification standard MSN2591-ICV2591 for acetone exceed 50% Difference. (Results biased high). Associated samples are non-detect for these compounds.

Matrix: AQ **Batch ID:** MSN2629

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15549-3MS, MC15549-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MSN2629-BS/BSD for Acrolein are outside control limits. Blank Spike meets program technical requirements.
- MC15549-3MS/MSD for Acrolein are outside control limits due to possible matrix interference. Refer to Blank Spike.
- MSN2629-BS/BSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MC15549-3MS/MSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.

Extractables by GCMS By Method SW846 8270C

Matrix: AQ	Batch ID: OP30923

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15652-1MS, MC15652-1MSD were used as the QC samples indicated.

- OP30923-BS for Aniline, Benzoic Acid, n-Nitrosodimethylamine, Phenol, Pyridine are outside control limits. Blank Spike meets program technical requirements.
- OP30923-MS for Phenol, Pyridine are outside control limits. Blank Spike meets program technical requirements.
- OP30923-MSD for Aniline, Benzoic Acid, n-Nitrosodimethylamine, Phenol, Pyridine are outside control limits. Blank Spike meets program technical requirements.
- Initial calibration verification MSW287-ICV287 for 4-Chloroaniline, Aniline exceeds 50% Difference.4-Chloroaniline, Aniline is within criteria in continuing calibration check MSW301-CC287, MSW307-CC287.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix: AQ	Batch ID: OP30924

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15652-2MS, MC15652-2MSD were used as the QC samples indicated.
- Sample(s) MC15421-2, MC15421-3 have compound(s) reported with a "B" qualifier, indicating analyte is found in the associated method blank.

Volatiles by GC By Method SW846 8011

Matrix: AQ	Batch ID: OP30886

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15506-7MS, MC15506-7MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

The Accutest Laboratories of 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 Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC15421).

Summary of Hits

Job Number: MC15421
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 10/30/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC15421-1	MW7-ROX-103012					
Benzene		833000	5000	2400	ug/l	SW846 8260B
Phenol		61.5	5.8	1.1	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		1.5 J	2.3	0.44	ug/l	SW846 8270C
Acenaphthene		0.31	0.12	0.016	ug/l	SW846 8270C BY SIM
Fluorene		0.23	0.12	0.054	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		6.1	0.23	0.16	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		7.7	0.23	0.060	ug/l	SW846 8270C BY SIM
Phenanthrene		0.36	0.058	0.015	ug/l	SW846 8270C BY SIM
Pyrene		0.050 J	0.12	0.041	ug/l	SW846 8270C BY SIM
MC15421-2	MW7-ROX-103012-DUP					
Benzene		863000	5000	2400	ug/l	SW846 8260B
Phenol		81.2	5.6	1.0	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		0.70 J	2.2	0.42	ug/l	SW846 8270C
Acenaphthene		0.34	0.11	0.015	ug/l	SW846 8270C BY SIM
Fluorene		0.26	0.11	0.051	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		8.0	0.22	0.16	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		9.8	0.22	0.058	ug/l	SW846 8270C BY SIM
Phenanthrene		0.37	0.056	0.014	ug/l	SW846 8270C BY SIM
Pyrene		0.050 JB	0.11	0.039	ug/l	SW846 8270C BY SIM
MC15421-3	MW8-ROX-103012					
Benzene		523000	25000	12000	ug/l	SW846 8260B
2,4-Dimethylphenol		8.5 J	11	2.9	ug/l	SW846 8270C
2-Methylphenol		5.8 J	11	0.64	ug/l	SW846 8270C
3&4-Methylphenol		15.8	11	0.79	ug/l	SW846 8270C
Pentachlorophenol		3.0 J	11	0.67	ug/l	SW846 8270C
Phenol		165	5.3	0.98	ug/l	SW846 8270C
Butyl benzyl phthalate		0.86 J	5.3	0.28	ug/l	SW846 8270C
Di-n-butyl phthalate		0.82 J	5.3	0.38	ug/l	SW846 8270C
Di-n-octyl phthalate		0.63 J	5.3	0.25	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		1.2 J	2.1	0.39	ug/l	SW846 8270C
N-Nitrosodiphenylamine		0.52 J	5.3	0.46	ug/l	SW846 8270C
Acenaphthene		0.26	0.11	0.014	ug/l	SW846 8270C BY SIM
Acenaphthylene		0.11	0.11	0.014	ug/l	SW846 8270C BY SIM
Anthracene		0.44	0.11	0.019	ug/l	SW846 8270C BY SIM
Benzo(a)anthracene		0.87 B	0.053	0.032	ug/l	SW846 8270C BY SIM
Benzo(a)pyrene		0.53 B	0.11	0.018	ug/l	SW846 8270C BY SIM
Benzo(b)fluoranthene		0.57 B	0.053	0.025	ug/l	SW846 8270C BY SIM
Benzo(g,h,i)perylene		0.58 B	0.11	0.040	ug/l	SW846 8270C BY SIM
Benzo(k)fluoranthene		0.64 B	0.11	0.062	ug/l	SW846 8270C BY SIM

Summary of Hits

Job Number: MC15421
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 10/30/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Chrysene		0.66 B	0.11	0.077	ug/l	SW846 8270C BY SIM
Dibenzo(a,h)anthracene		0.59 B	0.11	0.044	ug/l	SW846 8270C BY SIM
Fluoranthene		0.59 B	0.11	0.034	ug/l	SW846 8270C BY SIM
Fluorene		0.53	0.11	0.049	ug/l	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene		0.59 B	0.11	0.048	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		9.7	0.21	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		11.2	0.21	0.055	ug/l	SW846 8270C BY SIM
Phenanthrene		0.57	0.053	0.013	ug/l	SW846 8270C BY SIM
Pyrene		0.54 B	0.11	0.037	ug/l	SW846 8270C BY SIM

MC15421-4 P54-ROX-103012

No hits reported in this sample.

MC15421-5 TB-103012-HCL-R

No hits reported in this sample.

MC15421-6 TB-103012-ST-R

No hits reported in this sample.

MC15421-7 TB-103012-HCL-R2

No hits reported in this sample.

MC15421-8 TB-103012-ST-R2

No hits reported in this sample.

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW7-ROX-103012		
Lab Sample ID:	MC15421-1	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69861.D	2000	11/12/12	JP	n/a	n/a	MSN2627
Run #2	N69901.D	10000	11/13/12	JP	n/a	n/a	MSN2629

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

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10000	6000	ug/l	UJ
107-02-8	Acrolein	ND	50000	20000	ug/l	UJ
107-13-1	Acrylonitrile	ND	10000	6500	ug/l	
71-43-2	Benzene	833000 [a]	5000	2400	ug/l	
108-86-1	Bromobenzene	ND	10000	1200	ug/l	
74-97-5	Bromochloromethane	ND	10000	2500	ug/l	
75-27-4	Bromodichloromethane	ND	2000	1200	ug/l	
75-25-2	Bromoform	ND	2000	1600	ug/l	
74-83-9	Bromomethane	ND	4000	2000	ug/l	
78-93-3	2-Butanone (MEK)	ND	10000	4800	ug/l	
104-51-8	n-Butylbenzene	ND	10000	1200	ug/l	
135-98-8	sec-Butylbenzene	ND	10000	1100	ug/l	
98-06-6	tert-Butylbenzene	ND	10000	1300	ug/l	
75-15-0	Carbon disulfide	ND	10000	1200	ug/l	
56-23-5	Carbon tetrachloride	ND	2000	1700	ug/l	
108-90-7	Chlorobenzene	ND	2000	940	ug/l	
75-00-3	Chloroethane	ND	4000	1000	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	10000	2500	ug/l	
67-66-3	Chloroform	ND	2000	990	ug/l	
74-87-3	Chloromethane	ND	4000	1500	ug/l	UJ
95-49-8	o-Chlorotoluene	ND	10000	1300	ug/l	
106-43-4	p-Chlorotoluene	ND	10000	970	ug/l	
124-48-1	Dibromochloromethane	ND	2000	1100	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2000	1900	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2000	900	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2000	1300	ug/l	
75-71-8	Dichlorodifluoromethane	ND	4000	3500	ug/l	UJ
75-34-3	1,1-Dichloroethane	ND	2000	1200	ug/l	
107-06-2	1,2-Dichloroethane	ND	2000	1300	ug/l	
75-35-4	1,1-Dichloroethene	ND	2000	820	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	2000	1300	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	2000	1900	ug/l	

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

Report of Analysis

Client Sample ID:	MW7-ROX-103012		
Lab Sample ID:	MC15421-1	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	4000	1400	ug/l	
142-28-9	1,3-Dichloropropane	ND	10000	1300	ug/l	
594-20-7	2,2-Dichloropropane	ND	10000	3100	ug/l	
563-58-6	1,1-Dichloropropene	ND	10000	1800	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1000	900	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1000	390	ug/l	
123-91-1	1,4-Dioxane	ND	50000	30000	ug/l	
97-63-2	Ethyl methacrylate	ND	10000	1600	ug/l	
100-41-4	Ethylbenzene	ND	2000	1000	ug/l	
87-68-3	Hexachlorobutadiene	ND	10000	4100	ug/l	
591-78-6	2-Hexanone	ND	10000	3900	ug/l	
98-82-8	Isopropylbenzene	ND	10000	1000	ug/l	
99-87-6	p-Isopropyltoluene	ND	10000	1100	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2000	820	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	10000	5800	ug/l	
74-95-3	Methylene bromide	ND	10000	2200	ug/l	
75-09-2	Methylene chloride	ND	4000	1700	ug/l	
91-20-3	Naphthalene	ND	10000	1000	ug/l	
103-65-1	n-Propylbenzene	ND	10000	1200	ug/l	
100-42-5	Styrene	ND	10000	910	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	10000	1100	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2000	1200	ug/l	
127-18-4	Tetrachloroethene	ND	2000	840	ug/l	
108-88-3	Toluene	ND	2000	1000	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	10000	2500	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	10000	2600	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2000	1700	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2000	1000	ug/l	
79-01-6	Trichloroethene	ND	2000	1600	ug/l	
75-69-4	Trichlorofluoromethane	ND	2000	570	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	10000	1700	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	10000	690	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	10000	930	ug/l	
108-05-4	Vinyl Acetate	ND	10000	2500	ug/l	
75-01-4	Vinyl chloride	ND	2000	1300	ug/l	UJ
	m,p-Xylene	ND	2000	1500	ug/l	
95-47-6	o-Xylene	ND	2000	1200	ug/l	
1330-20-7	Xylene (total)	ND	2000	1200	ug/l	

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

Report of Analysis

Client Sample ID:	MW7-ROX-103012		
Lab Sample ID:	MC15421-1	**Date Sampled:**	10/30/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	81%	83%	70-130%
2037-26-5	Toluene-D8	84%	84%	70-130%
460-00-4	4-Bromofluorobenzene	85%	87%	70-130%

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

(a) Result is from Run# 2

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

Report of Analysis

Client Sample ID:	MW7-ROX-103012		
Lab Sample ID:	MC15421-1	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6718.D	1	11/09/12	KR	11/06/12	OP30923	MSW307
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	12	1.5	ug/l	
95-57-8	2-Chlorophenol	ND	5.8	0.47	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	12	0.44	ug/l	
120-83-2	2,4-Dichlorophenol	ND	12	0.43	ug/l	
105-67-9	2,4-Dimethylphenol	ND	12	3.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	23	5.8	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	12	2.9	ug/l	
95-48-7	2-Methylphenol	ND	12	0.70	ug/l	
	3&4-Methylphenol	ND	12	0.88	ug/l	
88-75-5	2-Nitrophenol	ND	12	0.55	ug/l	
100-02-7	4-Nitrophenol	ND	23	3.2	ug/l	
87-86-5	Pentachlorophenol	ND	12	0.74	ug/l	
108-95-2	Phenol	61.5	5.8	1.1	ug/l	J
95-95-4	2,4,5-Trichlorophenol	ND	12	0.57	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	12	0.41	ug/l	
62-53-3	Aniline	ND	12	2.3	ug/l	UJ
101-55-3	4-Bromophenyl phenyl ether	ND	5.8	0.38	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.8	0.31	ug/l	
100-51-6	Benzyl Alcohol	ND	12	0.30	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.8	0.29	ug/l	
106-47-8	4-Chloroaniline	ND	12	0.73	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.8	0.25	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.8	0.44	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.8	0.33	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.8	0.34	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.8	0.25	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	12	0.29	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	12	0.29	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.8	1.0	ug/l	
132-64-9	Dibenzofuran	ND	2.3	0.25	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.8	0.42	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.8	0.28	ug/l	

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

Report of Analysis

Client Sample ID:	MW7-ROX-103012		
Lab Sample ID:	MC15421-1	**Date Sampled:**	10/30/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.8	0.22	ug/l	
131-11-3	Dimethyl phthalate	ND	5.8	0.26	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	1.5	2.3	0.44	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.8	0.29	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	12	5.8	ug/l	
67-72-1	Hexachloroethane	ND	5.8	0.33	ug/l	
78-59-1	Isophorone	ND	5.8	0.37	ug/l	
88-74-4	2-Nitroaniline	ND	12	0.29	ug/l	
99-09-2	3-Nitroaniline	ND	12	0.29	ug/l	
100-01-6	4-Nitroaniline	ND	12	0.56	ug/l	
98-95-3	Nitrobenzene	ND	5.8	0.29	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.8	0.69	ug/l	UJ
621-64-7	N-Nitroso-di-n-propylamine	ND	5.8	0.32	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.8	0.51	ug/l	
110-86-1	Pyridine	ND	12	0.54	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	32%		15-110%
4165-62-2	Phenol-d5	20%		15-110%
118-79-6	2,4,6-Tribromophenol	72%		15-110%
4165-60-0	Nitrobenzene-d5	49%		30-130%
321-60-8	2-Fluorobiphenyl	47%		30-130%
1718-51-0	Terphenyl-d14	86%		30-130%

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

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

Report of Analysis

Client Sample ID:	MW7-ROX-103012		
Lab Sample ID:	MC15421-1	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10554.D	1	11/07/12	NS	11/06/12	OP30924	MSU563
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.31	0.12	0.016	ug/l	
208-96-8	Acenaphthylene	ND	0.12	0.015	ug/l	
120-12-7	Anthracene	ND	0.12	0.020	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.058	0.035	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.12	0.020	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.058	0.027	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.12	0.044	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.12	0.068	ug/l	
218-01-9	Chrysene	ND	0.12	0.085	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.12	0.048	ug/l	
206-44-0	Fluoranthene	ND	0.12	0.038	ug/l	
86-73-7	Fluorene	0.23	0.12	0.054	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.12	0.053	ug/l	
90-12-0	1-Methylnaphthalene	6.1	0.23	0.16	ug/l	J
91-57-6	2-Methylnaphthalene	7.7	0.23	0.060	ug/l	
85-01-8	Phenanthrene	0.36	0.058	0.015	ug/l	
129-00-0	Pyrene	0.050 U	0.12	0.041	ug/l	J U

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	29%		15-110%
4165-62-2	Phenol-d5	20%		15-110%
118-79-6	2,4,6-Tribromophenol	58%		15-110%
4165-60-0	Nitrobenzene-d5	45%		30-130%
321-60-8	2-Fluorobiphenyl	46%		30-130%
1718-51-0	Terphenyl-d14	61%		30-130%

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

Report of Analysis

Client Sample ID:	MW7-ROX-103012		
Lab Sample ID:	MC15421-1	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18423.D	1	11/02/12	AP	11/02/12	OP30886	GBK675
Run #2							

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

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	83%		36-173%
460-00-4	Bromofluorobenzene (S)	76%		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:	MW7-ROX-103012-DUP		
Lab Sample ID:	MC15421-2	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69862.D	2000	11/12/12	JP	n/a	n/a	MSN2627
Run #2	N69902.D	10000	11/13/12	JP	n/a	n/a	MSN2629

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

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10000	6000	ug/l	UJ
107-02-8	Acrolein	ND	50000	20000	ug/l	UJ
107-13-1	Acrylonitrile	ND	10000	6500	ug/l	
71-43-2	Benzene	863000 [a]	5000	2400	ug/l	
108-86-1	Bromobenzene	ND	10000	1200	ug/l	
74-97-5	Bromochloromethane	ND	10000	2500	ug/l	
75-27-4	Bromodichloromethane	ND	2000	1200	ug/l	
75-25-2	Bromoform	ND	2000	1600	ug/l	
74-83-9	Bromomethane	ND	4000	2000	ug/l	
78-93-3	2-Butanone (MEK)	ND	10000	4800	ug/l	
104-51-8	n-Butylbenzene	ND	10000	1200	ug/l	
135-98-8	sec-Butylbenzene	ND	10000	1100	ug/l	
98-06-6	tert-Butylbenzene	ND	10000	1300	ug/l	
75-15-0	Carbon disulfide	ND	10000	1200	ug/l	
56-23-5	Carbon tetrachloride	ND	2000	1700	ug/l	
108-90-7	Chlorobenzene	ND	2000	940	ug/l	
75-00-3	Chloroethane	ND	4000	1000	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	10000	2500	ug/l	
67-66-3	Chloroform	ND	2000	990	ug/l	
74-87-3	Chloromethane	ND	4000	1500	ug/l	UJ
95-49-8	o-Chlorotoluene	ND	10000	1300	ug/l	
106-43-4	p-Chlorotoluene	ND	10000	970	ug/l	
124-48-1	Dibromochloromethane	ND	2000	1100	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2000	1900	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2000	900	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2000	1300	ug/l	
75-71-8	Dichlorodifluoromethane	ND	4000	3500	ug/l	UJ
75-34-3	1,1-Dichloroethane	ND	2000	1200	ug/l	
107-06-2	1,2-Dichloroethane	ND	2000	1300	ug/l	
75-35-4	1,1-Dichloroethene	ND	2000	820	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	2000	1300	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	2000	1900	ug/l	

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

Report of Analysis

Client Sample ID:	MW7-ROX-103012-DUP		
Lab Sample ID:	MC15421-2	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	4000	1400	ug/l	
142-28-9	1,3-Dichloropropane	ND	10000	1300	ug/l	
594-20-7	2,2-Dichloropropane	ND	10000	3100	ug/l	
563-58-6	1,1-Dichloropropene	ND	10000	1800	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1000	900	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1000	390	ug/l	
123-91-1	1,4-Dioxane	ND	50000	30000	ug/l	
97-63-2	Ethyl methacrylate	ND	10000	1600	ug/l	
100-41-4	Ethylbenzene	ND	2000	1000	ug/l	
87-68-3	Hexachlorobutadiene	ND	10000	4100	ug/l	
591-78-6	2-Hexanone	ND	10000	3900	ug/l	
98-82-8	Isopropylbenzene	ND	10000	1000	ug/l	
99-87-6	p-Isopropyltoluene	ND	10000	1100	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2000	820	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	10000	5800	ug/l	
74-95-3	Methylene bromide	ND	10000	2200	ug/l	
75-09-2	Methylene chloride	ND	4000	1700	ug/l	
91-20-3	Naphthalene	ND	10000	1000	ug/l	
103-65-1	n-Propylbenzene	ND	10000	1200	ug/l	
100-42-5	Styrene	ND	10000	910	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	10000	1100	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2000	1200	ug/l	
127-18-4	Tetrachloroethene	ND	2000	840	ug/l	
108-88-3	Toluene	ND	2000	1000	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	10000	2500	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	10000	2600	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2000	1700	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2000	1000	ug/l	
79-01-6	Trichloroethene	ND	2000	1600	ug/l	
75-69-4	Trichlorofluoromethane	ND	2000	570	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	10000	1700	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	10000	690	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	10000	930	ug/l	
108-05-4	Vinyl Acetate	ND	10000	2500	ug/l	
75-01-4	Vinyl chloride	ND	2000	1300	ug/l	UJ
	m,p-Xylene	ND	2000	1500	ug/l	
95-47-6	o-Xylene	ND	2000	1200	ug/l	
1330-20-7	Xylene (total)	ND	2000	1200	ug/l	

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

Report of Analysis

Client Sample ID:	MW7-ROX-103012-DUP		
Lab Sample ID:	MC15421-2	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%	85%	70-130%
2037-26-5	Toluene-D8	84%	84%	70-130%
460-00-4	4-Bromofluorobenzene	86%	86%	70-130%

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

(a) Result is from Run# 2

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

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

Report of Analysis

Client Sample ID:	MW7-ROX-103012-DUP		
Lab Sample ID:	MC15421-2	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6719.D	1	11/09/12	KR	11/06/12	OP30923	MSW307
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.4	ug/l	
95-57-8	2-Chlorophenol	ND	5.6	0.45	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.42	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.42	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	3.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	5.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	2.8	ug/l	
95-48-7	2-Methylphenol	ND	11	0.67	ug/l	
	3&4-Methylphenol	ND	11	0.84	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.53	ug/l	
100-02-7	4-Nitrophenol	ND	22	3.1	ug/l	
87-86-5	Pentachlorophenol	ND	11	0.71	ug/l	
108-95-2	Phenol	81.2	5.6	1.0	ug/l	J
95-95-4	2,4,5-Trichlorophenol	ND	11	0.55	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.39	ug/l	
62-53-3	Aniline	ND	11	2.2	ug/l	UJ
101-55-3	4-Bromophenyl phenyl ether	ND	5.6	0.36	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.6	0.29	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.29	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.6	0.28	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.70	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.6	0.24	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.6	0.42	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.6	0.32	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.6	0.32	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.6	0.24	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.28	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.28	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.6	0.99	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.24	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.6	0.40	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.6	0.26	ug/l	

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

Report of Analysis

Client Sample ID:	MW7-ROX-103012-DUP		
Lab Sample ID:	MC15421-2	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.6	0.21	ug/l	
131-11-3	Dimethyl phthalate	ND	5.6	0.25	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.70	2.2	0.42	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.6	0.28	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.6	ug/l	
67-72-1	Hexachloroethane	ND	5.6	0.31	ug/l	
78-59-1	Isophorone	ND	5.6	0.35	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.28	ug/l	
100-01-6	4-Nitroaniline	ND	11	0.53	ug/l	
98-95-3	Nitrobenzene	ND	5.6	0.28	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.6	0.66	ug/l	UJ
621-64-7	N-Nitroso-di-n-propylamine	ND	5.6	0.31	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.6	0.48	ug/l	
110-86-1	Pyridine	ND	11	0.52	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	40%		15-110%
4165-62-2	Phenol-d5	26%		15-110%
118-79-6	2,4,6-Tribromophenol	80%		15-110%
4165-60-0	Nitrobenzene-d5	65%		30-130%
321-60-8	2-Fluorobiphenyl	61%		30-130%
1718-51-0	Terphenyl-d14	90%		30-130%

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

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

Report of Analysis

Client Sample ID:	MW7-ROX-103012-DUP		
Lab Sample ID:	MC15421-2	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10555.D	1	11/07/12	NS	11/06/12	OP30924	MSU563
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.34	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	ND	0.11	0.015	ug/l	
120-12-7	Anthracene	ND	0.11	0.020	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.056	0.033	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.056	0.026	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.042	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.065	ug/l	
218-01-9	Chrysene	ND	0.11	0.081	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.046	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.036	ug/l	
86-73-7	Fluorene	0.26	0.11	0.051	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.051	ug/l	
90-12-0	1-Methylnaphthalene	8.0	0.22	0.16	ug/l	J
91-57-6	2-Methylnaphthalene	9.8	0.22	0.058	ug/l	
85-01-8	Phenanthrene	0.37	0.056	0.014	ug/l	
129-00-0	Pyrene	~~0.050~~ U	0.11	0.039	ug/l	JB U

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	37%		15-110%
4165-62-2	Phenol-d5	24%		15-110%
118-79-6	2,4,6-Tribromophenol	64%		15-110%
4165-60-0	Nitrobenzene-d5	60%		30-130%
321-60-8	2-Fluorobiphenyl	57%		30-130%
1718-51-0	Terphenyl-d14	63%		30-130%

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

Report of Analysis

Client Sample ID:	MW7-ROX-103012-DUP		
Lab Sample ID:	MC15421-2	**Date Sampled:**	10/30/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18425.D	1	11/03/12	AP	11/02/12	OP30886	GBK675
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)	80%		36-173%
460-00-4	Bromofluorobenzene (S)	75%		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:	MW8-ROX-103012		
Lab Sample ID:	MC15421-3	**Date Sampled:**	10/30/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69863.D	1000	11/12/12	JP	n/a	n/a	MSN2627
Run #2	N69903.D	50000	11/13/12	JP	n/a	n/a	MSN2629

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

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5000	3000	ug/l	UJ
107-02-8	Acrolein	ND	25000	10000	ug/l	UJ
107-13-1	Acrylonitrile	ND	5000	3200	ug/l	
71-43-2	Benzene	523000 [a]	25000	12000	ug/l	
108-86-1	Bromobenzene	ND	5000	620	ug/l	
74-97-5	Bromochloromethane	ND	5000	1300	ug/l	
75-27-4	Bromodichloromethane	ND	1000	580	ug/l	
75-25-2	Bromoform	ND	1000	780	ug/l	
74-83-9	Bromomethane	ND	2000	1000	ug/l	
78-93-3	2-Butanone (MEK)	ND	5000	2400	ug/l	
104-51-8	n-Butylbenzene	ND	5000	610	ug/l	
135-98-8	sec-Butylbenzene	ND	5000	550	ug/l	
98-06-6	tert-Butylbenzene	ND	5000	640	ug/l	
75-15-0	Carbon disulfide	ND	5000	610	ug/l	
56-23-5	Carbon tetrachloride	ND	1000	870	ug/l	
108-90-7	Chlorobenzene	ND	1000	470	ug/l	
75-00-3	Chloroethane	ND	2000	500	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5000	1300	ug/l	
67-66-3	Chloroform	ND	1000	500	ug/l	
74-87-3	Chloromethane	ND	2000	730	ug/l	UJ
95-49-8	o-Chlorotoluene	ND	5000	650	ug/l	
106-43-4	p-Chlorotoluene	ND	5000	480	ug/l	
124-48-1	Dibromochloromethane	ND	1000	530	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1000	930	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1000	450	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1000	640	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2000	1700	ug/l	UJ
75-34-3	1,1-Dichloroethane	ND	1000	620	ug/l	
107-06-2	1,2-Dichloroethane	ND	1000	630	ug/l	
75-35-4	1,1-Dichloroethene	ND	1000	410	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1000	640	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1000	950	ug/l	

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

Report of Analysis

Client Sample ID:	MW8-ROX-103012		
Lab Sample ID:	MC15421-3	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2000	720	ug/l	
142-28-9	1,3-Dichloropropane	ND	5000	640	ug/l	
594-20-7	2,2-Dichloropropane	ND	5000	1600	ug/l	
563-58-6	1,1-Dichloropropene	ND	5000	910	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	500	450	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	500	200	ug/l	
123-91-1	1,4-Dioxane	ND	25000	15000	ug/l	
97-63-2	Ethyl methacrylate	ND	5000	810	ug/l	
100-41-4	Ethylbenzene	ND	1000	510	ug/l	
87-68-3	Hexachlorobutadiene	ND	5000	2100	ug/l	
591-78-6	2-Hexanone	ND	5000	2000	ug/l	
98-82-8	Isopropylbenzene	ND	5000	500	ug/l	
99-87-6	p-Isopropyltoluene	ND	5000	570	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1000	410	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5000	2900	ug/l	
74-95-3	Methylene bromide	ND	5000	1100	ug/l	
75-09-2	Methylene chloride	ND	2000	830	ug/l	
91-20-3	Naphthalene	ND	5000	500	ug/l	
103-65-1	n-Propylbenzene	ND	5000	580	ug/l	
100-42-5	Styrene	ND	5000	450	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5000	570	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1000	600	ug/l	
127-18-4	Tetrachloroethene	ND	1000	420	ug/l	
108-88-3	Toluene	ND	1000	510	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5000	1300	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5000	1300	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1000	850	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1000	500	ug/l	
79-01-6	Trichloroethene	ND	1000	780	ug/l	
75-69-4	Trichlorofluoromethane	ND	1000	290	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5000	850	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5000	350	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5000	470	ug/l	
108-05-4	Vinyl Acetate	ND	5000	1300	ug/l	
75-01-4	Vinyl chloride	ND	1000	630	ug/l	UJ
	m,p-Xylene	ND	1000	730	ug/l	
95-47-6	o-Xylene	ND	1000	580	ug/l	
1330-20-7	Xylene (total)	ND	1000	580	ug/l	

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

Report of Analysis

Client Sample ID:	MW8-ROX-103012		
Lab Sample ID:	MC15421-3	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	85%	84%	70-130%
2037-26-5	Toluene-D8	86%	85%	70-130%
460-00-4	4-Bromofluorobenzene	85%	86%	70-130%

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

(a) Result is from Run# 2

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

Report of Analysis

Client Sample ID:	MW8-ROX-103012		
Lab Sample ID:	MC15421-3	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6720.D	1	11/09/12	KR	11/06/12	OP30923	MSW307
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.3	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.39	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.39	ug/l	
105-67-9	2,4-Dimethylphenol	8.5	11	2.9	ug/l	J
51-28-5	2,4-Dinitrophenol	ND	21	5.3	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	2.6	ug/l	
95-48-7	2-Methylphenol	5.8	11	0.64	ug/l	J
	3&4-Methylphenol	15.8	11	0.79	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.50	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.9	ug/l	
87-86-5	Pentachlorophenol	3.0	11	0.67	ug/l	J
108-95-2	Phenol	165	5.3	0.98	ug/l	J
95-95-4	2,4,5-Trichlorophenol	ND	11	0.52	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.37	ug/l	
62-53-3	Aniline	ND	11	2.1	ug/l	UJ
101-55-3	4-Bromophenyl phenyl ether	ND	5.3	0.34	ug/l	
85-68-7	Butyl benzyl phthalate	0.86	5.3	0.28	ug/l	J
100-51-6	Benzyl Alcohol	ND	11	0.28	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.3	0.26	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.67	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.3	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.3	0.40	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.3	0.30	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.3	0.31	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.3	0.23	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.26	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.26	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.3	0.94	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.23	ug/l	
84-74-2	Di-n-butyl phthalate	0.82	5.3	0.38	ug/l	J
117-84-0	Di-n-octyl phthalate	0.63	5.3	0.25	ug/l	J

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RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW8-ROX-103012		
Lab Sample ID:	MC15421-3	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.3	0.20	ug/l	
131-11-3	Dimethyl phthalate	ND	5.3	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	1.2	2.1	0.39	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.3	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.3	ug/l	
67-72-1	Hexachloroethane	ND	5.3	0.30	ug/l	
78-59-1	Isophorone	ND	5.3	0.33	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.26	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.27	ug/l	
100-01-6	4-Nitroaniline	ND	11	0.50	ug/l	
98-95-3	Nitrobenzene	ND	5.3	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.3	0.62	ug/l	uJ
621-64-7	N-Nitroso-di-n-propylamine	ND	5.3	0.29	ug/l	
86-30-6	N-Nitrosodiphenylamine	0.52	5.3	0.46	ug/l	J
110-86-1	Pyridine	ND	11	0.49	ug/l	uJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	43%		15-110%
4165-62-2	Phenol-d5	27%		15-110%
118-79-6	2,4,6-Tribromophenol	97%		15-110%
4165-60-0	Nitrobenzene-d5	70%		30-130%
321-60-8	2-Fluorobiphenyl	69%		30-130%
1718-51-0	Terphenyl-d14	99%		30-130%

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

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

Report of Analysis

Client Sample ID:	MW8-ROX-103012		
Lab Sample ID:	MC15421-3	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10556.D	1	11/07/12	NS	11/06/12	OP30924	MSU563
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.26	0.11	0.014	ug/l	
208-96-8	Acenaphthylene	0.11	0.11	0.014	ug/l	
120-12-7	Anthracene	0.44	0.11	0.019	ug/l	
56-55-3	Benzo(a)anthracene	~~0.87~~ U	~~0.053~~ 0.87	0.032	ug/l	B U
50-32-8	Benzo(a)pyrene	0.53	0.11	0.018	ug/l	B
205-99-2	Benzo(b)fluoranthene	0.57	0.053	0.025	ug/l	B
191-24-2	Benzo(g,h,i)perylene	0.58	0.11	0.040	ug/l	B
207-08-9	Benzo(k)fluoranthene	0.64	0.11	0.062	ug/l	B
218-01-9	Chrysene	0.66	0.11	0.077	ug/l	B
53-70-3	Dibenzo(a,h)anthracene	0.59	0.11	0.044	ug/l	B
206-44-0	Fluoranthene	0.59	0.11	0.034	ug/l	B
86-73-7	Fluorene	0.53	0.11	0.049	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	0.59	0.11	0.048	ug/l	B
90-12-0	1-Methylnaphthalene	9.7	0.21	0.15	ug/l	
91-57-6	2-Methylnaphthalene	11.2	0.21	0.055	ug/l	
85-01-8	Phenanthrene	0.57	0.053	0.013	ug/l	
129-00-0	Pyrene	0.54	0.11	0.037	ug/l	B

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	35%		15-110%
4165-62-2	Phenol-d5	24%		15-110%
118-79-6	2,4,6-Tribromophenol	75%		15-110%
4165-60-0	Nitrobenzene-d5	62%		30-130%
321-60-8	2-Fluorobiphenyl	67%		30-130%
1718-51-0	Terphenyl-d14	70%		30-130%

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

Report of Analysis

Client Sample ID:	MW8-ROX-103012		
Lab Sample ID:	MC15421-3	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18426.D	1	11/03/12	AP	11/02/12	OP30886	GBK675
Run #2							

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

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	70%		36-173%
460-00-4	Bromofluorobenzene (S)	78%		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:	P54-ROX-103012		
Lab Sample ID:	MC15421-4	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69900.D	1	11/13/12	JP	n/a	n/a	MSN2629
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	UJ
107-02-8	Acrolein	ND	25	10	ug/l	UJ
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:	P54-ROX-103012		
Lab Sample ID:	MC15421-4	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	P54-ROX-103012		
Lab Sample ID:	MC15421-4	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	82%		70-130%
2037-26-5	Toluene-D8	84%		70-130%
460-00-4	4-Bromofluorobenzene	87%		70-130%

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

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

Report of Analysis

Client Sample ID:	P54-ROX-103012		
Lab Sample ID:	MC15421-4	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6721.D	1	11/09/12	KR	11/06/12	OP30923	MSW307
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.1	0.41	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.38	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.8	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	5.1	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.6	ug/l	
95-48-7	2-Methylphenol	ND	10	0.62	ug/l	
	3&4-Methylphenol	ND	10	0.77	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.48	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.65	ug/l	
108-95-2	Phenol	ND	5.1	0.95	ug/l	UJ
95-95-4	2,4,5-Trichlorophenol	ND	10	0.50	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.36	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	UJ
101-55-3	4-Bromophenyl phenyl ether	ND	5.1	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.1	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.27	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.1	0.26	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.64	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.1	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.1	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.1	0.29	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.1	0.30	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.1	0.22	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.26	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.26	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.1	0.91	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.1	0.37	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.1	0.24	ug/l	

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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P54-ROX-103012		
Lab Sample ID:	MC15421-4	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.1	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.1	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.1	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.1	ug/l	
67-72-1	Hexachloroethane	ND	5.1	0.29	ug/l	
78-59-1	Isophorone	ND	5.1	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.26	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	0.49	ug/l	
98-95-3	Nitrobenzene	ND	5.1	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.1	0.60	ug/l	uJ
621-64-7	N-Nitroso-di-n-propylamine	ND	5.1	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.1	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.47	ug/l	uJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	37%		15-110%
4165-62-2	Phenol-d5	23%		15-110%
118-79-6	2,4,6-Tribromophenol	83%		15-110%
4165-60-0	Nitrobenzene-d5	68%		30-130%
321-60-8	2-Fluorobiphenyl	67%		30-130%
1718-51-0	Terphenyl-d14	91%		30-130%

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

ND = Not detected MDL - Method Detection Limit
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J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P54-ROX-103012		
Lab Sample ID:	MC15421-4	Date Sampled:	10/30/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10557.D	1	11/07/12	NS	11/06/12	OP30924	MSU563
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.014	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.051	0.031	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.051	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.060	ug/l	
218-01-9	Chrysene	ND	0.10	0.074	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.043	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.047	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.047	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.053	ug/l	
85-01-8	Phenanthrene	ND	0.051	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	35%		15-110%
4165-62-2	Phenol-d5	23%		15-110%
118-79-6	2,4,6-Tribromophenol	67%		15-110%
4165-60-0	Nitrobenzene-d5	63%		30-130%
321-60-8	2-Fluorobiphenyl	60%		30-130%
1718-51-0	Terphenyl-d14	65%		30-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P54-ROX-103012		
Lab Sample ID:	MC15421-4	**Date Sampled:**	10/30/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18427.D	1	11/03/12	AP	11/02/12	OP30886	GBK675
Run #2							

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

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	78%		36-173%
460-00-4	Bromofluorobenzene (S)	75%		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:	TB-103012-HCL-R		
Lab Sample ID:	MC15421-5	Date Sampled:	10/30/12
Matrix:	AQ - Trip Blank Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69850.D	1	11/12/12	JP	n/a	n/a	MSN2627
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	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:	TB-103012-HCL-R		
Lab Sample ID:	MC15421-5	Date Sampled:	10/30/12
Matrix:	AQ - Trip Blank Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	TB-103012-HCL-R		
Lab Sample ID:	MC15421-5	**Date Sampled:**	10/30/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/01/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		70-130%
2037-26-5	Toluene-D8	85%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%

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

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

Report of Analysis

Client Sample ID:	TB-103012-ST-R		
Lab Sample ID:	MC15421-6	**Date Sampled:**	10/30/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/01/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18428.D	1	11/03/12	AP	11/02/12	OP30886	GBK675
Run #2							

	Initial Volume	Final Volume
Run #1	36.0 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	79%		36-173%
460-00-4	Bromofluorobenzene (S)	74%		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:	TB-103012-HCL-R2		
Lab Sample ID:	MC15421-7	Date Sampled:	10/30/12
Matrix:	AQ - Trip Blank Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69849.D	1	11/12/12	JP	n/a	n/a	MSN2627
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	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:	TB-103012-HCL-R2		
Lab Sample ID:	MC15421-7	Date Sampled:	10/30/12
Matrix:	AQ - Trip Blank Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	TB-103012-HCL-R2		
Lab Sample ID:	MC15421-7	Date Sampled:	10/30/12
Matrix:	AQ - Trip Blank Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	86%		70-130%
2037-26-5	Toluene-D8	85%		70-130%
460-00-4	4-Bromofluorobenzene	87%		70-130%

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

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

Report of Analysis

Client Sample ID:	TB-103012-ST-R2		
Lab Sample ID:	MC15421-8	**Date Sampled:**	10/30/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/01/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18429.D	1	11/03/12	AP	11/02/12	OP30886	GBK675
Run #2							

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

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	80%		36-173%
460-00-4	Bromofluorobenzene (S)	76%		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

New England ACCUTEST LABORATORIES

Misc. Forms

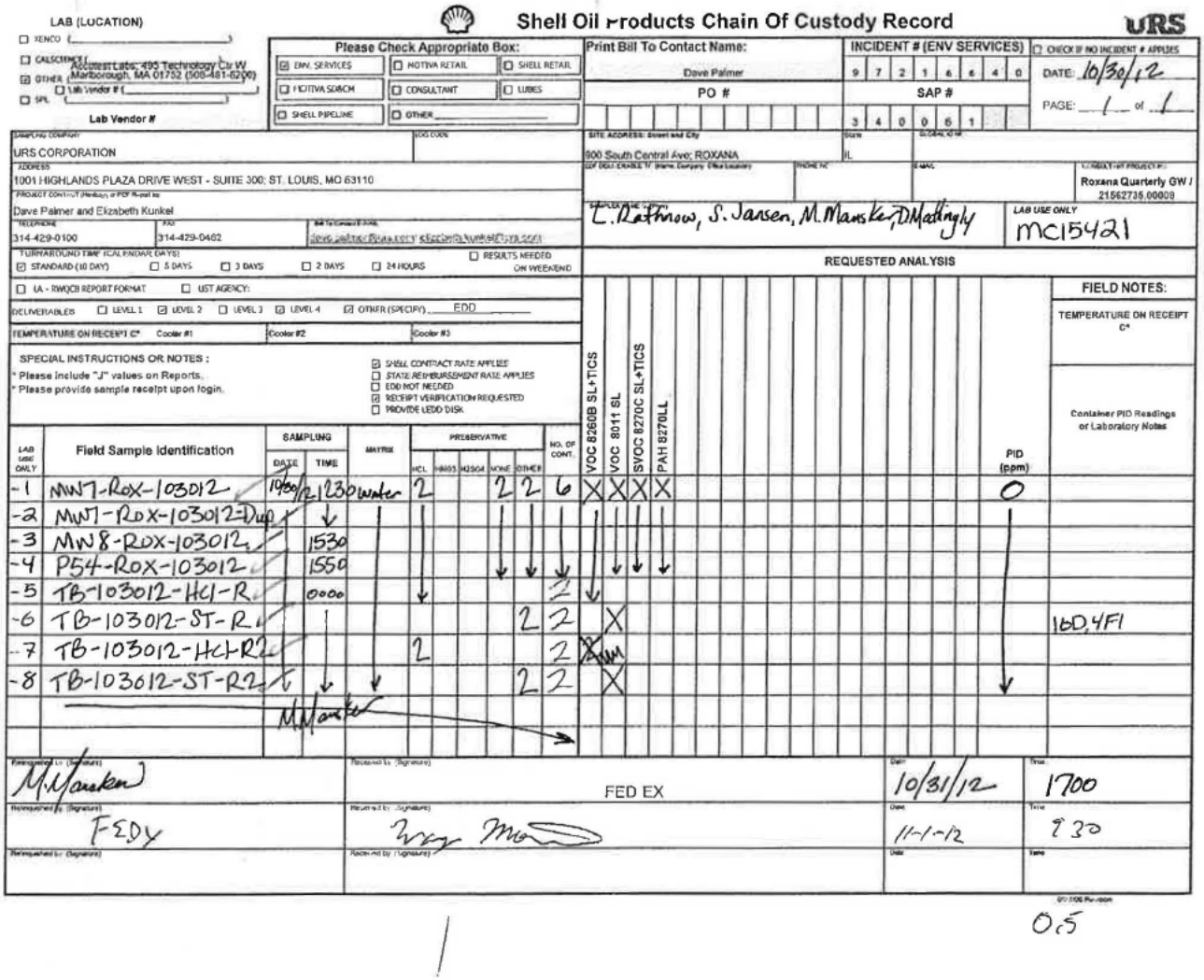
Custody Documents and Other Forms

Includes the following where applicable:

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

Shell Oil Products Chain Of Custody Record

URS



LAB (LOCATION)
☐ XENCO ( )
☐ CALSCIENCE ( )
☑ OTHER (Accutest Labs, 495 Technology Ctr W Marlborough, MA 01752 (508-481-6200))
☐ Lab Vendor # ( )
☐ SPL ( )
Lab Vendor #

Please Check Appropriate Box:
☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SD&CM ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Dave Palmer
PO #

INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0
SAP #: 3 4 0 0 6 1

☐ CHECK IF NO INCIDENT # APPLIES
DATE: 10/30/12
PAGE: 1 of 1

SAMPLING COMPANY: URS CORPORATION
LOG CODE:
SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA
State: IL
GLOBAL ID #:
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
CDF DELIVERABLE TO (Name, Company, Office Location):
PHONE NO:
E-MAIL:
CONSULTANT PROJECT #: Roxana Quarterly GW / 21562735.00009
PROJECT CONTACT (Hardcopy or PDF Report to): Dave Palmer and Elizabeth Kunkel
TELEPHONE: 314-429-0100
FAX: 314-429-0462
Bill To Contact E-MAIL: dave.palmer@urs.com; elizabeth.kunkel@urs.com
SAMPLER NAME (Signature): L. Rathnow, S. Jansen, M. Mansker, D. Mattingly
LAB USE ONLY: MC15421

TURNAROUND TIME (CALENDAR DAYS)
☑ STANDARD (10 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ IA - RWQCB REPORT FORMAT ☐ UST AGENCY:
DELIVERABLES ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD
TEMPERATURE ON RECEIPT C° Cooler #1 Cooler #2 Cooler #3

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

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

FIELD NOTES:
TEMPERATURE ON RECEIPT C°

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	VOC 8260B SL+TICS	VOC 8011 SL	SVOC 8270C SL+TICS	PAH 8270LL	PID (ppm)	Container PID Readings or Laboratory Notes
-1	MW7-ROX-103012	10/30/12	1230	water	2			2	2	6	X	X	X	X	0	
-2	MW7-ROX-103012-Dup		↓													
-3	MW8-ROX-103012		1530													
-4	P54-ROX-103012		1550													
-5	TB-103012-HCl-R		0000							2						
-6	TB-103012-ST-R								2	2		X				16D,4F1
-7	TB-103012-HCl-R2				2					2	X					
-8	TB-103012-ST-R2								2	2		X				
		M. Mansker														

Relinquished by (Signature)	Received by (Signature)	Date	Time
M. Mansker	FED EX	10/31/12	1700
FEDX	[signature]	11-1-12	930

0.5

MC15421: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC15421 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 11/1/2012 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900 SO CENTRAL AVE **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

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MC15421: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15421

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15421-1 Collected: 30-OCT-12 12:30 By: LRSJ Received: 01-NOV-12 By: MW7-ROX-103012						
MC15421-1	SW846 8011	02-NOV-12 23:51	AP	02-NOV-12	MT	V8011SL
MC15421-1	SW846 8270C BY SIM	07-NOV-12 12:20	NS	06-NOV-12	MEW	B8270SIMSL
MC15421-1	SW846 8270C	09-NOV-12 02:23	KR	06-NOV-12	MEW	AB8270SL+
MC15421-1	SW846 8260B	12-NOV-12 19:43	JP			V8260SL+
MC15421-1	SW846 8260B	13-NOV-12 14:48	JP			V8260SL+
MC15421-2 Collected: 30-OCT-12 12:30 By: LRSJ Received: 01-NOV-12 By: MW7-ROX-103012-DUP						
MC15421-2	SW846 8011	03-NOV-12 00:41	AP	02-NOV-12	MT	V8011SL
MC15421-2	SW846 8270C BY SIM	07-NOV-12 12:43	NS	06-NOV-12	MEW	B8270SIMSL
MC15421-2	SW846 8270C	09-NOV-12 02:46	KR	06-NOV-12	MEW	AB8270SL+
MC15421-2	SW846 8260B	12-NOV-12 20:12	JP			V8260SL+
MC15421-2	SW846 8260B	13-NOV-12 15:16	JP			V8260SL+
MC15421-3 Collected: 30-OCT-12 15:30 By: LRSJ Received: 01-NOV-12 By: MW8-ROX-103012						
MC15421-3	SW846 8011	03-NOV-12 01:05	AP	02-NOV-12	MT	V8011SL
MC15421-3	SW846 8270C BY SIM	07-NOV-12 13:06	NS	06-NOV-12	MEW	B8270SIMSL
MC15421-3	SW846 8270C	09-NOV-12 03:08	KR	06-NOV-12	MEW	AB8270SL+
MC15421-3	SW846 8260B	12-NOV-12 20:40	JP			V8260SL+
MC15421-3	SW846 8260B	13-NOV-12 15:45	JP			V8260SL+
MC15421-4 Collected: 30-OCT-12 15:50 By: LRSJ Received: 01-NOV-12 By: P54-ROX-103012						
MC15421-4	SW846 8011	03-NOV-12 01:30	AP	02-NOV-12	MT	V8011SL
MC15421-4	SW846 8270C BY SIM	07-NOV-12 13:30	NS	06-NOV-12	MEW	B8270SIMSL
MC15421-4	SW846 8270C	09-NOV-12 03:31	KR	06-NOV-12	MEW	AB8270SL+
MC15421-4	SW846 8260B	13-NOV-12 14:20	JP			V8260SL+
MC15421-5 Collected: 30-OCT-12 00:00 By: LRSJ Received: 01-NOV-12 By: TB-103012-HCL-R						
MC15421-5	SW846 8260B	12-NOV-12 14:33	JP			V8260SL+

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15421

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15421-6 Collected: 30-OCT-12 00:00 By: LRSJ Received: 01-NOV-12 By: TB-103012-ST-R						
MC15421-6	SW846 8011	03-NOV-12 01:54	AP	02-NOV-12	MT	V8011SL
MC15421-7 Collected: 30-OCT-12 00:00 By: LRSJ Received: 01-NOV-12 By: TB-103012-HCL-R2						
MC15421-7	SW846 8260B	12-NOV-12 14:05	JP			V8260SL+
MC15421-8 Collected: 30-OCT-12 00:00 By: LRSJ Received: 01-NOV-12 By: TB-103012-ST-R2						
MC15421-8	SW846 8011	03-NOV-12 02:19	AP	02-NOV-12	MT	V8011SL

Accutest Internal Chain of Custody

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 11/01/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15421-1.1	Walk In Ref #22	Corey Aldoupolis	11/06/12 13:07	Retrieve from Storage
MC15421-1.1	Corey Aldoupolis		11/07/12 12:10	Depleted
MC15421-1.4	VOC Ref #4	Jugal Patel	11/12/12 11:32	Retrieve from Storage
MC15421-1.4	Jugal Patel	GCMSN	11/12/12 11:32	Load on Instrument
MC15421-1.4	GCMSN	Jugal Patel	11/13/12 11:24	Unload from Instrument
MC15421-1.4	Jugal Patel	VOC Ref #4	11/13/12 11:24	Return to Storage
MC15421-1.6	VOC Ref #4	Nick Krasinski	11/02/12 19:16	Retrieve from Storage
MC15421-1.6	Nick Krasinski		11/06/12 07:05	Depleted
MC15421-2.1	Walk In Ref #22	Corey Aldoupolis	11/06/12 13:07	Retrieve from Storage
MC15421-2.1	Corey Aldoupolis		11/07/12 12:10	Depleted
MC15421-2.3	VOC Ref #4	Jugal Patel	11/12/12 11:32	Retrieve from Storage
MC15421-2.3	Jugal Patel	GCMSN	11/12/12 11:32	Load on Instrument
MC15421-2.3	GCMSN	Jugal Patel	11/13/12 11:24	Unload from Instrument
MC15421-2.3	Jugal Patel	VOC Ref #4	11/13/12 11:24	Return to Storage
MC15421-2.6	VOC Ref #4	Nick Krasinski	11/02/12 19:16	Retrieve from Storage
MC15421-2.6	Nick Krasinski		11/06/12 07:05	Depleted
MC15421-3.1	Walk In Ref #22	Corey Aldoupolis	11/06/12 13:07	Retrieve from Storage
MC15421-3.1	Corey Aldoupolis		11/07/12 12:10	Depleted
MC15421-3.4	VOC Ref #4	Jugal Patel	11/12/12 11:32	Retrieve from Storage
MC15421-3.4	Jugal Patel	GCMSN	11/12/12 11:32	Load on Instrument
MC15421-3.4	GCMSN	Jugal Patel	11/13/12 11:24	Unload from Instrument
MC15421-3.4	Jugal Patel	VOC Ref #4	11/13/12 11:24	Return to Storage
MC15421-3.5	VOC Ref #4	Nick Krasinski	11/02/12 19:16	Retrieve from Storage
MC15421-3.5	Nick Krasinski		11/06/12 07:05	Depleted
MC15421-4.1	Walk In Ref #22	Corey Aldoupolis	11/06/12 13:07	Retrieve from Storage
MC15421-4.1	Corey Aldoupolis		11/07/12 12:10	Depleted
MC15421-4.4	VOC Ref #4	Jugal Patel	11/12/12 11:32	Retrieve from Storage
MC15421-4.4	Jugal Patel	GCMSN	11/12/12 11:32	Load on Instrument
MC15421-4.4	GCMSN	Jugal Patel	11/13/12 11:24	Unload from Instrument
MC15421-4.4	Jugal Patel	VOC Ref #4	11/13/12 11:24	Return to Storage
MC15421-4.6	VOC Ref #4	Nick Krasinski	11/02/12 19:16	Retrieve from Storage
MC15421-4.6	Nick Krasinski		11/06/12 07:05	Depleted

Accutest Internal Chain of Custody

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 11/01/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15421-5.1	VOC Ref #4	Jugal Patel	11/12/12 11:32	Retrieve from Storage
MC15421-5.1	Jugal Patel	GCMSN	11/12/12 11:32	Load on Instrument
MC15421-5.1	GCMSN	Jugal Patel	11/13/12 11:24	Unload from Instrument
MC15421-5.1	Jugal Patel	VOC Ref #4	11/13/12 11:24	Return to Storage
MC15421-6.1	VOC Ref #4	Nick Krasinski	11/02/12 19:16	Retrieve from Storage
MC15421-6.1	Nick Krasinski		11/06/12 07:05	Depleted
MC15421-7.1	VOC Ref #4	Jugal Patel	11/12/12 11:32	Retrieve from Storage
MC15421-7.1	Jugal Patel	GCMSN	11/12/12 11:32	Load on Instrument
MC15421-7.1	GCMSN	Jugal Patel	11/13/12 11:24	Unload from Instrument
MC15421-7.1	Jugal Patel	VOC Ref #4	11/13/12 11:24	Return to Storage
MC15421-8.2	VOC Ref #4	Nick Krasinski	11/02/12 19:16	Retrieve from Storage
MC15421-8.2	Nick Krasinski		11/06/12 07:05	Depleted

New England ACCUTEST LABORATORIES

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: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2627-MB	N69847.D	1	11/12/12	JP	n/a	n/a	MSN2627

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

MC15421-1, MC15421-2, MC15421-3, MC15421-5, MC15421-7

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: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2627-MB	N69847.D	1	11/12/12	JP	n/a	n/a	MSN2627

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

MC15421-1, MC15421-2, MC15421-3, MC15421-5, MC15421-7

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: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2627-MB	N69847.D	1	11/12/12	JP	n/a	n/a	MSN2627

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

MC15421-1, MC15421-2, MC15421-3, MC15421-5, MC15421-7

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	86%	70-130%
2037-26-5	Toluene-D8	85%	70-130%
460-00-4	4-Bromofluorobenzene	87%	70-130%

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

Method Blank Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-MB	N69899.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.3	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: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-MB	N69899.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-MB	N69899.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	82%	70-130%
2037-26-5	Toluene-D8	84%	70-130%
460-00-4	4-Bromofluorobenzene	84%	70-130%

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

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2627-BS	N69844.D	1	11/12/12	JP	n/a	n/a	MSN2627
MSN2627-BSD	N69845.D	1	11/12/12	JP	n/a	n/a	MSN2627

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

MC15421-1, MC15421-2, MC15421-3, MC15421-5, MC15421-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	42.1	84	41.1	82	2	70-130/25
107-02-8	Acrolein	250	174	70	176	70	1	70-130/25
107-13-1	Acrylonitrile	50	272	544* a	263	526* a	3	70-130/25
71-43-2	Benzene	50	49.5	99	47.7	95	4	70-130/25
108-86-1	Bromobenzene	50	50.5	101	49.8	100	1	70-130/25
74-97-5	Bromochloromethane	50	51.7	103	49.5	99	4	70-130/25
75-27-4	Bromodichloromethane	50	52.0	104	51.1	102	2	70-130/25
75-25-2	Bromoform	50	45.7	91	46.0	92	1	70-130/25
74-83-9	Bromomethane	50	36.5	73	37.9	76	4	70-130/25
78-93-3	2-Butanone (MEK)	50	48.3	97	46.4	93	4	70-130/25
104-51-8	n-Butylbenzene	50	56.2	112	55.9	112	1	70-130/25
135-98-8	sec-Butylbenzene	50	56.5	113	55.3	111	2	70-130/25
98-06-6	tert-Butylbenzene	50	51.5	103	51.1	102	1	70-130/25
75-15-0	Carbon disulfide	50	45.9	92	42.8	86	7	70-130/25
56-23-5	Carbon tetrachloride	50	42.1	84	41.4	83	2	70-130/25
108-90-7	Chlorobenzene	50	53.1	106	53.7	107	1	70-130/25
75-00-3	Chloroethane	50	42.6	85	40.5	81	5	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	54.1	108	52.5	105	3	70-130/25
67-66-3	Chloroform	50	51.1	102	48.6	97	5	70-130/25
74-87-3	Chloromethane	50	29.8	60* b	29.4	59* b	1	70-130/25
95-49-8	o-Chlorotoluene	50	53.5	107	52.5	105	2	70-130/25
106-43-4	p-Chlorotoluene	50	56.3	113	55.6	111	1	70-130/25
124-48-1	Dibromochloromethane	50	47.3	95	47.9	96	1	70-130/25
95-50-1	1,2-Dichlorobenzene	50	55.5	111	54.5	109	2	70-130/25
541-73-1	1,3-Dichlorobenzene	50	55.0	110	54.3	109	1	70-130/25
106-46-7	1,4-Dichlorobenzene	50	51.5	103	50.7	101	2	70-130/25
75-71-8	Dichlorodifluoromethane	50	31.7	63* b	29.8	60* b	6	70-130/25
75-34-3	1,1-Dichloroethane	50	53.0	106	50.1	100	6	70-130/25
107-06-2	1,2-Dichloroethane	50	47.3	95	45.6	91	4	70-130/25
75-35-4	1,1-Dichloroethene	50	44.2	88	41.0	82	8	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	50.9	102	48.5	97	5	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	47.6	95	45.2	90	5	70-130/25
78-87-5	1,2-Dichloropropane	50	54.1	108	52.5	105	3	70-130/25
142-28-9	1,3-Dichloropropane	50	51.3	103	51.3	103	0	70-130/25
594-20-7	2,2-Dichloropropane	50	44.4	89	43.1	86	3	70-130/25
563-58-6	1,1-Dichloropropene	50	49.3	99	46.8	94	5	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2627-BS	N69844.D	1	11/12/12	JP	n/a	n/a	MSN2627
MSN2627-BSD	N69845.D	1	11/12/12	JP	n/a	n/a	MSN2627

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

MC15421-1, MC15421-2, MC15421-3, MC15421-5, MC15421-7

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	54.1	108	52.2	104	4	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	49.5	99	47.9	96	3	70-130/25
123-91-1	1,4-Dioxane	250	256	102	258	103	1	70-130/25
97-63-2	Ethyl methacrylate	50	52.9	106	50.8	102	4	77-137/25
100-41-4	Ethylbenzene	50	48.8	98	49.3	99	1	70-130/25
87-68-3	Hexachlorobutadiene	50	55.0	110	55.8	112	1	70-130/25
591-78-6	2-Hexanone	50	44.1	88	45.8	92	4	70-130/25
98-82-8	Isopropylbenzene	50	54.4	109	53.0	106	3	70-130/25
99-87-6	p-Isopropyltoluene	50	54.0	108	52.9	106	2	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	39.9	80	39.6	79	1	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	42.9	86	42.3	85	1	70-130/25
74-95-3	Methylene bromide	50	51.3	103	50.2	100	2	70-130/25
75-09-2	Methylene chloride	50	50.0	100	47.8	96	4	70-130/25
91-20-3	Naphthalene	50	54.8	110	55.2	110	1	70-130/25
103-65-1	n-Propylbenzene	50	55.0	110	54.1	108	2	70-130/25
100-42-5	Styrene	50	50.0	100	50.6	101	1	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	51.4	103	52.1	104	1	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	53.7	107	53.1	106	1	70-130/25
127-18-4	Tetrachloroethene	50	47.7	95	48.3	97	1	70-130/25
108-88-3	Toluene	50	52.1	104	50.2	100	4	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	57.8	116	57.9	116	0	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	58.1	116	57.6	115	1	70-130/25
71-55-6	1,1,1-Trichloroethane	50	49.0	98	46.3	93	6	70-130/25
79-00-5	1,1,2-Trichloroethane	50	53.9	108	51.8	104	4	70-130/25
79-01-6	Trichloroethene	50	47.2	94	46.1	92	2	70-130/25
75-69-4	Trichlorofluoromethane	50	38.5	77	36.0	72	7	70-130/25
96-18-4	1,2,3-Trichloropropane	50	58.9	118	58.8	118	0	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	49.1	98	48.7	97	1	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	48.9	98	48.1	96	2	70-130/25
108-05-4	Vinyl Acetate	50	53.7	107	50.7	101	6	70-130/25
75-01-4	Vinyl chloride	50	32.8	66* b	31.6	63* b	4	70-130/25
	m,p-Xylene	100	101	101	102	102	1	70-130/25
95-47-6	o-Xylene	50	53.0	106	53.3	107	1	70-130/25
1330-20-7	Xylene (total)	150	154	103	155	103	1	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2627-BS	N69844.D	1	11/12/12	JP	n/a	n/a	MSN2627
MSN2627-BSD	N69845.D	1	11/12/12	JP	n/a	n/a	MSN2627

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

MC15421-1, MC15421-2, MC15421-3, MC15421-5, MC15421-7

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	85%	82%	70-130%
2037-26-5	Toluene-D8	86%	85%	70-130%
460-00-4	4-Bromofluorobenzene	82%	82%	70-130%

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

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-BS	N69896.D	1	11/13/12	JP	n/a	n/a	MSN2629
MSN2629-BSD	N69897.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	39.4	79	39.6	79	1	70-130/25
107-02-8	Acrolein	250	153	61* a	156	62* a	2	70-130/25
107-13-1	Acrylonitrile	50	246	492* b	247	494* b	0	70-130/25
71-43-2	Benzene	50	50.6	101	49.7	99	2	70-130/25
108-86-1	Bromobenzene	50	50.4	101	49.5	99	2	70-130/25
74-97-5	Bromochloromethane	50	51.8	104	51.3	103	1	70-130/25
75-27-4	Bromodichloromethane	50	51.7	103	51.1	102	1	70-130/25
75-25-2	Bromoform	50	45.5	91	43.6	87	4	70-130/25
74-83-9	Bromomethane	50	50.9	102	52.2	104	3	70-130/25
78-93-3	2-Butanone (MEK)	50	44.7	89	43.7	87	2	70-130/25
104-51-8	n-Butylbenzene	50	57.1	114	55.4	111	3	70-130/25
135-98-8	sec-Butylbenzene	50	57.5	115	55.8	112	3	70-130/25
98-06-6	tert-Butylbenzene	50	53.2	106	51.9	104	2	70-130/25
75-15-0	Carbon disulfide	50	53.9	108	52.2	104	3	70-130/25
56-23-5	Carbon tetrachloride	50	46.7	93	45.7	91	2	70-130/25
108-90-7	Chlorobenzene	50	55.5	111	52.6	105	5	70-130/25
75-00-3	Chloroethane	50	50.5	101	48.1	96	5	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	52.7	105	52.3	105	1	70-130/25
67-66-3	Chloroform	50	51.0	102	50.5	101	1	70-130/25
74-87-3	Chloromethane	50	40.6	81	37.6	75	8	70-130/25
95-49-8	o-Chlorotoluene	50	54.0	108	52.6	105	3	70-130/25
106-43-4	p-Chlorotoluene	50	57.0	114	55.4	111	3	70-130/25
124-48-1	Dibromochloromethane	50	47.9	96	46.3	93	3	70-130/25
95-50-1	1,2-Dichlorobenzene	50	55.4	111	54.1	108	2	70-130/25
541-73-1	1,3-Dichlorobenzene	50	55.2	110	53.8	108	3	70-130/25
106-46-7	1,4-Dichlorobenzene	50	52.5	105	51.0	102	3	70-130/25
75-71-8	Dichlorodifluoromethane	50	47.3	95	46.0	92	3	70-130/25
75-34-3	1,1-Dichloroethane	50	53.9	108	52.8	106	2	70-130/25
107-06-2	1,2-Dichloroethane	50	47.6	95	46.8	94	2	70-130/25
75-35-4	1,1-Dichloroethene	50	51.0	102	49.1	98	4	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	51.8	104	49.7	99	4	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	51.4	103	49.1	98	5	70-130/25
78-87-5	1,2-Dichloropropane	50	52.7	105	52.3	105	1	70-130/25
142-28-9	1,3-Dichloropropane	50	50.8	102	48.4	97	5	70-130/25
594-20-7	2,2-Dichloropropane	50	48.9	98	46.4	93	5	70-130/25
563-58-6	1,1-Dichloropropene	50	53.2	106	51.7	103	3	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-BS	N69896.D	1	11/13/12	JP	n/a	n/a	MSN2629
MSN2629-BSD	N69897.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	50	52.7	105	51.8	104	2	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	48.4	97	47.1	94	3	70-130/25
123-91-1	1,4-Dioxane	250	228	91	225	90	1	70-130/25
97-63-2	Ethyl methacrylate	50	49.1	98	47.9	96	2	77-137/25
100-41-4	Ethylbenzene	50	52.0	104	49.1	98	6	70-130/25
87-68-3	Hexachlorobutadiene	50	56.2	112	53.8	108	4	70-130/25
591-78-6	2-Hexanone	50	40.5	81	39.1	78	4	70-130/25
98-82-8	Isopropylbenzene	50	55.1	110	53.8	108	2	70-130/25
99-87-6	p-Isopropyltoluene	50	55.3	111	53.6	107	3	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	41.2	82	39.8	80	3	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	38.3	77	38.1	76	1	70-130/25
74-95-3	Methylene bromide	50	49.8	100	48.9	98	2	70-130/25
75-09-2	Methylene chloride	50	52.4	105	51.1	102	3	70-130/25
91-20-3	Naphthalene	50	52.4	105	51.7	103	1	70-130/25
103-65-1	n-Propylbenzene	50	56.1	112	54.8	110	2	70-130/25
100-42-5	Styrene	50	51.9	104	49.4	99	5	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	53.4	107	51.1	102	4	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	49.4	99	49.3	99	0	70-130/25
127-18-4	Tetrachloroethene	50	52.2	104	48.9	98	7	70-130/25
108-88-3	Toluene	50	52.1	104	51.2	102	2	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	57.1	114	55.3	111	3	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	57.0	114	55.7	111	2	70-130/25
71-55-6	1,1,1-Trichloroethane	50	52.6	105	51.0	102	3	70-130/25
79-00-5	1,1,2-Trichloroethane	50	50.9	102	50.2	100	1	70-130/25
79-01-6	Trichloroethene	50	49.0	98	47.8	96	2	70-130/25
75-69-4	Trichlorofluoromethane	50	47.4	95	46.0	92	3	70-130/25
96-18-4	1,2,3-Trichloropropane	50	54.0	108	52.5	105	3	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	50.0	100	49.0	98	2	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	50.0	100	48.8	98	2	70-130/25
108-05-4	Vinyl Acetate	50	49.4	99	48.9	98	1	70-130/25
75-01-4	Vinyl chloride	50	43.9	88	42.8	86	3	70-130/25
	m,p-Xylene	100	107	107	101	101	6	70-130/25
95-47-6	o-Xylene	50	55.8	112	52.8	106	6	70-130/25
1330-20-7	Xylene (total)	150	163	109	154	103	6	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-BS	N69896.D	1	11/13/12	JP	n/a	n/a	MSN2629
MSN2629-BSD	N69897.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	83%	83%	70-130%
2037-26-5	Toluene-D8	85%	85%	70-130%
460-00-4	4-Bromofluorobenzene	82%	82%	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: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15425-1MS	N69866.D	5	11/12/12	JP	n/a	n/a	MSN2627
MC15425-1MSD	N69867.D	5	11/12/12	JP	n/a	n/a	MSN2627
MC15425-1	N69851.D	1	11/12/12	JP	n/a	n/a	MSN2627

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

MC15421-1, MC15421-2, MC15421-3, MC15421-5, MC15421-7

CAS No.	Compound	MC15425-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	238	95	204	82	15	70-130/30
107-02-8	Acrolein	ND		1250	931	74	812	65* [a]	14	70-130/30
107-13-1	Acrylonitrile	ND		250	1440	576* [b]	1220	488* [b]	17	70-130/30
71-43-2	Benzene	ND		250	270	108	229	92	16	70-130/30
108-86-1	Bromobenzene	ND		250	283	113	238	95	17	70-130/30
74-97-5	Bromochloromethane	ND		250	280	112	241	96	15	70-130/30
75-27-4	Bromodichloromethane	ND		250	289	116	243	97	17	70-130/30
75-25-2	Bromoform	ND		250	254	102	224	90	13	70-130/30
74-83-9	Bromomethane	ND		250	175	70	184	74	5	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	270	108	234	94	14	70-130/30
104-51-8	n-Butylbenzene	ND		250	313	125	262	105	18	70-130/30
135-98-8	sec-Butylbenzene	ND		250	316	126	265	106	18	70-130/30
98-06-6	tert-Butylbenzene	ND		250	292	117	247	99	17	70-130/30
75-15-0	Carbon disulfide	ND		250	242	97	203	81	18	70-130/30
56-23-5	Carbon tetrachloride	ND		250	238	95	204	82	15	70-130/30
108-90-7	Chlorobenzene	ND		250	307	123	261	104	16	70-130/30
75-00-3	Chloroethane	ND		250	230	92	192	77	18	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	294	118	252	101	15	70-130/30
67-66-3	Chloroform	ND		250	280	112	238	95	16	70-130/30
74-87-3	Chloromethane	ND		250	154	62* [a]	149	60* [a]	3	70-130/30
95-49-8	o-Chlorotoluene	ND		250	301	120	251	100	18	70-130/30
106-43-4	p-Chlorotoluene	ND		250	311	124	263	105	17	70-130/30
124-48-1	Dibromochloromethane	ND		250	269	108	234	94	14	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	309	124	260	104	17	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	305	122	256	102	17	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	286	114	241	96	17	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	172	69* [a]	145	58* [a]	17	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	286	114	240	96	17	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	259	104	223	89	15	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	241	96	204	82	17	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	275	110	234	94	16	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	267	107	220	88	19	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	294	118	252	101	15	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	288	115	249	100	15	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	238	95	199	80	18	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	278	111	227	91	20	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15425-1MS	N69866.D	5	11/12/12	JP	n/a	n/a	MSN2627
MC15425-1MSD	N69867.D	5	11/12/12	JP	n/a	n/a	MSN2627
MC15425-1	N69851.D	1	11/12/12	JP	n/a	n/a	MSN2627

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

MC15421-1, MC15421-2, MC15421-3, MC15421-5, MC15421-7

CAS No.	Compound	MC15425-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		250	293	117	250	100	16	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	268	107	233	93	14	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1410	113	1210	97	15	70-130/30
97-63-2	Ethyl methacrylate	ND		250	291	116	250	100	15	72-139/30
100-41-4	Ethylbenzene	ND		250	288	115	239	96	19	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	293	117	255	102	14	70-130/30
591-78-6	2-Hexanone	ND		250	249	100	222	89	11	70-130/30
98-82-8	Isopropylbenzene	ND		250	305	122	255	102	18	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	301	120	253	101	17	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		250	224	90	197	79	13	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	234	94	203	81	14	70-130/30
74-95-3	Methylene bromide	ND		250	282	113	242	97	15	70-130/30
75-09-2	Methylene chloride	ND		250	270	108	230	92	16	70-130/30
91-20-3	Naphthalene	ND		250	318	127	265	106	18	70-130/30
103-65-1	n-Propylbenzene	ND		250	314	126	259	104	19	70-130/30
100-42-5	Styrene	ND		250	288	115	243	97	17	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	297	119	251	100	17	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	291	116	251	100	15	70-130/30
127-18-4	Tetrachloroethene	ND		250	276	110	234	94	16	70-130/30
108-88-3	Toluene	ND		250	286	114	240	96	17	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	312	125	271	108	14	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	312	125	268	107	15	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	274	110	232	93	17	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	291	116	246	98	17	70-130/30
79-01-6	Trichloroethene	ND		250	265	106	223	89	17	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	213	85	181	72	16	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	312	125	270	108	14	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	297	119	236	94	23	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	277	111	231	92	18	70-130/30
108-05-4	Vinyl Acetate	ND		250	279	112	244	98	13	70-130/30
75-01-4	Vinyl chloride	ND		250	180	72	156	62* [a]	14	70-130/30
	m,p-Xylene	ND		500	596	119	497	99	18	70-130/30
95-47-6	o-Xylene	ND		250	307	123	261	104	16	70-130/30
1330-20-7	Xylene (total)	ND		750	902	120	758	101	17	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15425-1MS	N69866.D	5	11/12/12	JP	n/a	n/a	MSN2627
MC15425-1MSD	N69867.D	5	11/12/12	JP	n/a	n/a	MSN2627
MC15425-1	N69851.D	1	11/12/12	JP	n/a	n/a	MSN2627

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

MC15421-1, MC15421-2, MC15421-3, MC15421-5, MC15421-7

CAS No.	Surrogate Recoveries	MS	MSD	MC15425-1	Limits
1868-53-7	Dibromofluoromethane	84%	84%	85%	70-130%
2037-26-5	Toluene-D8	85%	85%	85%	70-130%
460-00-4	4-Bromofluorobenzene	81%	81%	86%	70-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15549-3MS	N69919.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3MSD	N69920.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3	N69911.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4

CAS No.	Compound	MC15549-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	195	78	206	82	5	70-130/30
107-02-8	Acrolein	ND		1250	786	63* [a]	800	64* [a]	2	70-130/30
107-13-1	Acrylonitrile	ND		250	1230	492* [b]	1290	516* [b]	5	70-130/30
71-43-2	Benzene	ND		250	255	102	267	107	5	70-130/30
108-86-1	Bromobenzene	ND		250	246	98	256	102	4	70-130/30
74-97-5	Bromochloromethane	ND		250	258	103	273	109	6	70-130/30
75-27-4	Bromodichloromethane	ND		250	257	103	270	108	5	70-130/30
75-25-2	Bromoform	ND		250	219	88	223	89	2	70-130/30
74-83-9	Bromomethane	ND		250	210	84	257	103	20	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	204	82	223	89	9	70-130/30
104-51-8	n-Butylbenzene	ND		250	261	104	279	112	7	70-130/30
135-98-8	sec-Butylbenzene	ND		250	272	109	286	114	5	70-130/30
98-06-6	tert-Butylbenzene	ND		250	255	102	265	106	4	70-130/30
75-15-0	Carbon disulfide	ND		250	269	108	279	112	4	70-130/30
56-23-5	Carbon tetrachloride	ND		250	227	91	237	95	4	70-130/30
108-90-7	Chlorobenzene	ND		250	274	110	275	110	0	70-130/30
75-00-3	Chloroethane	ND		250	260	104	270	108	4	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	270	108	280	112	4	70-130/30
67-66-3	Chloroform	ND		250	253	101	267	107	5	70-130/30
74-87-3	Chloromethane	ND		250	214	86	229	92	7	70-130/30
95-49-8	o-Chlorotoluene	ND		250	260	104	272	109	5	70-130/30
106-43-4	p-Chlorotoluene	ND		250	272	109	284	114	4	70-130/30
124-48-1	Dibromochloromethane	ND		250	238	95	239	96	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	266	106	281	112	5	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	263	105	281	112	7	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	249	100	264	106	6	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	226	90	238	95	5	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	271	108	287	115	6	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	230	92	244	98	6	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	252	101	261	104	4	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	256	102	274	110	7	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	254	102	266	106	5	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	270	108	280	112	4	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	253	101	254	102	0	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	206	82	213	85	3	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	258	103	272	109	5	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15549-3MS	N69919.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3MSD	N69920.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3	N69911.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4

CAS No.	Compound	MC15549-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		250	258	103	270	108	5	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	233	93	246	98	5	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1080	86	1160	93	7	70-130/30
97-63-2	Ethyl methacrylate	ND		250	234	94	245	98	5	72-139/30
100-41-4	Ethylbenzene	ND		250	254	102	253	101	0	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	248	99	265	106	7	70-130/30
591-78-6	2-Hexanone	ND		250	189	76	193	77	2	70-130/30
98-82-8	Isopropylbenzene	ND		250	267	107	277	111	4	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	260	104	273	109	5	70-130/30
1634-04-4	Methyl Tert Butyl Ether	2.6		250	194	77	205	81	6	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	185	74	193	77	4	70-130/30
74-95-3	Methylene bromide	ND		250	247	99	260	104	5	70-130/30
75-09-2	Methylene chloride	ND		250	266	106	279	112	5	70-130/30
91-20-3	Naphthalene	ND		250	234	94	256	102	9	70-130/30
103-65-1	n-Propylbenzene	ND		250	269	108	280	112	4	70-130/30
100-42-5	Styrene	ND		250	250	100	254	102	2	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	266	106	268	107	1	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	242	97	251	100	4	70-130/30
127-18-4	Tetrachloroethene	53.6		250	321	107	321	107	0	70-130/30
108-88-3	Toluene	ND		250	258	103	270	108	5	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	257	103	280	112	9	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	258	103	281	112	9	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	253	101	265	106	5	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	253	101	264	106	4	70-130/30
79-01-6	Trichloroethene	ND		250	242	97	253	101	4	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	232	93	241	96	4	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	253	101	266	106	5	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	238	95	250	100	5	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	240	96	249	100	4	70-130/30
108-05-4	Vinyl Acetate	ND		250	246	98	255	102	4	70-130/30
75-01-4	Vinyl chloride	ND		250	216	86	225	90	4	70-130/30
	m,p-Xylene	ND		500	524	105	525	105	0	70-130/30
95-47-6	o-Xylene	ND		250	272	109	272	109	0	70-130/30
1330-20-7	Xylene (total)	ND		750	797	106	797	106	0	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15549-3MS	N69919.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3MSD	N69920.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3	N69911.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4

CAS No.	Surrogate Recoveries	MS	MSD	MC15549-3	Limits
1868-53-7	Dibromofluoromethane	84%	84%	84%	70-130%
2037-26-5	Toluene-D8	86%	85%	84%	70-130%
460-00-4	4-Bromofluorobenzene	81%	81%	86%	70-130%

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

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2627-CC2591	Injection Date:	11/12/12
Lab File ID:	N69843.D	Injection Time:	11:16
Instrument ID:	GCMSN	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	285033	9.01	382922	9.88	172394	13.14	195720	15.70	90128	6.56
Upper Limit [a]	570066	9.51	765844	10.38	344788	13.64	391440	16.20	180256	7.06
Lower Limit [b]	142517	8.51	191461	9.38	86197	12.64	97860	15.20	45064	6.06
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2627-BS	302739	9.01	404755	9.88	190764	13.14	207352	15.70	100708	6.56
MSN2627-BSD	309494	9.01	404943	9.88	182943	13.14	203720	15.70	100658	6.56
MSN2627-MB	282727	9.01	379253	9.88	167941	13.14	172398	15.70	89402	6.57
ZZZZZZ	308024	9.01	405331	9.88	180383	13.14	185294	15.70	87405	6.57
MC15421-7	280114	9.01	377558	9.88	169902	13.14	174638	15.70	86644	6.57
MC15421-5	300948	9.01	395729	9.88	177664	13.14	185315	15.70	90421	6.57
MC15425-1	274685	9.01	369004	9.88	163426	13.14	166778	15.70	94584	6.56
ZZZZZZ	287707	9.01	387454	9.88	173649	13.14	187287	15.70	98364	6.56
ZZZZZZ	303766	9.01	401516	9.88	178623	13.14	188594	15.70	101079	6.56
ZZZZZZ	299052	9.01	393045	9.88	178266	13.14	189863	15.70	103667	6.56
ZZZZZZ	298170	9.01	392826	9.88	174423	13.14	184315	15.70	97545	6.56
ZZZZZZ	296422	9.01	396332	9.88	178645	13.14	188029	15.70	91547	6.56
ZZZZZZ	309885	9.01	408619	9.88	180359	13.14	182604	15.70	92361	6.56
ZZZZZZ	297575	9.01	390329	9.88	175202	13.14	179972	15.70	94907	6.56
ZZZZZZ	297797	9.01	398299	9.88	181707	13.14	206928	15.70	89551	6.56
ZZZZZZ	312325	9.01	414192	9.88	185509	13.14	206288	15.70	98684	6.56
MC15421-1	326139	9.01	428270	9.88	190344	13.14	205413	15.70	101937	6.56
MC15421-2	323606	9.01	428632	9.88	191081	13.14	201831	15.70	95375	6.56
MC15421-3	324272	9.01	425598	9.88	191197	13.14	204746	15.70	96769	6.57
ZZZZZZ	315187	9.01	421598	9.88	196043	13.14	217828	15.70	93362	6.56
MC15425-1MS	311263	9.01	410302	9.88	186068	13.14	209091	15.70	90284	6.56
MC15425-1MSD	334197	9.01	441443	9.88	198437	13.14	225366	15.70	110471	6.56

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

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

Volatile Internal Standard Area Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2629-CC2591	Injection Date:	11/13/12
Lab File ID:	N69895.D	Injection Time:	11:59
Instrument ID:	GCMSN	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	332975	9.01	437609	9.88	197238	13.14	221938	15.70	98102	6.56
Upper Limit [a]	665950	9.51	875218	10.38	394476	13.64	443876	16.20	196204	7.06
Lower Limit [b]	166488	8.51	218805	9.38	98619	12.64	110969	15.20	49051	6.06
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2629-BS	331160	9.01	434434	9.88	194359	13.14	219925	15.70	97330	6.56
MSN2629-BSD	330386	9.01	431902	9.88	200259	13.14	219175	15.70	89195	6.56
MSN2629-MB	324761	9.01	423799	9.88	186213	13.14	199101	15.70	85171	6.57
MC15421-4	321185	9.01	425275	9.88	184610	13.14	192145	15.70	82535	6.57
MC15421-1	322320	9.01	427987	9.88	188381	13.14	196418	15.70	88653	6.56
MC15421-2	317139	9.01	420414	9.88	185253	13.14	194203	15.70	90512	6.57
MC15421-3	312890	9.01	410639	9.88	182444	13.14	190619	15.70	79911	6.57
ZZZZZZ	315284	9.01	413490	9.88	180532	13.14	189212	15.70	70674	6.57
ZZZZZZ	309308	9.01	410071	9.88	181387	13.14	186533	15.70	76383	6.57
ZZZZZZ	308353	9.01	405041	9.88	180427	13.14	187152	15.70	86792	6.57
ZZZZZZ	305942	9.01	405304	9.88	181879	13.14	198427	15.70	71296	6.56
ZZZZZZ	308084	9.01	403081	9.88	188648	13.14	209917	15.70	74680	6.56
MC15549-3	318614	9.01	423484	9.88	186752	13.14	192492	15.70	73717	6.57
ZZZZZZ	312404	9.01	408807	9.88	180462	13.14	186154	15.70	82134	6.56
ZZZZZZ	310936	9.01	412625	9.88	181386	13.14	186764	15.70	78111	6.56
ZZZZZZ	305817	9.01	403401	9.88	178340	13.14	185473	15.70	71027	6.56
ZZZZZZ	300738	9.01	395573	9.88	175666	13.14	184995	15.70	77748	6.56
ZZZZZZ	301008	9.01	400298	9.88	176586	13.14	183504	15.70	73241	6.56
MC15549-3MS	301951	9.01	396782	9.88	178496	13.14	202542	15.70	85241	6.56
MC15549-3MSD	282678	9.01	375009	9.88	176345	13.14	192737	15.70	80849	6.56

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

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

Volatile Surrogate Recovery Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8260B Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC15421-1	N69861.D	81.0	84.0	85.0
MC15421-1	N69901.D	83.0	84.0	87.0
MC15421-2	N69862.D	84.0	84.0	86.0
MC15421-2	N69902.D	85.0	84.0	86.0
MC15421-3	N69863.D	85.0	86.0	85.0
MC15421-3	N69903.D	84.0	85.0	86.0
MC15421-4	N69900.D	82.0	84.0	87.0
MC15421-5	N69850.D	84.0	85.0	86.0
MC15421-7	N69849.D	86.0	85.0	87.0
MC15425-1MS	N69866.D	84.0	85.0	81.0
MC15425-1MSD	N69867.D	84.0	85.0	81.0
MC15549-3MS	N69919.D	84.0	86.0	81.0
MC15549-3MSD	N69920.D	84.0	85.0	81.0
MSN2627-BS	N69844.D	85.0	86.0	82.0
MSN2627-BSD	N69845.D	82.0	85.0	82.0
MSN2627-MB	N69847.D	86.0	85.0	87.0
MSN2629-BS	N69896.D	83.0	85.0	82.0
MSN2629-BSD	N69897.D	83.0	85.0	82.0
MSN2629-MB	N69899.D	82.0	84.0	84.0

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

New England ACCUTEST LABORATORIES

GC/MS Semi-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: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30923-MB	W6619.D	1	11/07/12	KR	11/06/12	OP30923	MSW301

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	5.0	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	

Method Blank Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30923-MB	W6619.D	1	11/07/12	KR	11/06/12	OP30923	MSW301

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.28	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	0.48	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.46	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	31%	15-110%
4165-62-2	Phenol-d5	19%	15-110%
118-79-6	2,4,6-Tribromophenol	55%	15-110%
4165-60-0	Nitrobenzene-d5	49%	30-130%
321-60-8	2-Fluorobiphenyl	47%	30-130%
1718-51-0	Terphenyl-d14	85%	30-130%

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

Method Blank Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30924-MB	U10549.D	1	11/07/12	NS	11/06/12	OP30924	MSU563

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	0.25	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	0.082	0.10	0.017	ug/l	J
205-99-2	Benzo(b)fluoranthene	0.11	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	0.11	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	0.12	0.10	0.059	ug/l	
218-01-9	Chrysene	0.13	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	0.11	0.10	0.042	ug/l	
206-44-0	Fluoranthene	0.096	0.10	0.033	ug/l	J
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	0.089	0.10	0.036	ug/l	J

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	29%	15-110%
4165-62-2	Phenol-d5	19%	15-110%
118-79-6	2,4,6-Tribromophenol	49%	15-110%
4165-60-0	Nitrobenzene-d5	48%	30-130%
321-60-8	2-Fluorobiphenyl	46%	30-130%
1718-51-0	Terphenyl-d14	60%	30-130%

Blank Spike Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30923-BS	W6620.D	1	11/07/12	KR	11/06/12	OP30923	MSW301

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	23.4	23* [a]	30-130
95-57-8	2-Chlorophenol	100	50.6	51	30-130
59-50-7	4-Chloro-3-methyl phenol	100	59.5	60	30-130
120-83-2	2,4-Dichlorophenol	100	52.3	52	30-130
105-67-9	2,4-Dimethylphenol	100	51.9	52	30-130
51-28-5	2,4-Dinitrophenol	100	48.2	48	30-130
534-52-1	4,6-Dinitro-o-cresol	100	57.6	58	30-130
95-48-7	2-Methylphenol	100	45.9	46	30-130
	3&4-Methylphenol	200	89.3	45	30-130
88-75-5	2-Nitrophenol	100	52.3	52	30-130
100-02-7	4-Nitrophenol	100	35.1	35	30-130
87-86-5	Pentachlorophenol	100	62.2	62	30-130
108-95-2	Phenol	100	23.1	23* [a]	30-130
95-95-4	2,4,5-Trichlorophenol	100	58.4	58	30-130
88-06-2	2,4,6-Trichlorophenol	100	60.0	60	30-130
62-53-3	Aniline	50	15.0	30* [a]	40-140
101-55-3	4-Bromophenyl phenyl ether	50	30.1	60	40-140
85-68-7	Butyl benzyl phthalate	50	37.2	74	40-140
100-51-6	Benzyl Alcohol	50	21.3	43	40-140
91-58-7	2-Chloronaphthalene	50	28.4	57	40-140
106-47-8	4-Chloroaniline	50	23.7	47	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	23.5	47	40-140
111-44-4	bis(2-Chloroethyl)ether	50	25.7	51	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	30.1	60	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	28.1	56	40-140
122-66-7	1,2-Diphenylhydrazine	50	31.4	63	40-140
121-14-2	2,4-Dinitrotoluene	50	33.0	66	40-140
606-20-2	2,6-Dinitrotoluene	50	30.9	62	40-140
91-94-1	3,3'-Dichlorobenzidine	50	32.8	66	40-140
132-64-9	Dibenzofuran	50	28.3	57	40-140
84-74-2	Di-n-butyl phthalate	50	32.6	65	40-140
117-84-0	Di-n-octyl phthalate	50	43.9	88	40-140
84-66-2	Diethyl phthalate	50	33.0	66	40-140
131-11-3	Dimethyl phthalate	50	31.4	63	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	38.0	76	40-140
118-74-1	Hexachlorobenzene	50	31.7	63	40-140

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30923-BS	W6620.D	1	11/07/12	KR	11/06/12	OP30923	MSW301

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	20.1	40	40-140
67-72-1	Hexachloroethane	50	22.1	44	40-140
78-59-1	Isophorone	50	28.6	57	40-140
88-74-4	2-Nitroaniline	50	30.9	62	40-140
99-09-2	3-Nitroaniline	50	32.4	65	40-140
100-01-6	4-Nitroaniline	50	32.7	65	40-140
98-95-3	Nitrobenzene	50	25.5	51	40-140
62-75-9	n-Nitrosodimethylamine	50	16.9	34* [a]	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	29.4	59	40-140
86-30-6	N-Nitrosodiphenylamine	50	31.8	64	40-140
110-86-1	Pyridine	50	11.9	24* [a]	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	36%	15-110%
4165-62-2	Phenol-d5	23%	15-110%
118-79-6	2,4,6-Tribromophenol	74%	15-110%
4165-60-0	Nitrobenzene-d5	54%	30-130%
321-60-8	2-Fluorobiphenyl	56%	30-130%
1718-51-0	Terphenyl-d14	90%	30-130%

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

* = Outside of Control Limits.

7.2.1

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Blank Spike Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30924-BS	U10550.D	1	11/07/12	NS	11/06/12	OP30924	MSU563

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	27.3	55	40-140
208-96-8	Acenaphthylene	50	21.7	43	40-140
120-12-7	Anthracene	50	29.3	59	40-140
56-55-3	Benzo(a)anthracene	50	38.1	76	40-140
50-32-8	Benzo(a)pyrene	50	26.8	54	40-140
205-99-2	Benzo(b)fluoranthene	50	29.1	58	40-140
191-24-2	Benzo(g,h,i)perylene	50	29.5	59	40-140
207-08-9	Benzo(k)fluoranthene	50	30.9	62	40-140
218-01-9	Chrysene	50	31.8	64	40-140
53-70-3	Dibenzo(a,h)anthracene	50	29.9	60	40-140
206-44-0	Fluoranthene	50	30.2	60	40-140
86-73-7	Fluorene	50	28.5	57	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	30.1	60	40-140
90-12-0	1-Methylnaphthalene	50	24.6	49	40-140
91-57-6	2-Methylnaphthalene	50	22.6	45	40-140
85-01-8	Phenanthrene	50	30.5	61	40-140
129-00-0	Pyrene	50	27.2	54	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	33%	15-110%
4165-62-2	Phenol-d5	22%	15-110%
118-79-6	2,4,6-Tribromophenol	63%	15-110%
4165-60-0	Nitrobenzene-d5	51%	30-130%
321-60-8	2-Fluorobiphenyl	52%	30-130%
1718-51-0	Terphenyl-d14	67%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30923-MS	W6621.D	1	11/07/12	KR	11/06/12	OP30923	MSW301
OP30923-MSD	W6622.D	1	11/07/12	KR	11/06/12	OP30923	MSW301
MC15652-1	W6623.D	1	11/07/12	KR	11/06/12	OP30923	MSW301

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4

CAS No.	Compound	MC15652-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		100	30.5	31	28.2	28* [a]	8	30-130/20
95-57-8	2-Chlorophenol	ND		100	64.7	65	59.0	59	9	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		100	73.4	73	68.9	69	6	30-130/20
120-83-2	2,4-Dichlorophenol	ND		100	68.4	68	61.7	62	10	30-130/20
105-67-9	2,4-Dimethylphenol	ND		100	64.3	64	58.4	58	10	30-130/20
51-28-5	2,4-Dinitrophenol	ND		100	64.3	64	63.8	64	1	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		100	71.9	72	70.3	70	2	30-130/20
95-48-7	2-Methylphenol	ND		100	58.4	58	53.5	54	9	30-130/20
	3&4-Methylphenol	ND		200	113	57	103	52	9	30-130/20
88-75-5	2-Nitrophenol	ND		100	70.3	70	63.4	63	10	30-130/20
100-02-7	4-Nitrophenol	ND		100	40.8	41	40.9	41	0	30-130/20
87-86-5	Pentachlorophenol	ND		100	74.7	75	70.8	71	5	30-130/20
108-95-2	Phenol	ND		100	28.1	28* [a]	25.6	26* [a]	9	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		100	75.2	75	70.1	70	7	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		100	76.3	76	70.9	71	7	30-130/20
62-53-3	Aniline	ND		50	20.0	40	16.7	33* [a]	18	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		50	36.5	73	34.5	69	6	40-140/20
85-68-7	Butyl benzyl phthalate	ND		50	43.6	87	42.3	85	3	40-140/20
100-51-6	Benzyl Alcohol	ND		50	27.7	55	25.1	50	10	40-140/20
91-58-7	2-Chloronaphthalene	ND		50	35.8	72	33.1	66	8	40-140/20
106-47-8	4-Chloroaniline	ND		50	30.2	60	25.7	51	16	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		50	30.6	61	27.6	55	10	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		50	33.8	68	30.8	62	9	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		50	39.1	78	35.7	71	9	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		50	35.3	71	32.8	66	7	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		50	37.5	75	35.7	71	5	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		50	39.7	79	38.4	77	3	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		50	37.0	74	36.1	72	2	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		50	39.1	78	36.6	73	7	40-140/20
132-64-9	Dibenzofuran	ND		50	34.2	68	32.6	65	5	40-140/20
84-74-2	Di-n-butyl phthalate	ND		50	38.2	76	36.5	73	5	40-140/20
117-84-0	Di-n-octyl phthalate	ND		50	51.8	104	49.1	98	5	40-140/20
84-66-2	Diethyl phthalate	ND		50	38.9	78	37.3	75	4	40-140/20
131-11-3	Dimethyl phthalate	ND		50	37.4	75	36.3	73	3	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND		50	44.3	89	42.1	84	5	40-140/20
118-74-1	Hexachlorobenzene	ND		50	37.5	75	36.0	72	4	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30923-MS	W6621.D	1	11/07/12	KR	11/06/12	OP30923	MSW301
OP30923-MSD	W6622.D	1	11/07/12	KR	11/06/12	OP30923	MSW301
MC15652-1	W6623.D	1	11/07/12	KR	11/06/12	OP30923	MSW301

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4

CAS No.	Compound	MC15652-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		50	26.8	54	24.2	48	10	40-140/20
67-72-1	Hexachloroethane	ND		50	29.0	58	26.8	54	8	40-140/20
78-59-1	Isophorone	ND		50	35.6	71	32.5	65	9	40-140/20
88-74-4	2-Nitroaniline	ND		50	36.6	73	35.6	71	3	40-140/20
99-09-2	3-Nitroaniline	ND		50	34.6	69	33.4	67	4	40-140/20
100-01-6	4-Nitroaniline	ND		50	36.2	72	35.3	71	3	40-140/20
98-95-3	Nitrobenzene	ND		50	33.3	67	30.5	61	9	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		50	21.9	44	19.7	39* [a]	11	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		50	37.9	76	34.1	68	11	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		50	37.9	76	36.3	73	4	40-140/20
110-86-1	Pyridine	ND		50	17.2	34* [a]	15.1	30* [a]	13	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15652-1	Limits
367-12-4	2-Fluorophenol	45%	41%	42%	15-110%
4165-62-2	Phenol-d5	28%	26%	26%	15-110%
118-79-6	2,4,6-Tribromophenol	88%	86%	80%	15-110%
4165-60-0	Nitrobenzene-d5	69%	62%	74%	30-130%
321-60-8	2-Fluorobiphenyl	67%	64%	70%	30-130%
1718-51-0	Terphenyl-d14	98%	96%	114%	30-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30924-MS	U10551.D	1	11/07/12	NS	11/06/12	OP30924	MSU563
OP30924-MSD	U10552.D	1	11/07/12	NS	11/06/12	OP30924	MSU563
MC15652-2	U10553.D	1	11/07/12	NS	11/06/12	OP30924	MSU563

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4

CAS No.	Compound	MC15652-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		50	33.5	67	31.2	62	7	40-140/20
208-96-8	Acenaphthylene	ND		50	26.4	53	24.7	49	7	40-140/20
120-12-7	Anthracene	ND		50	33.9	68	32.5	65	4	40-140/20
56-55-3	Benzo(a)anthracene	ND		50	44.1	88	42.3	85	4	40-140/20
50-32-8	Benzo(a)pyrene	ND		50	31.0	62	29.4	59	5	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		50	33.0	66	32.2	64	2	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND		50	33.8	68	32.8	66	3	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		50	35.8	72	34.1	68	5	40-140/20
218-01-9	Chrysene	ND		50	36.8	74	35.3	71	4	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		50	34.9	70	33.0	66	6	40-140/20
206-44-0	Fluoranthene	ND		50	34.6	69	33.3	67	4	40-140/20
86-73-7	Fluorene	ND		50	34.0	68	32.7	65	4	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		50	34.7	69	33.3	67	4	40-140/20
90-12-0	1-Methylnaphthalene	ND		50	30.4	61	27.9	56	9	40-140/20
91-57-6	2-Methylnaphthalene	ND		50	28.0	56	25.7	51	9	40-140/20
85-01-8	Phenanthrene	ND		50	35.0	70	34.1	68	3	40-140/20
129-00-0	Pyrene	ND		50	31.1	62	30.2	60	3	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15652-2	Limits
367-12-4	2-Fluorophenol	41%	38%	37%	15-110%
4165-62-2	Phenol-d5	28%	25%	24%	15-110%
118-79-6	2,4,6-Tribromophenol	71%	69%	68%	15-110%
4165-60-0	Nitrobenzene-d5	63%	58%	68%	30-130%
321-60-8	2-Fluorobiphenyl	64%	59%	65%	30-130%
1718-51-0	Terphenyl-d14	71%	71%	76%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSU563-CC550	Injection Date:	11/07/12
Lab File ID:	U10548.D	Injection Time:	10:08
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	170404	3.68	487298	4.66	225140	6.08	383709	7.38	156079	10.16	196709	11.59
Upper Limit [a]	340808	4.18	974596	5.16	450280	6.58	767418	7.88	312158	10.66	393418	12.09
Lower Limit [b]	85202	3.18	243649	4.16	112570	5.58	191855	6.88	78040	9.66	98355	11.09
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30924-MB	171994	3.68	499007	4.66	233256	6.08	385633	7.38	219079	10.16	331185	11.59
OP30924-BS	151581	3.68	420304	4.66	202226	6.08	340845	7.38	179880	10.16	283150	11.59
OP30924-MS	166368	3.68	470930	4.66	224720	6.08	383062	7.38	201218	10.17	318943	11.60
OP30924-MSD	154574	3.68	436289	4.66	206748	6.08	352558	7.38	185611	10.17	295420	11.59
MC15652-2	161748	3.68	464351	4.66	217568	6.08	365638	7.38	202432	10.16	312720	11.59
MC15421-1	153447	3.68	445571	4.66	206190	6.08	349745	7.38	196038	10.16	304943	11.59
MC15421-2	157365	3.68	457175	4.66	217568	6.08	363165	7.38	207242	10.16	319916	11.59
MC15421-3	157011	3.68	452938	4.66	209488	6.08	346939	7.38	208331	10.16	321775	11.60
MC15421-4	171795	3.68	505414	4.66	242572	6.08	403973	7.38	237634	10.16	357619	11.59
ZZZZZZ	140334	3.68	418641	4.66	195941	6.08	328753	7.38	186123	10.16	283814	11.59
ZZZZZZ	162547	3.68	467063	4.66	220873	6.08	361385	7.38	199777	10.16	303889	11.59
ZZZZZZ	163741	3.68	474725	4.66	230144	6.08	381544	7.38	218741	10.16	328112	11.59
ZZZZZZ	155661	3.68	451285	4.66	216817	6.08	356451	7.38	200774	10.16	306941	11.59

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

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

Semivolatile Internal Standard Area Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW301-CC287	Injection Date:	11/07/12
Lab File ID:	W6615.D	Injection Time:	10:22
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	104465	3.46	408480	4.43	245444	5.85	432444	7.12	548378	9.95	479662	11.51
Upper Limit [a]	208930	3.96	816960	4.93	490888	6.35	864888	7.62	1096756	10.45	959324	12.01
Lower Limit [b]	52233	2.96	204240	3.93	122722	5.35	216222	6.62	274189	9.45	239831	11.01

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
ZZZZZZ	118683	3.46	435243	4.44	274605	5.85	469847	7.12	397825	9.94	305650	11.51
ZZZZZZ	120590	3.46	435414	4.44	274605	5.85	470589	7.12	399472	9.94	306627	11.51
ZZZZZZ	118683	3.46	435243	4.44	274605	5.85	469847	7.12	397825	9.94	305650	11.51
OP30923-MB	100899	3.46	399576	4.43	228566	5.85	406068	7.12	425088	9.94	338748	11.51
OP30923-BS	87703	3.46	343059	4.43	201308	5.85	351567	7.12	409620	9.94	307862	11.51
OP30923-MS	101322	3.46	394764	4.43	234437	5.85	406947	7.12	471347	9.95	355461	11.51
OP30923-MSD	93019	3.46	360753	4.43	209838	5.85	367507	7.12	422313	9.95	318189	11.51
MC15652-1	102557	3.46	400430	4.43	235563	5.85	421592	7.12	449709	9.94	358476	11.51
ZZZZZZ	106790	3.46	425747	4.43	248884	5.85	440818	7.12	522876	9.94	448288	11.51
ZZZZZZ	99977	3.46	392734	4.43	224218	5.85	399534	7.12	457921	9.94	391732	11.51

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

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

Semivolatile Internal Standard Area Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW307-CC287	Injection Date:	11/08/12
Lab File ID:	W6692.D	Injection Time:	16:30
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	123955	3.44	484411	4.43	297115	5.84	505006	7.11	681302	9.94	566039	11.50
Upper Limit [a]	247910	3.94	968822	4.93	594230	6.34	1010012	7.61	1362604	10.44	1132078	12.00
Lower Limit [b]	61978	2.94	242206	3.93	148558	5.34	252503	6.61	340651	9.44	283020	11.00

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30941-MB	124015	3.44	490274	4.43	285955	5.84	521668	7.10	577950	9.93	544959	11.49
OP30941-BS	133453	3.45	518254	4.43	316546	5.84	543528	7.11	641166	9.94	553010	11.50
OP30941-BSD	135921	3.45	534632	4.43	325210	5.84	557186	7.11	683234	9.94	591031	11.50
OP30941-MS	132983	3.45	515510	4.43	307384	5.84	536803	7.11	637569	9.94	544168	11.49
OP30941-MSD	118786	3.45	459706	4.43	274073	5.84	471719	7.11	567069	9.94	489789	11.50
MC15665-1	121233	3.44	479206	4.43	276173	5.84	492735	7.10	543456	9.93	509293	11.49
ZZZZZZ	117532	3.44	465418	4.43	270761	5.84	474774	7.10	520764	9.93	493686	11.49
ZZZZZZ	121440	3.44	473666	4.43	279573	5.84	489384	7.10	545727	9.94	515897	11.50
ZZZZZZ	124320	3.44	473464	4.43	282983	5.84	493738	7.10	541352	9.93	509946	11.49
ZZZZZZ	130653	3.44	498301	4.43	291265	5.84	508709	7.10	528889	9.93	485891	11.49
ZZZZZZ	123545	3.44	481746	4.43	280468	5.84	485777	7.10	524861	9.93	486403	11.49
ZZZZZZ	114024	3.44	448215	4.43	261987	5.84	456547	7.10	494378	9.93	462774	11.49
ZZZZZZ	117004	3.44	449932	4.43	261953	5.84	466341	7.10	496369	9.93	459840	11.49
ZZZZZZ	116439	3.44	451853	4.43	262672	5.84	465270	7.10	513224	9.93	478917	11.49
ZZZZZZ	114924	3.44	446378	4.43	264453	5.84	462431	7.10	496123	9.93	451923	11.49
ZZZZZZ	121973	3.44	478523	4.43	279528	5.84	497191	7.10	539919	9.93	477313	11.50
ZZZZZZ	130177	3.44	512575	4.43	304383	5.84	533110	7.11	561624	9.93	500653	11.49
ZZZZZZ	124252	3.45	476971	4.43	283920	5.84	500337	7.11	562588	9.93	513044	11.50
ZZZZZZ	119575	3.45	457713	4.43	270606	5.84	468361	7.11	518776	9.93	488306	11.50
ZZZZZZ	118440	3.44	460849	4.43	269046	5.84	472302	7.11	513840	9.93	471506	11.50
ZZZZZZ	120607	3.44	462012	4.43	275114	5.84	488973	7.11	524559	9.93	483642	11.49
ZZZZZZ	114317	3.44	444046	4.43	255718	5.84	458408	7.11	498803	9.93	465247	11.49
ZZZZZZ	115149	3.45	446384	4.43	261942	5.84	460184	7.11	502344	9.93	467248	11.49
ZZZZZZ	122695	3.44	481647	4.43	285456	5.84	501344	7.11	545597	9.93	497032	11.50
ZZZZZZ	115837	3.44	448621	4.43	261249	5.84	464175	7.11	495249	9.93	470445	11.49
MC15421-1	114210	3.44	441899	4.43	265175	5.84	470461	7.11	502660	9.93	399622	11.49
MC15421-2	108798	3.44	430602	4.43	255216	5.84	448896	7.11	473194	9.93	371220	11.49
MC15421-3	109375	3.44	433353	4.43	259564	5.84	468927	7.11	510867	9.94	412420	11.50
MC15421-4	139003	3.44	543795	4.43	325739	5.84	588344	7.11	662232	9.93	513744	11.50

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

Semivolatile Internal Standard Area Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW307-CC287	Injection Date:	11/08/12
Lab File ID:	W6692.D	Injection Time:	16:30
Instrument ID:	GCMSW	Method:	SW846 8270C

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

IS 6 = Perylene-d12

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

7.4.3

7

Semivolatile Surrogate Recovery Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15421-1	W6718.D	32.0	20.0	72.0	49.0	47.0	86.0
MC15421-2	W6719.D	40.0	26.0	80.0	65.0	61.0	90.0
MC15421-3	W6720.D	43.0	27.0	97.0	70.0	69.0	99.0
MC15421-4	W6721.D	37.0	23.0	83.0	68.0	67.0	91.0
OP30923-BS	W6620.D	36.0	23.0	74.0	54.0	56.0	90.0
OP30923-MB	W6619.D	31.0	19.0	55.0	49.0	47.0	85.0
OP30923-MS	W6621.D	45.0	28.0	88.0	69.0	67.0	98.0
OP30923-MSD	W6622.D	41.0	26.0	86.0	62.0	64.0	96.0

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

Semivolatile Surrogate Recovery Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15421-1	U10554.D	29.0	20.0	58.0	45.0	46.0	61.0
MC15421-2	U10555.D	37.0	24.0	64.0	60.0	57.0	63.0
MC15421-3	U10556.D	35.0	24.0	75.0	62.0	67.0	70.0
MC15421-4	U10557.D	35.0	23.0	67.0	63.0	60.0	65.0
OP30924-BS	U10550.D	33.0	22.0	63.0	51.0	52.0	67.0
OP30924-MB	U10549.D	29.0	19.0	49.0	48.0	46.0	60.0
OP30924-MS	U10551.D	41.0	28.0	71.0	63.0	64.0	71.0
OP30924-MSD	U10552.D	38.0	25.0	69.0	58.0	59.0	71.0

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

New England ACCUTEST LABORATORIES

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: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30886-MB	BK18405.D	1	11/02/12	AP	11/02/12	OP30886	GBK675

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4, MC15421-6, MC15421-8

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

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	86%	36-173%
460-00-4	Bromofluorobenzene (S)	82%	36-173%

Blank Spike Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30886-BS	BK18406.D	1	11/02/12	AP	11/02/12	OP30886	GBK675

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4, MC15421-6, MC15421-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.058	82	60-140
106-93-4	1,2-Dibromoethane	0.071	0.069	97	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	83%	36-173%
460-00-4	Bromofluorobenzene (S)	80%	36-173%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30886-MS	BK18407.D	1	11/02/12	AP	11/02/12	OP30886	GBK675
OP30886-MSD	BK18408.D	1	11/02/12	AP	11/02/12	OP30886	GBK675
MC15506-7	BK18409.D	1	11/02/12	AP	11/02/12	OP30886	GBK675

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

MC15421-1, MC15421-2, MC15421-3, MC15421-4, MC15421-6, MC15421-8

CAS No.	Compound	MC15506-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		0.071	0.058	82	0.058	82	0	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.071	0.070	99	0.070	99	0	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC15506-7	Limits
460-00-4	Bromofluorobenzene (S)	84%	83%	88%	36-173%
460-00-4	Bromofluorobenzene (S)	84%	85%	85%	36-173%

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8011 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC15421-1	BK18423.D	83.0	76.0
MC15421-2	BK18425.D	80.0	75.0
MC15421-3	BK18426.D	70.0	78.0
MC15421-4	BK18427.D	78.0	75.0
MC15421-6	BK18428.D	79.0	74.0
MC15421-8	BK18429.D	80.0	76.0
OP30886-BS	BK18406.D	83.0	80.0
OP30886-MB	BK18405.D	86.0	82.0
OP30886-MS	BK18407.D	84.0	84.0
OP30886-MSD	BK18408.D	83.0	85.0

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

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

GC Surrogate Retention Time Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBK675-CC675	Injection Date:	11/02/12
Lab File ID:	BK18402.D	Injection Time:	15:17
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.86	4.64

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP30877-MS	BK18403.D	11/02/12	15:41	4.86	4.64
OP30877-MSD	BK18404.D	11/02/12	16:08	4.86	4.64
OP30886-MB	BK18405.D	11/02/12	16:33	4.86	4.64
OP30888-MB	BK18405A.D	11/02/12	16:33	4.86	4.64
OP30886-BS	BK18406.D	11/02/12	16:57	4.86	4.64
OP30888-BS	BK18406A.D	11/02/12	16:57	4.86	4.64
OP30886-MS	BK18407.D	11/02/12	17:21	4.86	4.64
OP30886-MSD	BK18408.D	11/02/12	17:46	4.86	4.64
MC15506-7	BK18409.D	11/02/12	18:10	4.86	4.64
ZZZZZZ	BK18410.D	11/02/12	18:34	4.86	4.64
ZZZZZZ	BK18411.D	11/02/12	18:58	4.86	4.64

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBK675-CC675	Injection Date:	11/02/12
Lab File ID:	BK18413.D	Injection Time:	19:46
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.86	4.64

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK18414.D	11/02/12	20:11	4.86	4.64
ZZZZZZ	BK18415.D	11/02/12	20:35	4.86	4.64
ZZZZZZ	BK18416.D	11/02/12	21:00	4.86	4.64
ZZZZZZ	BK18417.D	11/02/12	21:24	4.86	4.64
ZZZZZZ	BK18418.D	11/02/12	21:49	4.86	4.64
ZZZZZZ	BK18419.D	11/02/12	22:13	4.86	4.64
ZZZZZZ	BK18420.D	11/02/12	22:38	4.86	4.64
ZZZZZZ	BK18421.D	11/02/12	23:02	4.86	4.64
ZZZZZZ	BK18422.D	11/02/12	23:27	4.86	4.64
MC15421-1	BK18423.D	11/02/12	23:51	4.86	4.64

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC15421
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBK675-CC675	Injection Date:	11/03/12
Lab File ID:	BK18424.D	Injection Time:	00:16
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.86	4.64

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
MC15421-2	BK18425.D	11/03/12	00:41	4.86	4.64
MC15421-3	BK18426.D	11/03/12	01:05	4.86	4.64
MC15421-4	BK18427.D	11/03/12	01:30	4.86	4.64
MC15421-6	BK18428.D	11/03/12	01:54	4.86	4.64
MC15421-8	BK18429.D	11/03/12	02:19	4.86	4.64
GBK675-ECC675	BK18430.D	11/03/12	02:43	4.86	4.64

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

Roxana Groundwater Quarterly – 4th Quarter 2012 Data Review

Laboratory SDG: MC15425

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 11/29/2012

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Sample Identification	Sample Identification
MW9-ROX-102912	MW5-ROX-102912
MW4-ROX-102912	ROST4PZC-ROX-102912
TB-102912-HCL-R	TB-102912-ST-R

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated that VOC LCS/LCSD recoveries were outside evaluation criteria. VOC MS/MSD recoveries were outside evaluation criteria in sample MW9-ROX-102912. PAH method blank and LCS internal standard area recoveries were outside evaluation criteria for perylene-d_{12}, and samples MW9-ROX-102912, MW5-ROX-102912 and MW4-ROX-102912 internal area recoveries for perylene-d_{12} were outside evaluation criteria. Sample MW4-ROX-102912 was diluted due to high levels of benzene. Additionally, the initial calibration verification for acetone, 4-chloroaniline, and aniline exceeded 50 percent difference (%D). These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated samples were received by the laboratory at a temperature of 0.9ºC, which is outside the 4ºC ± 2ºC criteria. Samples were received in good condition; therefore, no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

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

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSN2627-BS/BSD	VOCs	Acrylonitrile	**544/526**	3	70-130/25
MSN2627-BS/BSD	VOCs	Chloromethane	**60/59**	1	70-130/25
MSN2627-BS/BSD	VOCs	Dichlorodifluoromethane	**63/60**	6	70-130/25
MSN2627-BS/BSD	VOCs	Vinyl chloride	**66/63**	4	70-130/25

Analytical data that required qualification based on LCS data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. LCS/LCSD MSN2627-BS/BSD was associated with trip blank TB-102912-HCL-R. Trip blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
MW9-ROX-102912	VOCs	Chloromethane	**UJ**
MW9-ROX-102912	VOCs	Dichlorodifluoromethane	**UJ**
MW9-ROX-102912	VOCs	Vinyl chloride	**UJ**
MW5-ROX-102912	VOCs	Chloromethane	**UJ**
MW5-ROX-102912	VOCs	Dichlorodifluoromethane	**UJ**
MW5-ROX-102912	VOCs	Vinyl chloride	**UJ**
MW4-ROX-102912	VOCs	Chloromethane	**UJ**
MW4-ROX-102912	VOCs	Dichlorodifluoromethane	**UJ**
MW4-ROX-102912	VOCs	Vinyl chloride	**UJ**
ROST4PZC-ROX-102912	VOCs	Chloromethane	**UJ**
ROST4PZC-ROX-102912	VOCs	Dichlorodifluoromethane	**UJ**
ROST4PZC-ROX-102912	VOCs	Vinyl chloride	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

Yes, although not requested, sample MW9-ROX-102912 was spiked and analyzed for VOCs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
MW9-ROX-102912	VOCs	Acrolein	74/**65**	14	70-130/30

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
MW9-ROX-102912	VOCs	Acrylonitrile	**576/488**	17	70-130/30
MW9-ROX-102912	VOCs	Chloromethane	**62/60**	3	70-130/30
MW9-ROX-102912	VOCs	Dichlorodifluoromethane	**69/58**	17	70-130/30
MW9-ROX-102912	VOCs	Vinyl chloride	72/**62**	14	70-130/30

Analytical results reported as non-detect and associated with MS/MSD recoveries above evaluation criteria, indicating a high bias, did not require qualification. USEPA National Functional Guidelines for Organic Data Review indicates that organic data does not require qualification based on MS/MSD data alone. LCS/LCSD recoveries were within evaluation criteria with the exception of compounds listed and qualified as appropriate in Section 5.0 of this data review. No further qualification of data was required.

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

No, PAH method blank and LCS internal standard area recoveries were outside evaluation criteria for perylene-d_{12}, and samples MW9-ROX-102912, MW5-ROX-102912 and MW4-ROX-102912 internal area recoveries for perylene-d_{12} were outside evaluation criteria.

Sample ID	Parameter	Analyte	IS Area Recovery	IS Criteria
OP30880-MB	PAHs	Perylene-d_{12}	**458182**	109662-438648
OP30880-BS	PAHs	Perylene-d_{12}	**472225**	109662-438648
MW9-ROX-102912	PAHs	Perylene-d_{12}	**499324**	109662-438648
MW5-ROX-102912	PAHs	Perylene-d_{12}	**440621**	109662-438648
MW4-ROX-102912	PAHs	Perylene-d_{12}	**447799**	109662-438648

Analytical results reported as non-detect and associated with internal standard recoveries above evaluation criteria, indicating a high bias, did not require qualification. Method blanks and LCS/LCSDs are quality control samples and are not qualified. No qualification of data was required.

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

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

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes, the initial calibration verification recovery for acetone, 4-chloroaniline, and aniline exceeded 50 percent difference (%D); analytes in associated samples were qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW9-ROX-102912	VOCs	Acetone	**UJ**
MW9-ROX-102912	SVOCs	Aniline	**UJ**
MW9-ROX-102912	SVOCs	4-Chloroaniline	**UJ**
MW5-ROX-102912	VOCs	Acetone	**UJ**
MW5-ROX-102912	SVOCs	Aniline	**UJ**
MW5-ROX-102912	SVOCs	4-Chloroaniline	**UJ**
MW4-ROX-102912	VOCs	Acetone	**UJ**
MW4-ROX-102912	SVOCs	Aniline	**UJ**
MW4-ROX-102912	SVOCs	4-Chloroaniline	**UJ**
ROST4PZC-ROX-102912	VOCs	Acetone	**UJ**
ROST4PZC-ROX-102912	SVOCs	Aniline	**UJ**
ROST4PZC-ROX-102912	SVOCs	4-Chloroaniline	**UJ**

New England ACCUTEST LABORATORIES

12/04/12





Technical Report for

Shell Oil

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana,

Accutest Job Number: MC15425

Sampling Date: 10/29/12

Report to:

URS Corporation

elizabeth.kunkel@URS.com

ATTN: Elizabeth Kunkel

Total number of pages in report: **81**

Reviewed on 11/30/12

ACCREDITED IN ACCORDANCE WITH nelac

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

Reza Tand
Lab Director

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Sample Summary

Shell Oil

Job No: MC15425

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC15425-1	10/29/12	10:20	LRDM	11/01/12	AQ	Ground Water	MW9-ROX-102912
MC15425-2	10/29/12	11:15	LRDM	11/01/12	AQ	Ground Water	MW5-ROX-102912
MC15425-3	10/29/12	13:35	LRDM	11/01/12	AQ	Ground Water	MW4-ROX-102912
MC15425-4	10/29/12	14:25	LRDM	11/01/12	AQ	Ground Water	ROST4PZC-ROX-102912
MC15425-5	10/29/12	00:00	LRDM	11/01/12	AQ	Trip Blank Water	TB-102912-HCL-R
MC15425-6	10/29/12	00:00	LRDM	11/01/12	AQ	Trip Blank Water	TB-102912-ST-R

ACCUTEST. Laboratories

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	**Job No**	MC15425
Site:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central	**Report Date**	11/30/2012 2:01:12 PM

4 Sample(s), 2 Trip Blank(s) and 0 Field Blank(s) were collected on 10/29/2012 and were received at Accutest on 11/01/2012 properly preserved, at 0.9 Deg. C and intact. These Samples received an Accutest job number of MC15425. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. 1-Chlorohexane, Benzenethiol, Dibenz(a,h)acridine, Indene, and Quinoline were searched in the library search and reported only if detections were found.

Except as noted below, all method specified calibrations and quality control perfomance 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:** MSN2627

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC15425-1MS, MC15425-1MSD were used as the QC samples indicated.
- MSN2627-BS/BSD for Chloromethane, Dichlorodifluoromethane, Vinyl chloride are outside control limits. Blank Spike meets program technical requirements.
- MC15425-1MS for Chloromethane, Dichlorodifluoromethane are outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC15425-1MSD for Acrolein, Chloromethane, Dichlorodifluoromethane, Vinyl chloride are outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC15425-1MS/MSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MSN2627-BS/BSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- Initial calibration verification standard MSN2591-ICV2591 for acetone exceed 50% Difference. (Results biased high). Associated samples are non-detect for these compounds.

Extractables by GCMS By Method SW846 8270C

Matrix: AQ **Batch ID:** OP30881

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC15506-4MS, MC15506-4MSD were used as the QC samples indicated.
- OP30881-MS for 2-Chloronaphthalene, 2-Nitroaniline, 3,3'-Dichlorobenzidine, 3-Nitroaniline, 4-Chloroaniline, 4-Chlorophenylphenyl ether, 4-Nitroaniline, Aniline, Dibenzofuran are outside control limits due to possible matrix interference. Refer to Blank Spike.
- OP30881-MSD for 2-Chloronaphthalene, 3,3'-Dichlorobenzidine, 4-Chlorophenyl phenyl ether, Dibenzofuran, 2-Nitroaniline, 3-Nitroaniline, 4-Chloroaniline, 4-Nitroaniline, Aniline, N-Nitroso-di-n-propylamine are outside control limits due to possible matrix interference. Refer to Blank Spike.
- RPD(s) for OP30881-MSD for 2,4-Dimethylphenol, 2-Nitroaniline, 3-Nitroaniline, 4-Chloroaniline, 4-Nitroaniline, Aniline, NNitroso-di-n-propylamine are outside control limits. High RPD due to possible matrix interference and/or sample non-homogeneity.
- Initial calibration verification MSW287-ICV287 for 4-Chloroaniline, Aniline exceeds 50% Difference.4-Chloroaniline, Aniline is within criteria in continuing calibration check MSW298-CC287.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix: AQ	Batch ID: OP30880

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15402-1MS, MC15402-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- OP30880-MB/BS/MS, MC15425-1, -2, -3 have internal standard recovery(s) outside control limits. Target analytes not associated with this internal standard.

Volatiles by GC By Method SW846 8011

Matrix: AQ	Batch ID: OP30886

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15506-7MS, MC15506-7MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

The Accutest Laboratories of 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 Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC15425).

Summary of Hits

Job Number: MC15425
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 10/29/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC15425-1	MW9-ROX-102912					
No hits reported in this sample.						
MC15425-2	MW5-ROX-102912					
Benzene		62.8	0.50	0.24	ug/l	SW846 8260B
tert-Butylbenzene		5.9	5.0	0.64	ug/l	SW846 8260B
Isopropylbenzene		2.0 J	5.0	0.50	ug/l	SW846 8260B
Methyl Tert Butyl Ether		21.9	1.0	0.41	ug/l	SW846 8260B
Toluene		1.8	1.0	0.51	ug/l	SW846 8260B
m,p-Xylene		1.8	1.0	0.73	ug/l	SW846 8260B
Xylene (total)		1.8	1.0	0.58	ug/l	SW846 8260B
1-Methylnaphthalene		9.1	0.20	0.14	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		0.084 J	0.20	0.053	ug/l	SW846 8270C BY SIM
MC15425-3	MW4-ROX-102912					
Benzene		354	1.0	0.48	ug/l	SW846 8260B
Isopropylbenzene		2.9 J	10	1.0	ug/l	SW846 8260B
Methyl Tert Butyl Ether		32.4	2.0	0.82	ug/l	SW846 8260B
n-Propylbenzene		3.3 J	10	1.2	ug/l	SW846 8260B
Toluene		17.5	2.0	1.0	ug/l	SW846 8260B
m,p-Xylene		11.4	2.0	1.5	ug/l	SW846 8260B
Xylene (total)		11.4	2.0	1.2	ug/l	SW846 8260B
1-Methylnaphthalene		0.25	0.21	0.14	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		0.16 J	0.21	0.054	ug/l	SW846 8270C BY SIM
MC15425-4	ROST4PZC-ROX-102912					
Benzene		3.3	0.50	0.24	ug/l	SW846 8260B
Ethylbenzene		1.4	1.0	0.51	ug/l	SW846 8260B
m,p-Xylene		2.1	1.0	0.73	ug/l	SW846 8260B
Xylene (total)		2.1	1.0	0.58	ug/l	SW846 8260B
Di-n-butyl phthalate		1.8 J	5.2	0.38	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		4.5	2.1	0.39	ug/l	SW846 8270C
Acenaphthene		0.054 J	0.10	0.014	ug/l	SW846 8270C BY SIM
Anthracene		0.050 J	0.10	0.018	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		0.40	0.21	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		0.41	0.21	0.054	ug/l	SW846 8270C BY SIM
Phenanthrene		0.20	0.052	0.013	ug/l	SW846 8270C BY SIM
MC15425-5	TB-102912-HCL-R					
No hits reported in this sample.						

Summary of Hits

Job Number: MC15425
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 10/29/12

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

MC15425-6 **TB-102912-ST-R**

No hits reported in this sample.

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW9-ROX-102912		
Lab Sample ID:	MC15425-1	Date Sampled:	10/29/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69851.D	1	11/12/12	JP	n/a	n/a	MSN2627
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	UJ
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	UJ
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	UJ
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

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

Report of Analysis

Client Sample ID:	MW9-ROX-102912		
Lab Sample ID:	MC15425-1	**Date Sampled:**	10/29/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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	UJ
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:	MW9-ROX-102912		
Lab Sample ID:	MC15425-1	**Date Sampled:**	10/29/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, 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	85%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%

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

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

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

Report of Analysis

Client Sample ID:	MW9-ROX-102912		
Lab Sample ID:	MC15425-1	Date Sampled:	10/29/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6551.D	1	11/05/12	KR	11/02/12	OP30881	MSW298
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.2	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.39	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.39	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.9	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	5.2	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.6	ug/l	
95-48-7	2-Methylphenol	ND	10	0.63	ug/l	
	3&4-Methylphenol	ND	10	0.78	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.49	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.9	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.66	ug/l	
108-95-2	Phenol	ND	5.2	0.97	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.51	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.37	ug/l	
62-53-3	Aniline	ND	10	2.1	ug/l	UJ
101-55-3	4-Bromophenyl phenyl ether	ND	5.2	0.34	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.2	0.28	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.27	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.2	0.26	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.66	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.2	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.2	0.39	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.2	0.30	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.2	0.30	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.2	0.22	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.26	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.26	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.2	0.93	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.2	0.38	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.2	0.25	ug/l	

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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW9-ROX-102912		
Lab Sample ID:	MC15425-1	Date Sampled:	10/29/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.2	0.20	ug/l	
131-11-3	Dimethyl phthalate	ND	5.2	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.1	0.39	ug/l	
118-74-1	Hexachlorobenzene	ND	5.2	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.2	ug/l	
67-72-1	Hexachloroethane	ND	5.2	0.29	ug/l	
78-59-1	Isophorone	ND	5.2	0.33	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.26	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	0.50	ug/l	
98-95-3	Nitrobenzene	ND	5.2	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.2	0.62	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.2	0.29	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.2	0.45	ug/l	
110-86-1	Pyridine	ND	10	0.48	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	44%		15-110%
4165-62-2	Phenol-d5	29%		15-110%
118-79-6	2,4,6-Tribromophenol	91%		15-110%
4165-60-0	Nitrobenzene-d5	70%		30-130%
321-60-8	2-Fluorobiphenyl	66%		30-130%
1718-51-0	Terphenyl-d14	90%		30-130%

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

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

Report of Analysis

Client Sample ID:	MW9-ROX-102912		
Lab Sample ID:	MC15425-1	Date Sampled:	10/29/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10527.D	1	11/05/12	NS	11/02/12	OP30880	MSU562
Run #2							

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

BN Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	39%		15-110%
4165-62-2	Phenol-d5	26%		15-110%
118-79-6	2,4,6-Tribromophenol	73%		15-110%
4165-60-0	Nitrobenzene-d5	65%		30-130%
321-60-8	2-Fluorobiphenyl	60%		30-130%
1718-51-0	Terphenyl-d14	75%		30-130%

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

Report of Analysis

Client Sample ID:	MW9-ROX-102912		
Lab Sample ID:	MC15425-1	Date Sampled:	10/29/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18418.D	1	11/02/12	AP	11/02/12	OP30886	GBK675
Run #2							

	Initial Volume	Final Volume
Run #1	35.5 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	84%		36-173%
460-00-4	Bromofluorobenzene (S)	85%		36-173%

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

Report of Analysis

Client Sample ID:	MW5-ROX-102912		
Lab Sample ID:	MC15425-2	Date Sampled:	10/29/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69852.D	1	11/12/12	JP	n/a	n/a	MSN2627
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	UJ
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	62.8	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.3	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	5.9	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	UJ
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	UJ
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:	MW5-ROX-102912		
Lab Sample ID:	MC15425-2	Date Sampled:	10/29/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	2.0	5.0	0.50	ug/l	J
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	21.9	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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	1.8	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	UJ
	m,p-Xylene	1.8	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	1.8	1.0	0.58	ug/l	

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

Report of Analysis

Client Sample ID:	MW5-ROX-102912		
Lab Sample ID:	MC15425-2	**Date Sampled:**	10/29/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	86%		70-130%
2037-26-5	Toluene-D8	85%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%

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

ND = Not detected MDL - Method Detection Limit
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:	MW5-ROX-102912		
Lab Sample ID:	MC15425-2	**Date Sampled:**	10/29/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6552.D	1	11/05/12	KR	11/02/12	OP30881	MSW298
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.1	0.41	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.38	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.8	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	5.1	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.6	ug/l	
95-48-7	2-Methylphenol	ND	10	0.62	ug/l	
	3&4-Methylphenol	ND	10	0.77	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.48	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.65	ug/l	
108-95-2	Phenol	ND	5.1	0.95	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.50	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.36	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	UJ
101-55-3	4-Bromophenyl phenyl ether	ND	5.1	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.1	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.27	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.1	0.26	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.64	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.1	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.1	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.1	0.29	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.1	0.30	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.1	0.22	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.26	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.26	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.1	0.91	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.1	0.37	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.1	0.24	ug/l	

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

Report of Analysis

Client Sample ID:	MW5-ROX-102912		
Lab Sample ID:	MC15425-2	Date Sampled:	10/29/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.1	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.1	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.1	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.1	ug/l	
67-72-1	Hexachloroethane	ND	5.1	0.29	ug/l	
78-59-1	Isophorone	ND	5.1	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.26	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	0.49	ug/l	
98-95-3	Nitrobenzene	ND	5.1	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.1	0.60	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.1	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.1	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.47	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	47%		15-110%
4165-62-2	Phenol-d5	32%		15-110%
118-79-6	2,4,6-Tribromophenol	100%		15-110%
4165-60-0	Nitrobenzene-d5	79%		30-130%
321-60-8	2-Fluorobiphenyl	72%		30-130%
1718-51-0	Terphenyl-d14	90%		30-130%

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

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

Report of Analysis

Client Sample ID:	MW5-ROX-102912		
Lab Sample ID:	MC15425-2	Date Sampled:	10/29/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10528.D	1	11/05/12	NS	11/02/12	OP30880	MSU562
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.014	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.051	0.031	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.051	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.060	ug/l	
218-01-9	Chrysene	ND	0.10	0.074	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.043	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.047	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.047	ug/l	
90-12-0	1-Methylnaphthalene	9.1	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	0.084	0.20	0.053	ug/l	J
85-01-8	Phenanthrene	ND	0.051	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	43%		15-110%
4165-62-2	Phenol-d5	29%		15-110%
118-79-6	2,4,6-Tribromophenol	79%		15-110%
4165-60-0	Nitrobenzene-d5	73%		30-130%
321-60-8	2-Fluorobiphenyl	68%		30-130%
1718-51-0	Terphenyl-d14	77%		30-130%

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

Report of Analysis

Client Sample ID:	MW5-ROX-102912		
Lab Sample ID:	MC15425-2	**Date Sampled:**	10/29/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18419.D	1	11/02/12	AP	11/02/12	OP30886	GBK675
Run #2							

	Initial Volume	Final Volume
Run #1	36.5 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.014	0.012	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	78%		36-173%
460-00-4	Bromofluorobenzene (S)	87%		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:	MW4-ROX-102912		
Lab Sample ID:	MC15425-3	Date Sampled:	10/29/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69854.D	2	11/12/12	JP	n/a	n/a	MSN2627
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	10	6.0	ug/l	UJ
107-02-8	Acrolein	ND	50	20	ug/l	
107-13-1	Acrylonitrile	ND	10	6.5	ug/l	
71-43-2	Benzene	354	1.0	0.48	ug/l	
108-86-1	Bromobenzene	ND	10	1.2	ug/l	
74-97-5	Bromochloromethane	ND	10	2.5	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	1.2	ug/l	
75-25-2	Bromoform	ND	2.0	1.6	ug/l	
74-83-9	Bromomethane	ND	4.0	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	4.8	ug/l	
104-51-8	n-Butylbenzene	ND	10	1.2	ug/l	
135-98-8	sec-Butylbenzene	ND	10	1.1	ug/l	
98-06-6	tert-Butylbenzene	ND	10	1.3	ug/l	
75-15-0	Carbon disulfide	ND	10	1.2	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	1.7	ug/l	
108-90-7	Chlorobenzene	ND	2.0	0.94	ug/l	
75-00-3	Chloroethane	ND	4.0	1.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	10	2.5	ug/l	
67-66-3	Chloroform	ND	2.0	0.99	ug/l	
74-87-3	Chloromethane	ND	4.0	1.5	ug/l	UJ
95-49-8	o-Chlorotoluene	ND	10	1.3	ug/l	
106-43-4	p-Chlorotoluene	ND	10	0.97	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	1.1	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2.0	1.9	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.90	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	1.3	ug/l	
75-71-8	Dichlorodifluoromethane	ND	4.0	3.5	ug/l	UJ
75-34-3	1,1-Dichloroethane	ND	2.0	1.2	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	1.3	ug/l	
75-35-4	1,1-Dichloroethene	ND	2.0	0.82	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	1.3	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	1.9	ug/l	

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

Report of Analysis

Client Sample ID:	MW4-ROX-102912		
Lab Sample ID:	MC15425-3	**Date Sampled:**	10/29/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	4.0	1.4	ug/l	
142-28-9	1,3-Dichloropropane	ND	10	1.3	ug/l	
594-20-7	2,2-Dichloropropane	ND	10	3.1	ug/l	
563-58-6	1,1-Dichloropropene	ND	10	1.8	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.90	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.39	ug/l	
123-91-1	1,4-Dioxane	ND	50	30	ug/l	
97-63-2	Ethyl methacrylate	ND	10	1.6	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	10	4.1	ug/l	
591-78-6	2-Hexanone	ND	10	3.9	ug/l	
98-82-8	Isopropylbenzene	2.9	10	1.0	ug/l	J
99-87-6	p-Isopropyltoluene	ND	10	1.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	32.4	2.0	0.82	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	10	5.8	ug/l	
74-95-3	Methylene bromide	ND	10	2.2	ug/l	
75-09-2	Methylene chloride	ND	4.0	1.7	ug/l	
91-20-3	Naphthalene	ND	10	1.0	ug/l	
103-65-1	n-Propylbenzene	3.3	10	1.2	ug/l	J
100-42-5	Styrene	ND	10	0.91	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	10	1.1	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	1.2	ug/l	
127-18-4	Tetrachloroethene	ND	2.0	0.84	ug/l	
108-88-3	Toluene	17.5	2.0	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	10	2.5	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	10	2.6	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.7	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethene	ND	2.0	1.6	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.57	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	10	1.7	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	10	0.69	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	10	0.93	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.5	ug/l	
75-01-4	Vinyl chloride	ND	2.0	1.3	ug/l	WT
	m,p-Xylene	11.4	2.0	1.5	ug/l	
95-47-6	o-Xylene	ND	2.0	1.2	ug/l	
1330-20-7	Xylene (total)	11.4	2.0	1.2	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:	MW4-ROX-102912		
Lab Sample ID:	MC15425-3	**Date Sampled:**	10/29/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		70-130%
2037-26-5	Toluene-D8	85%		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/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:	MW4-ROX-102912		
Lab Sample ID:	MC15425-3	Date Sampled:	10/29/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6553.D	1	11/05/12	KR	11/02/12	OP30881	MSW298
Run #2							

	Initial Volume	Final Volume
Run #1	970 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.2	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.39	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.39	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.8	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	5.2	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.6	ug/l	
95-48-7	2-Methylphenol	ND	10	0.62	ug/l	
	3&4-Methylphenol	ND	10	0.78	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.49	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.66	ug/l	
108-95-2	Phenol	ND	5.2	0.96	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.51	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.36	ug/l	
62-53-3	Aniline	ND	10	2.1	ug/l	UJ
101-55-3	4-Bromophenyl phenyl ether	ND	5.2	0.34	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.2	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.27	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.2	0.26	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.65	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.2	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.2	0.39	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.2	0.29	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.2	0.30	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.2	0.22	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.26	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.26	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.2	0.92	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.2	0.37	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.2	0.24	ug/l	

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

Report of Analysis

Client Sample ID:	MW4-ROX-102912		
Lab Sample ID:	MC15425-3	**Date Sampled:**	10/29/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.2	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.2	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.1	0.39	ug/l	
118-74-1	Hexachlorobenzene	ND	5.2	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.2	ug/l	
67-72-1	Hexachloroethane	ND	5.2	0.29	ug/l	
78-59-1	Isophorone	ND	5.2	0.33	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.26	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	0.49	ug/l	
98-95-3	Nitrobenzene	ND	5.2	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.2	0.61	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.2	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.2	0.45	ug/l	
110-86-1	Pyridine	ND	10	0.48	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	47%		15-110%
4165-62-2	Phenol-d5	32%		15-110%
118-79-6	2,4,6-Tribromophenol	100%		15-110%
4165-60-0	Nitrobenzene-d5	81%		30-130%
321-60-8	2-Fluorobiphenyl	74%		30-130%
1718-51-0	Terphenyl-d14	89%		30-130%

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

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:	MW4-ROX-102912		
Lab Sample ID:	MC15425-3	**Date Sampled:**	10/29/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8270C BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10529.D	1	11/05/12	NS	11/02/12	OP30880	MSU562
Run #2							

	Initial Volume	Final Volume
Run #1	970 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.014	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.052	0.031	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.052	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.039	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.060	ug/l	
218-01-9	Chrysene	ND	0.10	0.075	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.043	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.034	ug/l	
86-73-7	Fluorene	ND	0.10	0.048	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.047	ug/l	
90-12-0	1-Methylnaphthalene	0.25	0.21	0.14	ug/l	
91-57-6	2-Methylnaphthalene	0.16	0.21	0.054	ug/l	J
85-01-8	Phenanthrene	ND	0.052	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.037	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	42%		15-110%
4165-62-2	Phenol-d5	29%		15-110%
118-79-6	2,4,6-Tribromophenol	77%		15-110%
4165-60-0	Nitrobenzene-d5	72%		30-130%
321-60-8	2-Fluorobiphenyl	68%		30-130%
1718-51-0	Terphenyl-d14	73%		30-130%

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

Report of Analysis

Client Sample ID:	MW4-ROX-102912		
Lab Sample ID:	MC15425-3	**Date Sampled:**	10/29/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18420.D	1	11/02/12	AP	11/02/12	OP30886	GBK675
Run #2							

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

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	76%		36-173%
460-00-4	Bromofluorobenzene (S)	82%		36-173%

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

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

Report of Analysis

Client Sample ID:	ROST4PZC-ROX-102912		
Lab Sample ID:	MC15425-4	Date Sampled:	10/29/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69853.D	1	11/12/12	JP	n/a	n/a	MSN2627
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	UJ
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	3.3	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.3	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	UJ
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	UJ
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
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J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	ROST4PZC-ROX-102912		
Lab Sample ID:	MC15425-4	**Date Sampled:**	10/29/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	1.4	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	uJ
	m,p-Xylene	2.1	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	2.1	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:	ROST4PZC-ROX-102912		
Lab Sample ID:	MC15425-4	Date Sampled:	10/29/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		70-130%
2037-26-5	Toluene-D8	85%		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/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:	ROST4PZC-ROX-102912		
Lab Sample ID:	MC15425-4	Date Sampled:	10/29/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6554.D	1	11/05/12	KR	11/02/12	OP30881	MSW298
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.2	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.39	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.39	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.9	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	5.2	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.6	ug/l	
95-48-7	2-Methylphenol	ND	10	0.63	ug/l	
	3&4-Methylphenol	ND	10	0.78	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.49	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.9	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.66	ug/l	
108-95-2	Phenol	ND	5.2	0.97	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.51	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.37	ug/l	
62-53-3	Aniline	ND	10	2.1	ug/l	UJ
101-55-3	4-Bromophenyl phenyl ether	ND	5.2	0.34	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.2	0.28	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.27	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.2	0.26	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.66	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.2	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.2	0.39	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.2	0.30	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.2	0.30	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.2	0.22	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.26	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.26	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.2	0.93	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	1.8	5.2	0.38	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.2	0.25	ug/l	

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

Report of Analysis

Client Sample ID:	ROST4PZC-ROX-102912		
Lab Sample ID:	MC15425-4	**Date Sampled:**	10/29/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.2	0.20	ug/l	
131-11-3	Dimethyl phthalate	ND	5.2	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	4.5	2.1	0.39	ug/l	
118-74-1	Hexachlorobenzene	ND	5.2	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.2	ug/l	
67-72-1	Hexachloroethane	ND	5.2	0.29	ug/l	
78-59-1	Isophorone	ND	5.2	0.33	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.26	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	0.50	ug/l	
98-95-3	Nitrobenzene	ND	5.2	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.2	0.62	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.2	0.29	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.2	0.45	ug/l	
110-86-1	Pyridine	ND	10	0.48	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	43%		15-110%
4165-62-2	Phenol-d5	29%		15-110%
118-79-6	2,4,6-Tribromophenol	95%		15-110%
4165-60-0	Nitrobenzene-d5	73%		30-130%
321-60-8	2-Fluorobiphenyl	66%		30-130%
1718-51-0	Terphenyl-d14	93%		30-130%

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

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

Report of Analysis

Client Sample ID:	ROST4PZC-ROX-102912		
Lab Sample ID:	MC15425-4	**Date Sampled:**	10/29/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8270C BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10530.D	1	11/05/12	NS	11/02/12	OP30880	MSU562
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.054	0.10	0.014	ug/l	J
208-96-8	Acenaphthylene	ND	0.10	0.014	ug/l	
120-12-7	Anthracene	0.050	0.10	0.018	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.052	0.031	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.052	0.025	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.039	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.061	ug/l	
218-01-9	Chrysene	ND	0.10	0.076	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.043	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.034	ug/l	
86-73-7	Fluorene	ND	0.10	0.048	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.048	ug/l	
90-12-0	1-Methylnaphthalene	0.40	0.21	0.15	ug/l	
91-57-6	2-Methylnaphthalene	0.41	0.21	0.054	ug/l	
85-01-8	Phenanthrene	0.20	0.052	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.037	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	38%		15-110%
4165-62-2	Phenol-d5	27%		15-110%
118-79-6	2,4,6-Tribromophenol	77%		15-110%
4165-60-0	Nitrobenzene-d5	65%		30-130%
321-60-8	2-Fluorobiphenyl	62%		30-130%
1718-51-0	Terphenyl-d14	77%		30-130%

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

Report of Analysis

Client Sample ID:	ROST4PZC-ROX-102912		
Lab Sample ID:	MC15425-4	Date Sampled:	10/29/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18421.D	1	11/02/12	AP	11/02/12	OP30886	GBK675
Run #2							

	Initial Volume	Final Volume
Run #1	36.7 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	82%		36-173%
460-00-4	Bromofluorobenzene (S)	76%		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:	TB-102912-HCL-R		
Lab Sample ID:	MC15425-5	Date Sampled:	10/29/12
Matrix:	AQ - Trip Blank Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69848.D	1	11/12/12	JP	n/a	n/a	MSN2627
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	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:	TB-102912-HCL-R		
Lab Sample ID:	MC15425-5	**Date Sampled:**	10/29/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/01/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	TB-102912-HCL-R		
Lab Sample ID:	MC15425-5	Date Sampled:	10/29/12
Matrix:	AQ - Trip Blank Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, 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	87%		70-130%

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

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

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

Report of Analysis

Client Sample ID:	TB-102912-ST-R		
Lab Sample ID:	MC15425-6	**Date Sampled:**	10/29/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/01/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18422.D	1	11/02/12	AP	11/02/12	OP30886	GBK675
Run #2							

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

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	87%		36-173%
460-00-4	Bromofluorobenzene (S)	81%		36-173%

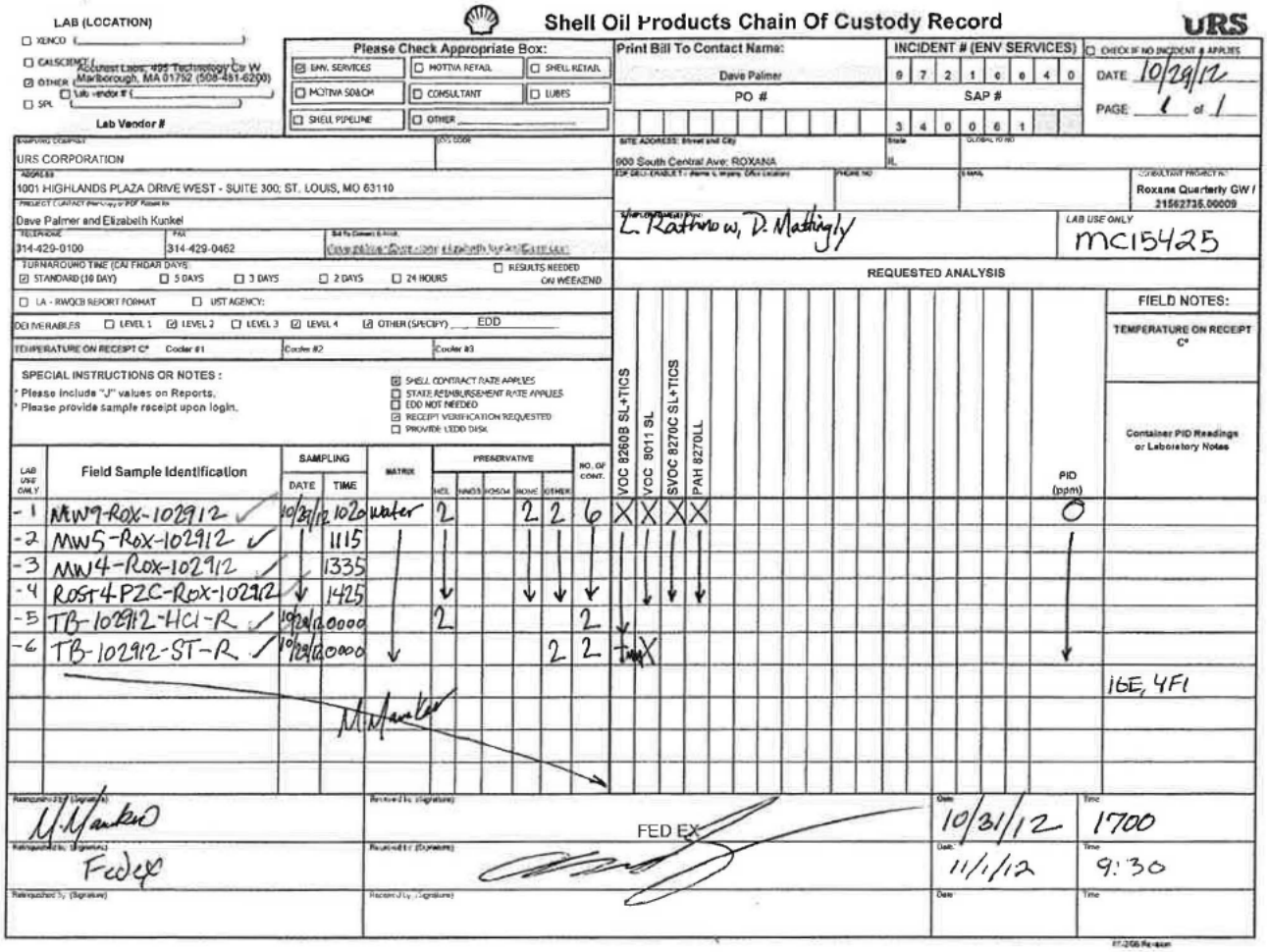
ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

New England ACCUTEST LABORATORIES

Custody Documents and Other Forms

Includes the following where applicable:

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



LAB (LOCATION)

☐ XENCO ( )
☐ CALSCIENCE ( )
☑ OTHER (Accutest Labs, 495 Technology Ctr W Marlborough, MA 01752 (508-481-6200))
☐ Lab vendor # ( )
☐ SPL ( )

Lab Vendor #

Shell Oil Products Chain Of Custody Record

URS

Please Check Appropriate Box:

☑ ENV. SERVICES	☐ MOTIVA RETAIL	☐ SHELL RETAIL
☐ MOTIVA SO&CM	☐ CONSULTANT	☐ LUBES
☐ SHELL PIPELINE	☐ OTHER	

Print Bill To Contact Name: Dave Palmer

PO #

INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0

SAP #: 3 4 0 0 6 1

☐ CHECK IF NO INCIDENT # APPLIES

DATE 10/29/12

PAGE 1 of 1

SAMPLING COMPANY: URS CORPORATION

DIV. CODE:

SITE ADDRESS: Street and City: 900 South Central Ave: ROXANA

State: IL

GLOBAL ID NO:

ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110

EDF DELIVERABLE TO (Name & Mailing Office Location):

PHONE NO:

E-MAIL:

CONSULTANT PROJECT NO: Roxana Quarterly GW / 21562735.00009

PROJECT CONTACT (Hardcopy or PDF Report to): Dave Palmer and Elizabeth Kunkel

TELEPHONE: 314-429-0100

FAX: 314-429-0462

Bill To Contact E-Mail: dave.palmer@urs.com elizabeth.kunkel@urs.com

SAMPLING MANAGER: L. Rathnow, D. Mattingly

LAB USE ONLY: MC15425

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

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 Cooler #2 Cooler #3

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

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	NNO3	H2SO4	NONE	OTHER	NO. OF CONT.	VOC 8260B SL+TICS	VOC 8011 SL	SVOC 8270C SL+TICS	PAH 8270LL	PID (ppm)	Container PID Readings or Laboratory Notes
-1	MW9-ROX-102912 ✓	10/29/12	1020	water	2			2	2	6	X	X	X	X	0	
-2	MW5-ROX-102912 ✓	↓	1115	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	
-3	MW4-ROX-102912 ✓	↓	1335	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	
-4	ROST4-PZC-ROX-102912 ✓	↓	1425	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	
-5	TB-102912-HCl-R ✓	10/29/12	0000	↓	2					2	↓				↓	
-6	TB-102912-ST-R ✓	10/29/12	0000	↓					2	2	TMX	X			↓	
																16E, 4F1

M. Mankel

Relinquished by (Signature)	Received by (Signature)	Date	Time
M. Mankel	FED EX	10/31/12	1700
Fedex	[signature]	11/1/12	9:30

D.9

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MC15425: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC15425 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 11/1/2012 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900 SO CENTRAL AVE **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

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MC15425: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15425

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15425-1 Collected: 29-OCT-12 10:20 By: LRDM Received: 01-NOV-12 By: MW9-ROX-102912						
MC15425-1	SW846 8011	02-NOV-12 21:49	AP	02-NOV-12	MT	V8011SL
MC15425-1	SW846 8270C	05-NOV-12 12:01	KR	02-NOV-12	PA	AB8270SL+
MC15425-1	SW846 8270C BY SIM	05-NOV-12 17:47	NS	02-NOV-12	PA	B8270SIMSL
MC15425-1	SW846 8260B	12-NOV-12 15:01	JP			V8260SL+
MC15425-2 Collected: 29-OCT-12 11:15 By: LRDM Received: 01-NOV-12 By: MW5-ROX-102912						
MC15425-2	SW846 8011	02-NOV-12 22:13	AP	02-NOV-12	MT	V8011SL
MC15425-2	SW846 8270C	05-NOV-12 12:23	KR	02-NOV-12	PA	AB8270SL+
MC15425-2	SW846 8270C BY SIM	05-NOV-12 18:10	NS	02-NOV-12	PA	B8270SIMSL
MC15425-2	SW846 8260B	12-NOV-12 15:30	JP			V8260SL+
MC15425-3 Collected: 29-OCT-12 13:35 By: LRDM Received: 01-NOV-12 By: MW4-ROX-102912						
MC15425-3	SW846 8011	02-NOV-12 22:38	AP	02-NOV-12	MT	V8011SL
MC15425-3	SW846 8270C	05-NOV-12 12:45	KR	02-NOV-12	PA	AB8270SL+
MC15425-3	SW846 8270C BY SIM	05-NOV-12 18:32	NS	02-NOV-12	PA	B8270SIMSL
MC15425-3	SW846 8260B	12-NOV-12 16:26	JP			V8260SL+
MC15425-4 Collected: 29-OCT-12 14:25 By: LRDM Received: 01-NOV-12 By: ROST4PZC-ROX-102912						
MC15425-4	SW846 8011	02-NOV-12 23:02	AP	02-NOV-12	MT	V8011SL
MC15425-4	SW846 8270C	05-NOV-12 13:07	KR	02-NOV-12	PA	AB8270SL+
MC15425-4	SW846 8270C BY SIM	05-NOV-12 18:55	NS	02-NOV-12	PA	B8270SIMSL
MC15425-4	SW846 8260B	12-NOV-12 15:58	JP			V8260SL+
MC15425-5 Collected: 29-OCT-12 00:00 By: LRDM Received: 01-NOV-12 By: TB-102912-HCL-R						
MC15425-5	SW846 8260B	12-NOV-12 13:37	JP			V8260SL+
MC15425-6 Collected: 29-OCT-12 00:00 By: LRDM Received: 01-NOV-12 By: TB-102912-ST-R						

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15425

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15425-6	SW846 8011	02-NOV-12 23:27	AP	02-NOV-12	MT	V8011SL

Accutest Internal Chain of Custody

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 11/01/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15425-1.2	Walk In Ref #22	Michael Rolo	11/02/12 07:05	Retrieve from Storage
MC15425-1.2	Michael Rolo		11/05/12 07:44	Depleted
MC15425-1.3	VOC Ref #4	Jugal Patel	11/12/12 11:32	Retrieve from Storage
MC15425-1.3	Jugal Patel	GCMSN	11/12/12 11:32	Load on Instrument
MC15425-1.3	GCMSN	Jugal Patel	11/13/12 11:24	Unload from Instrument
MC15425-1.3	Jugal Patel	VOC Ref #4	11/13/12 11:24	Return to Storage
MC15425-1.5	VOC Ref #4	Nick Krasinski	11/02/12 19:16	Retrieve from Storage
MC15425-1.5	Nick Krasinski		11/06/12 07:05	Depleted
MC15425-2.2	Walk In Ref #22	Michael Rolo	11/02/12 07:05	Retrieve from Storage
MC15425-2.2	Michael Rolo		11/05/12 07:44	Depleted
MC15425-2.3	VOC Ref #4	Jugal Patel	11/12/12 11:32	Retrieve from Storage
MC15425-2.3	Jugal Patel	GCMSN	11/12/12 11:32	Load on Instrument
MC15425-2.3	GCMSN	Jugal Patel	11/13/12 11:24	Unload from Instrument
MC15425-2.3	Jugal Patel	VOC Ref #4	11/13/12 11:24	Return to Storage
MC15425-2.5	VOC Ref #4	Nick Krasinski	11/02/12 19:16	Retrieve from Storage
MC15425-2.5	Nick Krasinski		11/06/12 07:05	Depleted
MC15425-3.2	Walk In Ref #22	Michael Rolo	11/02/12 07:05	Retrieve from Storage
MC15425-3.2	Michael Rolo		11/05/12 07:44	Depleted
MC15425-3.4	VOC Ref #4	Jugal Patel	11/12/12 11:32	Retrieve from Storage
MC15425-3.4	Jugal Patel	GCMSN	11/12/12 11:32	Load on Instrument
MC15425-3.4	GCMSN	Jugal Patel	11/13/12 11:24	Unload from Instrument
MC15425-3.4	Jugal Patel	VOC Ref #4	11/13/12 11:24	Return to Storage
MC15425-3.6	VOC Ref #4	Nick Krasinski	11/02/12 19:16	Retrieve from Storage
MC15425-3.6	Nick Krasinski		11/06/12 07:05	Depleted
MC15425-4.1	Walk In Ref #22	Michael Rolo	11/02/12 07:05	Retrieve from Storage
MC15425-4.1	Michael Rolo		11/05/12 07:44	Depleted
MC15425-4.4	VOC Ref #4	Jugal Patel	11/12/12 11:32	Retrieve from Storage
MC15425-4.4	Jugal Patel	GCMSN	11/12/12 11:32	Load on Instrument
MC15425-4.4	GCMSN	Jugal Patel	11/13/12 11:24	Unload from Instrument
MC15425-4.4	Jugal Patel	VOC Ref #4	11/13/12 11:24	Return to Storage
MC15425-4.5	VOC Ref #4	Nick Krasinski	11/02/12 19:16	Retrieve from Storage
MC15425-4.5	Nick Krasinski		11/06/12 07:05	Depleted

Accutest Internal Chain of Custody

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 11/01/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15425-5.1	VOC Ref #4	Jugal Patel	11/12/12 11:32	Retrieve from Storage
MC15425-5.1	Jugal Patel	GCMSN	11/12/12 11:32	Load on Instrument
MC15425-5.1	GCMSN	Jugal Patel	11/13/12 11:24	Unload from Instrument
MC15425-5.1	Jugal Patel	VOC Ref #4	11/13/12 11:24	Return to Storage
MC15425-6.1	VOC Ref #4	Nick Krasinski	11/02/12 19:16	Retrieve from Storage
MC15425-6.1	Nick Krasinski		11/06/12 07:05	Depleted

New England ACCUTEST LABORATORIES

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: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2627-MB	N69847.D	1	11/12/12	JP	n/a	n/a	MSN2627

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4, MC15425-5

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: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2627-MB	N69847.D	1	11/12/12	JP	n/a	n/a	MSN2627

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4, MC15425-5

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: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2627-MB	N69847.D	1	11/12/12	JP	n/a	n/a	MSN2627

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4, MC15425-5

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	86%	70-130%
2037-26-5	Toluene-D8	85%	70-130%
460-00-4	4-Bromofluorobenzene	87%	70-130%

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

6.1.1

6

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2627-BS	N69844.D	1	11/12/12	JP	n/a	n/a	MSN2627
MSN2627-BSD	N69845.D	1	11/12/12	JP	n/a	n/a	MSN2627

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4, MC15425-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	42.1	84	41.1	82	2	70-130/25
107-02-8	Acrolein	250	174	70	176	70	1	70-130/25
107-13-1	Acrylonitrile	50	272	544* a	263	526* a	3	70-130/25
71-43-2	Benzene	50	49.5	99	47.7	95	4	70-130/25
108-86-1	Bromobenzene	50	50.5	101	49.8	100	1	70-130/25
74-97-5	Bromochloromethane	50	51.7	103	49.5	99	4	70-130/25
75-27-4	Bromodichloromethane	50	52.0	104	51.1	102	2	70-130/25
75-25-2	Bromoform	50	45.7	91	46.0	92	1	70-130/25
74-83-9	Bromomethane	50	36.5	73	37.9	76	4	70-130/25
78-93-3	2-Butanone (MEK)	50	48.3	97	46.4	93	4	70-130/25
104-51-8	n-Butylbenzene	50	56.2	112	55.9	112	1	70-130/25
135-98-8	sec-Butylbenzene	50	56.5	113	55.3	111	2	70-130/25
98-06-6	tert-Butylbenzene	50	51.5	103	51.1	102	1	70-130/25
75-15-0	Carbon disulfide	50	45.9	92	42.8	86	7	70-130/25
56-23-5	Carbon tetrachloride	50	42.1	84	41.4	83	2	70-130/25
108-90-7	Chlorobenzene	50	53.1	106	53.7	107	1	70-130/25
75-00-3	Chloroethane	50	42.6	85	40.5	81	5	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	54.1	108	52.5	105	3	70-130/25
67-66-3	Chloroform	50	51.1	102	48.6	97	5	70-130/25
74-87-3	Chloromethane	50	29.8	60* b	29.4	59* b	1	70-130/25
95-49-8	o-Chlorotoluene	50	53.5	107	52.5	105	2	70-130/25
106-43-4	p-Chlorotoluene	50	56.3	113	55.6	111	1	70-130/25
124-48-1	Dibromochloromethane	50	47.3	95	47.9	96	1	70-130/25
95-50-1	1,2-Dichlorobenzene	50	55.5	111	54.5	109	2	70-130/25
541-73-1	1,3-Dichlorobenzene	50	55.0	110	54.3	109	1	70-130/25
106-46-7	1,4-Dichlorobenzene	50	51.5	103	50.7	101	2	70-130/25
75-71-8	Dichlorodifluoromethane	50	31.7	63* b	29.8	60* b	6	70-130/25
75-34-3	1,1-Dichloroethane	50	53.0	106	50.1	100	6	70-130/25
107-06-2	1,2-Dichloroethane	50	47.3	95	45.6	91	4	70-130/25
75-35-4	1,1-Dichloroethene	50	44.2	88	41.0	82	8	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	50.9	102	48.5	97	5	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	47.6	95	45.2	90	5	70-130/25
78-87-5	1,2-Dichloropropane	50	54.1	108	52.5	105	3	70-130/25
142-28-9	1,3-Dichloropropane	50	51.3	103	51.3	103	0	70-130/25
594-20-7	2,2-Dichloropropane	50	44.4	89	43.1	86	3	70-130/25
563-58-6	1,1-Dichloropropene	50	49.3	99	46.8	94	5	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2627-BS	N69844.D	1	11/12/12	JP	n/a	n/a	MSN2627
MSN2627-BSD	N69845.D	1	11/12/12	JP	n/a	n/a	MSN2627

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4, MC15425-5

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	54.1	108	52.2	104	4	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	49.5	99	47.9	96	3	70-130/25
123-91-1	1,4-Dioxane	250	256	102	258	103	1	70-130/25
97-63-2	Ethyl methacrylate	50	52.9	106	50.8	102	4	77-137/25
100-41-4	Ethylbenzene	50	48.8	98	49.3	99	1	70-130/25
87-68-3	Hexachlorobutadiene	50	55.0	110	55.8	112	1	70-130/25
591-78-6	2-Hexanone	50	44.1	88	45.8	92	4	70-130/25
98-82-8	Isopropylbenzene	50	54.4	109	53.0	106	3	70-130/25
99-87-6	p-Isopropyltoluene	50	54.0	108	52.9	106	2	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	39.9	80	39.6	79	1	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	42.9	86	42.3	85	1	70-130/25
74-95-3	Methylene bromide	50	51.3	103	50.2	100	2	70-130/25
75-09-2	Methylene chloride	50	50.0	100	47.8	96	4	70-130/25
91-20-3	Naphthalene	50	54.8	110	55.2	110	1	70-130/25
103-65-1	n-Propylbenzene	50	55.0	110	54.1	108	2	70-130/25
100-42-5	Styrene	50	50.0	100	50.6	101	1	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	51.4	103	52.1	104	1	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	53.7	107	53.1	106	1	70-130/25
127-18-4	Tetrachloroethene	50	47.7	95	48.3	97	1	70-130/25
108-88-3	Toluene	50	52.1	104	50.2	100	4	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	57.8	116	57.9	116	0	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	58.1	116	57.6	115	1	70-130/25
71-55-6	1,1,1-Trichloroethane	50	49.0	98	46.3	93	6	70-130/25
79-00-5	1,1,2-Trichloroethane	50	53.9	108	51.8	104	4	70-130/25
79-01-6	Trichloroethene	50	47.2	94	46.1	92	2	70-130/25
75-69-4	Trichlorofluoromethane	50	38.5	77	36.0	72	7	70-130/25
96-18-4	1,2,3-Trichloropropane	50	58.9	118	58.8	118	0	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	49.1	98	48.7	97	1	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	48.9	98	48.1	96	2	70-130/25
108-05-4	Vinyl Acetate	50	53.7	107	50.7	101	6	70-130/25
75-01-4	Vinyl chloride	50	32.8	66* b	31.6	63* b	4	70-130/25
	m,p-Xylene	100	101	101	102	102	1	70-130/25
95-47-6	o-Xylene	50	53.0	106	53.3	107	1	70-130/25
1330-20-7	Xylene (total)	150	154	103	155	103	1	70-130/25

* = Outside of Control Limits.

6.2.1

6

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2627-BS	N69844.D	1	11/12/12	JP	n/a	n/a	MSN2627
MSN2627-BSD	N69845.D	1	11/12/12	JP	n/a	n/a	MSN2627

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4, MC15425-5

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	85%	82%	70-130%
2037-26-5	Toluene-D8	86%	85%	70-130%
460-00-4	4-Bromofluorobenzene	82%	82%	70-130%

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

6.2.1

6

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15425-1MS	N69866.D	5	11/12/12	JP	n/a	n/a	MSN2627
MC15425-1MSD	N69867.D	5	11/12/12	JP	n/a	n/a	MSN2627
MC15425-1	N69851.D	1	11/12/12	JP	n/a	n/a	MSN2627

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4, MC15425-5

CAS No.	Compound	MC15425-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	238	95	204	82	15	70-130/30
107-02-8	Acrolein	ND		1250	931	74	812	65* a	14	70-130/30
107-13-1	Acrylonitrile	ND		250	1440	576* b	1220	488* b	17	70-130/30
71-43-2	Benzene	ND		250	270	108	229	92	16	70-130/30
108-86-1	Bromobenzene	ND		250	283	113	238	95	17	70-130/30
74-97-5	Bromochloromethane	ND		250	280	112	241	96	15	70-130/30
75-27-4	Bromodichloromethane	ND		250	289	116	243	97	17	70-130/30
75-25-2	Bromoform	ND		250	254	102	224	90	13	70-130/30
74-83-9	Bromomethane	ND		250	175	70	184	74	5	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	270	108	234	94	14	70-130/30
104-51-8	n-Butylbenzene	ND		250	313	125	262	105	18	70-130/30
135-98-8	sec-Butylbenzene	ND		250	316	126	265	106	18	70-130/30
98-06-6	tert-Butylbenzene	ND		250	292	117	247	99	17	70-130/30
75-15-0	Carbon disulfide	ND		250	242	97	203	81	18	70-130/30
56-23-5	Carbon tetrachloride	ND		250	238	95	204	82	15	70-130/30
108-90-7	Chlorobenzene	ND		250	307	123	261	104	16	70-130/30
75-00-3	Chloroethane	ND		250	230	92	192	77	18	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	294	118	252	101	15	70-130/30
67-66-3	Chloroform	ND		250	280	112	238	95	16	70-130/30
74-87-3	Chloromethane	ND		250	154	62* a	149	60* a	3	70-130/30
95-49-8	o-Chlorotoluene	ND		250	301	120	251	100	18	70-130/30
106-43-4	p-Chlorotoluene	ND		250	311	124	263	105	17	70-130/30
124-48-1	Dibromochloromethane	ND		250	269	108	234	94	14	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	309	124	260	104	17	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	305	122	256	102	17	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	286	114	241	96	17	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	172	69* a	145	58* a	17	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	286	114	240	96	17	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	259	104	223	89	15	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	241	96	204	82	17	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	275	110	234	94	16	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	267	107	220	88	19	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	294	118	252	101	15	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	288	115	249	100	15	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	238	95	199	80	18	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	278	111	227	91	20	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15425-1MS	N69866.D	5	11/12/12	JP	n/a	n/a	MSN2627
MC15425-1MSD	N69867.D	5	11/12/12	JP	n/a	n/a	MSN2627
MC15425-1	N69851.D	1	11/12/12	JP	n/a	n/a	MSN2627

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4, MC15425-5

CAS No.	Compound	MC15425-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		250	293	117	250	100	16	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	268	107	233	93	14	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1410	113	1210	97	15	70-130/30
97-63-2	Ethyl methacrylate	ND		250	291	116	250	100	15	72-139/30
100-41-4	Ethylbenzene	ND		250	288	115	239	96	19	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	293	117	255	102	14	70-130/30
591-78-6	2-Hexanone	ND		250	249	100	222	89	11	70-130/30
98-82-8	Isopropylbenzene	ND		250	305	122	255	102	18	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	301	120	253	101	17	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		250	224	90	197	79	13	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	234	94	203	81	14	70-130/30
74-95-3	Methylene bromide	ND		250	282	113	242	97	15	70-130/30
75-09-2	Methylene chloride	ND		250	270	108	230	92	16	70-130/30
91-20-3	Naphthalene	ND		250	318	127	265	106	18	70-130/30
103-65-1	n-Propylbenzene	ND		250	314	126	259	104	19	70-130/30
100-42-5	Styrene	ND		250	288	115	243	97	17	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	297	119	251	100	17	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	291	116	251	100	15	70-130/30
127-18-4	Tetrachloroethene	ND		250	276	110	234	94	16	70-130/30
108-88-3	Toluene	ND		250	286	114	240	96	17	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	312	125	271	108	14	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	312	125	268	107	15	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	274	110	232	93	17	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	291	116	246	98	17	70-130/30
79-01-6	Trichloroethene	ND		250	265	106	223	89	17	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	213	85	181	72	16	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	312	125	270	108	14	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	297	119	236	94	23	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	277	111	231	92	18	70-130/30
108-05-4	Vinyl Acetate	ND		250	279	112	244	98	13	70-130/30
75-01-4	Vinyl chloride	ND		250	180	72	156	62* [a]	14	70-130/30
	m,p-Xylene	ND		500	596	119	497	99	18	70-130/30
95-47-6	o-Xylene	ND		250	307	123	261	104	16	70-130/30
1330-20-7	Xylene (total)	ND		750	902	120	758	101	17	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15425-1MS	N69866.D	5	11/12/12	JP	n/a	n/a	MSN2627
MC15425-1MSD	N69867.D	5	11/12/12	JP	n/a	n/a	MSN2627
MC15425-1	N69851.D	1	11/12/12	JP	n/a	n/a	MSN2627

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4, MC15425-5

CAS No.	Surrogate Recoveries	MS	MSD	MC15425-1	Limits
1868-53-7	Dibromofluoromethane	84%	84%	85%	70-130%
2037-26-5	Toluene-D8	85%	85%	85%	70-130%
460-00-4	4-Bromofluorobenzene	81%	81%	86%	70-130%

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

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2627-CC2591	Injection Date:	11/12/12
Lab File ID:	N69843.D	Injection Time:	11:16
Instrument ID:	GCMSN	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	285033	9.01	382922	9.88	172394	13.14	195720	15.70	90128	6.56
Upper Limit [a]	570066	9.51	765844	10.38	344788	13.64	391440	16.20	180256	7.06
Lower Limit [b]	142517	8.51	191461	9.38	86197	12.64	97860	15.20	45064	6.06
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2627-BS	302739	9.01	404755	9.88	190764	13.14	207352	15.70	100708	6.56
MSN2627-BSD	309494	9.01	404943	9.88	182943	13.14	203720	15.70	100658	6.56
MSN2627-MB	282727	9.01	379253	9.88	167941	13.14	172398	15.70	89402	6.57
MC15425-5	308024	9.01	405331	9.88	180383	13.14	185294	15.70	87405	6.57
ZZZZZZ	280114	9.01	377558	9.88	169902	13.14	174638	15.70	86644	6.57
ZZZZZZ	300948	9.01	395729	9.88	177664	13.14	185315	15.70	90421	6.57
MC15425-1	274685	9.01	369004	9.88	163426	13.14	166778	15.70	94584	6.56
MC15425-2	287707	9.01	387454	9.88	173649	13.14	187287	15.70	98364	6.56
MC15425-4	303766	9.01	401516	9.88	178623	13.14	188594	15.70	101079	6.56
MC15425-3	299052	9.01	393045	9.88	178266	13.14	189863	15.70	103667	6.56
ZZZZZZ	298170	9.01	392826	9.88	174423	13.14	184315	15.70	97545	6.56
ZZZZZZ	296422	9.01	396332	9.88	178645	13.14	188029	15.70	91547	6.56
ZZZZZZ	309885	9.01	408619	9.88	180359	13.14	182604	15.70	92361	6.56
ZZZZZZ	297575	9.01	390329	9.88	175202	13.14	179972	15.70	94907	6.56
ZZZZZZ	297797	9.01	398299	9.88	181707	13.14	206928	15.70	89551	6.56
ZZZZZZ	312325	9.01	414192	9.88	185509	13.14	206288	15.70	98684	6.56
ZZZZZZ	326139	9.01	428270	9.88	190344	13.14	205413	15.70	101937	6.56
ZZZZZZ	323606	9.01	428632	9.88	191081	13.14	201831	15.70	95375	6.56
ZZZZZZ	324272	9.01	425598	9.88	191197	13.14	204746	15.70	96769	6.57
ZZZZZZ	315187	9.01	421598	9.88	196043	13.14	217828	15.70	93362	6.56
MC15425-1MS	311263	9.01	410302	9.88	186068	13.14	209091	15.70	90284	6.56
MC15425-1MSD	334197	9.01	441443	9.88	198437	13.14	225366	15.70	110471	6.56

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

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

Volatile Surrogate Recovery Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8260B Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC15425-1	N69851.D	85.0	85.0	86.0
MC15425-2	N69852.D	86.0	85.0	86.0
MC15425-3	N69854.D	84.0	85.0	85.0
MC15425-4	N69853.D	84.0	85.0	85.0
MC15425-5	N69848.D	85.0	84.0	87.0
MC15425-1MS	N69866.D	84.0	85.0	81.0
MC15425-1MSD	N69867.D	84.0	85.0	81.0
MSN2627-BS	N69844.D	85.0	86.0	82.0
MSN2627-BSD	N69845.D	82.0	85.0	82.0
MSN2627-MB	N69847.D	86.0	85.0	87.0

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

New England ACCUTEST LABORATORIES

GC/MS Semi-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: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30881-MB	W6542.D	1	11/05/12	KR	11/02/12	OP30881	MSW298

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4

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

Method Blank Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30881-MB	W6542.D	1	11/05/12	KR	11/02/12	OP30881	MSW298

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4

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

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	44%	15-110%
4165-62-2	Phenol-d5	28%	15-110%
118-79-6	2,4,6-Tribromophenol	90%	15-110%
4165-60-0	Nitrobenzene-d5	71%	30-130%
321-60-8	2-Fluorobiphenyl	64%	30-130%
1718-51-0	Terphenyl-d14	87%	30-130%

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

Method Blank Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30880-MB	U10521.D	1	11/05/12	NS	11/02/12	OP30880	MSU562

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4

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

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	38%	15-110%
4165-62-2	Phenol-d5	26%	15-110%
118-79-6	2,4,6-Tribromophenol	71%	15-110%
4165-60-0	Nitrobenzene-d5	66%	30-130%
321-60-8	2-Fluorobiphenyl	59%	30-130%
1718-51-0	Terphenyl-d14	70%	30-130%

Blank Spike Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30881-BS	W6543.D	1	11/05/12	KR	11/02/12	OP30881	MSW298

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	32.0	32	30-130
95-57-8	2-Chlorophenol	100	73.2	73	30-130
59-50-7	4-Chloro-3-methyl phenol	100	73.9	74	30-130
120-83-2	2,4-Dichlorophenol	100	76.8	77	30-130
105-67-9	2,4-Dimethylphenol	100	66.3	66	30-130
51-28-5	2,4-Dinitrophenol	100	74.6	75	30-130
534-52-1	4,6-Dinitro-o-cresol	100	80.4	80	30-130
95-48-7	2-Methylphenol	100	62.2	62	30-130
	3&4-Methylphenol	200	116	58	30-130
88-75-5	2-Nitrophenol	100	81.0	81	30-130
100-02-7	4-Nitrophenol	100	40.6	41	30-130
87-86-5	Pentachlorophenol	100	76.9	77	30-130
108-95-2	Phenol	100	32.0	32	30-130
95-95-4	2,4,5-Trichlorophenol	100	84.4	84	30-130
88-06-2	2,4,6-Trichlorophenol	100	86.9	87	30-130
62-53-3	Aniline	50	20.5	41	40-140
101-55-3	4-Bromophenyl phenyl ether	50	38.8	78	40-140
85-68-7	Butyl benzyl phthalate	50	40.2	80	40-140
100-51-6	Benzyl Alcohol	50	32.4	65	40-140
91-58-7	2-Chloronaphthalene	50	39.6	79	40-140
106-47-8	4-Chloroaniline	50	22.2	44	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	35.0	70	40-140
111-44-4	bis(2-Chloroethyl)ether	50	41.3	83	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	47.1	94	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	38.5	77	40-140
122-66-7	1,2-Diphenylhydrazine	50	39.9	80	40-140
121-14-2	2,4-Dinitrotoluene	50	42.9	86	40-140
606-20-2	2,6-Dinitrotoluene	50	40.5	81	40-140
91-94-1	3,3'-Dichlorobenzidine	50	22.0	44	40-140
132-64-9	Dibenzofuran	50	37.5	75	40-140
84-74-2	Di-n-butyl phthalate	50	39.3	79	40-140
117-84-0	Di-n-octyl phthalate	50	39.4	79	40-140
84-66-2	Diethyl phthalate	50	40.9	82	40-140
131-11-3	Dimethyl phthalate	50	41.0	82	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	39.1	78	40-140
118-74-1	Hexachlorobenzene	50	40.3	81	40-140

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30881-BS	W6543.D	1	11/05/12	KR	11/02/12	OP30881	MSW298

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	29.8	60	40-140
67-72-1	Hexachloroethane	50	32.4	65	40-140
78-59-1	Isophorone	50	39.9	80	40-140
88-74-4	2-Nitroaniline	50	40.6	81	40-140
99-09-2	3-Nitroaniline	50	22.1	44	40-140
100-01-6	4-Nitroaniline	50	35.0	70	40-140
98-95-3	Nitrobenzene	50	39.1	78	40-140
62-75-9	n-Nitrosodimethylamine	50	27.9	56	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	45.0	90	40-140
86-30-6	N-Nitrosodiphenylamine	50	39.3	79	40-140
110-86-1	Pyridine	50	24.8	50	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	49%	15-110%
4165-62-2	Phenol-d5	32%	15-110%
118-79-6	2,4,6-Tribromophenol	92%	15-110%
4165-60-0	Nitrobenzene-d5	79%	30-130%
321-60-8	2-Fluorobiphenyl	76%	30-130%
1718-51-0	Terphenyl-d14	85%	30-130%

7.2.1

7

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30880-BS	U10522.D	1	11/05/12	NS	11/02/12	OP30880	MSU562
OP30880-BSD	U10523.D	1	11/05/12	NS	11/02/12	OP30880	MSU562

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	50	35.7	71	39.4	79	10	40-140/30
208-96-8	Acenaphthylene	50	28.4	57	31.5	63	10	40-140/30
120-12-7	Anthracene	50	34.8	70	39.1	78	12	40-140/30
56-55-3	Benzo(a)anthracene	50	44.3	89	50.2	100	12	40-140/30
50-32-8	Benzo(a)pyrene	50	30.4	61	34.2	68	12	40-140/30
205-99-2	Benzo(b)fluoranthene	50	34.0	68	38.2	76	12	40-140/30
191-24-2	Benzo(g,h,i)perylene	50	32.7	65	37.0	74	12	40-140/30
207-08-9	Benzo(k)fluoranthene	50	33.8	68	37.9	76	11	40-140/30
218-01-9	Chrysene	50	37.3	75	41.8	84	11	40-140/30
53-70-3	Dibenzo(a,h)anthracene	50	34.2	68	37.9	76	10	40-140/30
206-44-0	Fluoranthene	50	35.1	70	39.0	78	11	40-140/30
86-73-7	Fluorene	50	35.9	72	39.8	80	10	40-140/30
193-39-5	Indeno(1,2,3-cd)pyrene	50	33.9	68	37.9	76	11	40-140/30
90-12-0	1-Methylnaphthalene	50	30.0	60	36.7	73	20	40-140/30
91-57-6	2-Methylnaphthalene	50	30.8	62	32.7	65	6	40-140/30
85-01-8	Phenanthrene	50	36.0	72	40.6	81	12	40-140/30
129-00-0	Pyrene	50	31.4	63	35.5	71	12	40-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	43%	44%	15-110%
4165-62-2	Phenol-d5	30%	31%	15-110%
118-79-6	2,4,6-Tribromophenol	74%	80%	15-110%
4165-60-0	Nitrobenzene-d5	74%	73%	30-130%
321-60-8	2-Fluorobiphenyl	69%	74%	30-130%
1718-51-0	Terphenyl-d14	70%	78%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30881-MS	W6544.D	1	11/05/12	KR	11/02/12	OP30881	MSW298
OP30881-MSD	W6545.D	1	11/05/12	KR	11/02/12	OP30881	MSW298
MC15506-4	W6546.D	1	11/05/12	KR	11/02/12	OP30881	MSW298

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4

CAS No.	Compound	MC15506-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		111	62.9	57	62.3	52	1	30-130/20
95-57-8	2-Chlorophenol	ND		111	82.3	74	90.4	76	9	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		111	84.9	76	95.7	80	12	30-130/20
120-83-2	2,4-Dichlorophenol	ND		111	87.8	79	99.4	83	12	30-130/20
105-67-9	2,4-Dimethylphenol	80.0		111	126	41	177	81	34* a	30-130/20
51-28-5	2,4-Dinitrophenol	ND		111	51.9	47	54.4	46	5	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		111	95.8	86	107	90	11	30-130/20
95-48-7	2-Methylphenol	16.8		111	96.1	71	102	72	6	30-130/20
	3&4-Methylphenol	4.1		222	153	67	164	67	7	30-130/20
88-75-5	2-Nitrophenol	ND		111	98.3	88	108	91	9	30-130/20
100-02-7	4-Nitrophenol	ND		111	45.1	41	46.0	39	2	30-130/20
87-86-5	Pentachlorophenol	ND		111	111	100	125	105	12	30-130/20
108-95-2	Phenol	ND		111	53.3	48	64.6	54	19	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		111	53.9	49	55.5	47	3	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		111	57.1	51	58.6	49	3	30-130/20
62-53-3	Aniline	ND		55.6	2.2	4* b	12.7	21* b	141* a	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		55.6	44.5	80	49.8	84	11	40-140/20
85-68-7	Butyl benzyl phthalate	ND		55.6	42.7	77	46.1	77	8	40-140/20
100-51-6	Benzyl Alcohol	ND		55.6	42.6	77	46.5	78	9	40-140/20
91-58-7	2-Chloronaphthalene	ND		55.6	21.3	38* b	22.1	37* b	4	40-140/20
106-47-8	4-Chloroaniline	ND		55.6	2.0	4* b	5.1	9* b	87* a	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		55.6	39.1	70	44.0	74	12	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		55.6	46.1	83	49.4	83	7	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		55.6	50.9	92	57.3	96	12	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		55.6	20.9	38* b	20.5	34* b	2	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		55.6	49.6	89	54.6	92	10	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		55.6	24.5	44	24.9	42	2	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		55.6	56.8	102	60.0	101	5	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		55.6	ND	0* b	ND	0* b	nc	40-140/20
132-64-9	Dibenzofuran	ND		55.6	19.8	36* b	20.3	34* b	2	40-140/20
84-74-2	Di-n-butyl phthalate	ND		55.6	42.3	76	46.1	77	9	40-140/20
117-84-0	Di-n-octyl phthalate	ND		55.6	39.3	71	41.7	70	6	40-140/20
84-66-2	Diethyl phthalate	ND		55.6	23.2	42	23.9	40	3	40-140/20
131-11-3	Dimethyl phthalate	ND		55.6	24.0	43	24.2	41	1	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND		55.6	40.0	72	41.9	70	5	40-140/20
118-74-1	Hexachlorobenzene	ND		55.6	45.8	82	48.4	81	6	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30881-MS	W6544.D	1	11/05/12	KR	11/02/12	OP30881	MSW298
OP30881-MSD	W6545.D	1	11/05/12	KR	11/02/12	OP30881	MSW298
MC15506-4	W6546.D	1	11/05/12	KR	11/02/12	OP30881	MSW298

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4

CAS No.	Compound	MC15506-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		55.6	30.1	54	31.4	53	4	40-140/20
67-72-1	Hexachloroethane	ND		55.6	49.9	90	52.1	88	4	40-140/20
78-59-1	Isophorone	ND		55.6	49.7	89	59.6	100	18	40-140/20
88-74-4	2-Nitroaniline	ND		55.6	13.9	25* b	20.3	34* b	37* a	40-140/20
99-09-2	3-Nitroaniline	ND		55.6	0.42	1* b	1.7	3* b	121* a	40-140/20
100-01-6	4-Nitroaniline	ND		55.6	ND	0* b	4.8	8* b	200* a	40-140/20
98-95-3	Nitrobenzene	ND		55.6	64.7	116	63.2	106	2	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		55.6	32.1	58	36.3	61	12	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		55.6	68.1	123	88.2	148* b	26* a	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		55.6	45.1	81	50.7	85	12	40-140/20
110-86-1	Pyridine	ND		55.6	31.8	57	36.3	61	13	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15506-4	Limits
367-12-4	2-Fluorophenol	55%	58%	45%	15-110%
4165-62-2	Phenol-d5	39%	42%	32%	15-110%
118-79-6	2,4,6-Tribromophenol	103%	109%	86%	15-110%
4165-60-0	Nitrobenzene-d5	82%	86%	68%	30-130%
321-60-8	2-Fluorobiphenyl	42%	40%	33%	30-130%
1718-51-0	Terphenyl-d14	57%	52%	46%	30-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30880-MS	U10524.D	1	11/05/12	NS	11/02/12	OP30880	MSU562
OP30880-MSD	U10525.D	1	11/05/12	NS	11/02/12	OP30880	MSU562
MC15402-1	U10526.D	1	11/05/12	NS	11/02/12	OP30880	MSU562

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4

CAS No.	Compound	MC15402-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		55.6	41.0	74	44.8	75	9	40-140/20
208-96-8	Acenaphthylene	ND		55.6	30.5	55	33.9	57	11	40-140/20
120-12-7	Anthracene	ND		55.6	38.2	69	42.1	71	10	40-140/20
56-55-3	Benzo(a)anthracene	ND		55.6	47.3	85	49.7	83	5	40-140/20
50-32-8	Benzo(a)pyrene	ND		55.6	30.5	55	31.8	53	4	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		55.6	33.9	61	35.9	60	6	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND		55.6	33.3	60	35.0	59	5	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		55.6	36.0	65	37.8	64	5	40-140/20
218-01-9	Chrysene	ND		55.6	39.6	71	41.2	69	4	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		55.6	34.6	62	36.0	60	4	40-140/20
206-44-0	Fluoranthene	ND		55.6	38.6	69	41.9	70	8	40-140/20
86-73-7	Fluorene	ND		55.6	41.3	74	44.9	75	8	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		55.6	34.5	62	35.7	60	3	40-140/20
90-12-0	1-Methylnaphthalene	7.9		55.6	43.9	65	42.8	59	3	40-140/20
91-57-6	2-Methylnaphthalene	10.4		55.6	43.5	60	41.4	52	5	40-140/20
85-01-8	Phenanthrene	ND		55.6	40.5	73	44.6	75	10	40-140/20
129-00-0	Pyrene	ND		55.6	34.8	63	38.0	64	9	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15402-1	Limits
367-12-4	2-Fluorophenol	36%	38%		15-110%
4165-62-2	Phenol-d5	34%	36%		15-110%
118-79-6	2,4,6-Tribromophenol	77%	80%		15-110%
4165-60-0	Nitrobenzene-d5	68%	72%	60%	30-130%
321-60-8	2-Fluorobiphenyl	66%	69%	55%	30-130%
1718-51-0	Terphenyl-d14	51%	47%	43%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSU562-CC550	Injection Date:	11/05/12
Lab File ID:	U10505.D	Injection Time:	09:25
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	184192	3.68	534581	4.66	249284	6.08	412853	7.38	172876	10.16	219324	11.59
Upper Limit [a]	368384	4.18	1069162	5.16	498568	6.58	825706	7.88	345752	10.66	438648	12.09
Lower Limit [b]	92096	3.18	267291	4.16	124642	5.58	206427	6.88	86438	9.66	109662	11.09
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
ZZZZZZ	197220	3.68	574949	4.66	267926	6.08	438911	7.38	256111	10.16	363535	11.59
ZZZZZZ	223422	3.68	644378	4.66	301714	6.08	496097	7.38	285081	10.16	416524	11.59
ZZZZZZ	203937	3.68	598035	4.66	277750	6.08	461861	7.38	262740	10.16	377924	11.59
ZZZZZZ	199852	3.68	570525	4.66	274774	6.08	467932	7.38	278521	10.16	399605	11.59
ZZZZZZ	201557	3.68	570808	4.66	280126	6.08	471666	7.38	284382	10.16	406749	11.59
ZZZZZZ	210588	3.68	609485	4.66	291424	6.08	486777	7.38	276527	10.16	401310	11.59
ZZZZZZ	215875	3.68	596719	4.66	294392	6.08	492557	7.38	275940	10.16	387037	11.59
ZZZZZZ	197985	3.68	565128	4.66	263499	6.08	440440	7.38	243846	10.16	336187	11.59
ZZZZZZ	177710	3.68	512608	4.66	249871	6.08	428848	7.38	239433	10.16	325805	11.59
OP30909-MB	193921	3.68	568227	4.66	269473	6.08	439174	7.38	283826	10.16	424892	11.59
OP30909-BS	196867	3.68	570479	4.66	267202	6.08	452332	7.38	272633	10.17	417046	11.60
OP30909-MS	195856	3.68	564091	4.66	265495	6.08	454621	7.38	273677	10.17	407897	11.60
OP30909-MSD	184938	3.68	533191	4.66	255458	6.08	434842	7.38	259308	10.17	394606	11.60
MC15652-6	189795	3.68	564782	4.66	268020	6.08	442476	7.38	284427	10.16	415656	11.59
ZZZZZZ	177981	3.68	518442	4.66	240115	6.08	396465	7.38	244569	10.16	326715	11.59
OP30880-MB	174028	3.68	517710	4.66	245388	6.08	410833	7.38	263366	10.16	458182[c]	11.59
OP30880-BS	192215	3.68	543726	4.66	258756	6.08	442465	7.38	261450	10.17	472225[c]	11.60
OP30880-BSD	177853	3.68	519061	4.66	244543	6.08	419944	7.38	243466	10.17	385130	11.60
OP30880-MS	171873	3.69	509452	4.67	234219	6.09	413597	7.39	256981	10.17	456051[c]	11.60
OP30880-MSD	160978	3.68	483549	4.67	222888	6.08	392163	7.39	243115	10.17	436730	11.60
MC15402-1	162933	3.68	478534	4.66	230001	6.08	400481	7.39	265246	10.17	475541[c]	11.60
MC15425-1	172473	3.68	508369	4.66	244375	6.08	408524	7.38	269507	10.16	499324[c]	11.60
MC15425-2	170386	3.68	487808	4.66	232137	6.08	391012	7.38	261983	10.17	440621[c]	11.60
MC15425-3	175901	3.68	504642	4.66	240801	6.08	404617	7.38	265211	10.16	447799[c]	11.60
MC15425-4	170177	3.68	489474	4.66	238068	6.08	400090	7.38	263573	10.16	437977	11.60
ZZZZZZ	176466	3.68	510746	4.66	244690	6.08	405637	7.38	246856	10.16	383719	11.59
ZZZZZZ	177962	3.68	512137	4.66	238535	6.08	406158	7.38	245756	10.16	379436	11.59
ZZZZZZ	179725	3.68	514208	4.66	243287	6.08	416315	7.38	252534	10.16	400460	11.59
ZZZZZZ	182838	3.68	523672	4.66	252986	6.08	416854	7.38	257277	10.16	395832	11.59
ZZZZZZ	170588	3.68	484952	4.66	237164	6.08	406235	7.38	255914	10.16	399890	11.59

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10

Semivolatile Internal Standard Area Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSU562-CC550	Injection Date:	11/05/12
Lab File ID:	U10505.D	Injection Time:	09:25
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

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

IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Outside control limits. Target analytes not associated with this internal standard.

Semivolatile Internal Standard Area Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW298-CC287	Injection Date:	11/05/12
Lab File ID:	W6541.D	Injection Time:	08:23
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	107084	3.45	422304	4.43	249613	5.85	439052	7.12	554747	9.94	482516	11.51
Upper Limit [a]	214168	3.95	844608	4.93	499226	6.35	878104	7.62	1109494	10.44	965032	12.01
Lower Limit [b]	53542	2.95	211152	3.93	124807	5.35	219526	6.62	277374	9.44	241258	11.01
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30881-MB	105715	3.45	418060	4.43	243110	5.84	429317	7.12	534295	9.94	501703	11.50
OP30881-BS	119690	3.45	476745	4.43	274416	5.85	479137	7.12	615052	9.94	534637	11.51
OP30881-MS	126107	3.46	509310	4.44	626076[c]	5.86	507915	7.12	629042	9.95	561409	11.51
OP30881-MSD	122020	3.46	479219	4.44	650150[c]	5.85	479866	7.12	600545	9.95	534418	11.51
MC15506-4	119696	3.45	469567	4.43	615523[c]	5.85	496723	7.12	610910	9.94	617270	11.51
MC15425-1	115403	3.45	454413	4.43	269412	5.85	473602	7.12	594785	9.94	619056	11.51
MC15425-2	111754	3.45	447860	4.43	266966	5.85	473948	7.12	607757	9.94	541783	11.51
MC15425-3	115271	3.45	452857	4.43	268488	5.85	481292	7.12	605700	9.94	548774	11.51
MC15425-4	111413	3.45	445416	4.43	260850	5.85	461867	7.12	571140	9.94	517872	11.51
ZZZZZZ	108285	3.45	433671	4.43	252428	5.85	448386	7.12	554096	9.94	520176	11.51
ZZZZZZ	110181	3.45	434717	4.43	255553	5.84	454916	7.12	568050	9.94	534308	11.51
ZZZZZZ	118842	3.45	458653	4.43	273134	5.85	481916	7.12	618309	9.94	568733	11.51
ZZZZZZ	110647	3.45	438694	4.43	264104	5.85	466221	7.12	598296	9.94	556161	11.51

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

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Outside control limits due to possible matrix interference. Confirmed by MS/MSD.

Semivolatile Surrogate Recovery Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15425-1	W6551.D	44.0	29.0	91.0	70.0	66.0	90.0
MC15425-2	W6552.D	47.0	32.0	100.0	79.0	72.0	90.0
MC15425-3	W6553.D	47.0	32.0	100.0	81.0	74.0	89.0
MC15425-4	W6554.D	43.0	29.0	95.0	73.0	66.0	93.0
OP30881-BS	W6543.D	49.0	32.0	92.0	79.0	76.0	85.0
OP30881-MB	W6542.D	44.0	28.0	90.0	71.0	64.0	87.0
OP30881-MS	W6544.D	55.0	39.0	103.0	82.0	42.0	57.0
OP30881-MSD	W6545.D	58.0	42.0	109.0	86.0	40.0	52.0

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

Semivolatile Surrogate Recovery Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15425-1	U10527.D	39.0	26.0	73.0	65.0	60.0	75.0
MC15425-2	U10528.D	43.0	29.0	79.0	73.0	68.0	77.0
MC15425-3	U10529.D	42.0	29.0	77.0	72.0	68.0	73.0
MC15425-4	U10530.D	38.0	27.0	77.0	65.0	62.0	77.0
OP30880-BS	U10522.D	43.0	30.0	74.0	74.0	69.0	70.0
OP30880-BSD	U10523.D	44.0	31.0	80.0	73.0	74.0	78.0
OP30880-MB	U10521.D	38.0	26.0	71.0	66.0	59.0	70.0
OP30880-MS	U10524.D	36.0	34.0	77.0	68.0	66.0	51.0
OP30880-MSD	U10525.D	38.0	36.0	80.0	72.0	69.0	47.0

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

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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: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30886-MB	BK18405.D	1	11/02/12	AP	11/02/12	OP30886	GBK675

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4, MC15425-6

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

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	86%	36-173%
460-00-4	Bromofluorobenzene (S)	82%	36-173%

8.1.1

8

Blank Spike Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30886-BS	BK18406.D	1	11/02/12	AP	11/02/12	OP30886	GBK675

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4, MC15425-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.058	82	60-140
106-93-4	1,2-Dibromoethane	0.071	0.069	97	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	83%	36-173%
460-00-4	Bromofluorobenzene (S)	80%	36-173%

8.2.1

8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30886-MS	BK18407.D	1	11/02/12	AP	11/02/12	OP30886	GBK675
OP30886-MSD	BK18408.D	1	11/02/12	AP	11/02/12	OP30886	GBK675
MC15506-7	BK18409.D	1	11/02/12	AP	11/02/12	OP30886	GBK675

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

MC15425-1, MC15425-2, MC15425-3, MC15425-4, MC15425-6

CAS No.	Compound	MC15506-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		0.071	0.058	82	0.058	82	0	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.071	0.070	99	0.070	99	0	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC15506-7	Limits
460-00-4	Bromofluorobenzene (S)	84%	83%	88%	36-173%
460-00-4	Bromofluorobenzene (S)	84%	85%	85%	36-173%

* = Outside of Control Limits.

8.3.1

Volatile Surrogate Recovery Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8011 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC15425-1	BK18418.D	84.0	85.0
MC15425-2	BK18419.D	78.0	87.0
MC15425-3	BK18420.D	76.0	82.0
MC15425-4	BK18421.D	82.0	76.0
MC15425-6	BK18422.D	87.0	81.0
OP30886-BS	BK18406.D	83.0	80.0
OP30886-MB	BK18405.D	86.0	82.0
OP30886-MS	BK18407.D	84.0	84.0
OP30886-MSD	BK18408.D	83.0	85.0

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

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

8.4.1

8

GC Surrogate Retention Time Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBK675-CC675	Injection Date:	11/02/12
Lab File ID:	BK18402.D	Injection Time:	15:17
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.86	4.64

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP30877-MS	BK18403.D	11/02/12	15:41	4.86	4.64
OP30877-MSD	BK18404.D	11/02/12	16:08	4.86	4.64
OP30886-MB	BK18405.D	11/02/12	16:33	4.86	4.64
OP30888-MB	BK18405A.D	11/02/12	16:33	4.86	4.64
OP30886-BS	BK18406.D	11/02/12	16:57	4.86	4.64
OP30888-BS	BK18406A.D	11/02/12	16:57	4.86	4.64
OP30886-MS	BK18407.D	11/02/12	17:21	4.86	4.64
OP30886-MSD	BK18408.D	11/02/12	17:46	4.86	4.64
MC15506-7	BK18409.D	11/02/12	18:10	4.86	4.64
ZZZZZZ	BK18410.D	11/02/12	18:34	4.86	4.64
ZZZZZZ	BK18411.D	11/02/12	18:58	4.86	4.64

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC15425
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBK675-CC675	Injection Date:	11/02/12
Lab File ID:	BK18413.D	Injection Time:	19:46
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.86	4.64

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK18414.D	11/02/12	20:11	4.86	4.64
ZZZZZZ	BK18415.D	11/02/12	20:35	4.86	4.64
ZZZZZZ	BK18416.D	11/02/12	21:00	4.86	4.64
ZZZZZZ	BK18417.D	11/02/12	21:24	4.86	4.64
MC15425-1	BK18418.D	11/02/12	21:49	4.86	4.64
MC15425-2	BK18419.D	11/02/12	22:13	4.86	4.64
MC15425-3	BK18420.D	11/02/12	22:38	4.86	4.64
MC15425-4	BK18421.D	11/02/12	23:02	4.86	4.64
MC15425-6	BK18422.D	11/02/12	23:27	4.86	4.64
ZZZZZZ	BK18423.D	11/02/12	23:51	4.86	4.64

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

Roxana Groundwater Quarterly – 4th Quarter 2012 Data Review

Laboratory SDG: MC15445

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 12/3/2012

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Sample Identification	Sample Identification
P66-ROX-103112	MW14-ROX-103112
TB-103112-HCL-W	TB-103112-ST-W
P56-ROX-103112	TB-103112-HCL-R
TB-103112-ST-R	-

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated that VOC and SVOC LCS/LCSD recoveries and SVOC LCS/LCSD RPDs were outside evaluation criteria. PAHs were detected in the method blank. Sample P56-ROX-103112 was diluted due to high levels of VOC target analytes. Additionally, the initial calibration verification for acetone exceeded 50 percent difference (%D) in samples MW14-ROX-103112 and P56-ROX-103112. These issues are addressed further in the appropriate sections below.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

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

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
OP30935-MB	PAHs	Fluoranthene	0.049 ug/L
OP30935-MB	PAHs	Pyrene	0.095 ug/L

Qualifications due to blank contamination are included in the table below. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
P66-ROX-103112	PAHs	Fluoranthene	-	**U**
P66-ROX-103112	PAHs	Pyrene	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSN2629-BS/BSD	VOCs	Acrolein	**61/62**	2	70-130/25
MSN2629-BS/BSD	VOCs	Acrylonitrile	**492/494**	0	70-130/25
MSN2631-BS/BSD	VOCs	Acrolein	**60/62**	3	70-130/25
MSN2631-BS/BSD	VOCs	Acrylonitrile	**468/466**	0	70-130/25
OP30934-BS/BSD	SVOCs	Benzoic acid	**29/26**	11	30-130/20
OP30934-BS/BSD	SVOCs	2,4-Dimethylphenol	46/**22**	**72**	30-130/20
OP30934-BS/BSD	SVOCs	Phenol	**21/27**	**22**	30-130/20
OP30934-BS/BSD	SVOCs	Aniline	**21**/48	**79**	40-140/20
OP30934-BS/BSD	SVOCs	4-Bromophenyl phenyl ether	69/86	**21**	40-140/20
OP30934-BS/BSD	SVOCs	Butyl benzyl phthalate	75/93	**21**	40-140/20
OP30934-BS/BSD	SVOCs	Benzyl alcohol	45/70	**44**	40-140/20
OP30934-BS/BSD	SVOCs	2-Chloronaphthalene	58/83	**96**	40-140/20
OP30934-BS/BSD	SVOCs	4-Chloroaniline	**31**/45	**36**	40-140/20
OP30934-BS/BSD	SVOCs	bis(2-Chloroethoxy)methane	48/75	**43**	40-140/20
OP30934-BS/BSD	SVOCs	bis(2-Chloroethyl)ether	52/84	**47**	40-140/20
OP30934-BS/BSD	SVOCs	bis(2-Chloroisopropyl)ether	59/97	**48**	40-140/20
OP30934-BS/BSD	SVOCs	4-Chlorophenyl phenyl ether	62/82	**28**	40-140/20
OP30934-BS/BSD	SVOCs	1,2-Diphenylhydrazine	70/90	**25**	40-140/20
OP30934-BS/BSD	SVOCs	2,4-Dinitrololuene	67/89	**91**	40-140/20

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
OP30934-BS/BSD	SVOCs	2,6-Dinitrotoluene	61/90	**98**	40-140/20
OP30934-BS/BSD	SVOCs	3,3'-Dichlorobenzidine	65/**35**	**61**	40-140/20
OP30934-BS/BSD	SVOCs	Dibenzofuran	60/82	**31**	40-140/20
OP30934-BS/BSD	SVOCs	Di-n-butyl phthalate	68/90	**27**	40-140/20
OP30934-BS/BSD	SVOCs	Diethyl phthalate	63/88	**34**	40-140/20
OP30934-BS/BSD	SVOCs	Dimethyl phthalate	63/85	**30**	40-140/20
OP30934-BS/BSD	SVOCs	Hexachlorobenzene	72/98	**92**	40-140/20
OP30934-BS/BSD	SVOCs	Hexachlorocyclopentadiene	**39**/69	**112**	40-140/20
OP30934-BS/BSD	SVOCs	Hexachloroethane	47/62	**89**	40-140/20
OP30934-BS/BSD	SVOCs	Isophorone	60/83	**93**	40-140/20
OP30934-BS/BSD	SVOCs	2-Nitroaniline	62/90	**36**	40-140/20
OP30934-BS/BSD	SVOCs	4-Nitroaniline	61/76	**22**	40-140/20
OP30934-BS/BSD	SVOCs	Nitrobenzene	57/81	**96**	40-140/20
OP30934-BS/BSD	SVOCs	n-Nitrosodimethylamine	**35**/55	**45**	40-140/20
OP30934-BS/BSD	SVOCs	n-Nitroso-di-n-propylamine	61/88	**36**	40-140/20
OP30934-BS/BSD	SVOCs	Pyridine	**17**/48	**93**	40-140/20

Analytical data that required qualification based on LCS data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. LCS/LCSD MSN2629-BS/BSD was associated with trip blanks TB-103112-HCL-W and TB-103112-HCL-R. Trip blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
MW14-ROX-103112	VOCs	Acrolein	**UJ**
P56-ROX-103112	VOCs	Acrolein	**UJ**
P66-ROX-103112	VOCs	Acrolein	**UJ**
P66-ROX-103112	SVOCs	Benzoic acid	**UJ**
P66-ROX-103112	SVOCs	2,4-Dimethylphenol	**UJ**
P66-ROX-103112	SVOCs	Phenol	**UJ**
P66-ROX-103112	SVOCs	Aniline	**UJ**
P66-ROX-103112	SVOCs	4-Chloroaniline	**UJ**

Sample ID	Parameter	Analyte	Qualification
P66-ROX-103112	SVOCs	3,3'-Dichlorobenzidine	**UJ**
P66-ROX-103112	SVOCs	Hexachlorocyclopentadiene	**UJ**
P66-ROX-103112	SVOCs	n-Nitrosodimethylamine	**UJ**
P66-ROX-103112	SVOCs	Pyridine	**UJ**
MW14-ROX-103112	SVOCs	Benzoic acid	**UJ**
MW14-ROX-103112	SVOCs	2,4-Dimethylphenol	**UJ**
MW14-ROX-103112	SVOCs	Phenol	**UJ**
MW14-ROX-103112	SVOCs	Aniline	**UJ**
MW14-ROX-103112	SVOCs	4-Chloroaniline	**UJ**
MW14-ROX-103112	SVOCs	3,3'-Dichlorobenzidine	**UJ**
MW14-ROX-103112	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW14-ROX-103112	SVOCs	n-Nitrosodimethylamine	**UJ**
MW14-ROX-103112	SVOCs	Pyridine	**UJ**
P56-ROX-103112	SVOCs	Benzoic acid	**UJ**
P56-ROX-103112	SVOCs	2,4-Dimethylphenol	**UJ**
P56-ROX-103112	SVOCs	Phenol	**UJ**
P56-ROX-103112	SVOCs	Aniline	**UJ**
P56-ROX-103112	SVOCs	4-Chloroaniline	**UJ**
P56-ROX-103112	SVOCs	3,3'-Dichlorobenzidine	**UJ**
P56-ROX-103112	SVOCs	Hexachlorocyclopentadiene	**UJ**
P56-ROX-103112	SVOCs	n-Nitrosodimethylamine	**UJ**
P56-ROX-103112	SVOCs	Pyridine	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

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

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes, the initial calibration verification recovery for acetone exceeded 50 percent difference (%D) in samples MW14-ROX-10312 and P56-ROX-103112; analytes in associated samples were qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW14-ROX-103112	VOCs	Acetone	**UJ**
P56-ROX-103112	VOCs	Acetone	**UJ**

New England ACCUTEST LABORATORIES

12/04/12



Technical Report for

Shell Oil

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana,

Accutest Job Number: MC15445

Sampling Date: 10/31/12

Report to:

URS Corporation

elizabeth.kunkel@URS.com

ATTN: Elizabeth Kunkel

Reviewed 12/13/2012

Total number of pages in report: **93**

ACCREDITED IN ACCORDANCE WITH nelac

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

Reza Tand
Lab Director

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Test results relate only to samples analyzed.

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Sample Summary

Shell Oil

Job No: MC15445

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC15445-1	10/31/12	12:15	DMMM	1/01/12	AQ	Ground Water	P66-ROX-103112
MC15445-2	10/31/12	14:05	DMMM	1/01/12	AQ	Ground Water	MW14-ROX-103112
MC15445-3	10/31/12	00:00	DMMM	1/01/12	AQ	Trip Blank Water	TB-103112-HCL-W
MC15445-4	10/31/12	00:00	DMMM	1/01/12	AQ	Trip Blank Water	TB-103112-ST-W
MC15445-5	10/31/12	14:30	DMMM	1/01/12	AQ	Ground Water	P56-ROX-103112
MC15445-6	10/31/12	00:00	DMMM	1/01/12	AQ	Trip Blank Water	TB-103112-HCL-R
MC15445-7	10/31/12	00:00	DMMM	1/01/12	AQ	Trip Blank Water	TB-103112-ST-R

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	**Job No**	MC15445
Site:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central	**Report Date**	11/30/2012 1:53:58 PM

3 Sample(s), 4 Trip Blank(s) and 0 Field Blank(s) were collected on 10/31/2012 and were received at Accutest on 11/01/2012 properly preserved, at 2.7 Deg. C and intact. These Samples received an Accutest job number of MC15445. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. 1-Chlorohexane, Benzenethiol, Dibenz(a,h)acridine, Indene, and Quinoline were searched in the library search and reported only if detections were found.

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

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ **Batch ID:** MSN2629

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15549-3MS, MC15549-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- BS/BSD Recovery(s) for Acrolein are outside control limits. Blank Spike meets program technical requirements.
- MS/MSD Recovery(s) for Acrolein are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Initial calibration verification MSN2591-ICV2591 for acetone exceeds 50% Difference (response bias high). Associated sample is non-detect for this compound.
- MC15549-3MS/MSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MSN2629-BS/BSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.

Matrix: AQ **Batch ID:** MSN2631

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15557-5MS, MC15557-5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- BS/BSD Recovery(s) for Acrolein are outside control limits. Blank Spike meets program technical requirements.
- MS/MSD Recovery(s) for Acrolein are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MSN2631-BS/BSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MC15557-5MS/MSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.

Extractables by GCMS By Method SW846 8270C

Matrix: AQ	Batch ID: OP30934

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15652-8MS, MC15652-8MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- BS Recovery(s) for 4-Chloroaniline, Aniline, Benzoic Acid, Hexachlorocyclopentadiene, n-Nitrosodimethylamine, Phenol, Pyridine are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for 3,3'-Dichlorobenzidine, 4-Chloroaniline, Aniline, Pyridine are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Duplicate Recovery(s) for 3,3'-Dichlorobenzidine, 3-Nitroaniline, 4-Chloroaniline, 4-Nitroaniline, Aniline are outside control limits. Blank Spike meets program technical requirements.
- RPD(s) for MSD for N-Nitrosodiphenylamine are outside control limits for sample OP30934-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- Calibration standard MSF2779-ICC2779, MSF2779-ICV2779, MSF2785-CC2779, MSW319-ICC319, MSW319-ICV319, MSW321-CC319 not associated with this job.
- RPD of OP30934-BSD for most of compounds: Outside control limits. Blank Spike meets program technical requirements.
- BSD Recovery(s) for 2,4-Dimethylphenol, 3,3'-Dichlorobenzidine, Benzoic Acid, Phenol are outside control limits. Blank Spike meets program technical requirements.
- RPD(s) for MSD for 1,2-Diphenylhydrazine, 3,3'-Dichlorobenzidine, 3-Nitroaniline, 4-Chloroaniline, 4-Nitroaniline, Aniline are outside control limits for sample OP30934-MSD. Blank Spike meets program technical requirements.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix: AQ	Batch ID: OP30935

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15651-5AMS, MC15651-5AMSD were used as the QC samples indicated.
- Sample(s) MC15445-1 have compound(s) reported with a "B" qualifier, indicating analyte is found in the associated method blank.

Volatiles by GC By Method SW846 8011

Matrix: AQ	Batch ID: OP30911

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15603-5MS, MC15603-5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

The Accutest Laboratories of 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 Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC15445).

Summary of Hits

Job Number: MC15445
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 10/31/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC15445-1	P66-ROX-103112					
Benzene		223	0.50	0.24	ug/l	SW846 8260B
n-Butylbenzene		14.5	5.0	0.61	ug/l	SW846 8260B
sec-Butylbenzene		20.0	5.0	0.55	ug/l	SW846 8260B
tert-Butylbenzene		5.4	5.0	0.64	ug/l	SW846 8260B
Ethylbenzene		1.2	1.0	0.51	ug/l	SW846 8260B
Isopropylbenzene		122	5.0	0.50	ug/l	SW846 8260B
Methyl Tert Butyl Ether		73.3	1.0	0.41	ug/l	SW846 8260B
n-Propylbenzene		156	5.0	0.58	ug/l	SW846 8260B
Toluene		1.4	1.0	0.51	ug/l	SW846 8260B
Dibenzofuran		1.9 J	2.0	0.21	ug/l	SW846 8270C
Acenaphthene		0.78	0.10	0.014	ug/l	SW846 8270C BY SIM
Acenaphthylene		0.22	0.10	0.013	ug/l	SW846 8270C BY SIM
Anthracene		0.60	0.10	0.018	ug/l	SW846 8270C BY SIM
Fluoranthene		0.051 JB	0.10	0.033	ug/l	SW846 8270C BY SIM
Fluorene		1.7	0.10	0.046	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		68.9	0.20	0.14	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		26.8	0.20	0.052	ug/l	SW846 8270C BY SIM
Phenanthrene		0.54	0.050	0.013	ug/l	SW846 8270C BY SIM
Pyrene		0.070 JB	0.10	0.036	ug/l	SW846 8270C BY SIM
MC15445-2	MW14-ROX-103112					
Benzene		0.93	0.50	0.24	ug/l	SW846 8260B
sec-Butylbenzene		2.8 J	5.0	0.55	ug/l	SW846 8260B
Isopropylbenzene		16.1	5.0	0.50	ug/l	SW846 8260B
n-Propylbenzene		12.1	5.0	0.58	ug/l	SW846 8260B
m,p-Xylene		2.4	1.0	0.73	ug/l	SW846 8260B
Xylene (total)		2.4	1.0	0.58	ug/l	SW846 8260B
Dibenzofuran		0.30 J	2.0	0.21	ug/l	SW846 8270C
Di-n-butyl phthalate		0.44 J	5.0	0.36	ug/l	SW846 8270C
Acenaphthene		0.74	0.10	0.014	ug/l	SW846 8270C BY SIM
Acenaphthylene		0.080 J	0.10	0.013	ug/l	SW846 8270C BY SIM
Fluorene		0.29	0.10	0.047	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		19.2	0.20	0.14	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		4.0	0.20	0.052	ug/l	SW846 8270C BY SIM
MC15445-3	TB-103112-HCL-W					
No hits reported in this sample.						
MC15445-4	TB-103112-ST-W					
No hits reported in this sample.						

Summary of Hits

Job Number: MC15445
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 10/31/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC15445-5	**P56-ROX-103112**					
Benzene		176	0.50	0.24	ug/l	SW846 8260B
sec-Butylbenzene		5.0	5.0	0.55	ug/l	SW846 8260B
tert-Butylbenzene		2.1 J	5.0	0.64	ug/l	SW846 8260B
Ethylbenzene		1290	50	25	ug/l	SW846 8260B
Isopropylbenzene		75.2	5.0	0.50	ug/l	SW846 8260B
p-Isopropyltoluene		4.1 J	5.0	0.57	ug/l	SW846 8260B
Naphthalene		167	5.0	0.50	ug/l	SW846 8260B
n-Propylbenzene		105	5.0	0.58	ug/l	SW846 8260B
Toluene		187	1.0	0.51	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		387	5.0	0.35	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		90.1	5.0	0.47	ug/l	SW846 8260B
m,p-Xylene		1620	50	37	ug/l	SW846 8260B
o-Xylene		144	1.0	0.58	ug/l	SW846 8260B
Xylene (total)		1730	50	29	ug/l	SW846 8260B
3&4-Methylphenol		1.1 J	10	0.76	ug/l	SW846 8270C
Dibenzofuran		0.66 J	2.0	0.22	ug/l	SW846 8270C
Acenaphthene		1.1	0.10	0.014	ug/l	SW846 8270C BY SIM
Anthracene		0.12	0.10	0.018	ug/l	SW846 8270C BY SIM
Fluorene		0.46	0.10	0.046	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		24.0	0.20	0.14	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		30.7	0.20	0.052	ug/l	SW846 8270C BY SIM
Phenanthrene		1.3	0.050	0.013	ug/l	SW846 8270C BY SIM
MC15445-6	**TB-103112-HCL-R**					
No hits reported in this sample.						
MC15445-7	**TB-103112-ST-R**					
No hits reported in this sample.						

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	P66-ROX-103112		
Lab Sample ID:	MC15445-1	Date Sampled:	10/31/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69962.D	1	11/14/12	JP	n/a	n/a	MSN2631
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	ND	25	10	ug/l	U5
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	223	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	14.5	5.0	0.61	ug/l	
135-98-8	sec-Butylbenzene	20.0	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	5.4	5.0	0.64	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	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:	P66-ROX-103112		
Lab Sample ID:	MC15445-1	Date Sampled:	10/31/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	1.2	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	122	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	73.3	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	156	5.0	0.58	ug/l	
100-42-5	Styrene	ND	5.0	0.45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.60	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.42	ug/l	
108-88-3	Toluene	1.4	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:	P66-ROX-103112		
Lab Sample ID:	MC15445-1	Date Sampled:	10/31/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		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	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:	P66-ROX-103112		
Lab Sample ID:	MC15445-1	Date Sampled:	10/31/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F59189.D	1	11/12/12	KR	11/07/12	OP30934	MSF2786
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	UJ
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	UJ
51-28-5	2,4-Dinitrophenol	ND	20	5.0	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	UJ
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	UJ
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.25	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	UJ
132-64-9	Dibenzofuran	1.9	2.0	0.21	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	

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

Report of Analysis

Client Sample ID:	P66-ROX-103112		
Lab Sample ID:	MC15445-1	Date Sampled:	10/31/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.0	0.28	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	1.3	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	UJ
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.46	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	42%		15-110%
4165-62-2	Phenol-d5	31%		15-110%
118-79-6	2,4,6-Tribromophenol	94%		15-110%
4165-60-0	Nitrobenzene-d5	84%		30-130%
321-60-8	2-Fluorobiphenyl	71%		30-130%
1718-51-0	Terphenyl-d14	49%		30-130%

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

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

Report of Analysis

Client Sample ID:	P66-ROX-103112		
Lab Sample ID:	MC15445-1	Date Sampled:	10/31/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I79935.D	1	11/08/12	NS	11/07/12	OP30935	MSI2976
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.78	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	0.22	0.10	0.013	ug/l	
120-12-7	Anthracene	0.60	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	0.051 U	0.10	0.033	ug/l	JB U
86-73-7	Fluorene	1.7	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	68.9	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	26.8	0.20	0.052	ug/l	
85-01-8	Phenanthrene	0.54	0.050	0.013	ug/l	
129-00-0	Pyrene	0.070 U	0.10	0.036	ug/l	JB U

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	64%		30-130%
321-60-8	2-Fluorobiphenyl	69%		30-130%
1718-51-0	Terphenyl-d14	47%		30-130%

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

Report of Analysis

Client Sample ID:	P66-ROX-103112		
Lab Sample ID:	MC15445-1	Date Sampled:	10/31/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB44041.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678
Run #2							

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

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	79%		36-173%
460-00-4	Bromofluorobenzene (S)	85%		36-173%

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

Report of Analysis

Client Sample ID:	MW14-ROX-103112		
Lab Sample ID:	MC15445-2	Date Sampled:	10/31/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69907.D	1	11/13/12	JP	n/a	n/a	MSN2629
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	UJ
107-02-8	Acrolein	ND	25	10	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	0.93	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	2.8	5.0	0.55	ug/l	J
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
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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW14-ROX-103112		
Lab Sample ID:	MC15445-2	**Date Sampled:**	10/31/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	16.1	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	12.1	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	2.4	1.0	0.73	ug/l	
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	2.4	1.0	0.58	ug/l	

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

Report of Analysis

Client Sample ID:	MW14-ROX-103112		
Lab Sample ID:	MC15445-2	**Date Sampled:**	10/31/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

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

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

ND = Not detected MDL - Method Detection Limit
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:	MW14-ROX-103112		
Lab Sample ID:	MC15445-2	Date Sampled:	10/31/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F59190.D	1	11/12/12	KR	11/07/12	OP30934	MSF2786
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	UJ
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	UJ
51-28-5	2,4-Dinitrophenol	ND	20	5.0	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	UJ
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	UJ
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.25	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	UJ
132-64-9	Dibenzofuran	0.30	2.0	0.21	ug/l	J
84-74-2	Di-n-butyl phthalate	0.44	5.0	0.36	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	

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

Report of Analysis

Client Sample ID:	MW14-ROX-103112		
Lab Sample ID:	MC15445-2	Date Sampled:	10/31/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.0	0.28	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	1.3	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	UJ
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.46	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	40%		15-110%
4165-62-2	Phenol-d5	28%		15-110%
118-79-6	2,4,6-Tribromophenol	91%		15-110%
4165-60-0	Nitrobenzene-d5	84%		30-130%
321-60-8	2-Fluorobiphenyl	72%		30-130%
1718-51-0	Terphenyl-d14	52%		30-130%

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

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

Report of Analysis

Client Sample ID:	MW14-ROX-103112		
Lab Sample ID:	MC15445-2	**Date Sampled:**	10/31/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8270C BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I79936.D	1	11/08/12	NS	11/07/12	OP30935	MSI2976
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.74	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	0.080	0.10	0.013	ug/l	J
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.051	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.051	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	0.29	0.10	0.047	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	19.2	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	4.0	0.20	0.052	ug/l	
85-01-8	Phenanthrene	ND	0.051	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%		30-130%
321-60-8	2-Fluorobiphenyl	68%		30-130%
1718-51-0	Terphenyl-d14	53%		30-130%

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

Report of Analysis

Client Sample ID:	MW14-ROX-103112		
Lab Sample ID:	MC15445-2	**Date Sampled:**	10/31/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB44042.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678
Run #2							

	Initial Volume	Final Volume
Run #1	35.5 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	90%		36-173%
460-00-4	Bromofluorobenzene (S)	89%		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:	TB-103112-HCL-W		
Lab Sample ID:	MC15445-3	**Date Sampled:**	10/31/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/01/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69905.D	1	11/13/12	JP	n/a	n/a	MSN2629
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	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:	TB-103112-HCL-W		
Lab Sample ID:	MC15445-3	Date Sampled:	10/31/12
Matrix:	AQ - Trip Blank Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	TB-103112-HCL-W		
Lab Sample ID:	MC15445-3	**Date Sampled:**	10/31/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/01/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, 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	85%		70-130%
460-00-4	4-Bromofluorobenzene	87%		70-130%

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

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

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

Report of Analysis

Client Sample ID:	TB-103112-ST-W		
Lab Sample ID:	MC15445-4	**Date Sampled:**	10/31/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/01/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB44043.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678
Run #2							

	Initial Volume	Final Volume
Run #1	35.6 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	96%		36-173%
460-00-4	Bromofluorobenzene (S)	96%		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:	P56-ROX-103112		
Lab Sample ID:	MC15445-5	Date Sampled:	10/31/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69908.D	1	11/13/12	JP	n/a	n/a	MSN2629
Run #2	N69958.D	50	11/14/12	JP	n/a	n/a	MSN2631

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

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	176	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	5.0	5.0	0.55	ug/l	
98-06-6	tert-Butylbenzene	2.1	5.0	0.64	ug/l	J
75-15-0	Carbon disulfide	ND	5.0	0.61	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.87	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.47	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	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:	P56-ROX-103112		
Lab Sample ID:	MC15445-5	Date Sampled:	10/31/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	1290 [a]	50	25	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	75.2	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	4.1	5.0	0.57	ug/l	J
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	167	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	105	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	187	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	387	5.0	0.35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	90.1	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	1620 [a]	50	37	ug/l	
95-47-6	o-Xylene	144	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	1730 [a]	50	29	ug/l	

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

Report of Analysis

Client Sample ID:	P56-ROX-103112		
Lab Sample ID:	MC15445-5	Date Sampled:	10/31/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	79%	82%	70-130%
2037-26-5	Toluene-D8	86%	84%	70-130%
460-00-4	4-Bromofluorobenzene	80%	86%	70-130%

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

(a) Result is from Run# 2

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

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

Report of Analysis

Client Sample ID:	P56-ROX-103112		
Lab Sample ID:	MC15445-5	Date Sampled:	10/31/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F59191.D	1	11/12/12	KR	11/07/12	OP30934	MSF2786
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	UJ
95-57-8	2-Chlorophenol	ND	5.1	0.41	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.38	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.8	ug/l	UJ
51-28-5	2,4-Dinitrophenol	ND	20	5.1	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.61	ug/l	
	3&4-Methylphenol	1.1	10	0.76	ug/l	J
88-75-5	2-Nitrophenol	ND	10	0.48	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.1	0.94	ug/l	UJ
95-95-4	2,4,5-Trichlorophenol	ND	10	0.50	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.36	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	UJ
101-55-3	4-Bromophenyl phenyl ether	ND	5.1	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.1	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.1	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.64	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.1	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.1	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.1	0.29	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.1	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.1	0.25	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.1	0.90	ug/l	UJ
132-64-9	Dibenzofuran	0.66	2.0	0.22	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.1	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.1	0.24	ug/l	

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

Report of Analysis

Client Sample ID:	P56-ROX-103112		
Lab Sample ID:	MC15445-5	**Date Sampled:**	10/31/12
Matrix:	AQ - Ground Water	**Date Received:**	11/01/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.1	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.1	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.1	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.1	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.1	0.28	ug/l	
78-59-1	Isophorone	ND	5.1	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	1.3	ug/l	
98-95-3	Nitrobenzene	ND	5.1	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.1	0.60	ug/l	UJ
621-64-7	N-Nitroso-di-n-propylamine	ND	5.1	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.1	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.47	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	47%		15-110%
4165-62-2	Phenol-d5	31%		15-110%
118-79-6	2,4,6-Tribromophenol	90%		15-110%
4165-60-0	Nitrobenzene-d5	83%		30-130%
321-60-8	2-Fluorobiphenyl	73%		30-130%
1718-51-0	Terphenyl-d14	83%		30-130%

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

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

Report of Analysis

Client Sample ID:	P56-ROX-103112		
Lab Sample ID:	MC15445-5	Date Sampled:	10/31/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I79937.D	1	11/08/12	NS	11/07/12	OP30935	MSI2976
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	1.1	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	0.12	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	0.46	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	24.0	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	30.7	0.20	0.052	ug/l	
85-01-8	Phenanthrene	1.3	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%		30-130%
321-60-8	2-Fluorobiphenyl	69%		30-130%
1718-51-0	Terphenyl-d14	87%		30-130%

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

Report of Analysis

Client Sample ID:	P56-ROX-103112		
Lab Sample ID:	MC15445-5	Date Sampled:	10/31/12
Matrix:	AQ - Ground Water	Date Received:	11/01/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB44044.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678
Run #2							

	Initial Volume	Final Volume
Run #1	36.3 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.014	0.012	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	79%		36-173%
460-00-4	Bromofluorobenzene (S)	82%		36-173%

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

Report of Analysis

Client Sample ID:	TB-103112-HCL-R		
Lab Sample ID:	MC15445-6	**Date Sampled:**	10/31/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/01/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69906.D	1	11/13/12	JP	n/a	n/a	MSN2629
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	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:	TB-103112-HCL-R		
Lab Sample ID:	MC15445-6	Date Sampled:	10/31/12
Matrix:	AQ - Trip Blank Water	Date Received:	11/01/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	TB-103112-HCL-R		
Lab Sample ID:	MC15445-6	**Date Sampled:**	10/31/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/01/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		70-130%
2037-26-5	Toluene-D8	85%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%

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

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

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

Report of Analysis

Client Sample ID:	TB-103112-ST-R		
Lab Sample ID:	MC15445-7	Date Sampled:	10/31/12
Matrix:	AQ - Trip Blank Water	Date Received:	11/01/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB44045.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678
Run #2							

	Initial Volume	Final Volume
Run #1	35.5 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	88%		36-173%
460-00-4	Bromofluorobenzene (S)	86%		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

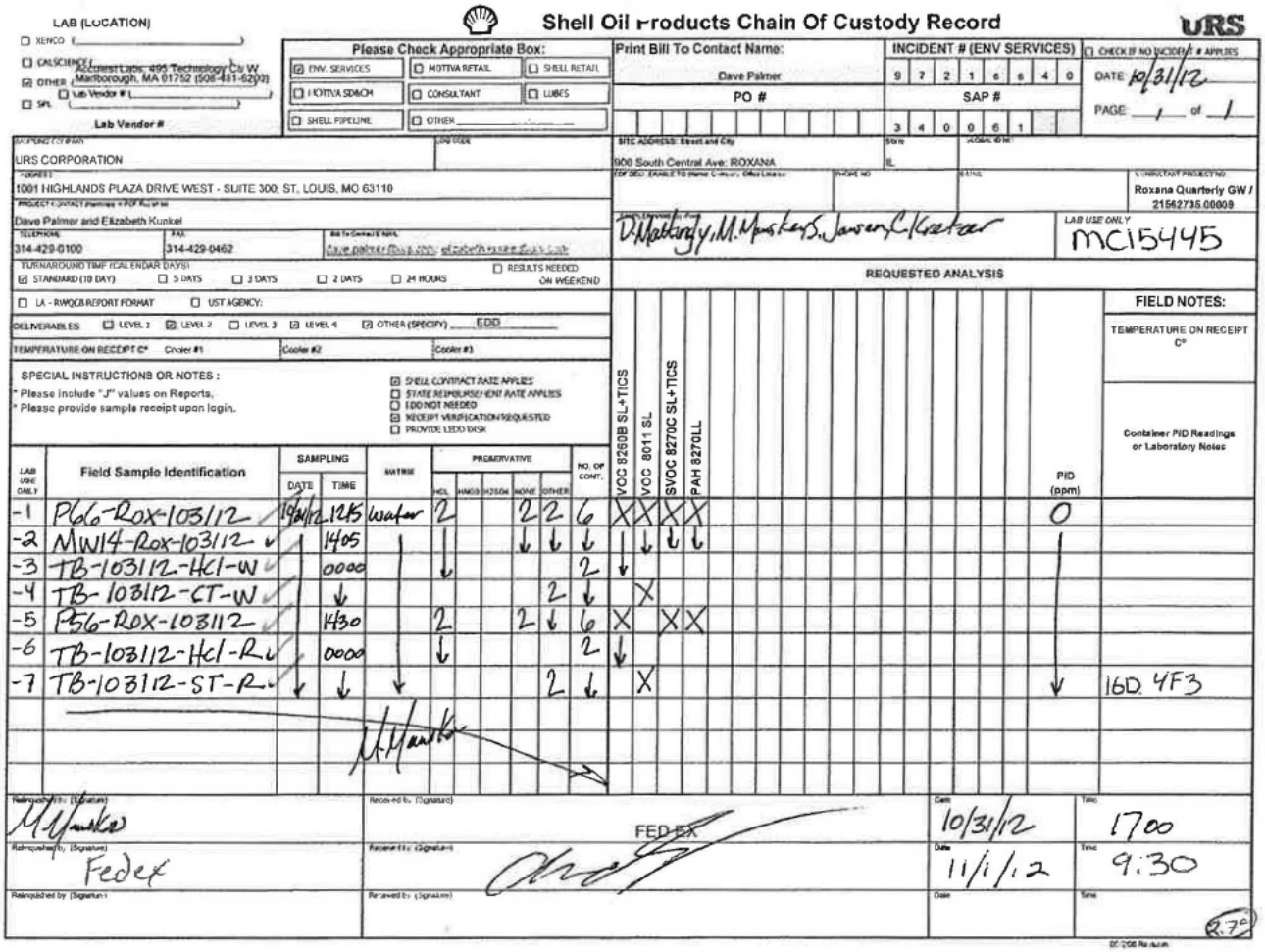
New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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



LAB (LOCATION)

☐ XENCO ( )
☐ CALSCIENCE ( )
☑ OTHER (Accutest Labs, 495 Technology Ctr W Marlborough, MA 01752 (508-481-6200))
☐ Lab Vendor # ( )
☐ SPL ( )

Lab Vendor #

Shell Oil Products Chain Of Custody Record

URS

Please Check Appropriate Box:

☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SD&CH ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Dave Palmer

PO #

INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0

SAP #: 3 4 0 0 6 1

☐ CHECK IF NO INCIDENT # APPLIES

DATE: 10/31/12

PAGE: 1 of 1

SAMPLING COMPANY	URS CORPORATION
LOG CODE	
SITE ADDRESS: Street and City	900 South Central Ave: ROXANA
State	IL
ACCOUNT ID NO.	
ADDRESS	1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
PROJECT CONTACT (Name + PO# Number)	Dave Palmer and Elizabeth Kunkel
TELEPHONE	314-429-0100
FAX	314-429-0462
BILL TO CONTACT E-MAIL	dave.palmer@urs.com; elizabeth.kunkel@urs.com
TURNAROUND TIME (CALENDAR DAYS)	☑ STANDARD (10 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT	☐ UST AGENCY:
DELIVERABLES	☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD
TEMPERATURE ON RECEIPT C°	Cooler #1 Cooler #2 Cooler #3

SAMPLE DELIVERY BY: D. Mattingly, M. Mansker, S. Jansen, C. Kretzer

CONSULTANT PROJECT NO: Roxana Quarterly GW / 21562735.00009

LAB USE ONLY: MC15445

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

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	VOC 8260B SL+TICS	VOC 8011 SL	SVOC 8270C SL+TICS	PAH 8270LL	PID (ppm)	Container PID Readings or Laboratory Notes
-1	P66-Rox-103112	10/31/12	1215	water	2			2	2	6	X	X	X	X	0	
-2	MW14-Rox-103112	↓	1405	↓	↓			↓	↓	↓	↓	↓	↓	↓	↓	
-3	TB-103112-HCl-W	↓	0000	↓	↓					2	↓				↓	
-4	TB-103112-CT-W	↓	↓	↓					2	↓		X			↓	
-5	P56-Rox-103112	↓	1430	↓	2			2	↓	6	X		X	X	↓	
-6	TB-103112-HCl-R	↓	0000	↓	↓					2	↓				↓	
-7	TB-103112-ST-R	↓	↓	↓					2	↓		X			↓	16D 4F3

M. Mansker

Relinquished by (Signature)	Received by (Signature)	Date	Time
M. Mansker	FED EX	10/31/12	1700
Fedex	[signature]	11/1/12	9:30
			2.7°

DC/DOE Revision

5.1

5

MC15445: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC15445 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 11/1/2012 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900 SO CENTRAL AVE **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
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Marlborough, MA
www.accutest.com

5.1 5

MC15445: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15445

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15445-1 Collected: 31-OCT-12 12:15 By: DMMM Received: 01-NOV-12 By: P66-ROX-103112						
MC15445-1	SW846 8011	06-NOV-12 04:02	AP	05-NOV-12	NK	V8011SL
MC15445-1	SW846 8270C BY SIM	08-NOV-12 15:01	NS	07-NOV-12	PA	B8270SIMSL
MC15445-1	SW846 8270C	12-NOV-12 13:17	KR	07-NOV-12	PA	AB8270SL+
MC15445-1	SW846 8260B	14-NOV-12 20:25	JP			V8260SL+
MC15445-2 Collected: 31-OCT-12 14:05 By: DMMM Received: 01-NOV-12 By: MW14-ROX-103112						
MC15445-2	SW846 8011	06-NOV-12 04:28	AP	05-NOV-12	NK	V8011SL
MC15445-2	SW846 8270C BY SIM	08-NOV-12 15:25	NS	07-NOV-12	PA	B8270SIMSL
MC15445-2	SW846 8270C	12-NOV-12 13:39	KR	07-NOV-12	PA	AB8270SL+
MC15445-2	SW846 8260B	13-NOV-12 17:37	JP			V8260SL+
MC15445-3 Collected: 31-OCT-12 00:00 By: DMMM Received: 01-NOV-12 By: TB-103112-HCL-W						
MC15445-3	SW846 8260B	13-NOV-12 16:41	JP			V8260SL+
MC15445-4 Collected: 31-OCT-12 00:00 By: DMMM Received: 01-NOV-12 By: TB-103112-ST-W						
MC15445-4	SW846 8011	06-NOV-12 04:54	AP	05-NOV-12	NK	V8011SL
MC15445-5 Collected: 31-OCT-12 14:30 By: DMMM Received: 01-NOV-12 By: P56-ROX-103112						
MC15445-5	SW846 8011	06-NOV-12 05:20	AP	05-NOV-12	NK	V8011SL
MC15445-5	SW846 8270C BY SIM	08-NOV-12 15:49	NS	07-NOV-12	PA	B8270SIMSL
MC15445-5	SW846 8270C	12-NOV-12 14:01	KR	07-NOV-12	PA	AB8270SL+
MC15445-5	SW846 8260B	13-NOV-12 18:05	JP			V8260SL+
MC15445-5	SW846 8260B	14-NOV-12 18:04	JP			V8260SL+
MC15445-6 Collected: 31-OCT-12 00:00 By: DMMM Received: 01-NOV-12 By: TB-103112-HCL-R						
MC15445-6	SW846 8260B	13-NOV-12 17:09	JP			V8260SL+

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15445

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15445-7 Collected: 31-OCT-12 00:00 By: DMMM Received: 01-NOV-12 By: TB-103112-ST-R						
MC15445-7	SW846 8011	06-NOV-12 05:46	AP	05-NOV-12	NK	V8011SL

Accutest Internal Chain of Custody

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 11/01/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15445-1.1	Walk In Ref #22	Nick Krasinski	11/07/12 07:53	Retrieve from Storage
MC15445-1.1	Nick Krasinski		11/08/12 15:52	Depleted
MC15445-1.3	VOC Ref #4	Jugal Patel	11/13/12 13:04	Retrieve from Storage
MC15445-1.3	Jugal Patel	GCMSN	11/13/12 13:04	Load on Instrument
MC15445-1.3	GCMSN	Jugal Patel	11/14/12 10:50	Unload from Instrument
MC15445-1.3	Jugal Patel	VOC Ref #4	11/14/12 10:50	Return to Storage
MC15445-1.4	VOC Ref #4	Jugal Patel	11/14/12 13:12	Retrieve from Storage
MC15445-1.4	Jugal Patel	GCMSN	11/14/12 13:13	Load on Instrument
MC15445-1.4	GCMSN	Jugal Patel	11/15/12 14:20	Unload from Instrument
MC15445-1.4	Jugal Patel	VOC Ref #4	11/15/12 14:20	Return to Storage
MC15445-1.5	VOC Ref #4	Nick Krasinski	11/06/12 07:05	Retrieve from Storage
MC15445-1.5	Nick Krasinski		11/06/12 07:05	Depleted
MC15445-2.1	Walk In Ref #22	Nick Krasinski	11/07/12 07:53	Retrieve from Storage
MC15445-2.1	Nick Krasinski		11/08/12 15:52	Depleted
MC15445-2.3	VOC Ref #4	Jugal Patel	11/13/12 13:04	Retrieve from Storage
MC15445-2.3	Jugal Patel	GCMSN	11/13/12 13:04	Load on Instrument
MC15445-2.3	GCMSN	Jugal Patel	11/14/12 10:50	Unload from Instrument
MC15445-2.3	Jugal Patel	VOC Ref #4	11/14/12 10:50	Return to Storage
MC15445-2.6	VOC Ref #4	Nick Krasinski	11/06/12 07:05	Retrieve from Storage
MC15445-2.6	Nick Krasinski		11/06/12 07:05	Depleted
MC15445-3.1	VOC Ref #4	Jugal Patel	11/13/12 13:04	Retrieve from Storage
MC15445-3.1	Jugal Patel	GCMSN	11/13/12 13:04	Load on Instrument
MC15445-3.1	GCMSN	Jugal Patel	11/14/12 10:50	Unload from Instrument
MC15445-3.1	Jugal Patel	VOC Ref #4	11/14/12 10:50	Return to Storage
MC15445-4.1	VOC Ref #4	Nick Krasinski	11/06/12 07:05	Retrieve from Storage
MC15445-4.1	Nick Krasinski		11/06/12 07:05	Depleted
MC15445-5.2	Walk In Ref #22	Nick Krasinski	11/07/12 07:53	Retrieve from Storage
MC15445-5.2	Nick Krasinski		11/08/12 15:52	Depleted
MC15445-5.3	VOC Ref #4	Jugal Patel	11/13/12 13:04	Retrieve from Storage
MC15445-5.3	Jugal Patel	GCMSN	11/13/12 13:04	Load on Instrument
MC15445-5.3	GCMSN	Jugal Patel	11/14/12 10:50	Unload from Instrument
MC15445-5.3	Jugal Patel	VOC Ref #4	11/14/12 10:50	Return to Storage
MC15445-5.4	VOC Ref #4	Jugal Patel	11/14/12 13:12	Retrieve from Storage

Accutest Internal Chain of Custody

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 11/01/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15445-5.4	Jugal Patel	GCMSN	11/14/12 13:13	Load on Instrument
MC15445-5.4	GCMSN	Jugal Patel	11/15/12 14:20	Unload from Instrument
MC15445-5.4	Jugal Patel	VOC Ref #4	11/15/12 14:20	Return to Storage
MC15445-5.5	VOC Ref #4	Nick Krasinski	11/06/12 07:05	Retrieve from Storage
MC15445-5.5	Nick Krasinski		11/06/12 07:05	Depleted
MC15445-6.1	VOC Ref #4	Jugal Patel	11/13/12 13:04	Retrieve from Storage
MC15445-6.1	Jugal Patel	GCMSN	11/13/12 13:04	Load on Instrument
MC15445-6.1	GCMSN	Jugal Patel	11/14/12 10:50	Unload from Instrument
MC15445-6.1	Jugal Patel	VOC Ref #4	11/14/12 10:50	Return to Storage
MC15445-7.2	VOC Ref #4	Nick Krasinski	11/06/12 07:05	Retrieve from Storage
MC15445-7.2	Nick Krasinski		11/06/12 07:05	Depleted

New England ACCUTEST LABORATORIES

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: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-MB	N69899.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15445-2, MC15445-3, MC15445-5, MC15445-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.3	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: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-MB	N69899.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15445-2, MC15445-3, MC15445-5, MC15445-6

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-MB	N69899.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15445-2, MC15445-3, MC15445-5, MC15445-6

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	82%	70-130%
2037-26-5	Toluene-D8	84%	70-130%
460-00-4	4-Bromofluorobenzene	84%	70-130%

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

Method Blank Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2631-MB	N69953.D	1	11/14/12	JP	n/a	n/a	MSN2631

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

MC15445-1, MC15445-5

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: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2631-MB	N69953.D	1	11/14/12	JP	n/a	n/a	MSN2631

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

MC15445-1, MC15445-5

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: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2631-MB	N69953.D	1	11/14/12	JP	n/a	n/a	MSN2631

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

MC15445-1, MC15445-5

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	83%	70-130%
2037-26-5	Toluene-D8	83%	70-130%
460-00-4	4-Bromofluorobenzene	86%	70-130%

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

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-BS	N69896.D	1	11/13/12	JP	n/a	n/a	MSN2629
MSN2629-BSD	N69897.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15445-2, MC15445-3, MC15445-5, MC15445-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	39.4	79	39.6	79	1	70-130/25
107-02-8	Acrolein	250	153	61* a	156	62* a	2	70-130/25
107-13-1	Acrylonitrile	50	246	492* b	247	494* b	0	70-130/25
71-43-2	Benzene	50	50.6	101	49.7	99	2	70-130/25
108-86-1	Bromobenzene	50	50.4	101	49.5	99	2	70-130/25
74-97-5	Bromochloromethane	50	51.8	104	51.3	103	1	70-130/25
75-27-4	Bromodichloromethane	50	51.7	103	51.1	102	1	70-130/25
75-25-2	Bromoform	50	45.5	91	43.6	87	4	70-130/25
74-83-9	Bromomethane	50	50.9	102	52.2	104	3	70-130/25
78-93-3	2-Butanone (MEK)	50	44.7	89	43.7	87	2	70-130/25
104-51-8	n-Butylbenzene	50	57.1	114	55.4	111	3	70-130/25
135-98-8	sec-Butylbenzene	50	57.5	115	55.8	112	3	70-130/25
98-06-6	tert-Butylbenzene	50	53.2	106	51.9	104	2	70-130/25
75-15-0	Carbon disulfide	50	53.9	108	52.2	104	3	70-130/25
56-23-5	Carbon tetrachloride	50	46.7	93	45.7	91	2	70-130/25
108-90-7	Chlorobenzene	50	55.5	111	52.6	105	5	70-130/25
75-00-3	Chloroethane	50	50.5	101	48.1	96	5	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	52.7	105	52.3	105	1	70-130/25
67-66-3	Chloroform	50	51.0	102	50.5	101	1	70-130/25
74-87-3	Chloromethane	50	40.6	81	37.6	75	8	70-130/25
95-49-8	o-Chlorotoluene	50	54.0	108	52.6	105	3	70-130/25
106-43-4	p-Chlorotoluene	50	57.0	114	55.4	111	3	70-130/25
124-48-1	Dibromochloromethane	50	47.9	96	46.3	93	3	70-130/25
95-50-1	1,2-Dichlorobenzene	50	55.4	111	54.1	108	2	70-130/25
541-73-1	1,3-Dichlorobenzene	50	55.2	110	53.8	108	3	70-130/25
106-46-7	1,4-Dichlorobenzene	50	52.5	105	51.0	102	3	70-130/25
75-71-8	Dichlorodifluoromethane	50	47.3	95	46.0	92	3	70-130/25
75-34-3	1,1-Dichloroethane	50	53.9	108	52.8	106	2	70-130/25
107-06-2	1,2-Dichloroethane	50	47.6	95	46.8	94	2	70-130/25
75-35-4	1,1-Dichloroethene	50	51.0	102	49.1	98	4	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	51.8	104	49.7	99	4	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	51.4	103	49.1	98	5	70-130/25
78-87-5	1,2-Dichloropropane	50	52.7	105	52.3	105	1	70-130/25
142-28-9	1,3-Dichloropropane	50	50.8	102	48.4	97	5	70-130/25
594-20-7	2,2-Dichloropropane	50	48.9	98	46.4	93	5	70-130/25
563-58-6	1,1-Dichloropropene	50	53.2	106	51.7	103	3	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-BS	N69896.D	1	11/13/12	JP	n/a	n/a	MSN2629
MSN2629-BSD	N69897.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15445-2, MC15445-3, MC15445-5, MC15445-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	50	52.7	105	51.8	104	2	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	48.4	97	47.1	94	3	70-130/25
123-91-1	1,4-Dioxane	250	228	91	225	90	1	70-130/25
97-63-2	Ethyl methacrylate	50	49.1	98	47.9	96	2	77-137/25
100-41-4	Ethylbenzene	50	52.0	104	49.1	98	6	70-130/25
87-68-3	Hexachlorobutadiene	50	56.2	112	53.8	108	4	70-130/25
591-78-6	2-Hexanone	50	40.5	81	39.1	78	4	70-130/25
98-82-8	Isopropylbenzene	50	55.1	110	53.8	108	2	70-130/25
99-87-6	p-Isopropyltoluene	50	55.3	111	53.6	107	3	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	41.2	82	39.8	80	3	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	38.3	77	38.1	76	1	70-130/25
74-95-3	Methylene bromide	50	49.8	100	48.9	98	2	70-130/25
75-09-2	Methylene chloride	50	52.4	105	51.1	102	3	70-130/25
91-20-3	Naphthalene	50	52.4	105	51.7	103	1	70-130/25
103-65-1	n-Propylbenzene	50	56.1	112	54.8	110	2	70-130/25
100-42-5	Styrene	50	51.9	104	49.4	99	5	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	53.4	107	51.1	102	4	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	49.4	99	49.3	99	0	70-130/25
127-18-4	Tetrachloroethene	50	52.2	104	48.9	98	7	70-130/25
108-88-3	Toluene	50	52.1	104	51.2	102	2	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	57.1	114	55.3	111	3	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	57.0	114	55.7	111	2	70-130/25
71-55-6	1,1,1-Trichloroethane	50	52.6	105	51.0	102	3	70-130/25
79-00-5	1,1,2-Trichloroethane	50	50.9	102	50.2	100	1	70-130/25
79-01-6	Trichloroethene	50	49.0	98	47.8	96	2	70-130/25
75-69-4	Trichlorofluoromethane	50	47.4	95	46.0	92	3	70-130/25
96-18-4	1,2,3-Trichloropropane	50	54.0	108	52.5	105	3	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	50.0	100	49.0	98	2	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	50.0	100	48.8	98	2	70-130/25
108-05-4	Vinyl Acetate	50	49.4	99	48.9	98	1	70-130/25
75-01-4	Vinyl chloride	50	43.9	88	42.8	86	3	70-130/25
	m,p-Xylene	100	107	107	101	101	6	70-130/25
95-47-6	o-Xylene	50	55.8	112	52.8	106	6	70-130/25
1330-20-7	Xylene (total)	150	163	109	154	103	6	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-BS	N69896.D	1	11/13/12	JP	n/a	n/a	MSN2629
MSN2629-BSD	N69897.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15445-2, MC15445-3, MC15445-5, MC15445-6

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	83%	83%	70-130%
2037-26-5	Toluene-D8	85%	85%	70-130%
460-00-4	4-Bromofluorobenzene	82%	82%	70-130%

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

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2631-BS	N69950.D	1	11/14/12	JP	n/a	n/a	MSN2631
MSN2631-BSD	N69951.D	1	11/14/12	JP	n/a	n/a	MSN2631

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

MC15445-1, MC15445-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	36.7	73	37.4	75	2	70-130/25
107-02-8	Acrolein	250	149	60* a	154	62* a	3	70-130/25
107-13-1	Acrylonitrile	50	234	468* b	233	466* b	0	70-130/25
71-43-2	Benzene	50	50.4	101	49.0	98	3	70-130/25
108-86-1	Bromobenzene	50	50.5	101	49.0	98	3	70-130/25
74-97-5	Bromochloromethane	50	52.2	104	50.7	101	3	70-130/25
75-27-4	Bromodichloromethane	50	52.3	105	50.5	101	4	70-130/25
75-25-2	Bromoform	50	45.0	90	42.7	85	5	70-130/25
74-83-9	Bromomethane	50	49.7	99	49.8	100	0	70-130/25
78-93-3	2-Butanone (MEK)	50	42.2	84	41.1	82	3	70-130/25
104-51-8	n-Butylbenzene	50	57.2	114	55.0	110	4	70-130/25
135-98-8	sec-Butylbenzene	50	57.4	115	55.1	110	4	70-130/25
98-06-6	tert-Butylbenzene	50	53.1	106	51.3	103	3	70-130/25
75-15-0	Carbon disulfide	50	52.4	105	50.5	101	4	70-130/25
56-23-5	Carbon tetrachloride	50	46.8	94	45.3	91	3	70-130/25
108-90-7	Chlorobenzene	50	55.2	110	52.1	104	6	70-130/25
75-00-3	Chloroethane	50	48.9	98	47.2	94	4	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	52.6	105	51.0	102	3	70-130/25
67-66-3	Chloroform	50	51.2	102	49.5	99	3	70-130/25
74-87-3	Chloromethane	50	42.8	86	41.8	84	2	70-130/25
95-49-8	o-Chlorotoluene	50	53.7	107	51.9	104	3	70-130/25
106-43-4	p-Chlorotoluene	50	56.7	113	54.7	109	4	70-130/25
124-48-1	Dibromochloromethane	50	48.1	96	45.9	92	5	70-130/25
95-50-1	1,2-Dichlorobenzene	50	54.7	109	53.2	106	3	70-130/25
541-73-1	1,3-Dichlorobenzene	50	55.2	110	53.6	107	3	70-130/25
106-46-7	1,4-Dichlorobenzene	50	52.3	105	50.8	102	3	70-130/25
75-71-8	Dichlorodifluoromethane	50	45.8	92	43.9	88	4	70-130/25
75-34-3	1,1-Dichloroethane	50	53.1	106	51.5	103	3	70-130/25
107-06-2	1,2-Dichloroethane	50	47.5	95	46.6	93	2	70-130/25
75-35-4	1,1-Dichloroethene	50	49.9	100	48.3	97	3	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	51.4	103	50.3	101	2	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	51.0	102	49.1	98	4	70-130/25
78-87-5	1,2-Dichloropropane	50	52.6	105	51.0	102	3	70-130/25
142-28-9	1,3-Dichloropropane	50	50.2	100	47.9	96	5	70-130/25
594-20-7	2,2-Dichloropropane	50	48.8	98	46.8	94	4	70-130/25
563-58-6	1,1-Dichloropropene	50	51.9	104	50.3	101	3	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2631-BS	N69950.D	1	11/14/12	JP	n/a	n/a	MSN2631
MSN2631-BSD	N69951.D	1	11/14/12	JP	n/a	n/a	MSN2631

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

MC15445-1, MC15445-5

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	52.8	106	51.6	103	2	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	48.2	96	47.8	96	1	70-130/25
123-91-1	1,4-Dioxane	250	219	88	216	86	1	70-130/25
97-63-2	Ethyl methacrylate	50	47.8	96	47.3	95	1	77-137/25
100-41-4	Ethylbenzene	50	51.7	103	48.8	98	6	70-130/25
87-68-3	Hexachlorobutadiene	50	55.3	111	53.3	107	4	70-130/25
591-78-6	2-Hexanone	50	38.1	76	36.9	74	3	70-130/25
98-82-8	Isopropylbenzene	50	55.2	110	53.2	106	4	70-130/25
99-87-6	p-Isopropyltoluene	50	55.2	110	53.0	106	4	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	39.3	79	40.1	80	2	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	36.5	73	36.3	73	1	70-130/25
74-95-3	Methylene bromide	50	49.9	100	48.9	98	2	70-130/25
75-09-2	Methylene chloride	50	52.4	105	50.6	101	3	70-130/25
91-20-3	Naphthalene	50	51.5	103	50.1	100	3	70-130/25
103-65-1	n-Propylbenzene	50	56.4	113	53.6	107	5	70-130/25
100-42-5	Styrene	50	52.1	104	49.1	98	6	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	53.9	108	51.1	102	5	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	48.1	96	47.1	94	2	70-130/25
127-18-4	Tetrachloroethene	50	51.9	104	48.3	97	7	70-130/25
108-88-3	Toluene	50	52.3	105	50.7	101	3	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	55.6	111	53.8	108	3	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	56.3	113	54.3	109	4	70-130/25
71-55-6	1,1,1-Trichloroethane	50	52.2	104	50.5	101	3	70-130/25
79-00-5	1,1,2-Trichloroethane	50	50.0	100	49.5	99	1	70-130/25
79-01-6	Trichloroethene	50	49.1	98	47.3	95	4	70-130/25
75-69-4	Trichlorofluoromethane	50	46.9	94	44.6	89	5	70-130/25
96-18-4	1,2,3-Trichloropropane	50	51.7	103	50.7	101	2	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	50.3	101	48.4	97	4	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	49.9	100	47.7	95	5	70-130/25
108-05-4	Vinyl Acetate	50	47.3	95	47.6	95	1	70-130/25
75-01-4	Vinyl chloride	50	42.7	85	41.5	83	3	70-130/25
	m,p-Xylene	100	107	107	101	101	6	70-130/25
95-47-6	o-Xylene	50	55.7	111	52.6	105	6	70-130/25
1330-20-7	Xylene (total)	150	163	109	154	103	6	70-130/25

* = Outside of Control Limits.

6.2.2

6

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2631-BS	N69950.D	1	11/14/12	JP	n/a	n/a	MSN2631
MSN2631-BSD	N69951.D	1	11/14/12	JP	n/a	n/a	MSN2631

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

MC15445-1, MC15445-5

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	84%	84%	70-130%
2037-26-5	Toluene-D8	85%	85%	70-130%
460-00-4	4-Bromofluorobenzene	82%	82%	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: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15549-3MS	N69919.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3MSD	N69920.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3	N69911.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15445-2, MC15445-3, MC15445-5, MC15445-6

CAS No.	Compound	MC15549-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	195	78	206	82	5	70-130/30
107-02-8	Acrolein	ND		1250	786	63* a	800	64* a	2	70-130/30
107-13-1	Acrylonitrile	ND		250	1230	492* b	1290	516* b	5	70-130/30
71-43-2	Benzene	ND		250	255	102	267	107	5	70-130/30
108-86-1	Bromobenzene	ND		250	246	98	256	102	4	70-130/30
74-97-5	Bromochloromethane	ND		250	258	103	273	109	6	70-130/30
75-27-4	Bromodichloromethane	ND		250	257	103	270	108	5	70-130/30
75-25-2	Bromoform	ND		250	219	88	223	89	2	70-130/30
74-83-9	Bromomethane	ND		250	210	84	257	103	20	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	204	82	223	89	9	70-130/30
104-51-8	n-Butylbenzene	ND		250	261	104	279	112	7	70-130/30
135-98-8	sec-Butylbenzene	ND		250	272	109	286	114	5	70-130/30
98-06-6	tert-Butylbenzene	ND		250	255	102	265	106	4	70-130/30
75-15-0	Carbon disulfide	ND		250	269	108	279	112	4	70-130/30
56-23-5	Carbon tetrachloride	ND		250	227	91	237	95	4	70-130/30
108-90-7	Chlorobenzene	ND		250	274	110	275	110	0	70-130/30
75-00-3	Chloroethane	ND		250	260	104	270	108	4	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	270	108	280	112	4	70-130/30
67-66-3	Chloroform	ND		250	253	101	267	107	5	70-130/30
74-87-3	Chloromethane	ND		250	214	86	229	92	7	70-130/30
95-49-8	o-Chlorotoluene	ND		250	260	104	272	109	5	70-130/30
106-43-4	p-Chlorotoluene	ND		250	272	109	284	114	4	70-130/30
124-48-1	Dibromochloromethane	ND		250	238	95	239	96	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	266	106	281	112	5	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	263	105	281	112	7	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	249	100	264	106	6	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	226	90	238	95	5	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	271	108	287	115	6	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	230	92	244	98	6	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	252	101	261	104	4	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	256	102	274	110	7	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	254	102	266	106	5	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	270	108	280	112	4	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	253	101	254	102	0	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	206	82	213	85	3	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	258	103	272	109	5	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15549-3MS	N69919.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3MSD	N69920.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3	N69911.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15445-2, MC15445-3, MC15445-5, MC15445-6

CAS No.	Compound	MC15549-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		250	258	103	270	108	5	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	233	93	246	98	5	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1080	86	1160	93	7	70-130/30
97-63-2	Ethyl methacrylate	ND		250	234	94	245	98	5	72-139/30
100-41-4	Ethylbenzene	ND		250	254	102	253	101	0	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	248	99	265	106	7	70-130/30
591-78-6	2-Hexanone	ND		250	189	76	193	77	2	70-130/30
98-82-8	Isopropylbenzene	ND		250	267	107	277	111	4	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	260	104	273	109	5	70-130/30
1634-04-4	Methyl Tert Butyl Ether	2.6		250	194	77	205	81	6	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	185	74	193	77	4	70-130/30
74-95-3	Methylene bromide	ND		250	247	99	260	104	5	70-130/30
75-09-2	Methylene chloride	ND		250	266	106	279	112	5	70-130/30
91-20-3	Naphthalene	ND		250	234	94	256	102	9	70-130/30
103-65-1	n-Propylbenzene	ND		250	269	108	280	112	4	70-130/30
100-42-5	Styrene	ND		250	250	100	254	102	2	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	266	106	268	107	1	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	242	97	251	100	4	70-130/30
127-18-4	Tetrachloroethene	53.6		250	321	107	321	107	0	70-130/30
108-88-3	Toluene	ND		250	258	103	270	108	5	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	257	103	280	112	9	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	258	103	281	112	9	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	253	101	265	106	5	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	253	101	264	106	4	70-130/30
79-01-6	Trichloroethene	ND		250	242	97	253	101	4	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	232	93	241	96	4	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	253	101	266	106	5	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	238	95	250	100	5	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	240	96	249	100	4	70-130/30
108-05-4	Vinyl Acetate	ND		250	246	98	255	102	4	70-130/30
75-01-4	Vinyl chloride	ND		250	216	86	225	90	4	70-130/30
	m,p-Xylene	ND		500	524	105	525	105	0	70-130/30
95-47-6	o-Xylene	ND		250	272	109	272	109	0	70-130/30
1330-20-7	Xylene (total)	ND		750	797	106	797	106	0	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15549-3MS	N69919.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3MSD	N69920.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3	N69911.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15445-2, MC15445-3, MC15445-5, MC15445-6

CAS No.	Surrogate Recoveries	MS	MSD	MC15549-3	Limits
1868-53-7	Dibromofluoromethane	84%	84%	84%	70-130%
2037-26-5	Toluene-D8	86%	85%	84%	70-130%
460-00-4	4-Bromofluorobenzene	81%	81%	86%	70-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15557-5MS	N69971.D	5	11/15/12	JP	n/a	n/a	MSN2631
MC15557-5MSD	N69972.D	5	11/15/12	JP	n/a	n/a	MSN2631
MC15557-5	N69970.D	1	11/15/12	JP	n/a	n/a	MSN2631

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

MC15445-1, MC15445-5

CAS No.	Compound	MC15557-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	206	82	202	81	2	70-130/30
107-02-8	Acrolein	ND		1250	753	60* a	770	62* a	2	70-130/30
107-13-1	Acrylonitrile	ND		250	1230	492* b	1180	472* b	4	70-130/30
71-43-2	Benzene	ND		250	259	104	250	100	4	70-130/30
108-86-1	Bromobenzene	ND		250	252	101	247	99	2	70-130/30
74-97-5	Bromochloromethane	ND		250	266	106	259	104	3	70-130/30
75-27-4	Bromodichloromethane	ND		250	262	105	255	102	3	70-130/30
75-25-2	Bromoform	ND		250	217	87	214	86	1	70-130/30
74-83-9	Bromomethane	ND		250	269	108	287	115	6	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	223	89	224	90	0	70-130/30
104-51-8	n-Butylbenzene	ND		250	265	106	258	103	3	70-130/30
135-98-8	sec-Butylbenzene	ND		250	275	110	266	106	3	70-130/30
98-06-6	tert-Butylbenzene	ND		250	259	104	249	100	4	70-130/30
75-15-0	Carbon disulfide	ND		250	277	111	266	106	4	70-130/30
56-23-5	Carbon tetrachloride	ND		250	215	86	208	83	3	70-130/30
108-90-7	Chlorobenzene	ND		250	275	110	264	106	4	70-130/30
75-00-3	Chloroethane	ND		250	264	106	252	101	5	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	271	108	262	105	3	70-130/30
67-66-3	Chloroform	ND		250	264	106	256	102	3	70-130/30
74-87-3	Chloromethane	ND		250	243	97	245	98	1	70-130/30
95-49-8	o-Chlorotoluene	ND		250	269	108	261	104	3	70-130/30
106-43-4	p-Chlorotoluene	ND		250	282	113	276	110	2	70-130/30
124-48-1	Dibromochloromethane	ND		250	237	95	232	93	2	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	269	108	263	105	2	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	272	109	265	106	3	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	258	103	251	100	3	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	236	94	225	90	5	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	277	111	265	106	4	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	236	94	230	92	3	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	259	104	253	101	2	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	266	106	254	102	5	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	262	105	255	102	3	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	271	108	262	105	3	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	252	101	247	99	2	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	215	86	202	81	6	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	266	106	255	102	4	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15557-5MS	N69971.D	5	11/15/12	JP	n/a	n/a	MSN2631
MC15557-5MSD	N69972.D	5	11/15/12	JP	n/a	n/a	MSN2631
MC15557-5	N69970.D	1	11/15/12	JP	n/a	n/a	MSN2631

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

MC15445-1, MC15445-5

CAS No.	Compound	MC15557-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		250	258	103	249	100	4	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	240	96	234	94	3	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1140	91	1170	94	3	70-130/30
97-63-2	Ethyl methacrylate	ND		250	237	95	239	96	1	72-139/30
100-41-4	Ethylbenzene	ND		250	255	102	247	99	3	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	215	86	213	85	1	70-130/30
591-78-6	2-Hexanone	ND		250	200	80	204	82	2	70-130/30
98-82-8	Isopropylbenzene	ND		250	274	110	265	106	3	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	262	105	254	102	3	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		250	235	94	234	94	0	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	188	75	193	77	3	70-130/30
74-95-3	Methylene bromide	ND		250	250	100	248	99	1	70-130/30
75-09-2	Methylene chloride	ND		250	270	108	261	104	3	70-130/30
91-20-3	Naphthalene	ND		250	224	90	230	92	3	70-130/30
103-65-1	n-Propylbenzene	ND		250	276	110	269	108	3	70-130/30
100-42-5	Styrene	ND		250	254	102	244	98	4	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	263	105	254	102	3	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	243	97	243	97	0	70-130/30
127-18-4	Tetrachloroethene	ND		250	253	101	244	98	4	70-130/30
108-88-3	Toluene	ND		250	263	105	255	102	3	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	227	91	231	92	2	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	245	98	248	99	1	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	259	104	249	100	4	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	254	102	248	99	2	70-130/30
79-01-6	Trichloroethene	ND		250	250	100	239	96	4	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	236	94	228	91	3	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	258	103	259	104	0	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	246	98	237	95	4	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	242	97	235	94	3	70-130/30
108-05-4	Vinyl Acetate	ND		250	246	98	244	98	1	70-130/30
75-01-4	Vinyl chloride	ND		250	227	91	219	88	4	70-130/30
	m,p-Xylene	ND		500	528	106	505	101	4	70-130/30
95-47-6	o-Xylene	ND		250	276	110	262	105	5	70-130/30
1330-20-7	Xylene (total)	ND		750	804	107	767	102	5	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15557-5MS	N69971.D	5	11/15/12	JP	n/a	n/a	MSN2631
MC15557-5MSD	N69972.D	5	11/15/12	JP	n/a	n/a	MSN2631
MC15557-5	N69970.D	1	11/15/12	JP	n/a	n/a	MSN2631

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

MC15445-1, MC15445-5

CAS No.	Surrogate Recoveries	MS	MSD	MC15557-5	Limits
1868-53-7	Dibromofluoromethane	85%	86%	84%	70-130%
2037-26-5	Toluene-D8	85%	85%	84%	70-130%
460-00-4	4-Bromofluorobenzene	82%	83%	84%	70-130%

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

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2629-CC2591	Injection Date:	11/13/12
Lab File ID:	N69895.D	Injection Time:	11:59
Instrument ID:	GCMSN	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	332975	9.01	437609	9.88	197238	13.14	221938	15.70	98102	6.56
Upper Limit [a]	665950	9.51	875218	10.38	394476	13.64	443876	16.20	196204	7.06
Lower Limit [b]	166488	8.51	218805	9.38	98619	12.64	110969	15.20	49051	6.06
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2629-BS	331160	9.01	434434	9.88	194359	13.14	219925	15.70	97330	6.56
MSN2629-BSD	330386	9.01	431902	9.88	200259	13.14	219175	15.70	89195	6.56
MSN2629-MB	324761	9.01	423799	9.88	186213	13.14	199101	15.70	85171	6.57
ZZZZZZ	321185	9.01	425275	9.88	184610	13.14	192145	15.70	82535	6.57
ZZZZZZ	322320	9.01	427987	9.88	188381	13.14	196418	15.70	88653	6.56
ZZZZZZ	317139	9.01	420414	9.88	185253	13.14	194203	15.70	90512	6.57
ZZZZZZ	312890	9.01	410639	9.88	182444	13.14	190619	15.70	79911	6.57
ZZZZZZ	315284	9.01	413490	9.88	180532	13.14	189212	15.70	70674	6.57
MC15445-3	309308	9.01	410071	9.88	181387	13.14	186533	15.70	76383	6.57
MC15445-6	308353	9.01	405041	9.88	180427	13.14	187152	15.70	86792	6.57
MC15445-2	305942	9.01	405304	9.88	181879	13.14	198427	15.70	71296	6.56
MC15445-5	308084	9.01	403081	9.88	188648	13.14	209917	15.70	74680	6.56
MC15549-3	318614	9.01	423484	9.88	186752	13.14	192492	15.70	73717	6.57
ZZZZZZ	312404	9.01	408807	9.88	180462	13.14	186154	15.70	82134	6.56
ZZZZZZ	310936	9.01	412625	9.88	181386	13.14	186764	15.70	78111	6.56
ZZZZZZ	305817	9.01	403401	9.88	178340	13.14	185473	15.70	71027	6.56
ZZZZZZ	300738	9.01	395573	9.88	175666	13.14	184995	15.70	77748	6.56
ZZZZZZ	301008	9.01	400298	9.88	176586	13.14	183504	15.70	73241	6.56
MC15549-3MS	301951	9.01	396782	9.88	178496	13.14	202542	15.70	85241	6.56
MC15549-3MSD	282678	9.01	375009	9.88	176345	13.14	192737	15.70	80849	6.56

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

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

Volatile Internal Standard Area Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2631-CC2591	Injection Date:	11/14/12
Lab File ID:	N69949.D	Injection Time:	13:50
Instrument ID:	GCMSN	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	329455	9.01	429470	9.88	194298	13.14	223922	15.70	92325	6.56
Upper Limit [a]	658910	9.51	858940	10.38	388596	13.64	447844	16.20	184650	7.06
Lower Limit [b]	164728	8.51	214735	9.38	97149	12.64	111961	15.20	46163	6.06
Lab Sample ID	**IS 1 AREA**	**RT**	**IS 2 AREA**	**RT**	**IS 3 AREA**	**RT**	**IS 4 AREA**	**RT**	**IS 5 AREA**	**RT**
MSN2631-BS	333737	9.01	436190	9.88	195687	13.14	220643	15.70	88398	6.56
MSN2631-BSD	331172	9.01	433459	9.88	201065	13.14	222175	15.70	85610	6.56
MSN2631-MB	332687	9.01	437978	9.88	189291	13.14	202925	15.70	83878	6.57
ZZZZZZ	328023	9.01	428624	9.88	191196	13.14	200502	15.70	88647	6.56
ZZZZZZ	323595	9.01	425133	9.88	186569	13.14	194513	15.70	81697	6.56
ZZZZZZ	324326	9.01	429075	9.88	189116	13.14	196471	15.70	82272	6.56
ZZZZZZ	298767	9.01	395835	9.88	172115	13.14	178748	15.70	86986	6.56
MC15445-5	323087	9.01	421387	9.88	186521	13.14	195401	15.70	83477	6.56
ZZZZZZ	319164	9.01	421104	9.88	183891	13.14	195134	15.70	78552	6.56
ZZZZZZ	321580	9.01	422960	9.88	185839	13.14	191181	15.70	75974	6.57
ZZZZZZ	316447	9.01	417535	9.88	183011	13.14	188621	15.70	80504	6.56
ZZZZZZ	317446	9.01	417430	9.88	184437	13.14	191992	15.70	86846	6.56
MC15445-1	313536	9.01	414134	9.88	190885	13.14	211931	15.70	85742	6.56
ZZZZZZ	319494	9.01	428360	9.88	192385	13.14	227199	15.70	131893	6.59
ZZZZZZ	318807	9.01	427177	9.88	195794	13.14	220128	15.70	137734	6.60
ZZZZZZ	314423	9.06	424486	9.92	184634	13.15	192888	15.70	147534	6.70
ZZZZZZ	322055	9.01	432817	9.88	193570	13.14	218575	15.70	96596	6.56
ZZZZZZ	327235	9.01	437834	9.88	196458	13.14	215394	15.70	92140	6.56
ZZZZZZ	325180	9.01	433558	9.88	191190	13.14	207765	15.70	89140	6.56
ZZZZZZ	328977	9.01	436787	9.88	190402	13.14	202973	15.70	80082	6.56
MC15557-5	329866	9.01	433891	9.88	191620	13.14	202717	15.70	85642	6.56
MC15557-5MS	323044	9.01	426527	9.88	192438	13.14	212482	15.70	86713	6.56
MC15557-5MSD	326992	9.01	435481	9.88	197971	13.14	215510	15.70	85277	6.56

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

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

Volatile Surrogate Recovery Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8260B Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC15445-1	N69962.D	84.0	86.0	82.0
MC15445-2	N69907.D	84.0	85.0	84.0
MC15445-3	N69905.D	83.0	85.0	87.0
MC15445-5	N69958.D	82.0	84.0	86.0
MC15445-5	N69908.D	79.0	86.0	80.0
MC15445-6	N69906.D	84.0	85.0	86.0
MC15549-3MS	N69919.D	84.0	86.0	81.0
MC15549-3MSD	N69920.D	84.0	85.0	81.0
MC15557-5MS	N69971.D	85.0	85.0	82.0
MC15557-5MSD	N69972.D	86.0	85.0	83.0
MSN2629-BS	N69896.D	83.0	85.0	82.0
MSN2629-BSD	N69897.D	83.0	85.0	82.0
MSN2629-MB	N69899.D	82.0	84.0	84.0
MSN2631-BS	N69950.D	84.0	85.0	82.0
MSN2631-BSD	N69951.D	84.0	85.0	82.0
MSN2631-MB	N69953.D	83.0	83.0	86.0

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

New England ACCUTEST LABORATORIES

GC/MS Semi-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: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30934-MB	F59151.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784

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

MC15445-1, MC15445-2, MC15445-5

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	5.0	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	

Method Blank Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30934-MB	F59151.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784

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

MC15445-1, MC15445-2, MC15445-5

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.28	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	0.48	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.46	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	34%	15-110%
4165-62-2	Phenol-d5	23%	15-110%
118-79-6	2,4,6-Tribromophenol	73%	15-110%
4165-60-0	Nitrobenzene-d5	65%	30-130%
321-60-8	2-Fluorobiphenyl	60%	30-130%
1718-51-0	Terphenyl-d14	85%	30-130%

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

Method Blank Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30935-MB	I79922.D	1	11/08/12	NS	11/07/12	OP30935	MSI2976

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

MC15445-1, MC15445-2, MC15445-5

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	0.049	0.10	0.033	ug/l	J
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	0.095	0.10	0.036	ug/l	J

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	30%	15-110%
4165-62-2	Phenol-d5	21%	15-110%
118-79-6	2,4,6-Tribromophenol	63%	15-110%
4165-60-0	Nitrobenzene-d5	53%	30-130%
321-60-8	2-Fluorobiphenyl	57%	30-130%
1718-51-0	Terphenyl-d14	85%	30-130%

Blank Spike Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30935-BS	U10614.D	1	11/09/12	NS	11/07/12	OP30935	MSU565

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

MC15445-1, MC15445-2, MC15445-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	27.6	55	40-140
208-96-8	Acenaphthylene	50	21.9	44	40-140
120-12-7	Anthracene	50	28.8	58	40-140
56-55-3	Benzo(a)anthracene	50	37.5	75	40-140
50-32-8	Benzo(a)pyrene	50	26.0	52	40-140
205-99-2	Benzo(b)fluoranthene	50	28.0	56	40-140
191-24-2	Benzo(g,h,i)perylene	50	28.3	57	40-140
207-08-9	Benzo(k)fluoranthene	50	30.4	61	40-140
218-01-9	Chrysene	50	31.7	63	40-140
53-70-3	Dibenzo(a,h)anthracene	50	29.3	59	40-140
206-44-0	Fluoranthene	50	29.9	60	40-140
86-73-7	Fluorene	50	28.9	58	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	29.2	58	40-140
90-12-0	1-Methylnaphthalene	50	24.1	48	40-140
91-57-6	2-Methylnaphthalene	50	22.2	44	40-140
85-01-8	Phenanthrene	50	30.2	60	40-140
129-00-0	Pyrene	50	26.8	54	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	33%	15-110%
4165-62-2	Phenol-d5	22%	15-110%
118-79-6	2,4,6-Tribromophenol	62%	15-110%
4165-60-0	Nitrobenzene-d5	52%	30-130%
321-60-8	2-Fluorobiphenyl	52%	30-130%
1718-51-0	Terphenyl-d14	67%	30-130%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30934-BS	F59154.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784
OP30934-BSD	W6929.D	1	11/15/12	KR	11/07/12	OP30934	MSW320

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

MC15445-1, MC15445-2, MC15445-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	100	28.6	29* a	25.5	26* a	11	30-130/20
95-57-8	2-Chlorophenol	100	51.0	51	53.3	53	4	30-130/20
59-50-7	4-Chloro-3-methyl phenol	100	65.1	65	56.3	56	14	30-130/20
120-83-2	2,4-Dichlorophenol	100	56.1	56	57.3	57	2	30-130/20
105-67-9	2,4-Dimethylphenol	100	46.3	46	21.8	22* a	72* a	30-130/20
51-28-5	2,4-Dinitrophenol	100	58.7	59	48.4	48	19	30-130/20
534-52-1	4,6-Dinitro-o-cresol	100	72.1	72	63.2	63	13	30-130/20
95-48-7	2-Methylphenol	100	46.2	46	44.7	45	3	30-130/20
	3&4-Methylphenol	200	91.6	46	84.7	42	8	30-130/20
88-75-5	2-Nitrophenol	100	54.1	54	61.6	62	13	30-130/20
100-02-7	4-Nitrophenol	100	35.4	35	31.4	31	12	30-130/20
87-86-5	Pentachlorophenol	100	70.5	71	59.5	60	17	30-130/20
108-95-2	Phenol	100	21.4	21* a	26.7	27* a	22* a	30-130/20
95-95-4	2,4,5-Trichlorophenol	100	59.3	59	60.5	61	2	30-130/20
88-06-2	2,4,6-Trichlorophenol	100	60.2	60	59.2	59	2	30-130/20
62-53-3	Aniline	50	10.4	21* a	23.9	48	79* a	40-140/20
101-55-3	4-Bromophenyl phenyl ether	50	34.7	69	42.8	86	21* a	40-140/20
85-68-7	Butyl benzyl phthalate	50	37.5	75	46.5	93	21* a	40-140/20
100-51-6	Benzyl Alcohol	50	22.3	45	34.9	70	44* a	40-140/20
91-58-7	2-Chloronaphthalene	50	29.2	58	83.4	83	96* a	40-140/20
106-47-8	4-Chloroaniline	50	15.5	31* a	22.3	45	36* a	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	50	24.1	48	37.3	75	43* a	40-140/20
111-44-4	bis(2-Chloroethyl)ether	50	26.0	52	42.1	84	47* a	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	50	29.7	59	48.6	97	48* a	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	50	31.1	62	41.1	82	28* a	40-140/20
122-66-7	1,2-Diphenylhydrazine	50	35.0	70	44.9	90	25* a	40-140/20
121-14-2	2,4-Dinitrotoluene	50	33.3	67	89.1	89	91* a	40-140/20
606-20-2	2,6-Dinitrotoluene	50	30.7	61	89.9	90	98* a	40-140/20
91-94-1	3,3'-Dichlorobenzidine	50	32.5	65	17.4	35* a	61* a	40-140/20
132-64-9	Dibenzofuran	50	30.1	60	41.2	82	31* a	40-140/20
84-74-2	Di-n-butyl phthalate	50	34.2	68	45.1	90	27* a	40-140/20
117-84-0	Di-n-octyl phthalate	50	42.7	85	48.2	96	12	40-140/20
84-66-2	Diethyl phthalate	50	31.5	63	44.2	88	34* a	40-140/20
131-11-3	Dimethyl phthalate	50	31.6	63	42.7	85	30* a	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	50	39.8	80	46.7	93	16	40-140/20
118-74-1	Hexachlorobenzene	50	36.2	72	97.5	98	92* a	40-140/20

* = Outside of Control Limits.

7.3.1

7

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30934-BS	F59154.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784
OP30934-BSD	W6929.D	1	11/15/12	KR	11/07/12	OP30934	MSW320

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

MC15445-1, MC15445-2, MC15445-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	50	19.4	39* a	68.9	69	112* a	40-140/20
67-72-1	Hexachloroethane	50	23.6	47	61.5	62	89* a	40-140/20
78-59-1	Isophorone	50	30.0	60	82.6	83	93* a	40-140/20
88-74-4	2-Nitroaniline	50	31.2	62	44.8	90	36* a	40-140/20
99-09-2	3-Nitroaniline	50	31.0	62	32.1	64	3	40-140/20
100-01-6	4-Nitroaniline	50	30.5	61	38.1	76	22* a	40-140/20
98-95-3	Nitrobenzene	50	28.5	57	80.8	81	96* a	40-140/20
62-75-9	n-Nitrosodimethylamine	50	17.3	35* a	27.3	55	45* a	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	50	30.5	61	43.9	88	36* a	40-140/20
86-30-6	N-Nitrosodiphenylamine	50	35.1	70	42.0	84	18	40-140/20
110-86-1	Pyridine	50	8.7	17* a	23.9	48	93* a	40-140/20

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	34%	48%	15-110%
4165-62-2	Phenol-d5	23%	33%	15-110%
118-79-6	2,4,6-Tribromophenol	72%	83%	15-110%
4165-60-0	Nitrobenzene-d5	59%	81%	30-130%
321-60-8	2-Fluorobiphenyl	57%	76%	30-130%
1718-51-0	Terphenyl-d14	93%	97%	30-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30934-MS	F59166.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784
OP30934-MSD	F59167.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784
MC15652-8	F59168.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784

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

MC15445-1, MC15445-2, MC15445-5

CAS No.	Compound	MC15652-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	5.3	J	111	50.9	41	46.7	37	9	30-130/20
95-57-8	2-Chlorophenol	ND		111	83.3	75	76.5	69	9	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		111	94.4	85	89.3	80	6	30-130/20
120-83-2	2,4-Dichlorophenol	ND		111	94.2	85	87.3	79	8	30-130/20
105-67-9	2,4-Dimethylphenol	ND		111	75.2	68	83.3	75	10	30-130/20
51-28-5	2,4-Dinitrophenol	ND		111	81.2	73	79.2	71	2	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		111	98.6	89	94.9	85	4	30-130/20
95-48-7	2-Methylphenol	ND		111	71.8	65	69.5	63	3	30-130/20
	3&4-Methylphenol	ND		222	143	64	136	61	5	30-130/20
88-75-5	2-Nitrophenol	ND		111	93.2	84	85.2	77	9	30-130/20
100-02-7	4-Nitrophenol	ND		111	54.9	49	51.6	46	6	30-130/20
87-86-5	Pentachlorophenol	ND		111	110	99	104	94	6	30-130/20
108-95-2	Phenol	ND		111	39.7	36	37.4	34	6	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		111	91.6	82	87.5	79	5	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		111	95.5	86	89.7	81	6	30-130/20
62-53-3	Aniline	ND		55.6	14.9	27* a	19.5	35* a	27* a	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		55.6	48.6	87	47.1	85	3	40-140/20
85-68-7	Butyl benzyl phthalate	0.67	J	55.6	47.4	84	45.1	80	5	40-140/20
100-51-6	Benzyl Alcohol	0.97	J	55.6	40.0	70	37.9	66	5	40-140/20
91-58-7	2-Chloronaphthalene	ND		55.6	46.5	84	43.6	78	6	40-140/20
106-47-8	4-Chloroaniline	ND		55.6	16.9	30* a	5.3	10* a	105* a	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		55.6	45.4	82	38.1	69	17	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		55.6	47.0	85	42.4	76	10	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		55.6	53.1	96	48.9	88	8	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		55.6	45.4	82	43.3	78	5	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		55.6	49.2	89	39.9	72	21* a	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		55.6	46.5	84	45.3	82	3	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		55.6	44.8	81	43.4	78	3	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		55.6	20.9	38* a	2.7	5* a	154* a	40-140/20
132-64-9	Dibenzofuran	ND		55.6	45.0	81	42.2	76	6	40-140/20
84-74-2	Di-n-butyl phthalate	1.1	J	55.6	45.8	80	43.7	77	5	40-140/20
117-84-0	Di-n-octyl phthalate	ND		55.6	41.2	74	38.7	70	6	40-140/20
84-66-2	Diethyl phthalate	ND		55.6	44.9	81	43.1	78	4	40-140/20
131-11-3	Dimethyl phthalate	ND		55.6	46.3	83	43.7	79	6	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	10.0		55.6	53.7	79	52.0	76	3	40-140/20
118-74-1	Hexachlorobenzene	ND		55.6	48.0	86	46.1	83	4	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30934-MS	F59166.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784
OP30934-MSD	F59167.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784
MC15652-8	F59168.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784

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

MC15445-1, MC15445-2, MC15445-5

CAS No.	Compound	MC15652-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		55.6	31.8	57	27.5	50	15	40-140/20
67-72-1	Hexachloroethane	ND		55.6	42.9	77	39.7	71	8	40-140/20
78-59-1	Isophorone	ND		55.6	48.7	88	45.1	81	8	40-140/20
88-74-4	2-Nitroaniline	ND		55.6	45.9	83	43.2	78	6	40-140/20
99-09-2	3-Nitroaniline	ND		55.6	25.0	45	8.6	15* [a]	98* [a]	40-140/20
100-01-6	4-Nitroaniline	ND		55.6	32.1	58	15.7	28* [a]	69* [a]	40-140/20
98-95-3	Nitrobenzene	ND		55.6	50.5	91	45.6	82	10	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		55.6	31.6	57	29.2	53	8	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		55.6	56.7	102	51.8	93	9	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		55.6	49.4	89	33.3	60	39* [b]	40-140/20
110-86-1	Pyridine	ND		55.6	20.3	37* [a]	22.2	40	9	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15652-8	Limits
367-12-4	2-Fluorophenol	51%	46%	41%	15-110%
4165-62-2	Phenol-d5	36%	33%	28%	15-110%
118-79-6	2,4,6-Tribromophenol	90%	87%	93%	15-110%
4165-60-0	Nitrobenzene-d5	90%	80%	80%	30-130%
321-60-8	2-Fluorobiphenyl	76%	72%	71%	30-130%
1718-51-0	Terphenyl-d14	51%	52%	69%	30-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30935-MS	I79924.D	1	11/08/12	NS	11/07/12	OP30935	MSI2976
OP30935-MSD	I79925.D	1	11/08/12	NS	11/07/12	OP30935	MSI2976
MC15651-5A	I79926.D	1	11/08/12	NS	11/07/12	OP30935	MSI2976

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

MC15445-1, MC15445-2, MC15445-5

CAS No.	Compound	MC15651-5A ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		55.6	43.6	78	41.7	75	4	40-140/20
208-96-8	Acenaphthylene	ND		55.6	34.6	62	32.6	59	6	40-140/20
120-12-7	Anthracene	ND		55.6	40.7	73	39.0	70	4	40-140/20
56-55-3	Benzo(a)anthracene	ND		55.6	42.1	76	44.1	79	5	40-140/20
50-32-8	Benzo(a)pyrene	ND		55.6	33.6	60	34.4	62	2	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		55.6	37.6	68	38.0	68	1	40-140/20
191-24-2	Benzo(g,h,i)perylene	0.052		55.6	35.4	64	37.1	67	5	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		55.6	38.2	69	39.6	71	4	40-140/20
218-01-9	Chrysene	ND		55.6	42.9	77	45.1	81	5	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		55.6	37.2	67	39.0	70	5	40-140/20
206-44-0	Fluoranthene	ND		55.6	43.7	79	41.9	75	4	40-140/20
86-73-7	Fluorene	ND		55.6	40.7	73	39.3	71	4	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	0.053		55.6	36.6	66	38.4	69	5	40-140/20
90-12-0	1-Methylnaphthalene	ND		55.6	45.8	82	42.3	76	8	40-140/20
91-57-6	2-Methylnaphthalene	ND		55.6	41.7	75	38.6	69	8	40-140/20
85-01-8	Phenanthrene	ND		55.6	43.8	79	41.2	74	6	40-140/20
129-00-0	Pyrene	0.072		55.6	40.9	73	41.1	74	0	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15651-5A	Limits
367-12-4	2-Fluorophenol	44%	39%		15-110%
4165-62-2	Phenol-d5	32%	29%		15-110%
118-79-6	2,4,6-Tribromophenol	83%	83%		15-110%
4165-60-0	Nitrobenzene-d5	72%	65%	63%	30-130%
321-60-8	2-Fluorobiphenyl	74%	70%	68%	30-130%
1718-51-0	Terphenyl-d14	49%	52%	67%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSF2784-CC2737	Injection Date:	11/09/12
Lab File ID:	F59146.D	Injection Time:	09:52
Instrument ID:	GCMSF	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	497195	3.52	1731168	4.49	1163836	5.90	2209474	7.18	2650930	9.97	2639062	11.38
Upper Limit [a]	994390	4.02	3462336	4.99	2327672	6.40	4418948	7.68	5301860	10.47	5278124	11.88
Lower Limit [b]	248598	3.02	865584	3.99	581918	5.40	1104737	6.68	1325465	9.47	1319531	10.88
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30961-MB	457027	3.51	1651959	4.49	1080572	5.90	2064728	7.18	2320220	9.96	2332666	11.38
OP30961-BS	509562	3.51	1767657	4.49	727001	5.90	1857030	7.18	963818[c]	9.96	46810[c]	11.38
ZZZZZZ	494477	3.51	1735949	4.49	1114263	5.90	2058628	7.18	2419045	9.96	2400155	11.38
OP30934-MB	587701	3.51	2093057	4.49	1376134	5.90	2571412	7.18	3005108	9.96	3009934	11.38
OP30963-MB	532214	3.51	1838496	4.49	1161537	5.90	2243727	7.18	2525739	9.96	1256066[c]	11.38
OP30963-MB	531720	3.51	1838496	4.49	1161537	5.90	2243727	7.18	2525739	9.96	1255049[c]	11.38
OP30963-BS	550249	3.51	1940605	4.49	1263958	5.90	2457176	7.18	2728201	9.96	2629388	11.38
OP30963-BS	549237	3.51	1940767	4.49	1267218	5.90	2460985	7.18	2728505	9.96	2640560	11.38
OP30934-BS	504361	3.51	1770052	4.49	1154328	5.90	2199446	7.18	2392748	9.96	2021235	11.38
OP30963-MS	599338	3.51	2067629	4.49	1338031	5.90	2555257	7.18	2761448	9.96	2676324	11.38
OP30963-MS	601823	3.51	2075574	4.49	1335327	5.90	2555257	7.18	2761749	9.96	2672139	11.38
OP30963-MSD	562865	3.51	1970973	4.49	1320272	5.90	2443163	7.18	2648097	9.96	2612382	11.38
OP30963-MSD	562865	3.51	1971126	4.49	1316956	5.90	2443163	7.18	2647799	9.96	2616161	11.38
MC15540-1	511424	3.51	1819171	4.49	1195757	5.90	2210166	7.18	2518604	9.96	2630516	11.38
MC15540-1	511424	3.51	1819171	4.49	1193128	5.90	2210166	7.18	2519948	9.96	2630115	11.38
ZZZZZZ	512281	3.51	1825700	4.49	1183523	5.90	2244423	7.18	2477398	9.96	2640009	11.38
ZZZZZZ	512281	3.51	1824205	4.49	1183443	5.90	2242536	7.18	2483456	9.96	2660658	11.38
ZZZZZZ	524167	3.51	1880445	4.49	1212244	5.90	2292386	7.18	2602473	9.96	2702878	11.38
ZZZZZZ	527586	3.51	1868544	4.49	1212367	5.90	2292386	7.18	2599209	9.96	2703010	11.38
ZZZZZZ	530185	3.51	1885682	4.49	1205955	5.90	2334724	7.18	2534779	9.96	2675333	11.38
ZZZZZZ	530185	3.51	1883385	4.49	1205955	5.90	2334724	7.18	2538847	9.96	2697967	11.38
ZZZZZZ	509601	3.51	1811391	4.49	1176690	5.90	2204544	7.18	2537294	9.96	2716254	11.38
ZZZZZZ	509601	3.51	1806579	4.49	1174314	5.90	2205581	7.18	2540917	9.96	2716254	11.38
ZZZZZZ	495090	3.51	1757599	4.49	1152709	5.90	2164229	7.18	2494678	9.95	2663460	11.38
ZZZZZZ	495090	3.51	1757599	4.49	1147919	5.90	2164229	7.18	2505972	9.95	2663144	11.38
ZZZZZZ	538778	3.51	1906274	4.49	1245164	5.90	2319626	7.18	2672887	9.96	2754654	11.38
ZZZZZZ	538778	3.51	1906274	4.49	1241417	5.90	2319626	7.18	2671528	9.96	2754324	11.38
ZZZZZZ	517003	3.51	1857975	4.49	1207079	5.90	2267706	7.18	2670305	9.96	2792703	11.38
ZZZZZZ	517003	3.51	1846001	4.49	1208303	5.90	2267706	7.18	2670368	9.96	2792703	11.38
ZZZZZZ	505462	3.51	1811664	4.49	1167877	5.90	2174161	7.18	2513279	9.95	2609996	11.38
ZZZZZZ	503913	3.51	1797666	4.49	1159797	5.90	2173726	7.18	2513497	9.95	2610200	11.38
OP30934-MS	660707	3.51	2353427	4.49	1551216	5.90	2929514	7.18	3188346	9.96	3240805	11.38
OP30934-MSD	624934	3.51	2257517	4.49	1475800	5.90	2794554	7.18	3098998	9.96	3252411	11.38
MC15652-8	676304	3.51	2384026	4.49	1554295	5.90	2929890	7.18	3345585	9.96	3510427	11.38
ZZZZZZ	572279	3.51	2048225	4.49	1329076	5.90	2534028	7.18	2994388	9.96	3175590	11.38

Semivolatile Internal Standard Area Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSF2784-CC2737	Injection Date:	11/09/12
Lab File ID:	F59146.D	Injection Time:	09:52
Instrument ID:	GCMSF	Method:	SW846 8270C

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
ZZZZZZ	625488	3.51	2234183	4.49	1452517	5.90	2792404	7.18	3263071	9.96	3499326	11.38
ZZZZZZ	555223	3.51	1969727	4.49	1330379	5.90	2488315	7.18	3030914	9.96	3188056	11.38
OP30961-MS	504973	3.51	1760243	4.49	1135565	5.90	2136278	7.18	2438949	9.96	2455160	11.38
OP30961-MSD	498419	3.51	1721699	4.49	1145306	5.90	2120167	7.18	2481687	9.96	2538620	11.38
MC15666-1	481103	3.51	1721714	4.49	1117588	5.90	2103077	7.18	2422530	9.96	2558587	11.38

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

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Outside control limits. Results confirmed by reanalysis.

Semivolatile Internal Standard Area Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSF2786-CC2737	Injection Date:	11/12/12
Lab File ID:	F59178.D	Injection Time:	09:12
Instrument ID:	GCMSF	Method:	SW846 8270C

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	506189	3.50	1797532	4.48	1187003	5.90	2305439	7.17	2723116	9.95	2720183	11.38
Upper Limit [a]	1012378	4.00	3595064	4.98	2374006	6.40	4610878	7.67	5446232	10.45	5440366	11.88
Lower Limit [b]	253095	3.00	898766	3.98	593502	5.40	1152720	6.67	1361558	9.45	1360092	10.88
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30981-MB	560904	3.50	2016978	4.48	1311275	5.89	2474776	7.17	2881216	9.95	2876112	11.37
OP30981-BS	617131	3.50	2158847	4.48	1410638	5.89	2630192	7.17	2928479	9.95	2777935	11.37
OP30979-BS	617131	3.50	2158847	4.48	1410638	5.89	2630192	7.17	2928479	9.95	2777935	11.37
ZZZZZZ	472678	3.51	1726004	4.48	1115191	5.89	2110201	7.17	2434054	9.95	2509494	11.37
ZZZZZZ	486308	3.50	1723883	4.48	1121943	5.89	2150179	7.17	2498380	9.95	2509383	11.37
MC15445-1	618371	3.51	2215044	4.48	1472687	5.89	2728528	7.17	3174458	9.95	3329447	11.37
MC15445-2	627952	3.50	2249021	4.48	1451420	5.89	2806191	7.17	3271984	9.95	3329394	11.37
MC15445-5	654513	3.50	2347979	4.48	1520156	5.89	2875379	7.17	3453528	9.95	3435277	11.37
ZZZZZZ	555751	3.50	1963805	4.48	1310823	5.89	2447122	7.17	2934227	9.95	3052996	11.37
OP30981-MS	618176	3.50	2182578	4.48	1239324	5.89	2604306	7.17	2749633	9.95	383305[c]	11.36
OP30981-MSD	637335	3.50	2265758	4.48	1491401	5.89	2813887	7.17	3236589	9.95	3130841	11.37
JB19878-1	580359	3.50	2085854	4.48	1367205	5.89	2639071	7.17	3022121	9.95	3176881	11.37
ZZZZZZ	584112	3.50	2093272	4.48	1395768	5.89	2636880	7.17	3145007	9.94	3235815	11.37

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

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Outside control limits due to possible matrix interference. Confirmed by MS/MSD.

Semivolatile Internal Standard Area Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSI2976-CC2969	Injection Date:	11/08/12
Lab File ID:	I79921.D	Injection Time:	09:19
Instrument ID:	GCMSI	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	360858	3.94	1091342	4.91	580928	6.32	927937	7.64	934215	0.00	1297025	0.00
Upper Limit [a]	721716	4.44	2182684	5.41	1161856	6.82	1855874	8.14	1868430	0.50	2594050	0.50
Lower Limit [b]	180429	3.44	545671	4.41	290464	5.82	463969	7.14	467108	-0.50	648513	-0.50
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30935-MB	384026	3.94	1143911	4.91	626955	6.32	1064883	7.64	967800	0.00	1724990	0.00
OP30935-MS	411457	3.94	1208791	4.91	645655	6.32	1073755	7.64	897916	0.00	1559355	0.00
OP30935-MSD	386065	3.94	1146551	4.92	604355	6.33	950394	7.64	852064	0.00	1425199	0.00
MC15651-5A	379376	3.94	1142795	4.91	617726	6.32	1050488	7.64	931684	0.00	1650098	0.00
ZZZZZZ	384419	3.94	1120649	4.91	623561	6.32	1051628	7.64	944798	0.00	1656388	0.00
ZZZZZZ	382100	3.94	1126148	4.91	621028	6.32	1056586	7.64	951413	0.00	1687348	0.00
ZZZZZZ	349865	3.94	1030220	4.91	564149	6.32	955801	7.64	875552	0.00	1544181	0.00
ZZZZZZ	356420	3.94	1056912	4.91	576423	6.32	987312	7.64	887585	0.00	1588153	0.00
ZZZZZZ	353233	3.94	1043966	4.91	565617	6.32	957375	7.64	859126	0.00	1514879	0.00
ZZZZZZ	357597	3.94	1058483	4.91	578105	6.32	978544	7.64	892559	0.00	1567979	0.00
ZZZZZZ	373702	3.94	1111116	4.91	599564	6.32	1019972	7.64	919683	0.00	1648431	0.00
ZZZZZZ	364694	3.94	1075336	4.91	588357	6.32	1004234	7.64	903480	0.00	1578951	0.00
MC15445-1	353790	3.94	1077250	4.91	583202	6.33	1013859	7.64	890062	0.00	1590963	0.00
MC15445-2	337298	3.94	1005815	4.91	554916	6.32	970283	7.64	873336	0.00	1572979	0.00
MC15445-5	350383	3.94	1036938	4.92	566876	6.33	994106	7.64	896203	0.00	1634282	0.00
ZZZZZZ	342432	3.94	1029566	4.91	554735	6.32	964056	7.64	866747	0.00	1562533	0.00
ZZZZZZ	331522	3.94	979273	4.91	542790	6.32	937275	7.64	847008	0.00	1505872	0.00
ZZZZZZ	330499	3.94	969151	4.91	534390	6.32	919403	7.64	828129	0.00	1487587	0.00
ZZZZZZ	338708	3.94	997577	4.91	548932	6.32	929444	7.64	852702	0.00	1541661	0.00
ZZZZZZ	338772	3.94	1006899	4.91	550089	6.32	939181	7.64	859423	0.00	1527291	0.00
ZZZZZZ	297161	3.94	886840	4.91	476964	6.32	847971	7.64	786662	0.00	1385630	0.00

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

(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.

Semivolatile Internal Standard Area Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSI2975-CC2969	Injection Date:	11/08/12
Lab File ID:	I79921.D	Injection Time:	09:19
Instrument ID:	GCMSI	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	360858	3.94	1091342	4.91	580928	6.32	927937	7.64	934215	0.00	1297025	0.00
Upper Limit [a]	721716	4.44	2182684	5.41	1161856	6.82	1855874	8.14	1868430	0.50	2594050	0.50
Lower Limit [b]	180429	3.44	545671	4.41	290464	5.82	463969	7.14	467108	-0.50	648513	-0.50
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30935-MB	384026	3.94	1143911	4.91	626955	6.32	1064883	7.64	967800	0.00	1724990	0.00
OP30935-MS	411457	3.94	1208791	4.91	645655	6.32	1073755	7.64	897916	0.00	1559355	0.00
OP30935-MSD	386065	3.94	1146551	4.92	604355	6.33	950394	7.64	852064	0.00	1425199	0.00
MC15651-5A	379376	3.94	1142795	4.91	617726	6.32	1050488	7.64	931684	0.00	1650098	0.00
ZZZZZZ	384419	3.94	1120649	4.91	623561	6.32	1051628	7.64	944798	0.00	1656388	0.00
ZZZZZZ	382100	3.94	1126148	4.91	621028	6.32	1056586	7.64	951413	0.00	1687348	0.00
ZZZZZZ	349865	3.94	1030220	4.91	564149	6.32	955801	7.64	875552	0.00	1544181	0.00
ZZZZZZ	356420	3.94	1056912	4.91	576423	6.32	987312	7.64	887585	0.00	1588153	0.00
ZZZZZZ	353233	3.94	1043966	4.91	565617	6.32	957375	7.64	859126	0.00	1514879	0.00
ZZZZZZ	357597	3.94	1058483	4.91	578105	6.32	978544	7.64	892559	0.00	1567979	0.00
ZZZZZZ	373702	3.94	1111116	4.91	599564	6.32	1019972	7.64	919683	0.00	1648431	0.00
ZZZZZZ	364694	3.94	1075336	4.91	588357	6.32	1004234	7.64	903480	0.00	1578951	0.00
MC15445-1	353790	3.94	1077250	4.91	583202	6.33	1013859	7.64	890062	0.00	1590963	0.00
MC15445-2	337298	3.94	1005815	4.91	554916	6.32	970283	7.64	873336	0.00	1572979	0.00
MC15445-5	350383	3.94	1036938	4.92	566876	6.33	994106	7.64	896203	0.00	1634282	0.00
ZZZZZZ	342432	3.94	1029566	4.91	554735	6.32	964056	7.64	866747	0.00	1562533	0.00
ZZZZZZ	331522	3.94	979273	4.91	542790	6.32	937275	7.64	847008	0.00	1505872	0.00
ZZZZZZ	330499	3.94	969151	4.91	534390	6.32	919403	7.64	828129	0.00	1487587	0.00
ZZZZZZ	338708	3.94	997577	4.91	548932	6.32	929444	7.64	852702	0.00	1541661	0.00
ZZZZZZ	338772	3.94	1006899	4.91	550089	6.32	939181	7.64	859423	0.00	1527291	0.00
ZZZZZZ	297161	3.94	886840	4.91	476964	6.32	847971	7.64	786662	0.00	1385630	0.00

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

(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.

Semivolatile Internal Standard Area Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSU565-CC550	Injection Date:	11/09/12
Lab File ID:	U10607.D	Injection Time:	08:56
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	169221	3.66	488004	4.64	232306	6.06	401279	7.36	168428	10.14	212197	11.56
Upper Limit [a]	338442	4.16	976008	5.14	464612	6.56	802558	7.86	336856	10.64	424394	12.06
Lower Limit [b]	84611	3.16	244002	4.14	116153	5.56	200640	6.86	84214	9.64	106099	11.06
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30937-MB	222244	3.66	639385	4.64	305009	6.06	501721	7.36	291463	10.14	506502[c]	11.57
OP30937-BS	236889	3.66	684582	4.64	321265	6.06	549075	7.36	291734	10.14	514033[c]	11.57
OP30937-MS	218844	3.66	637811	4.64	296091	6.06	504393	7.36	270247	10.14	471678[c]	11.57
OP30937-MSD	233117	3.66	662639	4.64	307166	6.06	523200	7.36	276638	10.14	489614[c]	11.57
MC15652-7	245464	3.66	694950	4.64	335752	6.06	547662	7.36	320621	10.13	566215[c]	11.57
ZZZZZZ	224153	3.66	640925	4.64	304836	6.06	499311	7.36	296676	10.14	522818[c]	11.57
OP30935-BS	165763	3.66	468366	4.64	218154	6.06	373865	7.36	196938	10.14	304143	11.56
ZZZZZZ	243095	3.66	703914	4.64	334121	6.06	556805	7.36	325702	10.14	574694[c]	11.57
ZZZZZZ	228070	3.66	661955	4.64	311710	6.06	517192	7.36	305741	10.14	541786[c]	11.57
ZZZZZZ	242856	3.66	686673	4.64	321489	6.06	533644	7.36	315788	10.14	561713[c]	11.57
ZZZZZZ	264859	3.66	765563	4.64	362884	6.06	603550	7.36	354723[c]	10.14	626303[c]	11.57
ZZZZZZ	218076	3.66	625093	4.64	295257	6.06	492756	7.36	290599	10.14	514685[c]	11.57
ZZZZZZ	220512	3.66	630992	4.64	295080	6.06	488541	7.36	286477	10.14	509348[c]	11.57
ZZZZZZ	210677	3.66	612298	4.64	292100	6.06	486995	7.36	282451	10.14	504596[c]	11.57
ZZZZZZ	224185	3.66	637559	4.64	299392	6.06	495180	7.36	288836	10.13	507558[c]	11.57
ZZZZZZ	215330	3.66	616479	4.64	292307	6.06	482555	7.36	286971	10.14	506072[c]	11.57
ZZZZZZ	212171	3.66	608493	4.64	285076	6.06	471840	7.36	279920	10.14	490834[c]	11.57
ZZZZZZ	216257	3.66	610585	4.64	288931	6.06	487372	7.36	287903	10.14	520724*	11.57
ZZZZZZ	203677	3.66	589843	4.64	287147	6.06	470501	7.36	278666	10.13	490733[c]	11.57
ZZZZZZ	213656	3.66	614545	4.64	292917	6.06	493031	7.36	287952	10.14	512051[c]	11.57
ZZZZZZ	227827	3.66	652490	4.64	307305	6.06	509881	7.36	299469	10.14	528728[c]	11.57
ZZZZZZ	206138	3.66	598176	4.64	280544	6.06	468601	7.36	272381	10.13	483206[c]	11.57
ZZZZZZ	221006	3.66	628866	4.64	300727	6.06	499450	7.36	280935	10.14	492687[c]	11.57
ZZZZZZ	196620	3.66	566131	4.64	267929	6.06	446782	7.36	267617	10.13	479478[c]	11.57
OP30943-MB	186354	3.66	545194	4.64	250824	6.06	406543	7.36	217826	10.13	367836	11.56
OP30943-BS	176575	3.66	498410	4.64	231632	6.06	384796	7.36	202306	10.14	352089	11.56
OP30943-MS	174466	3.66	492205	4.64	229974	6.06	383929	7.36	196841	10.14	352410	11.57
OP30943-MSD	168912	3.66	478208	4.64	226114	6.06	371820	7.36	196114	10.14	343783	11.57

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

Semivolatile Internal Standard Area Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSU565-CC550	Injection Date:	11/09/12
Lab File ID:	U10607.D	Injection Time:	08:56
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

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

(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.

7.5.5

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Semivolatile Internal Standard Area Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW320-CC318	Injection Date:	11/15/12
Lab File ID:	W6926.D	Injection Time:	08:12
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	98334	4.11	389927	5.10	223404	6.54	384212	7.91	429229	10.85	407634	12.43
Upper Limit [a]	196668	4.61	779854	5.60	446808	7.04	768424	8.41	858458	11.35	815268	12.93
Lower Limit [b]	49167	3.61	194964	4.60	111702	6.04	192106	7.41	214615	10.35	203817	11.93
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30951-MB	126386	4.11	497263	5.10	282771	6.54	489333	7.91	536511	10.84	522579	12.43
OP30951-MB	126373	4.11	497323	5.10	282811	6.54	489317	7.91	536507	10.84	522659	12.43
OP30951-BS	121961	4.11	483347	5.10	272918	6.54	463928	7.91	510500	10.85	457348	12.43
OP30934-BSD	121961	4.11	483347	5.10	272918	6.54	463928	7.91	510500	10.85	457348	12.43
OP30951-BS	121970	4.11	483519	5.10	272976	6.54	463971	7.91	510512	10.85	457335	12.43
OP30951-MS	121638	4.11	483996	5.10	271758	6.54	466794	7.91	512991	10.85	468492	12.43
OP30951-MS	121619	4.11	484038	5.10	271860	6.54	466794	7.91	513081	10.85	467305	12.43
OP30951-MSD	120870	4.11	482043	5.10	272848	6.54	462852	7.91	512067	10.85	464781	12.43
OP30951-MSD	120879	4.11	482225	5.10	272902	6.54	463029	7.91	512061	10.85	464779	12.43
MC15652-9	118831	4.11	471492	5.10	266320	6.54	462810	7.91	496825	10.84	483987	12.43
MC15652-9	118839	4.11	471465	5.10	266362	6.54	462795	7.91	496890	10.84	484369	12.43
ZZZZZZ	116138	4.11	462341	5.10	261174	6.54	455920	7.91	499366	10.84	482249	12.43
ZZZZZZ	118357	4.11	466851	5.10	269852	6.54	468576	7.91	517877	10.84	499481	12.43
ZZZZZZ	113253	4.11	455376	5.10	258479	6.54	452377	7.91	483650	10.84	469490	12.43
ZZZZZZ	113246	4.11	455569	5.10	258514	6.54	452377	7.91	483764	10.84	469475	12.43
ZZZZZZ	116689	4.11	463443	5.10	263856	6.54	458088	7.91	497660	10.84	480468	12.43
ZZZZZZ	116697	4.11	463462	5.10	263834	6.54	458088	7.91	497051	10.84	480592	12.43
ZZZZZZ	124568	4.11	494987	5.10	282004	6.54	489884	7.91	521585	10.84	494789	12.43
OP31026-MB	104142	4.11	422943	5.10	239473	6.54	416599	7.91	444501	10.84	430807	12.43
ZZZZZZ	114478	4.11	454996	5.10	258917	6.54	447744	7.91	489792	10.84	464931	12.43
ZZZZZZ	111851	4.11	445703	5.10	256072	6.54	442624	7.91	477900	10.84	465671	12.43
ZZZZZZ	105881	4.11	422475	5.10	241719	6.54	419468	7.91	460697	10.84	446809	12.43

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

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

Semivolatile Surrogate Recovery Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15445-1	F59189.D	42.0	31.0	94.0	84.0	71.0	49.0
MC15445-2	F59190.D	40.0	28.0	91.0	84.0	72.0	52.0
MC15445-5	F59191.D	47.0	31.0	90.0	83.0	73.0	83.0
OP30934-BS	F59154.D	34.0	23.0	72.0	59.0	57.0	93.0
OP30934-BSD	W6929.D	48.0	33.0	83.0	81.0	76.0	97.0
OP30934-MB	F59151.D	34.0	23.0	73.0	65.0	60.0	85.0
OP30934-MS	F59166.D	51.0	36.0	90.0	90.0	76.0	51.0
OP30934-MSD	F59167.D	46.0	33.0	87.0	80.0	72.0	52.0

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

Semivolatile Surrogate Recovery Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC15445-1	I79935.D	64.0	69.0	47.0
MC15445-2	I79936.D	63.0	68.0	53.0
MC15445-5	I79937.D	63.0	69.0	87.0
OP30935-BS	U10614.D	52.0	52.0	67.0
OP30935-MB	I79922.D	53.0	57.0	85.0
OP30935-MS	I79924.D	72.0	74.0	49.0
OP30935-MSD	I79925.D	65.0	70.0	52.0

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

New England ACCUTEST LABORATORIES

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: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30911-MB	BB44031A.D	1	11/05/12	AP	11/05/12	OP30911	GBB2678

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

MC15445-1, MC15445-2, MC15445-4, MC15445-5, MC15445-7

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)	93%	36-173%
460-00-4	Bromofluorobenzene (S)	92%	36-173%

8.1.1

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Blank Spike Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30911-BS	BB44032A.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678

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

MC15445-1, MC15445-2, MC15445-4, MC15445-5, MC15445-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.060	85	60-140
106-93-4	1,2-Dibromoethane	0.071	0.060	85	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	85%	36-173%
460-00-4	Bromofluorobenzene (S)	84%	36-173%

8.2.1

8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30911-MS	BB44033A.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678
OP30911-MSD	BB44034A.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678
MC15603-5	BB44035A.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678

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

MC15445-1, MC15445-2, MC15445-4, MC15445-5, MC15445-7

CAS No.	Compound	MC15603-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		0.071	0.061	86	0.064	90	5	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.071	0.062	87	0.061	86	2	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC15603-5	Limits
460-00-4	Bromofluorobenzene (S)	87%	90%	93%	36-173%
460-00-4	Bromofluorobenzene (S)	85%	89%	93%	36-173%

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8011 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC15445-1	BB44041.D	79.0	85.0
MC15445-2	BB44042.D	90.0	89.0
MC15445-4	BB44043.D	96.0	96.0
MC15445-5	BB44044.D	79.0	82.0
MC15445-7	BB44045.D	88.0	86.0
OP30911-BS	BB44032A.D	85.0	84.0
OP30911-MB	BB44031A.D	93.0	92.0
OP30911-MS	BB44033A.D	87.0	85.0
OP30911-MSD	BB44034A.D	90.0	89.0

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

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

GC Surrogate Retention Time Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBB2678-CC2678	Injection Date:	11/06/12
Lab File ID:	BB44036.D	Injection Time:	01:51
Instrument ID:	GCBB	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	3.88	4.18

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BB44037.D	11/06/12	02:17	3.88	4.18
ZZZZZZ	BB44038.D	11/06/12	02:43	3.88	4.18
ZZZZZZ	BB44039.D	11/06/12	03:09	3.88	4.18
ZZZZZZ	BB44040.D	11/06/12	03:36	3.88	4.18
MC15445-1	BB44041.D	11/06/12	04:02	3.88	4.18
MC15445-2	BB44042.D	11/06/12	04:28	3.88	4.18
MC15445-4	BB44043.D	11/06/12	04:54	3.88	4.18
MC15445-5	BB44044.D	11/06/12	05:20	3.88	4.18
MC15445-7	BB44045.D	11/06/12	05:46	3.88	4.18
ZZZZZZ	BB44046.D	11/06/12	06:12	3.88	4.18

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC15445
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBB2678-CC2678	Injection Date:	11/05/12
Lab File ID:	BB44025.D	Injection Time:	21:02
Instrument ID:	GCBB	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	3.88	4.18

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BB44026.D	11/05/12	21:29	3.88	4.18
ZZZZZZ	BB44027.D	11/05/12	21:55	3.88	4.18
ZZZZZZ	BB44028.D	11/05/12	22:21	3.88	4.18
ZZZZZZ	BB44029.D	11/05/12	22:48	3.88	4.18
ZZZZZZ	BB44030.D	11/05/12	23:14	3.88	4.18
OP30910-MB	BB44031.D	11/05/12	23:40	3.88	4.18
OP30911-MB	BB44031A.D	11/05/12	23:40	3.88	4.18
OP30910-BS	BB44032.D	11/06/12	00:06	3.88	4.18
OP30911-BS	BB44032A.D	11/06/12	00:06	3.88	4.18
OP30910-MS	BB44033.D	11/06/12	00:32	3.88	4.18
OP30911-MS	BB44033A.D	11/06/12	00:32	3.88	4.18
OP30910-MSD	BB44034.D	11/06/12	00:58	3.88	4.18
OP30911-MSD	BB44034A.D	11/06/12	00:58	3.88	4.18
MC15603-7	BB44035.D	11/06/12	01:25	3.88	4.18
MC15603-5	BB44035A.D	11/06/12	01:25	3.88	4.18

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

Roxana Groundwater Quarterly – 4th Quarter 2012 Data Review

Laboratory SDG: MC15492

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 12/4/2012

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Sample Identification	Sample Identification
ROST3PZ-ROX-110112	P74-ROX-110112
TB-110112-HCL-R	TB-110112-ST-R

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated that VOC and SVOC LCS/LCSD recoveries and SVOC LCS/LCSD RPDs were outside evaluation criteria. PAHs were detected in the method blank. Sample P74-ROX-110112 was diluted due to high levels of VOC target analytes. Additionally, the initial calibration verification for acetone exceeded 50 percent difference (%D) in trip blank TB-110112-HCL-R. These issues are addressed further in the appropriate sections below.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

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

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
OP30935-MB	PAHs	Fluoranthene	0.049 ug/L
OP30935-MB	PAHs	Pyrene	0.095 ug/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSN2629-BS/BSD	VOCs	Acrolein	**61/62**	2	70-130/25
MSN2629-BS/BSD	VOCs	Acrylonitrile	**492/494**	0	70-130/25
MSN2631-BS/BSD	VOCs	Acrolein	**60/62**	3	70-130/25
MSN2631-BS/BSD	VOCs	Acrylonitrile	**468/466**	0	70-130/25
OP30934-BS/BSD	SVOCs	Benzoic acid	**29/26**	11	30-130/20
OP30934-BS/BSD	SVOCs	2,4-Dimethylphenol	46/**22**	**72**	30-130/20
OP30934-BS/BSD	SVOCs	Phenol	**21/27**	**22**	30-130/20
OP30934-BS/BSD	SVOCs	Aniline	**21**/48	**79**	40-140/20
OP30934-BS/BSD	SVOCs	4-Bromophenyl phenyl ether	69/86	**21**	40-140/20
OP30934-BS/BSD	SVOCs	Butyl benzyl phthalate	75/93	**21**	40-140/20
OP30934-BS/BSD	SVOCs	Benzyl alcohol	45/70	**44**	40-140/20
OP30934-BS/BSD	SVOCs	2-Chloronaphthalene	58/83	**96**	40-140/20
OP30934-BS/BSD	SVOCs	4-Chloroaniline	**31**/45	**36**	40-140/20
OP30934-BS/BSD	SVOCs	bis(2-Chloroethoxy)methane	48/75	**43**	40-140/20
OP30934-BS/BSD	SVOCs	bis(2-Chloroethyl)ether	52/84	**47**	40-140/20
OP30934-BS/BSD	SVOCs	bis(2-Chloroisopropyl)ether	59/97	**48**	40-140/20
OP30934-BS/BSD	SVOCs	4-Chlorophenyl phenyl ether	62/82	**28**	40-140/20
OP30934-BS/BSD	SVOCs	1,2-Diphenylhydrazine	70/90	**25**	40-140/20
OP30934-BS/BSD	SVOCs	2,4-Dinitrololuene	67/89	**91**	40-140/20
OP30934-BS/BSD	SVOCs	2,6-Dinitrotoluene	61/90	**98**	40-140/20
OP30934-BS/BSD	SVOCs	3,3'-Dichlorobenzidine	65/**35**	**61**	40-140/20
OP30934-BS/BSD	SVOCs	Dibenzofuran	60/82	**31**	40-140/20

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
OP30934-BS/BSD	SVOCs	Di-n-butyl phthalate	68/90	**27**	40-140/20
OP30934-BS/BSD	SVOCs	Diethyl phthalate	63/88	**34**	40-140/20
OP30934-BS/BSD	SVOCs	Dimethyl phthalate	63/85	**30**	40-140/20
OP30934-BS/BSD	SVOCs	Hexachlorobenzene	72/98	**92**	40-140/20
OP30934-BS/BSD	SVOCs	Hexachlorocyclopentadiene	**39**/69	**112**	40-140/20
OP30934-BS/BSD	SVOCs	Hexachloroethane	47/62	**89**	40-140/20
OP30934-BS/BSD	SVOCs	Isophorone	60/83	**93**	40-140/20
OP30934-BS/BSD	SVOCs	2-Nitroaniline	62/90	**36**	40-140/20
OP30934-BS/BSD	SVOCs	4-Nitroaniline	61/76	**22**	40-140/20
OP30934-BS/BSD	SVOCs	Nitrobenzene	57/81	**96**	40-140/20
OP30934-BS/BSD	SVOCs	n-Nitrosodimethylamine	**35**/55	**45**	40-140/20
OP30934-BS/BSD	SVOCs	n-Nitroso-di-n-propylamine	61/88	**36**	40-140/20
OP30934-BS/BSD	SVOCs	Pyridine	**17**/48	**93**	40-140/20

Analytical data that required qualification based on LCS data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. LCS/LCSD MSN2629-BS/BSD was associated with trip blank TB-110112-HCL-R. Trip blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
ROST3PZ-ROX-110112	VOCs	Acrolein	**UJ**
P74-ROX-110112	VOCs	Acrolein	**UJ**
ROST3PZ-ROX-110112	SVOCs	Benzoic acid	**UJ**
ROST3PZ-ROX-110112	SVOCs	2,4-Dimethylphenol	**UJ**
ROST3PZ-ROX-110112	SVOCs	Phenol	**UJ**
ROST3PZ-ROX-110112	SVOCs	Aniline	**UJ**
ROST3PZ-ROX-110112	SVOCs	4-Chloroaniline	**UJ**
ROST3PZ-ROX-110112	SVOCs	3,3'-Dichlorobenzidine	**UJ**
ROST3PZ-ROX-110112	SVOCs	Hexachlorocyclopentadiene	**UJ**
ROST3PZ-ROX-110112	SVOCs	n-Nitrosodimethylamine	**UJ**
ROST3PZ-ROX-110112	SVOCs	Pyridine	**UJ**
P74-ROX-110112	SVOCs	Benzoic acid	**UJ**
P74-ROX-110112	SVOCs	2,4-Dimethylphenol	**J**
P74-ROX-110112	SVOCs	Phenol	**J**

Sample ID	Parameter	Analyte	Qualification
P74-ROX-110112	SVOCs	Aniline	**UJ**
P74-ROX-110112	SVOCs	4-Chloroaniline	**UJ**
P74-ROX-110112	SVOCs	3,3'-Dichlorobenzidine	**UJ**
P74-ROX-110112	SVOCs	Hexachlorocyclopentadiene	**UJ**
P74-ROX-110112	SVOCs	n-Nitrosodimethylamine	**UJ**
P74-ROX-110112	SVOCs	Pyridine	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

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

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No, although the initial calibration verification recovery for acetone exceeded 50 percent difference (%D) in trip blank TB-110112-HCL-R; trip blanks are quality control samples and are not qualified.

New England ACCUTEST LABORATORIES

12/04/12





Technical Report for

Shell Oil

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana,

Accutest Job Number: MC15492

Sampling Date: 11/01/12

Report to:

URS Corporation

elizabeth.kunkel@URS.com

ATTN: Elizabeth Kunkel

Total number of pages in report: **79**

Reviewed on 12/4/12

Reza Pand
Lab Director

ACCREDITED IN ACCORDANCE WITH nelac

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

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Sample Summary

Shell Oil

Job No: MC15492

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC15492-1	11/01/12	10:45	LRJS	11/02/12	AQ	Ground Water	ROST3PZ-ROX-110112
MC15492-2	11/01/12	15:15	LRJS	11/02/12	AQ	Ground Water	P74-ROX-110112
MC15492-3	11/01/12	00:00	LRJS	11/02/12	AQ	Trip Blank Water	TB-110112-HCL-R
MC15492-4	11/01/12	00:00	LRJS	11/02/12	AQ	Trip Blank Water	TB-110112-ST-R

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	**Job No**	MC15492
Site:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central	**Report Date**	11/30/2012 3:24:09 PM

2 Sample(s), 2 Trip Blank(s) were collected on 11/01/2012 and were received at Accutest on 11/02/2012 properly preserved, at 2.3 Deg. C and intact. These Samples received an Accutest job number of MC15492. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. 1-Chlorohexane, Benzenethiol, Dibenz(a,h)acridine, Indene, and Quinoline were searched in the library search and reported only if detections were found.

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

Volatiles by GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** MSN2629

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15549-3MS, MC15549-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- BS/BSD Recovery(s) for Acrolein are outside control limits. Blank Spike meets program technical requirements.
- MS/MSD Recovery(s) for Acrolein are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Initial calibration verification MSN2591-ICV2591 for acetone exceeds 50% Differenc e (response bias high). Associated sample is non-detect for this compound..
- MC15549-3MS/MSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MSN2629-BS/BSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.

Matrix AQ **Batch ID:** MSN2631

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15557-5MS, MC15557-5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- BS/BSD Recovery(s) for Acrolein are outside control limits. Blank Spike meets program technical requirements.
- MS/MSD Recovery(s) for Acrolein are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC15557-5MS/MSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MSN2631-BS/BSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.

Extractables by GCMS By Method SW846 8270C

Matrix AQ	Batch ID: OP30934

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15652-8MS, MC15652-8MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- BS Recovery(s) for 4-Chloroaniline, Aniline, Benzoic Acid, Hexachlorocyclopentadiene, n-Nitrosodimethylamine, Phenol, Pyridine are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for 3,3'-Dichlorobenzidine, 4-Chloroaniline, Aniline, Pyridine are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Duplicate Recovery(s) for 3,3'-Dichlorobenzidine, 3-Nitroaniline, 4-Chloroaniline, 4-Nitroaniline, Aniline are outside control limits. Blank Spike meets program technical requirements.
- RPD(s) for MSD for N-Nitrosodiphenylamine are outside control limits for sample OP30934-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- RPD(s) for MSD for 1,2-Diphenylhydrazine, 3,3'-Dichlorobenzidine, 3-Nitroaniline, 4-Chloroaniline, 4-Nitroaniline, Aniline are outside control limits for sample OP30934-MSD. Blank Spike meets program technical requirements.
- BSD Recovery(s) for 2,4-Dimethylphenol, 3,3'-Dichlorobenzidine, Benzoic Acid, Phenol are outside control limits. Blank Spike meets program technical requirements.
- RPD of OP30934-BSD for most of compounds: Outside control limits. Blank Spike meets program technical requirements.
- Calibration standard MSF2779-ICC2779, MSF2779-ICV2779, MSF2785-CC2779, MSW319-ICC319, MSW319-ICV319,MSW321-CC319 not associated with this job.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix AQ	Batch ID: OP30935

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15651-5AMS, MC15651-5AMSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Volatiles by GC By Method SW846 8011

Matrix AQ	Batch ID: OP30911

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15603-5MS, MC15603-5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

The Accutest Laboratories of 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 Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC15492).

Summary of Hits

Job Number: MC15492
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 11/01/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC15492-1	ROST3PZ-ROX-110112					
Benzene		5.2	0.50	0.24	ug/l	SW846 8260B
Ethylbenzene		1.8	1.0	0.51	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		2.6 J	5.0	0.35	ug/l	SW846 8260B
m,p-Xylene		12.2	1.0	0.73	ug/l	SW846 8260B
o-Xylene		3.7	1.0	0.58	ug/l	SW846 8260B
Xylene (total)		15.9	1.0	0.58	ug/l	SW846 8260B
3&4-Methylphenol		1.9 J	11	0.80	ug/l	SW846 8270C
Di-n-butyl phthalate		1.7 J	5.3	0.38	ug/l	SW846 8270C
1-Methylnaphthalene		0.28	0.21	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		0.31	0.21	0.055	ug/l	SW846 8270C BY SIM
MC15492-2	P74-ROX-110112					
Benzene		3500	10	4.8	ug/l	SW846 8260B
Ethylbenzene		49.3	20	10	ug/l	SW846 8260B
Naphthalene		83.4 J	100	10	ug/l	SW846 8260B
Toluene		232	20	10	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		125	100	6.9	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		41.4 J	100	9.3	ug/l	SW846 8260B
m,p-Xylene		246	20	15	ug/l	SW846 8260B
o-Xylene		81.1	20	12	ug/l	SW846 8260B
Xylene (total)		328	20	12	ug/l	SW846 8260B
2,4-Dichlorophenol		1.0 J	10	0.39	ug/l	SW846 8270C
2,4-Dimethylphenol		8.0 J	10	2.8	ug/l	SW846 8270C
2-Methylphenol		5.4 J	10	0.62	ug/l	SW846 8270C
3&4-Methylphenol		2.0 J	10	0.78	ug/l	SW846 8270C
Phenol		30.7	5.2	0.96	ug/l	SW846 8270C
Dibenzofuran		0.31 J	2.1	0.22	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		0.44 J	2.1	0.39	ug/l	SW846 8270C
Acenaphthene		0.23	0.10	0.014	ug/l	SW846 8270C BY SIM
Anthracene		0.044 J	0.10	0.018	ug/l	SW846 8270C BY SIM
Fluorene		0.30	0.10	0.048	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		12.3	0.21	0.14	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		13.6	0.21	0.054	ug/l	SW846 8270C BY SIM
Phenanthrene		0.13	0.052	0.013	ug/l	SW846 8270C BY SIM
MC15492-3	TB-110112-HCL-R					
No hits reported in this sample.						
MC15492-4	TB-110112-ST-R					
No hits reported in this sample.						

New England ACCUTEST LABORATORIES

4

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	ROST3PZ-ROX-110112		
Lab Sample ID:	MC15492-1	Date Sampled:	11/01/12
Matrix:	AQ - Ground Water	Date Received:	11/02/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69961A.D	1	11/14/12	JP	n/a	n/a	MSN2631
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	ND	25	10	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	5.2	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:	ROST3PZ-ROX-110112		
Lab Sample ID:	MC15492-1	**Date Sampled:**	11/01/12
Matrix:	AQ - Ground Water	**Date Received:**	11/02/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	1.8	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	2.6	5.0	0.35	ug/l	J
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	12.2	1.0	0.73	ug/l	
95-47-6	o-Xylene	3.7	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	15.9	1.0	0.58	ug/l	

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RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	ROST3PZ-ROX-110112		
Lab Sample ID:	MC15492-1	**Date Sampled:**	11/01/12
Matrix:	AQ - Ground Water	**Date Received:**	11/02/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, 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	85%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%

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

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

Report of Analysis

Client Sample ID:	ROST3PZ-ROX-110112		
Lab Sample ID:	MC15492-1	Date Sampled:	11/01/12
Matrix:	AQ - Ground Water	Date Received:	11/02/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F59170.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.3	ug/l	UJ
95-57-8	2-Chlorophenol	ND	5.3	0.43	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.40	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.40	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	2.9	ug/l	UJ
51-28-5	2,4-Dinitrophenol	ND	21	5.3	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	2.7	ug/l	
95-48-7	2-Methylphenol	ND	11	0.64	ug/l	
	3&4-Methylphenol	1.9	11	0.80	ug/l	J
88-75-5	2-Nitrophenol	ND	11	0.50	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.9	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.3	ug/l	
108-95-2	Phenol	ND	5.3	0.99	ug/l	UJ
95-95-4	2,4,5-Trichlorophenol	ND	11	0.52	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.38	ug/l	
62-53-3	Aniline	ND	11	2.1	ug/l	UJ
101-55-3	4-Bromophenyl phenyl ether	ND	5.3	0.35	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.3	0.28	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.28	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.3	0.27	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.67	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.3	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.3	0.40	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.3	0.30	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.3	0.31	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.3	0.27	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.27	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.27	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.3	0.95	ug/l	UJ
132-64-9	Dibenzofuran	ND	2.1	0.23	ug/l	
84-74-2	Di-n-butyl phthalate	1.7	5.3	0.38	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.3	0.25	ug/l	

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

Report of Analysis

Client Sample ID:	ROST3PZ-ROX-110112		
Lab Sample ID:	MC15492-1	Date Sampled:	11/01/12
Matrix:	AQ - Ground Water	Date Received:	11/02/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.3	0.20	ug/l	
131-11-3	Dimethyl phthalate	ND	5.3	0.24	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.1	0.40	ug/l	
118-74-1	Hexachlorobenzene	ND	5.3	0.27	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.3	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.3	0.30	ug/l	
78-59-1	Isophorone	ND	5.3	0.34	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.27	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.27	ug/l	
100-01-6	4-Nitroaniline	ND	11	1.3	ug/l	
98-95-3	Nitrobenzene	ND	5.3	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.3	0.63	ug/l	UJ
621-64-7	N-Nitroso-di-n-propylamine	ND	5.3	0.29	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.3	0.46	ug/l	
110-86-1	Pyridine	ND	11	0.49	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	42%		15-110%
4165-62-2	Phenol-d5	28%		15-110%
118-79-6	2,4,6-Tribromophenol	86%		15-110%
4165-60-0	Nitrobenzene-d5	81%		30-130%
321-60-8	2-Fluorobiphenyl	70%		30-130%
1718-51-0	Terphenyl-d14	89%		30-130%

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

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

Report of Analysis

Client Sample ID:	ROST3PZ-ROX-110112		
Lab Sample ID:	MC15492-1	Date Sampled:	11/01/12
Matrix:	AQ - Ground Water	Date Received:	11/02/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I79938.D	1	11/08/12	NS	11/07/12	OP30935	MSI2976
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.11	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.11	0.014	ug/l	
120-12-7	Anthracene	ND	0.11	0.019	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.053	0.032	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.053	0.025	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.040	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.062	ug/l	
218-01-9	Chrysene	ND	0.11	0.077	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.044	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.035	ug/l	
86-73-7	Fluorene	ND	0.11	0.049	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.049	ug/l	
90-12-0	1-Methylnaphthalene	0.28	0.21	0.15	ug/l	
91-57-6	2-Methylnaphthalene	0.31	0.21	0.055	ug/l	
85-01-8	Phenanthrene	ND	0.053	0.013	ug/l	
129-00-0	Pyrene	ND	0.11	0.038	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	62%		30-130%
321-60-8	2-Fluorobiphenyl	67%		30-130%
1718-51-0	Terphenyl-d14	90%		30-130%

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

Report of Analysis

Client Sample ID:	ROST3PZ-ROX-110112		
Lab Sample ID:	MC15492-1	**Date Sampled:**	11/01/12
Matrix:	AQ - Ground Water	**Date Received:**	11/02/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB44046.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678
Run #2							

	Initial Volume	Final Volume
Run #1	35.6 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	87%		36-173%
460-00-4	Bromofluorobenzene (S)	94%		36-173%

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

Report of Analysis

Client Sample ID:	P74-ROX-110112		
Lab Sample ID:	MC15492-2	Date Sampled:	11/01/12
Matrix:	AQ - Ground Water	Date Received:	11/02/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69959.D	20	11/14/12	JP	n/a	n/a	MSN2631
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	100	60	ug/l	
107-02-8	Acrolein	ND	500	200	ug/l	UJ
107-13-1	Acrylonitrile	ND	100	65	ug/l	
71-43-2	Benzene	3500	10	4.8	ug/l	
108-86-1	Bromobenzene	ND	100	12	ug/l	
74-97-5	Bromochloromethane	ND	100	25	ug/l	
75-27-4	Bromodichloromethane	ND	20	12	ug/l	
75-25-2	Bromoform	ND	20	16	ug/l	
74-83-9	Bromomethane	ND	40	20	ug/l	
78-93-3	2-Butanone (MEK)	ND	100	48	ug/l	
104-51-8	n-Butylbenzene	ND	100	12	ug/l	
135-98-8	sec-Butylbenzene	ND	100	11	ug/l	
98-06-6	tert-Butylbenzene	ND	100	13	ug/l	
75-15-0	Carbon disulfide	ND	100	12	ug/l	
56-23-5	Carbon tetrachloride	ND	20	17	ug/l	
108-90-7	Chlorobenzene	ND	20	9.4	ug/l	
75-00-3	Chloroethane	ND	40	10	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	100	25	ug/l	
67-66-3	Chloroform	ND	20	9.9	ug/l	
74-87-3	Chloromethane	ND	40	15	ug/l	
95-49-8	o-Chlorotoluene	ND	100	13	ug/l	
106-43-4	p-Chlorotoluene	ND	100	9.7	ug/l	
124-48-1	Dibromochloromethane	ND	20	11	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	20	19	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	20	9.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	20	13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	40	35	ug/l	
75-34-3	1,1-Dichloroethane	ND	20	12	ug/l	
107-06-2	1,2-Dichloroethane	ND	20	13	ug/l	
75-35-4	1,1-Dichloroethene	ND	20	8.2	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	20	13	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	20	19	ug/l	

ND = Not detected MDL - Method Detection Limit
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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P74-ROX-110112		
Lab Sample ID:	MC15492-2	**Date Sampled:**	11/01/12
Matrix:	AQ - Ground Water	**Date Received:**	11/02/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	40	14	ug/l	
142-28-9	1,3-Dichloropropane	ND	100	13	ug/l	
594-20-7	2,2-Dichloropropane	ND	100	31	ug/l	
563-58-6	1,1-Dichloropropene	ND	100	18	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	10	9.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	10	3.9	ug/l	
123-91-1	1,4-Dioxane	ND	500	300	ug/l	
97-63-2	Ethyl methacrylate	ND	100	16	ug/l	
100-41-4	Ethylbenzene	49.3	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	100	41	ug/l	
591-78-6	2-Hexanone	ND	100	39	ug/l	
98-82-8	Isopropylbenzene	ND	100	10	ug/l	
99-87-6	p-Isopropyltoluene	ND	100	11	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	20	8.2	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	100	58	ug/l	
74-95-3	Methylene bromide	ND	100	22	ug/l	
75-09-2	Methylene chloride	ND	40	17	ug/l	
91-20-3	Naphthalene	83.4	100	10	ug/l	J
103-65-1	n-Propylbenzene	ND	100	12	ug/l	
100-42-5	Styrene	ND	100	9.1	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	100	11	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	20	12	ug/l	
127-18-4	Tetrachloroethene	ND	20	8.4	ug/l	
108-88-3	Toluene	232	20	10	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	100	25	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	100	26	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	20	17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	20	10	ug/l	
79-01-6	Trichloroethene	ND	20	16	ug/l	
75-69-4	Trichlorofluoromethane	ND	20	5.7	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	100	17	ug/l	
95-63-6	1,2,4-Trimethylbenzene	125	100	6.9	ug/l	
108-67-8	1,3,5-Trimethylbenzene	41.4	100	9.3	ug/l	J
108-05-4	Vinyl Acetate	ND	100	25	ug/l	
75-01-4	Vinyl chloride	ND	20	13	ug/l	
	m,p-Xylene	246	20	15	ug/l	
95-47-6	o-Xylene	81.1	20	12	ug/l	
1330-20-7	Xylene (total)	328	20	12	ug/l	

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

Report of Analysis

Client Sample ID:	P74-ROX-110112		
Lab Sample ID:	MC15492-2	**Date Sampled:**	11/01/12
Matrix:	AQ - Ground Water	**Date Received:**	11/02/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, 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	84%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%

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

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

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

Report of Analysis

Client Sample ID:	P74-ROX-110112		
Lab Sample ID:	MC15492-2	Date Sampled:	11/01/12
Matrix:	AQ - Ground Water	Date Received:	11/02/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F59171.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784
Run #2							

	Initial Volume	Final Volume
Run #1	970 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	UJ
95-57-8	2-Chlorophenol	ND	5.2	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.39	ug/l	
120-83-2	2,4-Dichlorophenol	1.0	10	0.39	ug/l	J
105-67-9	2,4-Dimethylphenol	8.0	10	2.8	ug/l	J J
51-28-5	2,4-Dinitrophenol	ND	21	5.2	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.6	ug/l	
95-48-7	2-Methylphenol	5.4	10	0.62	ug/l	J
	3&4-Methylphenol	2.0	10	0.78	ug/l	J
88-75-5	2-Nitrophenol	ND	10	0.49	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	30.7	5.2	0.96	ug/l	J
95-95-4	2,4,5-Trichlorophenol	ND	10	0.51	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.36	ug/l	
62-53-3	Aniline	ND	10	2.1	ug/l	UJ
101-55-3	4-Bromophenyl phenyl ether	ND	5.2	0.34	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.2	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.27	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.2	0.26	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.65	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.2	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.2	0.39	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.2	0.29	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.2	0.30	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.2	0.26	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.26	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.26	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.2	0.92	ug/l	UJ
132-64-9	Dibenzofuran	0.31	2.1	0.22	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.2	0.37	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.2	0.24	ug/l	

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

Report of Analysis

Client Sample ID:	P74-ROX-110112		
Lab Sample ID:	MC15492-2	**Date Sampled:**	11/01/12
Matrix:	AQ - Ground Water	**Date Received:**	11/02/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.2	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.2	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.44	2.1	0.39	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.2	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.2	ug/l	uJ
67-72-1	Hexachloroethane	ND	5.2	0.29	ug/l	
78-59-1	Isophorone	ND	5.2	0.33	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.26	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	1.3	ug/l	
98-95-3	Nitrobenzene	ND	5.2	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.2	0.61	ug/l	uJ
621-64-7	N-Nitroso-di-n-propylamine	ND	5.2	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.2	0.45	ug/l	
110-86-1	Pyridine	ND	10	0.48	ug/l	uJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	41%		15-110%
4165-62-2	Phenol-d5	30%		15-110%
118-79-6	2,4,6-Tribromophenol	92%		15-110%
4165-60-0	Nitrobenzene-d5	83%		30-130%
321-60-8	2-Fluorobiphenyl	69%		30-130%
1718-51-0	Terphenyl-d14	82%		30-130%

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

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

Report of Analysis

Client Sample ID:	P74-ROX-110112		
Lab Sample ID:	MC15492-2	Date Sampled:	11/01/12
Matrix:	AQ - Ground Water	Date Received:	11/02/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I79939.D	1	11/08/12	NS	11/07/12	OP30935	MSI2976
Run #2							

	Initial Volume	Final Volume
Run #1	970 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.23	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.014	ug/l	
120-12-7	Anthracene	0.044	0.10	0.018	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.052	0.031	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.052	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.039	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.060	ug/l	
218-01-9	Chrysene	ND	0.10	0.075	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.043	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.034	ug/l	
86-73-7	Fluorene	0.30	0.10	0.048	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.047	ug/l	
90-12-0	1-Methylnaphthalene	12.3	0.21	0.14	ug/l	
91-57-6	2-Methylnaphthalene	13.6	0.21	0.054	ug/l	
85-01-8	Phenanthrene	0.13	0.052	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.037	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%		30-130%
321-60-8	2-Fluorobiphenyl	68%		30-130%
1718-51-0	Terphenyl-d14	84%		30-130%

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

Report of Analysis

Client Sample ID:	P74-ROX-110112		
Lab Sample ID:	MC15492-2	**Date Sampled:**	11/01/12
Matrix:	AQ - Ground Water	**Date Received:**	11/02/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB44048.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678
Run #2							

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

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	78%		36-173%
460-00-4	Bromofluorobenzene (S)	72%		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:	TB-110112-HCL-R		
Lab Sample ID:	MC15492-3	**Date Sampled:**	11/01/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/02/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69904.D	1	11/13/12	JP	n/a	n/a	MSN2629
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	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:	TB-110112-HCL-R		
Lab Sample ID:	MC15492-3	**Date Sampled:**	11/01/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/02/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	TB-110112-HCL-R		
Lab Sample ID:	MC15492-3	Date Sampled:	11/01/12
Matrix:	AQ - Trip Blank Water	Date Received:	11/02/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, 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	84%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%

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

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

Report of Analysis

Client Sample ID:	TB-110112-ST-R		
Lab Sample ID:	MC15492-4	Date Sampled:	11/01/12
Matrix:	AQ - Trip Blank Water	Date Received:	11/02/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB44049.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678
Run #2							

	Initial Volume	Final Volume
Run #1	36.4 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.014	0.012	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	88%		36-173%
460-00-4	Bromofluorobenzene (S)	87%		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

New England ACCUTEST LABORATORIES

Custody Documents and Other Forms

Includes the following where applicable:

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

LAB (LOCATION)

☐ XENCO (_____)
☐ CALSCIENCE (_____)
☑ OTHER (Accutest Labs; 495 Technology Ctr W Marlborough, MA 01752 (508-481-6200))
☐ SPL (_____)

Lab Vendor #

Shell Oil Products Chain Of Custody Record

URS

Please Check Appropriate Box:

☑ ENV. SERVICES	☐ MOTIVA RETAIL	☐ SHELL RETAIL
☐ MOTIVA S&L/CN	☐ CONSULTANT	☐ LUBES
☐ SHELL PIPELINE	☐ OTHER _____	

Print Bill To Contact Name: Dave Palmer

PO #

INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0 ☐ CHECK IF NO INCIDENT # APPLIES

SAP #: 3 4 0 0 6 1

DATE: 11/1/12

PAGE: 1 of 1

SHIPPING COMPANY: URS CORPORATION

ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110

PROJECT CONTACT (Reports to / PDF Report to): Dave Palmer and Elizabeth Kunkel

TELEPHONE: 314-429-0100 | FAX: 314-429-0462 | e-mail To Contact E-mail: [illegible]

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

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

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

TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SITE ADDRESS: Street and City: 900 South Central Ave, ROXANA | State: IL | GLOBAL ID NO.

EDF DELIVERABLE TO (Name, Company, Office Location) | PHONE NO. | e-MAIL | CONSULTANT PROJECT NO.: Roxana Quarterly GW / 21562735.00009

SAMPLER NAME(S) (Print): L. Rathwell, J. Stauffer

LAB USE ONLY: MC15492

REQUESTED ANALYSIS

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

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	PRESERVATIVE HNO3	PRESERVATIVE H2SO4	PRESERVATIVE NONE	PRESERVATIVE OTHER	NO. OF CONT.	VOC 8260B SL+TICS	VOC 8011 SL	SVOC 8270C SL+TICS	PAH 8270LL	PID (ppm)	FIELD NOTES: Container PID Readings or Laboratory Notes
-1	POST3PZ-ROX-110112	11/1/12	10:45	water	2			2	2	6	X	X	X	X	0	
-2	P74-ROX-110112	11/1/12	15:15	water	2			2	2	6	X	X	X	X	0	
-3	TB-110112-HCL-R	11/1/12	00:00	water	2					2	X					
-4	TB-110112-ST-R	11/1/12	00:00	water				2	2			X				
																16E, 4HI

Relinquished by: (Signature) L. Rathwell	Received by: (Signature) FED EX	Date 11/1/12	Time 1700
Relinquished by: (Signature) FEDX	Received by: (Signature) [illegible]	Date 11-2-12	Time 930
Relinquished by: (Signature)	Received by: (Signature)	Date	Time

09/2006 Revision 2.3

MC15492: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC15492 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 11/2/2012 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900 SO CENTRAL AVE **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

5.1

5

MC15492: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15492

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15492-1 Collected: 01-NOV-12 10:45 By: LRJS Received: 02-NOV-12 By: ROST3PZ-ROX-110112						
MC15492-1	SW846 8011	06-NOV-12 06:12	AP	05-NOV-12	NK	V8011SL
MC15492-1	SW846 8270C BY SIM	08-NOV-12 16:13	NS	07-NOV-12	PA	B8270SIMSL
MC15492-1	SW846 8270C	09-NOV-12 18:39	KR	07-NOV-12	PA	AB8270SL+
MC15492-1	SW846 8260B	14-NOV-12 19:56	JP			V8260SL+
MC15492-2 Collected: 01-NOV-12 15:15 By: LRJS Received: 02-NOV-12 By: P74-ROX-110112						
MC15492-2	SW846 8011	06-NOV-12 07:06	AP	05-NOV-12	NK	V8011SL
MC15492-2	SW846 8270C BY SIM	08-NOV-12 16:37	NS	07-NOV-12	PA	B8270SIMSL
MC15492-2	SW846 8270C	09-NOV-12 19:01	KR	07-NOV-12	PA	AB8270SL+
MC15492-2	SW846 8260B	14-NOV-12 18:32	JP			V8260SL+
MC15492-3 Collected: 01-NOV-12 00:00 By: LRJS Received: 02-NOV-12 By: TB-110112-HCL-R						
MC15492-3	SW846 8260B	13-NOV-12 16:13	JP			V8260SL+
MC15492-4 Collected: 01-NOV-12 00:00 By: LRJS Received: 02-NOV-12 By: TB-110112-ST-R						
MC15492-4	SW846 8011	06-NOV-12 07:32	AP	05-NOV-12	NK	V8011SL

Accutest Internal Chain of Custody

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 11/02/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15492-1.2	Walk In Ref #22	Nick Krasinski	11/07/12 07:53	Retrieve from Storage
MC15492-1.2	Nick Krasinski		11/08/12 15:52	Depleted
MC15492-1.3	VOC Ref #4	Jugal Patel	11/13/12 13:04	Retrieve from Storage
MC15492-1.3	Jugal Patel	GCMSN	11/13/12 13:04	Load on Instrument
MC15492-1.3	GCMSN	Jugal Patel	11/14/12 10:50	Unload from Instrument
MC15492-1.3	Jugal Patel	VOC Ref #4	11/14/12 10:50	Return to Storage
MC15492-1.6	VOC Ref #4	Nick Krasinski	11/06/12 07:05	Retrieve from Storage
MC15492-1.6	Nick Krasinski		11/06/12 07:05	Depleted
MC15492-2.1	Walk In Ref #22	Nick Krasinski	11/07/12 07:53	Retrieve from Storage
MC15492-2.1	Nick Krasinski		11/08/12 15:52	Depleted
MC15492-2.4	VOC Ref #4	Jugal Patel	11/13/12 13:04	Retrieve from Storage
MC15492-2.4	Jugal Patel	GCMSN	11/13/12 13:04	Load on Instrument
MC15492-2.4	GCMSN	Jugal Patel	11/14/12 10:50	Unload from Instrument
MC15492-2.4	Jugal Patel	VOC Ref #4	11/14/12 10:50	Return to Storage
MC15492-2.6	VOC Ref #4	Nick Krasinski	11/06/12 07:05	Retrieve from Storage
MC15492-2.6	Nick Krasinski		11/06/12 07:05	Depleted
MC15492-3.1	VOC Ref #4	Jugal Patel	11/13/12 13:04	Retrieve from Storage
MC15492-3.1	Jugal Patel	GCMSN	11/13/12 13:04	Load on Instrument
MC15492-3.1	GCMSN	Jugal Patel	11/14/12 10:50	Unload from Instrument
MC15492-3.1	Jugal Patel	VOC Ref #4	11/14/12 10:50	Return to Storage
MC15492-4.2	VOC Ref #4	Nick Krasinski	11/06/12 07:05	Retrieve from Storage
MC15492-4.2	Nick Krasinski		11/06/12 07:05	Depleted

New England ACCUTEST LABORATORIES

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: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-MB	N69899.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15492-3

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: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-MB	N69899.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15492-3

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: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-MB	N69899.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15492-3

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	82%	70-130%
2037-26-5	Toluene-D8	84%	70-130%
460-00-4	4-Bromofluorobenzene	84%	70-130%

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

6.1.1

6

Method Blank Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2631-MB	N69953.D	1	11/14/12	JP	n/a	n/a	MSN2631

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

MC15492-1, MC15492-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.3	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: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2631-MB	N69953.D	1	11/14/12	JP	n/a	n/a	MSN2631

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

MC15492-1, MC15492-2

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2631-MB	N69953.D	1	11/14/12	JP	n/a	n/a	MSN2631

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

MC15492-1, MC15492-2

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	83%	70-130%
2037-26-5	Toluene-D8	83%	70-130%
460-00-4	4-Bromofluorobenzene	86%	70-130%

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

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-BS	N69896.D	1	11/13/12	JP	n/a	n/a	MSN2629
MSN2629-BSD	N69897.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15492-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	39.4	79	39.6	79	1	70-130/25
107-02-8	Acrolein	250	153	61* a	156	62* a	2	70-130/25
107-13-1	Acrylonitrile	50	246	492* b	247	494* b	0	70-130/25
71-43-2	Benzene	50	50.6	101	49.7	99	2	70-130/25
108-86-1	Bromobenzene	50	50.4	101	49.5	99	2	70-130/25
74-97-5	Bromochloromethane	50	51.8	104	51.3	103	1	70-130/25
75-27-4	Bromodichloromethane	50	51.7	103	51.1	102	1	70-130/25
75-25-2	Bromoform	50	45.5	91	43.6	87	4	70-130/25
74-83-9	Bromomethane	50	50.9	102	52.2	104	3	70-130/25
78-93-3	2-Butanone (MEK)	50	44.7	89	43.7	87	2	70-130/25
104-51-8	n-Butylbenzene	50	57.1	114	55.4	111	3	70-130/25
135-98-8	sec-Butylbenzene	50	57.5	115	55.8	112	3	70-130/25
98-06-6	tert-Butylbenzene	50	53.2	106	51.9	104	2	70-130/25
75-15-0	Carbon disulfide	50	53.9	108	52.2	104	3	70-130/25
56-23-5	Carbon tetrachloride	50	46.7	93	45.7	91	2	70-130/25
108-90-7	Chlorobenzene	50	55.5	111	52.6	105	5	70-130/25
75-00-3	Chloroethane	50	50.5	101	48.1	96	5	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	52.7	105	52.3	105	1	70-130/25
67-66-3	Chloroform	50	51.0	102	50.5	101	1	70-130/25
74-87-3	Chloromethane	50	40.6	81	37.6	75	8	70-130/25
95-49-8	o-Chlorotoluene	50	54.0	108	52.6	105	3	70-130/25
106-43-4	p-Chlorotoluene	50	57.0	114	55.4	111	3	70-130/25
124-48-1	Dibromochloromethane	50	47.9	96	46.3	93	3	70-130/25
95-50-1	1,2-Dichlorobenzene	50	55.4	111	54.1	108	2	70-130/25
541-73-1	1,3-Dichlorobenzene	50	55.2	110	53.8	108	3	70-130/25
106-46-7	1,4-Dichlorobenzene	50	52.5	105	51.0	102	3	70-130/25
75-71-8	Dichlorodifluoromethane	50	47.3	95	46.0	92	3	70-130/25
75-34-3	1,1-Dichloroethane	50	53.9	108	52.8	106	2	70-130/25
107-06-2	1,2-Dichloroethane	50	47.6	95	46.8	94	2	70-130/25
75-35-4	1,1-Dichloroethene	50	51.0	102	49.1	98	4	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	51.8	104	49.7	99	4	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	51.4	103	49.1	98	5	70-130/25
78-87-5	1,2-Dichloropropane	50	52.7	105	52.3	105	1	70-130/25
142-28-9	1,3-Dichloropropane	50	50.8	102	48.4	97	5	70-130/25
594-20-7	2,2-Dichloropropane	50	48.9	98	46.4	93	5	70-130/25
563-58-6	1,1-Dichloropropene	50	53.2	106	51.7	103	3	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-BS	N69896.D	1	11/13/12	JP	n/a	n/a	MSN2629
MSN2629-BSD	N69897.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15492-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	50	52.7	105	51.8	104	2	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	48.4	97	47.1	94	3	70-130/25
123-91-1	1,4-Dioxane	250	228	91	225	90	1	70-130/25
97-63-2	Ethyl methacrylate	50	49.1	98	47.9	96	2	77-137/25
100-41-4	Ethylbenzene	50	52.0	104	49.1	98	6	70-130/25
87-68-3	Hexachlorobutadiene	50	56.2	112	53.8	108	4	70-130/25
591-78-6	2-Hexanone	50	40.5	81	39.1	78	4	70-130/25
98-82-8	Isopropylbenzene	50	55.1	110	53.8	108	2	70-130/25
99-87-6	p-Isopropyltoluene	50	55.3	111	53.6	107	3	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	41.2	82	39.8	80	3	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	38.3	77	38.1	76	1	70-130/25
74-95-3	Methylene bromide	50	49.8	100	48.9	98	2	70-130/25
75-09-2	Methylene chloride	50	52.4	105	51.1	102	3	70-130/25
91-20-3	Naphthalene	50	52.4	105	51.7	103	1	70-130/25
103-65-1	n-Propylbenzene	50	56.1	112	54.8	110	2	70-130/25
100-42-5	Styrene	50	51.9	104	49.4	99	5	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	53.4	107	51.1	102	4	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	49.4	99	49.3	99	0	70-130/25
127-18-4	Tetrachloroethene	50	52.2	104	48.9	98	7	70-130/25
108-88-3	Toluene	50	52.1	104	51.2	102	2	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	57.1	114	55.3	111	3	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	57.0	114	55.7	111	2	70-130/25
71-55-6	1,1,1-Trichloroethane	50	52.6	105	51.0	102	3	70-130/25
79-00-5	1,1,2-Trichloroethane	50	50.9	102	50.2	100	1	70-130/25
79-01-6	Trichloroethene	50	49.0	98	47.8	96	2	70-130/25
75-69-4	Trichlorofluoromethane	50	47.4	95	46.0	92	3	70-130/25
96-18-4	1,2,3-Trichloropropane	50	54.0	108	52.5	105	3	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	50.0	100	49.0	98	2	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	50.0	100	48.8	98	2	70-130/25
108-05-4	Vinyl Acetate	50	49.4	99	48.9	98	1	70-130/25
75-01-4	Vinyl chloride	50	43.9	88	42.8	86	3	70-130/25
	m,p-Xylene	100	107	107	101	101	6	70-130/25
95-47-6	o-Xylene	50	55.8	112	52.8	106	6	70-130/25
1330-20-7	Xylene (total)	150	163	109	154	103	6	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-BS	N69896.D	1	11/13/12	JP	n/a	n/a	MSN2629
MSN2629-BSD	N69897.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15492-3

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	83%	83%	70-130%
2037-26-5	Toluene-D8	85%	85%	70-130%
460-00-4	4-Bromofluorobenzene	82%	82%	70-130%

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

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2631-BS	N69950.D	1	11/14/12	JP	n/a	n/a	MSN2631
MSN2631-BSD	N69951.D	1	11/14/12	JP	n/a	n/a	MSN2631

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

MC15492-1, MC15492-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	36.7	73	37.4	75	2	70-130/25
107-02-8	Acrolein	250	149	60* a	154	62* a	3	70-130/25
107-13-1	Acrylonitrile	50	234	468* b	233	466* b	0	70-130/25
71-43-2	Benzene	50	50.4	101	49.0	98	3	70-130/25
108-86-1	Bromobenzene	50	50.5	101	49.0	98	3	70-130/25
74-97-5	Bromochloromethane	50	52.2	104	50.7	101	3	70-130/25
75-27-4	Bromodichloromethane	50	52.3	105	50.5	101	4	70-130/25
75-25-2	Bromoform	50	45.0	90	42.7	85	5	70-130/25
74-83-9	Bromomethane	50	49.7	99	49.8	100	0	70-130/25
78-93-3	2-Butanone (MEK)	50	42.2	84	41.1	82	3	70-130/25
104-51-8	n-Butylbenzene	50	57.2	114	55.0	110	4	70-130/25
135-98-8	sec-Butylbenzene	50	57.4	115	55.1	110	4	70-130/25
98-06-6	tert-Butylbenzene	50	53.1	106	51.3	103	3	70-130/25
75-15-0	Carbon disulfide	50	52.4	105	50.5	101	4	70-130/25
56-23-5	Carbon tetrachloride	50	46.8	94	45.3	91	3	70-130/25
108-90-7	Chlorobenzene	50	55.2	110	52.1	104	6	70-130/25
75-00-3	Chloroethane	50	48.9	98	47.2	94	4	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	52.6	105	51.0	102	3	70-130/25
67-66-3	Chloroform	50	51.2	102	49.5	99	3	70-130/25
74-87-3	Chloromethane	50	42.8	86	41.8	84	2	70-130/25
95-49-8	o-Chlorotoluene	50	53.7	107	51.9	104	3	70-130/25
106-43-4	p-Chlorotoluene	50	56.7	113	54.7	109	4	70-130/25
124-48-1	Dibromochloromethane	50	48.1	96	45.9	92	5	70-130/25
95-50-1	1,2-Dichlorobenzene	50	54.7	109	53.2	106	3	70-130/25
541-73-1	1,3-Dichlorobenzene	50	55.2	110	53.6	107	3	70-130/25
106-46-7	1,4-Dichlorobenzene	50	52.3	105	50.8	102	3	70-130/25
75-71-8	Dichlorodifluoromethane	50	45.8	92	43.9	88	4	70-130/25
75-34-3	1,1-Dichloroethane	50	53.1	106	51.5	103	3	70-130/25
107-06-2	1,2-Dichloroethane	50	47.5	95	46.6	93	2	70-130/25
75-35-4	1,1-Dichloroethene	50	49.9	100	48.3	97	3	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	51.4	103	50.3	101	2	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	51.0	102	49.1	98	4	70-130/25
78-87-5	1,2-Dichloropropane	50	52.6	105	51.0	102	3	70-130/25
142-28-9	1,3-Dichloropropane	50	50.2	100	47.9	96	5	70-130/25
594-20-7	2,2-Dichloropropane	50	48.8	98	46.8	94	4	70-130/25
563-58-6	1,1-Dichloropropene	50	51.9	104	50.3	101	3	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2631-BS	N69950.D	1	11/14/12	JP	n/a	n/a	MSN2631
MSN2631-BSD	N69951.D	1	11/14/12	JP	n/a	n/a	MSN2631

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

MC15492-1, MC15492-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	50	52.8	106	51.6	103	2	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	48.2	96	47.8	96	1	70-130/25
123-91-1	1,4-Dioxane	250	219	88	216	86	1	70-130/25
97-63-2	Ethyl methacrylate	50	47.8	96	47.3	95	1	77-137/25
100-41-4	Ethylbenzene	50	51.7	103	48.8	98	6	70-130/25
87-68-3	Hexachlorobutadiene	50	55.3	111	53.3	107	4	70-130/25
591-78-6	2-Hexanone	50	38.1	76	36.9	74	3	70-130/25
98-82-8	Isopropylbenzene	50	55.2	110	53.2	106	4	70-130/25
99-87-6	p-Isopropyltoluene	50	55.2	110	53.0	106	4	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	39.3	79	40.1	80	2	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	36.5	73	36.3	73	1	70-130/25
74-95-3	Methylene bromide	50	49.9	100	48.9	98	2	70-130/25
75-09-2	Methylene chloride	50	52.4	105	50.6	101	3	70-130/25
91-20-3	Naphthalene	50	51.5	103	50.1	100	3	70-130/25
103-65-1	n-Propylbenzene	50	56.4	113	53.6	107	5	70-130/25
100-42-5	Styrene	50	52.1	104	49.1	98	6	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	53.9	108	51.1	102	5	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	48.1	96	47.1	94	2	70-130/25
127-18-4	Tetrachloroethene	50	51.9	104	48.3	97	7	70-130/25
108-88-3	Toluene	50	52.3	105	50.7	101	3	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	55.6	111	53.8	108	3	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	56.3	113	54.3	109	4	70-130/25
71-55-6	1,1,1-Trichloroethane	50	52.2	104	50.5	101	3	70-130/25
79-00-5	1,1,2-Trichloroethane	50	50.0	100	49.5	99	1	70-130/25
79-01-6	Trichloroethene	50	49.1	98	47.3	95	4	70-130/25
75-69-4	Trichlorofluoromethane	50	46.9	94	44.6	89	5	70-130/25
96-18-4	1,2,3-Trichloropropane	50	51.7	103	50.7	101	2	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	50.3	101	48.4	97	4	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	49.9	100	47.7	95	5	70-130/25
108-05-4	Vinyl Acetate	50	47.3	95	47.6	95	1	70-130/25
75-01-4	Vinyl chloride	50	42.7	85	41.5	83	3	70-130/25
	m,p-Xylene	100	107	107	101	101	6	70-130/25
95-47-6	o-Xylene	50	55.7	111	52.6	105	6	70-130/25
1330-20-7	Xylene (total)	150	163	109	154	103	6	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2631-BS	N69950.D	1	11/14/12	JP	n/a	n/a	MSN2631
MSN2631-BSD	N69951.D	1	11/14/12	JP	n/a	n/a	MSN2631

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

MC15492-1, MC15492-2

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	84%	84%	70-130%
2037-26-5	Toluene-D8	85%	85%	70-130%
460-00-4	4-Bromofluorobenzene	82%	82%	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: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15549-3MS	N69919.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3MSD	N69920.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3	N69911.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15492-3

CAS No.	Compound	MC15549-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	195	78	206	82	5	70-130/30
107-02-8	Acrolein	ND		1250	786	63* [a]	800	64* [a]	2	70-130/30
107-13-1	Acrylonitrile	ND		250	1230	492* [b]	1290	516* [b]	5	70-130/30
71-43-2	Benzene	ND		250	255	102	267	107	5	70-130/30
108-86-1	Bromobenzene	ND		250	246	98	256	102	4	70-130/30
74-97-5	Bromochloromethane	ND		250	258	103	273	109	6	70-130/30
75-27-4	Bromodichloromethane	ND		250	257	103	270	108	5	70-130/30
75-25-2	Bromoform	ND		250	219	88	223	89	2	70-130/30
74-83-9	Bromomethane	ND		250	210	84	257	103	20	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	204	82	223	89	9	70-130/30
104-51-8	n-Butylbenzene	ND		250	261	104	279	112	7	70-130/30
135-98-8	sec-Butylbenzene	ND		250	272	109	286	114	5	70-130/30
98-06-6	tert-Butylbenzene	ND		250	255	102	265	106	4	70-130/30
75-15-0	Carbon disulfide	ND		250	269	108	279	112	4	70-130/30
56-23-5	Carbon tetrachloride	ND		250	227	91	237	95	4	70-130/30
108-90-7	Chlorobenzene	ND		250	274	110	275	110	0	70-130/30
75-00-3	Chloroethane	ND		250	260	104	270	108	4	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	270	108	280	112	4	70-130/30
67-66-3	Chloroform	ND		250	253	101	267	107	5	70-130/30
74-87-3	Chloromethane	ND		250	214	86	229	92	7	70-130/30
95-49-8	o-Chlorotoluene	ND		250	260	104	272	109	5	70-130/30
106-43-4	p-Chlorotoluene	ND		250	272	109	284	114	4	70-130/30
124-48-1	Dibromochloromethane	ND		250	238	95	239	96	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	266	106	281	112	5	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	263	105	281	112	7	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	249	100	264	106	6	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	226	90	238	95	5	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	271	108	287	115	6	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	230	92	244	98	6	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	252	101	261	104	4	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	256	102	274	110	7	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	254	102	266	106	5	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	270	108	280	112	4	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	253	101	254	102	0	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	206	82	213	85	3	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	258	103	272	109	5	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15549-3MS	N69919.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3MSD	N69920.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3	N69911.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15492-3

CAS No.	Compound	MC15549-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		250	258	103	270	108	5	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	233	93	246	98	5	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1080	86	1160	93	7	70-130/30
97-63-2	Ethyl methacrylate	ND		250	234	94	245	98	5	72-139/30
100-41-4	Ethylbenzene	ND		250	254	102	253	101	0	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	248	99	265	106	7	70-130/30
591-78-6	2-Hexanone	ND		250	189	76	193	77	2	70-130/30
98-82-8	Isopropylbenzene	ND		250	267	107	277	111	4	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	260	104	273	109	5	70-130/30
1634-04-4	Methyl Tert Butyl Ether	2.6		250	194	77	205	81	6	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	185	74	193	77	4	70-130/30
74-95-3	Methylene bromide	ND		250	247	99	260	104	5	70-130/30
75-09-2	Methylene chloride	ND		250	266	106	279	112	5	70-130/30
91-20-3	Naphthalene	ND		250	234	94	256	102	9	70-130/30
103-65-1	n-Propylbenzene	ND		250	269	108	280	112	4	70-130/30
100-42-5	Styrene	ND		250	250	100	254	102	2	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	266	106	268	107	1	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	242	97	251	100	4	70-130/30
127-18-4	Tetrachloroethene	53.6		250	321	107	321	107	0	70-130/30
108-88-3	Toluene	ND		250	258	103	270	108	5	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	257	103	280	112	9	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	258	103	281	112	9	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	253	101	265	106	5	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	253	101	264	106	4	70-130/30
79-01-6	Trichloroethene	ND		250	242	97	253	101	4	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	232	93	241	96	4	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	253	101	266	106	5	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	238	95	250	100	5	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	240	96	249	100	4	70-130/30
108-05-4	Vinyl Acetate	ND		250	246	98	255	102	4	70-130/30
75-01-4	Vinyl chloride	ND		250	216	86	225	90	4	70-130/30
	m,p-Xylene	ND		500	524	105	525	105	0	70-130/30
95-47-6	o-Xylene	ND		250	272	109	272	109	0	70-130/30
1330-20-7	Xylene (total)	ND		750	797	106	797	106	0	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15549-3MS	N69919.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3MSD	N69920.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3	N69911.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15492-3

CAS No.	Surrogate Recoveries	MS	MSD	MC15549-3	Limits
1868-53-7	Dibromofluoromethane	84%	84%	84%	70-130%
2037-26-5	Toluene-D8	86%	85%	84%	70-130%
460-00-4	4-Bromofluorobenzene	81%	81%	86%	70-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15557-5MS	N69971.D	5	11/15/12	JP	n/a	n/a	MSN2631
MC15557-5MSD	N69972.D	5	11/15/12	JP	n/a	n/a	MSN2631
MC15557-5	N69970.D	1	11/15/12	JP	n/a	n/a	MSN2631

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

MC15492-1, MC15492-2

CAS No.	Compound	MC15557-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	206	82	202	81	2	70-130/30
107-02-8	Acrolein	ND		1250	753	60* [a]	770	62* [a]	2	70-130/30
107-13-1	Acrylonitrile	ND		250	1230	492* [b]	1180	472* [b]	4	70-130/30
71-43-2	Benzene	ND		250	259	104	250	100	4	70-130/30
108-86-1	Bromobenzene	ND		250	252	101	247	99	2	70-130/30
74-97-5	Bromochloromethane	ND		250	266	106	259	104	3	70-130/30
75-27-4	Bromodichloromethane	ND		250	262	105	255	102	3	70-130/30
75-25-2	Bromoform	ND		250	217	87	214	86	1	70-130/30
74-83-9	Bromomethane	ND		250	269	108	287	115	6	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	223	89	224	90	0	70-130/30
104-51-8	n-Butylbenzene	ND		250	265	106	258	103	3	70-130/30
135-98-8	sec-Butylbenzene	ND		250	275	110	266	106	3	70-130/30
98-06-6	tert-Butylbenzene	ND		250	259	104	249	100	4	70-130/30
75-15-0	Carbon disulfide	ND		250	277	111	266	106	4	70-130/30
56-23-5	Carbon tetrachloride	ND		250	215	86	208	83	3	70-130/30
108-90-7	Chlorobenzene	ND		250	275	110	264	106	4	70-130/30
75-00-3	Chloroethane	ND		250	264	106	252	101	5	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	271	108	262	105	3	70-130/30
67-66-3	Chloroform	ND		250	264	106	256	102	3	70-130/30
74-87-3	Chloromethane	ND		250	243	97	245	98	1	70-130/30
95-49-8	o-Chlorotoluene	ND		250	269	108	261	104	3	70-130/30
106-43-4	p-Chlorotoluene	ND		250	282	113	276	110	2	70-130/30
124-48-1	Dibromochloromethane	ND		250	237	95	232	93	2	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	269	108	263	105	2	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	272	109	265	106	3	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	258	103	251	100	3	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	236	94	225	90	5	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	277	111	265	106	4	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	236	94	230	92	3	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	259	104	253	101	2	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	266	106	254	102	5	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	262	105	255	102	3	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	271	108	262	105	3	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	252	101	247	99	2	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	215	86	202	81	6	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	266	106	255	102	4	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15557-5MS	N69971.D	5	11/15/12	JP	n/a	n/a	MSN2631
MC15557-5MSD	N69972.D	5	11/15/12	JP	n/a	n/a	MSN2631
MC15557-5	N69970.D	1	11/15/12	JP	n/a	n/a	MSN2631

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

MC15492-1, MC15492-2

CAS No.	Compound	MC15557-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		250	258	103	249	100	4	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	240	96	234	94	3	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1140	91	1170	94	3	70-130/30
97-63-2	Ethyl methacrylate	ND		250	237	95	239	96	1	72-139/30
100-41-4	Ethylbenzene	ND		250	255	102	247	99	3	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	215	86	213	85	1	70-130/30
591-78-6	2-Hexanone	ND		250	200	80	204	82	2	70-130/30
98-82-8	Isopropylbenzene	ND		250	274	110	265	106	3	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	262	105	254	102	3	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		250	235	94	234	94	0	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	188	75	193	77	3	70-130/30
74-95-3	Methylene bromide	ND		250	250	100	248	99	1	70-130/30
75-09-2	Methylene chloride	ND		250	270	108	261	104	3	70-130/30
91-20-3	Naphthalene	ND		250	224	90	230	92	3	70-130/30
103-65-1	n-Propylbenzene	ND		250	276	110	269	108	3	70-130/30
100-42-5	Styrene	ND		250	254	102	244	98	4	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	263	105	254	102	3	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	243	97	243	97	0	70-130/30
127-18-4	Tetrachloroethene	ND		250	253	101	244	98	4	70-130/30
108-88-3	Toluene	ND		250	263	105	255	102	3	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	227	91	231	92	2	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	245	98	248	99	1	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	259	104	249	100	4	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	254	102	248	99	2	70-130/30
79-01-6	Trichloroethene	ND		250	250	100	239	96	4	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	236	94	228	91	3	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	258	103	259	104	0	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	246	98	237	95	4	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	242	97	235	94	3	70-130/30
108-05-4	Vinyl Acetate	ND		250	246	98	244	98	1	70-130/30
75-01-4	Vinyl chloride	ND		250	227	91	219	88	4	70-130/30
	m,p-Xylene	ND		500	528	106	505	101	4	70-130/30
95-47-6	o-Xylene	ND		250	276	110	262	105	5	70-130/30
1330-20-7	Xylene (total)	ND		750	804	107	767	102	5	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15557-5MS	N69971.D	5	11/15/12	JP	n/a	n/a	MSN2631
MC15557-5MSD	N69972.D	5	11/15/12	JP	n/a	n/a	MSN2631
MC15557-5	N69970.D	1	11/15/12	JP	n/a	n/a	MSN2631

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

MC15492-1, MC15492-2

CAS No.	Surrogate Recoveries	MS	MSD	MC15557-5	Limits
1868-53-7	Dibromofluoromethane	85%	86%	84%	70-130%
2037-26-5	Toluene-D8	85%	85%	84%	70-130%
460-00-4	4-Bromofluorobenzene	82%	83%	84%	70-130%

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

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2629-CC2591	Injection Date:	11/13/12
Lab File ID:	N69895.D	Injection Time:	11:59
Instrument ID:	GCMSN	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	332975	9.01	437609	9.88	197238	13.14	221938	15.70	98102	6.56
Upper Limit [a]	665950	9.51	875218	10.38	394476	13.64	443876	16.20	196204	7.06
Lower Limit [b]	166488	8.51	218805	9.38	98619	12.64	110969	15.20	49051	6.06
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2629-BS	331160	9.01	434434	9.88	194359	13.14	219925	15.70	97330	6.56
MSN2629-BSD	330386	9.01	431902	9.88	200259	13.14	219175	15.70	89195	6.56
MSN2629-MB	324761	9.01	423799	9.88	186213	13.14	199101	15.70	85171	6.57
ZZZZZZ	321185	9.01	425275	9.88	184610	13.14	192145	15.70	82535	6.57
ZZZZZZ	322320	9.01	427987	9.88	188381	13.14	196418	15.70	88653	6.56
ZZZZZZ	317139	9.01	420414	9.88	185253	13.14	194203	15.70	90512	6.57
ZZZZZZ	312890	9.01	410639	9.88	182444	13.14	190619	15.70	79911	6.57
MC15492-3	315284	9.01	413490	9.88	180532	13.14	189212	15.70	70674	6.57
ZZZZZZ	309308	9.01	410071	9.88	181387	13.14	186533	15.70	76383	6.57
ZZZZZZ	308353	9.01	405041	9.88	180427	13.14	187152	15.70	86792	6.57
ZZZZZZ	305942	9.01	405304	9.88	181879	13.14	198427	15.70	71296	6.56
ZZZZZZ	308084	9.01	403081	9.88	188648	13.14	209917	15.70	74680	6.56
MC15549-3	318614	9.01	423484	9.88	186752	13.14	192492	15.70	73717	6.57
ZZZZZZ	312404	9.01	408807	9.88	180462	13.14	186154	15.70	82134	6.56
ZZZZZZ	310936	9.01	412625	9.88	181386	13.14	186764	15.70	78111	6.56
ZZZZZZ	305817	9.01	403401	9.88	178340	13.14	185473	15.70	71027	6.56
ZZZZZZ	300738	9.01	395573	9.88	175666	13.14	184995	15.70	77748	6.56
ZZZZZZ	301008	9.01	400298	9.88	176586	13.14	183504	15.70	73241	6.56
MC15549-3MS	301951	9.01	396782	9.88	178496	13.14	202542	15.70	85241	6.56
MC15549-3MSD	282678	9.01	375009	9.88	176345	13.14	192737	15.70	80849	6.56

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

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

Volatile Internal Standard Area Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2631-CC2591	Injection Date:	11/14/12
Lab File ID:	N69949.D	Injection Time:	13:50
Instrument ID:	GCMSN	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	329455	9.01	429470	9.88	194298	13.14	223922	15.70	92325	6.56
Upper Limit [a]	658910	9.51	858940	10.38	388596	13.64	447844	16.20	184650	7.06
Lower Limit [b]	164728	8.51	214735	9.38	97149	12.64	111961	15.20	46163	6.06
Lab Sample ID	**IS 1 AREA**	**RT**	**IS 2 AREA**	**RT**	**IS 3 AREA**	**RT**	**IS 4 AREA**	**RT**	**IS 5 AREA**	**RT**
MSN2631-BS	333737	9.01	436190	9.88	195687	13.14	220643	15.70	88398	6.56
MSN2631-BSD	331172	9.01	433459	9.88	201065	13.14	222175	15.70	85610	6.56
MSN2631-MB	332687	9.01	437978	9.88	189291	13.14	202925	15.70	83878	6.57
ZZZZZZ	328023	9.01	428624	9.88	191196	13.14	200502	15.70	88647	6.56
ZZZZZZ	323595	9.01	425133	9.88	186569	13.14	194513	15.70	81697	6.56
ZZZZZZ	324326	9.01	429075	9.88	189116	13.14	196471	15.70	82272	6.56
ZZZZZZ	298767	9.01	395835	9.88	172115	13.14	178748	15.70	86986	6.56
ZZZZZZ	323087	9.01	421387	9.88	186521	13.14	195401	15.70	83477	6.56
MC15492-2	319164	9.01	421104	9.88	183891	13.14	195134	15.70	78552	6.56
ZZZZZZ	321580	9.01	422960	9.88	185839	13.14	191181	15.70	75974	6.57
ZZZZZZ	316447	9.01	417535	9.88	183011	13.14	188621	15.70	80504	6.56
MC15492-1	317446	9.01	417430	9.88	184437	13.14	191992	15.70	86846	6.56
ZZZZZZ	313536	9.01	414134	9.88	190885	13.14	211931	15.70	85742	6.56
ZZZZZZ	319494	9.01	428360	9.88	192385	13.14	227199	15.70	131893	6.59
ZZZZZZ	318807	9.01	427177	9.88	195794	13.14	220128	15.70	137734	6.60
ZZZZZZ	314423	9.06	424486	9.92	184634	13.15	192888	15.70	147534	6.70
ZZZZZZ	322055	9.01	432817	9.88	193570	13.14	218575	15.70	96596	6.56
ZZZZZZ	327235	9.01	437834	9.88	196458	13.14	215394	15.70	92140	6.56
ZZZZZZ	325180	9.01	433558	9.88	191190	13.14	207765	15.70	89140	6.56
ZZZZZZ	328977	9.01	436787	9.88	190402	13.14	202973	15.70	80082	6.56
MC15557-5	329866	9.01	433891	9.88	191620	13.14	202717	15.70	85642	6.56
MC15557-5MS	323044	9.01	426527	9.88	192438	13.14	212482	15.70	86713	6.56
MC15557-5MSD	326992	9.01	435481	9.88	197971	13.14	215510	15.70	85277	6.56

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

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

Volatile Surrogate Recovery Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8260B Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC15492-1	N69961A.D	83.0	85.0	86.0
MC15492-2	N69959.D	83.0	84.0	86.0
MC15492-3	N69904.D	83.0	84.0	86.0
MC15549-3MS	N69919.D	84.0	86.0	81.0
MC15549-3MSD	N69920.D	84.0	85.0	81.0
MC15557-5MS	N69971.D	85.0	85.0	82.0
MC15557-5MSD	N69972.D	86.0	85.0	83.0
MSN2629-BS	N69896.D	83.0	85.0	82.0
MSN2629-BSD	N69897.D	83.0	85.0	82.0
MSN2629-MB	N69899.D	82.0	84.0	84.0
MSN2631-BS	N69950.D	84.0	85.0	82.0
MSN2631-BSD	N69951.D	84.0	85.0	82.0
MSN2631-MB	N69953.D	83.0	83.0	86.0

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

New England ACCUTEST LABORATORIES

GC/MS Semi-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: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30934-MB	F59151.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784

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

MC15492-1, MC15492-2

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	5.0	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	

Method Blank Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30934-MB	F59151.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784

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

MC15492-1, MC15492-2

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.28	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	0.48	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.46	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	34%	15-110%
4165-62-2	Phenol-d5	23%	15-110%
118-79-6	2,4,6-Tribromophenol	73%	15-110%
4165-60-0	Nitrobenzene-d5	65%	30-130%
321-60-8	2-Fluorobiphenyl	60%	30-130%
1718-51-0	Terphenyl-d14	85%	30-130%

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

Method Blank Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30935-MB	I79922.D	1	11/08/12	NS	11/07/12	OP30935	MSI2976

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

MC15492-1, MC15492-2

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	0.049	0.10	0.033	ug/l	J
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	0.095	0.10	0.036	ug/l	J

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	30%	15-110%
4165-62-2	Phenol-d5	21%	15-110%
118-79-6	2,4,6-Tribromophenol	63%	15-110%
4165-60-0	Nitrobenzene-d5	53%	30-130%
321-60-8	2-Fluorobiphenyl	57%	30-130%
1718-51-0	Terphenyl-d14	85%	30-130%

Blank Spike Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30935-BS	U10614.D	1	11/09/12	NS	11/07/12	OP30935	MSU565

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

MC15492-1, MC15492-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	27.6	55	40-140
208-96-8	Acenaphthylene	50	21.9	44	40-140
120-12-7	Anthracene	50	28.8	58	40-140
56-55-3	Benzo(a)anthracene	50	37.5	75	40-140
50-32-8	Benzo(a)pyrene	50	26.0	52	40-140
205-99-2	Benzo(b)fluoranthene	50	28.0	56	40-140
191-24-2	Benzo(g,h,i)perylene	50	28.3	57	40-140
207-08-9	Benzo(k)fluoranthene	50	30.4	61	40-140
218-01-9	Chrysene	50	31.7	63	40-140
53-70-3	Dibenzo(a,h)anthracene	50	29.3	59	40-140
206-44-0	Fluoranthene	50	29.9	60	40-140
86-73-7	Fluorene	50	28.9	58	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	29.2	58	40-140
90-12-0	1-Methylnaphthalene	50	24.1	48	40-140
91-57-6	2-Methylnaphthalene	50	22.2	44	40-140
85-01-8	Phenanthrene	50	30.2	60	40-140
129-00-0	Pyrene	50	26.8	54	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	33%	15-110%
4165-62-2	Phenol-d5	22%	15-110%
118-79-6	2,4,6-Tribromophenol	62%	15-110%
4165-60-0	Nitrobenzene-d5	52%	30-130%
321-60-8	2-Fluorobiphenyl	52%	30-130%
1718-51-0	Terphenyl-d14	67%	30-130%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30934-BS	F59154.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784
OP30934-BSD	W6929.D	1	11/15/12	KR	11/07/12	OP30934	MSW320

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

MC15492-1, MC15492-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	100	28.6	29* a	25.5	26* a	11	30-130/20
95-57-8	2-Chlorophenol	100	51.0	51	53.3	53	4	30-130/20
59-50-7	4-Chloro-3-methyl phenol	100	65.1	65	56.3	56	14	30-130/20
120-83-2	2,4-Dichlorophenol	100	56.1	56	57.3	57	2	30-130/20
105-67-9	2,4-Dimethylphenol	100	46.3	46	21.8	22* a	72* a	30-130/20
51-28-5	2,4-Dinitrophenol	100	58.7	59	48.4	48	19	30-130/20
534-52-1	4,6-Dinitro-o-cresol	100	72.1	72	63.2	63	13	30-130/20
95-48-7	2-Methylphenol	100	46.2	46	44.7	45	3	30-130/20
	3&4-Methylphenol	200	91.6	46	84.7	42	8	30-130/20
88-75-5	2-Nitrophenol	100	54.1	54	61.6	62	13	30-130/20
100-02-7	4-Nitrophenol	100	35.4	35	31.4	31	12	30-130/20
87-86-5	Pentachlorophenol	100	70.5	71	59.5	60	17	30-130/20
108-95-2	Phenol	100	21.4	21* a	26.7	27* a	22* a	30-130/20
95-95-4	2,4,5-Trichlorophenol	100	59.3	59	60.5	61	2	30-130/20
88-06-2	2,4,6-Trichlorophenol	100	60.2	60	59.2	59	2	30-130/20
62-53-3	Aniline	50	10.4	21* a	23.9	48	79* a	40-140/20
101-55-3	4-Bromophenyl phenyl ether	50	34.7	69	42.8	86	21* a	40-140/20
85-68-7	Butyl benzyl phthalate	50	37.5	75	46.5	93	21* a	40-140/20
100-51-6	Benzyl Alcohol	50	22.3	45	34.9	70	44* a	40-140/20
91-58-7	2-Chloronaphthalene	50	29.2	58	83.4	83	96* a	40-140/20
106-47-8	4-Chloroaniline	50	15.5	31* a	22.3	45	36* a	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	50	24.1	48	37.3	75	43* a	40-140/20
111-44-4	bis(2-Chloroethyl)ether	50	26.0	52	42.1	84	47* a	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	50	29.7	59	48.6	97	48* a	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	50	31.1	62	41.1	82	28* a	40-140/20
122-66-7	1,2-Diphenylhydrazine	50	35.0	70	44.9	90	25* a	40-140/20
121-14-2	2,4-Dinitrotoluene	50	33.3	67	89.1	89	91* a	40-140/20
606-20-2	2,6-Dinitrotoluene	50	30.7	61	89.9	90	98* a	40-140/20
91-94-1	3,3'-Dichlorobenzidine	50	32.5	65	17.4	35* a	61* a	40-140/20
132-64-9	Dibenzofuran	50	30.1	60	41.2	82	31* a	40-140/20
84-74-2	Di-n-butyl phthalate	50	34.2	68	45.1	90	27* a	40-140/20
117-84-0	Di-n-octyl phthalate	50	42.7	85	48.2	96	12	40-140/20
84-66-2	Diethyl phthalate	50	31.5	63	44.2	88	34* a	40-140/20
131-11-3	Dimethyl phthalate	50	31.6	63	42.7	85	30* a	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	50	39.8	80	46.7	93	16	40-140/20
118-74-1	Hexachlorobenzene	50	36.2	72	97.5	98	92* a	40-140/20

* = Outside of Control Limits.

7.3.1

7

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30934-BS	F59154.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784
OP30934-BSD	W6929.D	1	11/15/12	KR	11/07/12	OP30934	MSW320

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

MC15492-1, MC15492-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	50	19.4	39* a	68.9	69	112* a	40-140/20
67-72-1	Hexachloroethane	50	23.6	47	61.5	62	89* a	40-140/20
78-59-1	Isophorone	50	30.0	60	82.6	83	93* a	40-140/20
88-74-4	2-Nitroaniline	50	31.2	62	44.8	90	36* a	40-140/20
99-09-2	3-Nitroaniline	50	31.0	62	32.1	64	3	40-140/20
100-01-6	4-Nitroaniline	50	30.5	61	38.1	76	22* a	40-140/20
98-95-3	Nitrobenzene	50	28.5	57	80.8	81	96* a	40-140/20
62-75-9	n-Nitrosodimethylamine	50	17.3	35* a	27.3	55	45* a	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	50	30.5	61	43.9	88	36* a	40-140/20
86-30-6	N-Nitrosodiphenylamine	50	35.1	70	42.0	84	18	40-140/20
110-86-1	Pyridine	50	8.7	17* a	23.9	48	93* a	40-140/20

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	34%	48%	15-110%
4165-62-2	Phenol-d5	23%	33%	15-110%
118-79-6	2,4,6-Tribromophenol	72%	83%	15-110%
4165-60-0	Nitrobenzene-d5	59%	81%	30-130%
321-60-8	2-Fluorobiphenyl	57%	76%	30-130%
1718-51-0	Terphenyl-d14	93%	97%	30-130%

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

* = Outside of Control Limits.

7.3.1

7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30934-MS	F59166.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784
OP30934-MSD	F59167.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784
MC15652-8	F59168.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784

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

MC15492-1, MC15492-2

CAS No.	Compound	MC15652-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	5.3	J	111	50.9	41	46.7	37	9	30-130/20
95-57-8	2-Chlorophenol	ND		111	83.3	75	76.5	69	9	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		111	94.4	85	89.3	80	6	30-130/20
120-83-2	2,4-Dichlorophenol	ND		111	94.2	85	87.3	79	8	30-130/20
105-67-9	2,4-Dimethylphenol	ND		111	75.2	68	83.3	75	10	30-130/20
51-28-5	2,4-Dinitrophenol	ND		111	81.2	73	79.2	71	2	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		111	98.6	89	94.9	85	4	30-130/20
95-48-7	2-Methylphenol	ND		111	71.8	65	69.5	63	3	30-130/20
	3&4-Methylphenol	ND		222	143	64	136	61	5	30-130/20
88-75-5	2-Nitrophenol	ND		111	93.2	84	85.2	77	9	30-130/20
100-02-7	4-Nitrophenol	ND		111	54.9	49	51.6	46	6	30-130/20
87-86-5	Pentachlorophenol	ND		111	110	99	104	94	6	30-130/20
108-95-2	Phenol	ND		111	39.7	36	37.4	34	6	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		111	91.6	82	87.5	79	5	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		111	95.5	86	89.7	81	6	30-130/20
62-53-3	Aniline	ND		55.6	14.9	27* [a]	19.5	35* [a]	27* [a]	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		55.6	48.6	87	47.1	85	3	40-140/20
85-68-7	Butyl benzyl phthalate	0.67	J	55.6	47.4	84	45.1	80	5	40-140/20
100-51-6	Benzyl Alcohol	0.97	J	55.6	40.0	70	37.9	66	5	40-140/20
91-58-7	2-Chloronaphthalene	ND		55.6	46.5	84	43.6	78	6	40-140/20
106-47-8	4-Chloroaniline	ND		55.6	16.9	30* [a]	5.3	10* [a]	105* [a]	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		55.6	45.4	82	38.1	69	17	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		55.6	47.0	85	42.4	76	10	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		55.6	53.1	96	48.9	88	8	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		55.6	45.4	82	43.3	78	5	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		55.6	49.2	89	39.9	72	21* [a]	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		55.6	46.5	84	45.3	82	3	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		55.6	44.8	81	43.4	78	3	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		55.6	20.9	38* [a]	2.7	5* [a]	154* [a]	40-140/20
132-64-9	Dibenzofuran	ND		55.6	45.0	81	42.2	76	6	40-140/20
84-74-2	Di-n-butyl phthalate	1.1	J	55.6	45.8	80	43.7	77	5	40-140/20
117-84-0	Di-n-octyl phthalate	ND		55.6	41.2	74	38.7	70	6	40-140/20
84-66-2	Diethyl phthalate	ND		55.6	44.9	81	43.1	78	4	40-140/20
131-11-3	Dimethyl phthalate	ND		55.6	46.3	83	43.7	79	6	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	10.0		55.6	53.7	79	52.0	76	3	40-140/20
118-74-1	Hexachlorobenzene	ND		55.6	48.0	86	46.1	83	4	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30934-MS	F59166.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784
OP30934-MSD	F59167.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784
MC15652-8	F59168.D	1	11/09/12	KR	11/07/12	OP30934	MSF2784

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

MC15492-1, MC15492-2

7.4.1

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CAS No.	Compound	MC15652-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		55.6	31.8	57	27.5	50	15	40-140/20
67-72-1	Hexachloroethane	ND		55.6	42.9	77	39.7	71	8	40-140/20
78-59-1	Isophorone	ND		55.6	48.7	88	45.1	81	8	40-140/20
88-74-4	2-Nitroaniline	ND		55.6	45.9	83	43.2	78	6	40-140/20
99-09-2	3-Nitroaniline	ND		55.6	25.0	45	8.6	15* [a]	98* [a]	40-140/20
100-01-6	4-Nitroaniline	ND		55.6	32.1	58	15.7	28* [a]	69* [a]	40-140/20
98-95-3	Nitrobenzene	ND		55.6	50.5	91	45.6	82	10	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		55.6	31.6	57	29.2	53	8	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		55.6	56.7	102	51.8	93	9	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		55.6	49.4	89	33.3	60	39* [b]	40-140/20
110-86-1	Pyridine	ND		55.6	20.3	37* [a]	22.2	40	9	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15652-8	Limits
367-12-4	2-Fluorophenol	51%	46%	41%	15-110%
4165-62-2	Phenol-d5	36%	33%	28%	15-110%
118-79-6	2,4,6-Tribromophenol	90%	87%	93%	15-110%
4165-60-0	Nitrobenzene-d5	90%	80%	80%	30-130%
321-60-8	2-Fluorobiphenyl	76%	72%	71%	30-130%
1718-51-0	Terphenyl-d14	51%	52%	69%	30-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30935-MS	I79924.D	1	11/08/12	NS	11/07/12	OP30935	MSI2976
OP30935-MSD	I79925.D	1	11/08/12	NS	11/07/12	OP30935	MSI2976
MC15651-5A	I79926.D	1	11/08/12	NS	11/07/12	OP30935	MSI2976

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

MC15492-1, MC15492-2

CAS No.	Compound	MC15651-5A ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		55.6	43.6	78	41.7	75	4	40-140/20
208-96-8	Acenaphthylene	ND		55.6	34.6	62	32.6	59	6	40-140/20
120-12-7	Anthracene	ND		55.6	40.7	73	39.0	70	4	40-140/20
56-55-3	Benzo(a)anthracene	ND		55.6	42.1	76	44.1	79	5	40-140/20
50-32-8	Benzo(a)pyrene	ND		55.6	33.6	60	34.4	62	2	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		55.6	37.6	68	38.0	68	1	40-140/20
191-24-2	Benzo(g,h,i)perylene	0.052		55.6	35.4	64	37.1	67	5	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		55.6	38.2	69	39.6	71	4	40-140/20
218-01-9	Chrysene	ND		55.6	42.9	77	45.1	81	5	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		55.6	37.2	67	39.0	70	5	40-140/20
206-44-0	Fluoranthene	ND		55.6	43.7	79	41.9	75	4	40-140/20
86-73-7	Fluorene	ND		55.6	40.7	73	39.3	71	4	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	0.053		55.6	36.6	66	38.4	69	5	40-140/20
90-12-0	1-Methylnaphthalene	ND		55.6	45.8	82	42.3	76	8	40-140/20
91-57-6	2-Methylnaphthalene	ND		55.6	41.7	75	38.6	69	8	40-140/20
85-01-8	Phenanthrene	ND		55.6	43.8	79	41.2	74	6	40-140/20
129-00-0	Pyrene	0.072		55.6	40.9	73	41.1	74	0	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15651-5A	Limits
367-12-4	2-Fluorophenol	44%	39%		15-110%
4165-62-2	Phenol-d5	32%	29%		15-110%
118-79-6	2,4,6-Tribromophenol	83%	83%		15-110%
4165-60-0	Nitrobenzene-d5	72%	65%	63%	30-130%
321-60-8	2-Fluorobiphenyl	74%	70%	68%	30-130%
1718-51-0	Terphenyl-d14	49%	52%	67%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSF2784-CC2737	Injection Date:	11/09/12
Lab File ID:	F59146.D	Injection Time:	09:52
Instrument ID:	GCMSF	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	497195	3.52	1731168	4.49	1163836	5.90	2209474	7.18	2650930	9.97	2639062	11.38
Upper Limit [a]	994390	4.02	3462336	4.99	2327672	6.40	4418948	7.68	5301860	10.47	5278124	11.88
Lower Limit [b]	248598	3.02	865584	3.99	581918	5.40	1104737	6.68	1325465	9.47	1319531	10.88
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30961-MB	457027	3.51	1651959	4.49	1080572	5.90	2064728	7.18	2320220	9.96	2332666	11.38
OP30961-BS	509562	3.51	1767657	4.49	727001	5.90	1857030	7.18	963818[c]	9.96	46810[c]	11.38
ZZZZZZ	494477	3.51	1735949	4.49	1114263	5.90	2058628	7.18	2419045	9.96	2400155	11.38
OP30934-MB	587701	3.51	2093057	4.49	1376134	5.90	2571412	7.18	3005108	9.96	3009934	11.38
OP30963-MB	532214	3.51	1838496	4.49	1161537	5.90	2243727	7.18	2525739	9.96	1256066[c]	11.38
OP30963-MB	531720	3.51	1838496	4.49	1161537	5.90	2243727	7.18	2525739	9.96	1255049[c]	11.38
OP30963-BS	550249	3.51	1940605	4.49	1263958	5.90	2457176	7.18	2728201	9.96	2629388	11.38
OP30963-BS	549237	3.51	1940767	4.49	1267218	5.90	2460985	7.18	2728505	9.96	2640560	11.38
OP30934-BS	504361	3.51	1770052	4.49	1154328	5.90	2199446	7.18	2392748	9.96	2021235	11.38
OP30963-MS	599338	3.51	2067629	4.49	1338031	5.90	2555257	7.18	2761448	9.96	2676324	11.38
OP30963-MS	601823	3.51	2075574	4.49	1335327	5.90	2555257	7.18	2761749	9.96	2672139	11.38
OP30963-MSD	562865	3.51	1970973	4.49	1320272	5.90	2443163	7.18	2648097	9.96	2612382	11.38
OP30963-MSD	562865	3.51	1971126	4.49	1316956	5.90	2443163	7.18	2647799	9.96	2616161	11.38
MC15540-1	511424	3.51	1819171	4.49	1195757	5.90	2210166	7.18	2518604	9.96	2630516	11.38
MC15540-1	511424	3.51	1819171	4.49	1193128	5.90	2210166	7.18	2519948	9.96	2630115	11.38
ZZZZZZ	512281	3.51	1825700	4.49	1183523	5.90	2244423	7.18	2477398	9.96	2640009	11.38
ZZZZZZ	512281	3.51	1824205	4.49	1183443	5.90	2242536	7.18	2483456	9.96	2660658	11.38
ZZZZZZ	524167	3.51	1880445	4.49	1212244	5.90	2292386	7.18	2602473	9.96	2702878	11.38
ZZZZZZ	527586	3.51	1868544	4.49	1212367	5.90	2292386	7.18	2599209	9.96	2703010	11.38
ZZZZZZ	530185	3.51	1885682	4.49	1205955	5.90	2334724	7.18	2534779	9.96	2675333	11.38
ZZZZZZ	530185	3.51	1883385	4.49	1205955	5.90	2334724	7.18	2538847	9.96	2697967	11.38
ZZZZZZ	509601	3.51	1811391	4.49	1176690	5.90	2204544	7.18	2537294	9.96	2716254	11.38
ZZZZZZ	509601	3.51	1806579	4.49	1174314	5.90	2205581	7.18	2540917	9.96	2716254	11.38
ZZZZZZ	495090	3.51	1757599	4.49	1152709	5.90	2164229	7.18	2494678	9.95	2663460	11.38
ZZZZZZ	495090	3.51	1757599	4.49	1147919	5.90	2164229	7.18	2505972	9.95	2663144	11.38
ZZZZZZ	538778	3.51	1906274	4.49	1245164	5.90	2319626	7.18	2672887	9.96	2754654	11.38
ZZZZZZ	538778	3.51	1906274	4.49	1241417	5.90	2319626	7.18	2671528	9.96	2754324	11.38
ZZZZZZ	517003	3.51	1857975	4.49	1207079	5.90	2267706	7.18	2670305	9.96	2792703	11.38
ZZZZZZ	517003	3.51	1846001	4.49	1208303	5.90	2267706	7.18	2670368	9.96	2792703	11.38
ZZZZZZ	505462	3.51	1811664	4.49	1167877	5.90	2174161	7.18	2513279	9.95	2609996	11.38
ZZZZZZ	503913	3.51	1797666	4.49	1159797	5.90	2173726	7.18	2513497	9.95	2610200	11.38
OP30934-MS	660707	3.51	2353427	4.49	1551216	5.90	2929514	7.18	3188346	9.96	3240805	11.38
OP30934-MSD	624934	3.51	2257517	4.49	1475800	5.90	2794554	7.18	3098998	9.96	3252411	11.38
MC15652-8	676304	3.51	2384026	4.49	1554295	5.90	2929890	7.18	3345585	9.96	3510427	11.38
ZZZZZZ	572279	3.51	2048225	4.49	1329076	5.90	2534028	7.18	2994388	9.96	3175590	11.38

7.5.1

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Semivolatile Internal Standard Area Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSF2784-CC2737	Injection Date:	11/09/12
Lab File ID:	F59146.D	Injection Time:	09:52
Instrument ID:	GCMSF	Method:	SW846 8270C

Lab Sample ID	IS 1 AREA	IS 1 RT	IS 2 AREA	IS 2 RT	IS 3 AREA	IS 3 RT	IS 4 AREA	IS 4 RT	IS 5 AREA	IS 5 RT	IS 6 AREA	IS 6 RT
MC15492-1	625488	3.51	2234183	4.49	1452517	5.90	2792404	7.18	3263071	9.96	3499326	11.38
MC15492-2	555223	3.51	1969727	4.49	1330379	5.90	2488315	7.18	3030914	9.96	3188056	11.38
OP30961-MS	504973	3.51	1760243	4.49	1135565	5.90	2136278	7.18	2438949	9.96	2455160	11.38
OP30961-MSD	498419	3.51	1721699	4.49	1145306	5.90	2120167	7.18	2481687	9.96	2538620	11.38
MC15666-1	481103	3.51	1721714	4.49	1117588	5.90	2103077	7.18	2422530	9.96	2558587	11.38

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

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Outside control limits. Results confirmed by reanalysis.

Semivolatile Internal Standard Area Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSI2976-CC2969	Injection Date:	11/08/12
Lab File ID:	I79921.D	Injection Time:	09:19
Instrument ID:	GCMSI	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	360858	3.94	1091342	4.91	580928	6.32	927937	7.64	934215	0.00	1297025	0.00
Upper Limit [a]	721716	4.44	2182684	5.41	1161856	6.82	1855874	8.14	1868430	0.50	2594050	0.50
Lower Limit [b]	180429	3.44	545671	4.41	290464	5.82	463969	7.14	467108	-0.50	648513	-0.50
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30935-MB	384026	3.94	1143911	4.91	626955	6.32	1064883	7.64	967800	0.00	1724990	0.00
OP30935-MS	411457	3.94	1208791	4.91	645655	6.32	1073755	7.64	897916	0.00	1559355	0.00
OP30935-MSD	386065	3.94	1146551	4.92	604355	6.33	950394	7.64	852064	0.00	1425199	0.00
MC15651-5A	379376	3.94	1142795	4.91	617726	6.32	1050488	7.64	931684	0.00	1650098	0.00
ZZZZZZ	384419	3.94	1120649	4.91	623561	6.32	1051628	7.64	944798	0.00	1656388	0.00
ZZZZZZ	382100	3.94	1126148	4.91	621028	6.32	1056586	7.64	951413	0.00	1687348	0.00
ZZZZZZ	349865	3.94	1030220	4.91	564149	6.32	955801	7.64	875552	0.00	1544181	0.00
ZZZZZZ	356420	3.94	1056912	4.91	576423	6.32	987312	7.64	887585	0.00	1588153	0.00
ZZZZZZ	353233	3.94	1043966	4.91	565617	6.32	957375	7.64	859126	0.00	1514879	0.00
ZZZZZZ	357597	3.94	1058483	4.91	578105	6.32	978544	7.64	892559	0.00	1567979	0.00
ZZZZZZ	373702	3.94	1111116	4.91	599564	6.32	1019972	7.64	919683	0.00	1648431	0.00
ZZZZZZ	364694	3.94	1075336	4.91	588357	6.32	1004234	7.64	903480	0.00	1578951	0.00
ZZZZZZ	353790	3.94	1077250	4.91	583202	6.33	1013859	7.64	890062	0.00	1590963	0.00
ZZZZZZ	337298	3.94	1005815	4.91	554916	6.32	970283	7.64	873336	0.00	1572979	0.00
ZZZZZZ	350383	3.94	1036938	4.92	566876	6.33	994106	7.64	896203	0.00	1634282	0.00
MC15492-1	342432	3.94	1029566	4.91	554735	6.32	964056	7.64	866747	0.00	1562533	0.00
MC15492-2	331522	3.94	979273	4.91	542790	6.32	937275	7.64	847008	0.00	1505872	0.00
ZZZZZZ	330499	3.94	969151	4.91	534390	6.32	919403	7.64	828129	0.00	1487587	0.00
ZZZZZZ	338708	3.94	997577	4.91	548932	6.32	929444	7.64	852702	0.00	1541661	0.00
ZZZZZZ	338772	3.94	1006899	4.91	550089	6.32	939181	7.64	859423	0.00	1527291	0.00
ZZZZZZ	297161	3.94	886840	4.91	476964	6.32	847971	7.64	786662	0.00	1385630	0.00

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

(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.

Semivolatile Internal Standard Area Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSI2975-CC2969	Injection Date:	11/08/12
Lab File ID:	I79921.D	Injection Time:	09:19
Instrument ID:	GCMSI	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	360858	3.94	1091342	4.91	580928	6.32	927937	7.64	934215	0.00	1297025	0.00
Upper Limit [a]	721716	4.44	2182684	5.41	1161856	6.82	1855874	8.14	1868430	0.50	2594050	0.50
Lower Limit [b]	180429	3.44	545671	4.41	290464	5.82	463969	7.14	467108	-0.50	648513	-0.50
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30935-MB	384026	3.94	1143911	4.91	626955	6.32	1064883	7.64	967800	0.00	1724990	0.00
OP30935-MS	411457	3.94	1208791	4.91	645655	6.32	1073755	7.64	897916	0.00	1559355	0.00
OP30935-MSD	386065	3.94	1146551	4.92	604355	6.33	950394	7.64	852064	0.00	1425199	0.00
MC15651-5A	379376	3.94	1142795	4.91	617726	6.32	1050488	7.64	931684	0.00	1650098	0.00
ZZZZZZ	384419	3.94	1120649	4.91	623561	6.32	1051628	7.64	944798	0.00	1656388	0.00
ZZZZZZ	382100	3.94	1126148	4.91	621028	6.32	1056586	7.64	951413	0.00	1687348	0.00
ZZZZZZ	349865	3.94	1030220	4.91	564149	6.32	955801	7.64	875552	0.00	1544181	0.00
ZZZZZZ	356420	3.94	1056912	4.91	576423	6.32	987312	7.64	887585	0.00	1588153	0.00
ZZZZZZ	353233	3.94	1043966	4.91	565617	6.32	957375	7.64	859126	0.00	1514879	0.00
ZZZZZZ	357597	3.94	1058483	4.91	578105	6.32	978544	7.64	892559	0.00	1567979	0.00
ZZZZZZ	373702	3.94	1111116	4.91	599564	6.32	1019972	7.64	919683	0.00	1648431	0.00
ZZZZZZ	364694	3.94	1075336	4.91	588357	6.32	1004234	7.64	903480	0.00	1578951	0.00
ZZZZZZ	353790	3.94	1077250	4.91	583202	6.33	1013859	7.64	890062	0.00	1590963	0.00
ZZZZZZ	337298	3.94	1005815	4.91	554916	6.32	970283	7.64	873336	0.00	1572979	0.00
ZZZZZZ	350383	3.94	1036938	4.92	566876	6.33	994106	7.64	896203	0.00	1634282	0.00
MC15492-1	342432	3.94	1029566	4.91	554735	6.32	964056	7.64	866747	0.00	1562533	0.00
MC15492-2	331522	3.94	979273	4.91	542790	6.32	937275	7.64	847008	0.00	1505872	0.00
ZZZZZZ	330499	3.94	969151	4.91	534390	6.32	919403	7.64	828129	0.00	1487587	0.00
ZZZZZZ	338708	3.94	997577	4.91	548932	6.32	929444	7.64	852702	0.00	1541661	0.00
ZZZZZZ	338772	3.94	1006899	4.91	550089	6.32	939181	7.64	859423	0.00	1527291	0.00
ZZZZZZ	297161	3.94	886840	4.91	476964	6.32	847971	7.64	786662	0.00	1385630	0.00

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

(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.

Semivolatile Internal Standard Area Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSU565-CC550	Injection Date:	11/09/12
Lab File ID:	U10607.D	Injection Time:	08:56
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	169221	3.66	488004	4.64	232306	6.06	401279	7.36	168428	10.14	212197	11.56
Upper Limit [a]	338442	4.16	976008	5.14	464612	6.56	802558	7.86	336856	10.64	424394	12.06
Lower Limit [b]	84611	3.16	244002	4.14	116153	5.56	200640	6.86	84214	9.64	106099	11.06
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30937-MB	222244	3.66	639385	4.64	305009	6.06	501721	7.36	291463	10.14	506502[c]	11.57
OP30937-BS	236889	3.66	684582	4.64	321265	6.06	549075	7.36	291734	10.14	514033[c]	11.57
OP30937-MS	218844	3.66	637811	4.64	296091	6.06	504393	7.36	270247	10.14	471678[c]	11.57
OP30937-MSD	233117	3.66	662639	4.64	307166	6.06	523200	7.36	276638	10.14	489614[c]	11.57
MC15652-7	245464	3.66	694950	4.64	335752	6.06	547662	7.36	320621	10.13	566215[c]	11.57
ZZZZZZ	224153	3.66	640925	4.64	304836	6.06	499311	7.36	296676	10.14	522818[c]	11.57
OP30935-BS	165763	3.66	468366	4.64	218154	6.06	373865	7.36	196938	10.14	304143	11.56
ZZZZZZ	243095	3.66	703914	4.64	334121	6.06	556805	7.36	325702	10.14	574694[c]	11.57
ZZZZZZ	228070	3.66	661955	4.64	311710	6.06	517192	7.36	305741	10.14	541786[c]	11.57
ZZZZZZ	242856	3.66	686673	4.64	321489	6.06	533644	7.36	315788	10.14	561713[c]	11.57
ZZZZZZ	264859	3.66	765563	4.64	362884	6.06	603550	7.36	354723[c]	10.14	626303[c]	11.57
ZZZZZZ	218076	3.66	625093	4.64	295257	6.06	492756	7.36	290599	10.14	514685[c]	11.57
ZZZZZZ	220512	3.66	630992	4.64	295080	6.06	488541	7.36	286477	10.14	509348[c]	11.57
ZZZZZZ	210677	3.66	612298	4.64	292100	6.06	486995	7.36	282451	10.14	504596[c]	11.57
ZZZZZZ	224185	3.66	637559	4.64	299392	6.06	495180	7.36	288836	10.13	507558[c]	11.57
ZZZZZZ	215330	3.66	616479	4.64	292307	6.06	482555	7.36	286971	10.14	506072[c]	11.57
ZZZZZZ	212171	3.66	608493	4.64	285076	6.06	471840	7.36	279920	10.14	490834[c]	11.57
ZZZZZZ	216257	3.66	610585	4.64	288931	6.06	487372	7.36	287903	10.14	520724*	11.57
ZZZZZZ	203677	3.66	589843	4.64	287147	6.06	470501	7.36	278666	10.13	490733[c]	11.57
ZZZZZZ	213656	3.66	614545	4.64	292917	6.06	493031	7.36	287952	10.14	512051[c]	11.57
ZZZZZZ	227827	3.66	652490	4.64	307305	6.06	509881	7.36	299469	10.14	528728[c]	11.57
ZZZZZZ	206138	3.66	598176	4.64	280544	6.06	468601	7.36	272381	10.13	483206[c]	11.57
ZZZZZZ	221006	3.66	628866	4.64	300727	6.06	499450	7.36	280935	10.14	492687[c]	11.57
ZZZZZZ	196620	3.66	566131	4.64	267929	6.06	446782	7.36	267617	10.13	479478[c]	11.57
OP30943-MB	186354	3.66	545194	4.64	250824	6.06	406543	7.36	217826	10.13	367836	11.56
OP30943-BS	176575	3.66	498410	4.64	231632	6.06	384796	7.36	202306	10.14	352089	11.56
OP30943-MS	174466	3.66	492205	4.64	229974	6.06	383929	7.36	196841	10.14	352410	11.57
OP30943-MSD	168912	3.66	478208	4.64	226114	6.06	371820	7.36	196114	10.14	343783	11.57

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

Semivolatile Internal Standard Area Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSU565-CC550	Injection Date:	11/09/12
Lab File ID:	U10607.D	Injection Time:	08:56
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

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

(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.

Semivolatile Internal Standard Area Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW320-CC318	Injection Date:	11/15/12
Lab File ID:	W6926.D	Injection Time:	08:12
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	98334	4.11	389927	5.10	223404	6.54	384212	7.91	429229	10.85	407634	12.43
Upper Limit [a]	196668	4.61	779854	5.60	446808	7.04	768424	8.41	858458	11.35	815268	12.93
Lower Limit [b]	49167	3.61	194964	4.60	111702	6.04	192106	7.41	214615	10.35	203817	11.93
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30951-MB	126386	4.11	497263	5.10	282771	6.54	489333	7.91	536511	10.84	522579	12.43
OP30951-MB	126373	4.11	497323	5.10	282811	6.54	489317	7.91	536507	10.84	522659	12.43
OP30951-BS	121961	4.11	483347	5.10	272918	6.54	463928	7.91	510500	10.85	457348	12.43
OP30934-BSD	121961	4.11	483347	5.10	272918	6.54	463928	7.91	510500	10.85	457348	12.43
OP30951-BS	121970	4.11	483519	5.10	272976	6.54	463971	7.91	510512	10.85	457335	12.43
OP30951-MS	121638	4.11	483996	5.10	271758	6.54	466794	7.91	512991	10.85	468492	12.43
OP30951-MS	121619	4.11	484038	5.10	271860	6.54	466794	7.91	513081	10.85	467305	12.43
OP30951-MSD	120870	4.11	482043	5.10	272848	6.54	462852	7.91	512067	10.85	464781	12.43
OP30951-MSD	120879	4.11	482225	5.10	272902	6.54	463029	7.91	512061	10.85	464779	12.43
MC15652-9	118831	4.11	471492	5.10	266320	6.54	462810	7.91	496825	10.84	483987	12.43
MC15652-9	118839	4.11	471465	5.10	266362	6.54	462795	7.91	496890	10.84	484369	12.43
ZZZZZZ	116138	4.11	462341	5.10	261174	6.54	455920	7.91	499366	10.84	482249	12.43
ZZZZZZ	118357	4.11	466851	5.10	269852	6.54	468576	7.91	517877	10.84	499481	12.43
ZZZZZZ	113253	4.11	455376	5.10	258479	6.54	452377	7.91	483650	10.84	469490	12.43
ZZZZZZ	113246	4.11	455569	5.10	258514	6.54	452377	7.91	483764	10.84	469475	12.43
ZZZZZZ	116689	4.11	463443	5.10	263856	6.54	458088	7.91	497660	10.84	480468	12.43
ZZZZZZ	116697	4.11	463462	5.10	263834	6.54	458088	7.91	497051	10.84	480592	12.43
ZZZZZZ	124568	4.11	494987	5.10	282004	6.54	489884	7.91	521585	10.84	494789	12.43
OP31026-MB	104142	4.11	422943	5.10	239473	6.54	416599	7.91	444501	10.84	430807	12.43
ZZZZZZ	114478	4.11	454996	5.10	258917	6.54	447744	7.91	489792	10.84	464931	12.43
ZZZZZZ	111851	4.11	445703	5.10	256072	6.54	442624	7.91	477900	10.84	465671	12.43
ZZZZZZ	105881	4.11	422475	5.10	241719	6.54	419468	7.91	460697	10.84	446809	12.43

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

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

7.5.5

7

Semivolatile Surrogate Recovery Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15492-1	F59170.D	42.0	28.0	86.0	81.0	70.0	89.0
MC15492-2	F59171.D	41.0	30.0	92.0	83.0	69.0	82.0
OP30934-BS	F59154.D	34.0	23.0	72.0	59.0	57.0	93.0
OP30934-BSD	W6929.D	48.0	33.0	83.0	81.0	76.0	97.0
OP30934-MB	F59151.D	34.0	23.0	73.0	65.0	60.0	85.0
OP30934-MS	F59166.D	51.0	36.0	90.0	90.0	76.0	51.0
OP30934-MSD	F59167.D	46.0	33.0	87.0	80.0	72.0	52.0

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

Semivolatile Surrogate Recovery Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC15492-1	I79938.D	62.0	67.0	90.0
MC15492-2	I79939.D	63.0	68.0	84.0
OP30935-BS	U10614.D	52.0	52.0	67.0
OP30935-MB	I79922.D	53.0	57.0	85.0
OP30935-MS	I79924.D	72.0	74.0	49.0
OP30935-MSD	I79925.D	65.0	70.0	52.0

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

New England ACCUTEST LABORATORIES

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: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30911-MB	BB44031A.D	1	11/05/12	AP	11/05/12	OP30911	GBB2678

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

MC15492-1, MC15492-2, MC15492-4

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)	93%	36-173%
460-00-4	Bromofluorobenzene (S)	92%	36-173%

8.1.1

8

Blank Spike Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30911-BS	BB44032A.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678

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

MC15492-1, MC15492-2, MC15492-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.060	85	60-140
106-93-4	1,2-Dibromoethane	0.071	0.060	85	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	85%	36-173%
460-00-4	Bromofluorobenzene (S)	84%	36-173%

8.2.1

8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30911-MS	BB44033A.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678
OP30911-MSD	BB44034A.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678
MC15603-5	BB44035A.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678

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

MC15492-1, MC15492-2, MC15492-4

CAS No.	Compound	MC15603-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		0.071	0.061	86	0.064	90	5	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.071	0.062	87	0.061	86	2	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC15603-5	Limits
460-00-4	Bromofluorobenzene (S)	87%	90%	93%	36-173%
460-00-4	Bromofluorobenzene (S)	85%	89%	93%	36-173%

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8011 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC15492-1	BB44046.D	87.0	94.0
MC15492-2	BB44048.D	78.0	72.0
MC15492-4	BB44049.D	88.0	87.0
OP30911-BS	BB44032A.D	85.0	84.0
OP30911-MB	BB44031A.D	93.0	92.0
OP30911-MS	BB44033A.D	87.0	85.0
OP30911-MSD	BB44034A.D	90.0	89.0

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

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

8.4.1

8

GC Surrogate Retention Time Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBB2678-CC2678	Injection Date:	11/06/12
Lab File ID:	BB44036.D	Injection Time:	01:51
Instrument ID:	GCBB	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	3.88	4.18

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BB44037.D	11/06/12	02:17	3.88	4.18
ZZZZZZ	BB44038.D	11/06/12	02:43	3.88	4.18
ZZZZZZ	BB44039.D	11/06/12	03:09	3.88	4.18
ZZZZZZ	BB44040.D	11/06/12	03:36	3.88	4.18
ZZZZZZ	BB44041.D	11/06/12	04:02	3.88	4.18
ZZZZZZ	BB44042.D	11/06/12	04:28	3.88	4.18
ZZZZZZ	BB44043.D	11/06/12	04:54	3.88	4.18
ZZZZZZ	BB44044.D	11/06/12	05:20	3.88	4.18
ZZZZZZ	BB44045.D	11/06/12	05:46	3.88	4.18
MC15492-1	BB44046.D	11/06/12	06:12	3.88	4.18

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBB2678-CC2678	Injection Date:	11/05/12
Lab File ID:	BB44025.D	Injection Time:	21:02
Instrument ID:	GCBB	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	3.88	4.18

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BB44026.D	11/05/12	21:29	3.88	4.18
ZZZZZZ	BB44027.D	11/05/12	21:55	3.88	4.18
ZZZZZZ	BB44028.D	11/05/12	22:21	3.88	4.18
ZZZZZZ	BB44029.D	11/05/12	22:48	3.88	4.18
ZZZZZZ	BB44030.D	11/05/12	23:14	3.88	4.18
OP30910-MB	BB44031.D	11/05/12	23:40	3.88	4.18
OP30911-MB	BB44031A.D	11/05/12	23:40	3.88	4.18
OP30910-BS	BB44032.D	11/06/12	00:06	3.88	4.18
OP30911-BS	BB44032A.D	11/06/12	00:06	3.88	4.18
OP30910-MS	BB44033.D	11/06/12	00:32	3.88	4.18
OP30911-MS	BB44033A.D	11/06/12	00:32	3.88	4.18
OP30910-MSD	BB44034.D	11/06/12	00:58	3.88	4.18
OP30911-MSD	BB44034A.D	11/06/12	00:58	3.88	4.18
MC15603-7	BB44035.D	11/06/12	01:25	3.88	4.18
MC15603-5	BB44035A.D	11/06/12	01:25	3.88	4.18

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC15492
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBB2678-CC2678	Injection Date:	11/06/12
Lab File ID:	BB44047.D	Injection Time:	06:40
Instrument ID:	GCBB	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	3.88	4.18

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
MC15492-2	BB44048.D	11/06/12	07:06	3.88	4.18
MC15492-4	BB44049.D	11/06/12	07:32	3.88	4.18
ZZZZZZ	BB44050.D	11/06/12	07:58	3.88	4.18
ZZZZZZ	BB44051.D	11/06/12	08:25	3.88	4.18
ZZZZZZ	BB44052.D	11/06/12	08:51	3.88	4.18
GBB2678-ECC267B	BB44053.D	11/06/12	09:17	3.88	4.18

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

8.5.3

Roxana Groundwater Quarterly – 4th Quarter 2012 Data Review

Laboratory SDG: MC15576

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 12/11/2012

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Sample Identification	Sample Identification
P59-ROX-110212	P59-ROX-110212-Dup
TB-110212-HCL-W	TB-110212-ST-W

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated that VOC LCS/LCSD and SVOC LCS recoveries were outside evaluation criteria. Field duplicate pair P59-ROX-110212/P59-ROX-110212-Dup was diluted due to high levels of VOC target analytes. Additionally, the initial calibration verification for acetone exceeded 50 percent difference (%D) in field duplicate pair P59-ROX-110212/P59-ROX-110212-Dup. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated samples were received by the laboratory at a temperature of 1.7ºC, which is outside the 4ºC ± 2ºC criteria. Samples were received in good condition; therefore, no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

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

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSN2639-BS	VOCs	Acrolein	**57**	NA	70-130
MSN2639-BS	VOCs	Acrylonitrile	**460**	NA	70-130

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSN2639-BS	VOCs	Chloromethane	**69**	NA	70-130
MSN2639-BS	VOCs	2,2-Dichloropropane	**65**	NA	70-130
MSN2629-BS/BSD	VOCs	Acrolein	**61/62**	2	70-130/25
MSN2629-BS/BSD	VOCs	Acrylonitrile	**492/494**	0	70-130/25
OP30951-BS	SVOCs	Benzoic acid	**26**	NA	30-130
OP30951-BS	SVOCs	2,4-Dimethylphenol	**22**	NA	30-130
OP30951-BS	SVOCs	Phenol	**27**	NA	30-130
OP30951-BS	SVOCs	3,3'-Dichlorobenzidine	**35**	NA	40-140

Analytical data that required qualification based on LCS data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. LCS MSN2639-BS was associated with trip blank TB-110212-HCL-W. Trip blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
P59-ROX-110212	VOCs	Acrolein	**UJ**
P59-ROX-110212-Dup	VOCs	Acrolein	**UJ**
P59-ROX-110212	SVOCs	Benzoic acid	**UJ**
P59-ROX-110212	SVOCs	2,4-Dimethylphenol	**J**
P59-ROX-110212	SVOCs	Phenol	**J**
P59-ROX-110212	SVOCs	3,3'-Dichlorobenzidine	**UJ**
P59-ROX-110212-Dup	SVOCs	Benzoic acid	**UJ**
P59-ROX-110212-Dup	SVOCs	2,4-Dimethylphenol	**J**
P59-ROX-110212-Dup	SVOCs	Phenol	**J**
P59-ROX-110212-Dup	SVOCs	3,3'-Dichlorobenzidine	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
P59-ROX-110212	P59-ROX-110212-Dup

Were field duplicates within evaluation criteria?

Yes

11.0 Sample Dilutions

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

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes, the initial calibration verification recovery for acetone exceeded 50 percent difference (%D) in field duplicate pair P59-ROX-110212/P59-ROX-110212-Dup; analytes in associated samples were qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
P59-ROX-110212	VOCs	Acetone	**UJ**
P59-ROX-110212-Dup	VOCs	Acetone	**UJ**

New England ACCUTEST LABORATORIES

12/11/12





Technical Report for

Shell Oil

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana,

Accutest Job Number: MC15576

Sampling Date: 11/02/12

Report to:

URS Corporation

elizabeth.kunkel@URS.com

ATTN: Elizabeth Kunkel

Total number of pages in report: **79**

Reviewed on 12/11/12

Reza Pand
Lab Director

ACCREDITED IN ACCORDANCE WITH nelac

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

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Sample Summary

Shell Oil

Job No: MC15576

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC15576-1	11/02/12	10:40	LRCK	11/03/12	AQ	Ground Water	P59-ROX-110212
MC15576-2	11/02/12	10:40	LRCK	11/03/12	AQ	Ground Water	P59-ROX-110212-DUP
MC15576-3	11/02/12	00:00	LRCK	11/03/12	AQ	Trip Blank Water	TB-110212-HCL-W
MC15576-4	11/02/12	00:00	LRCK	11/03/12	AQ	Trip Blank Water	TB-110212-ST-W

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	**Job No**	MC15576
Site:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central	**Report Date**	12/6/2012 3:36:42 PM

2 Sample(s), 2 Trip Blank(s) were collected on 11/02/2012 and were received at Accutest on 11/03/2012 properly preserved, at 1.7 Deg. C and intact. These Samples received an Accutest job number of MC15576. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. 1-Chlorohexane, Benzenethiol, Dibenz(a,h)acridine, Indene, and Quinoline were searched in the library search and reported only if detections were found.

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

Volatiles by GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** MSN2629

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC15549-3MS, MC15549-3MSD were used as the QC samples indicated.
- BS/BSD Recovery(s) for Acrolein are outside control limits. Blank Spike meets program technical requirements.
- MS/MSD Recovery(s) for Acrolein are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC15549-3MS/MSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MSN2629-BS/BSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- Initial calibration verification MSN2591-ICV2591 for acetone exceeds 50% Difference (response bias high). Associated sample is non-detect for this compound.

Matrix AQ **Batch ID:** MSN2639

- Sample(s) MC15774-4MS, MC15774-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Blank Spike Recovery(s) for 2,2-Dichloropropane, Acrolein, Chloromethane are outside control limits. Blank Spike meets program technical requirements.
- MS/MSD Recovery(s) for 2,2-Dichloropropane, Acrolein, Chloromethane, Dichlorodifluoromethane are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC15774-4MS/MSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MSN2639-BS for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- All samples were analyzed within the recommended method holding time.

Extractables by GCMS By Method SW846 8270C

Matrix AQ	Batch ID: OP30951

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15652-9MS, MC15652-9MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Blank Spike Recovery(s) for 2,4-Dimethylphenol, 3,3'-Dichlorobenzidine, Benzoic Acid, Phenol are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for 4-Nitrophenol, Benzoic Acid, Phenol are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for 4-Nitrophenol, Benzoic Acid, Phenol, 2,4-Dimethylphenol, 3,3'-Dichlorobenzidine are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- RPD(s) for MSD for 2,4-Dimethylphenol, 3,3'-Dichlorobenzidine are outside control limits for sample OP30951-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- OP30951-MB/BS/MS/MSD, file W6928A/W6929A/W6930A/W6931A not associated with this job.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix AQ	Batch ID: OP30952

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC15652-10MS, MC15652-10MSD were used as the QC samples indicated.

Volatiles by GC By Method SW846 8011

Matrix AQ	Batch ID: OP30911

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC15603-5MS, MC15603-5MSD were used as the QC samples indicated.

The Accutest Laboratories of 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 Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC15576).

Summary of Hits

Job Number: MC15576
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 11/02/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC15576-1	P59-ROX-110212					
Benzene		10300	50	24	ug/l	SW846 8260B
Ethylbenzene		1870	100	51	ug/l	SW846 8260B
n-Propylbenzene		105 J	500	58	ug/l	SW846 8260B
Toluene		1090	100	51	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		558	500	35	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		154 J	500	47	ug/l	SW846 8260B
m,p-Xylene		4490	100	73	ug/l	SW846 8260B
o-Xylene		686	100	58	ug/l	SW846 8260B
Xylene (total)		5170	100	58	ug/l	SW846 8260B
2,4-Dimethylphenol		10.2 J	11	2.9	ug/l	SW846 8270C
2-Methylphenol		6.5 J	11	0.64	ug/l	SW846 8270C
3&4-Methylphenol		13.7	11	0.79	ug/l	SW846 8270C
Phenol		76.6	5.3	0.98	ug/l	SW846 8270C
Dibenzofuran		0.31 J	2.1	0.23	ug/l	SW846 8270C
Acenaphthene		0.43	0.11	0.014	ug/l	SW846 8270C BY SIM
Anthracene		0.086 J	0.11	0.019	ug/l	SW846 8270C BY SIM
Fluoranthene		0.063 J	0.11	0.034	ug/l	SW846 8270C BY SIM
Fluorene		0.50	0.11	0.049	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		18.7	0.21	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		28.2	0.21	0.055	ug/l	SW846 8270C BY SIM
Phenanthrene		0.75	0.053	0.013	ug/l	SW846 8270C BY SIM
Pyrene		0.090 J	0.11	0.037	ug/l	SW846 8270C BY SIM
MC15576-2	P59-ROX-110212-DUP					
Benzene		10500	50	24	ug/l	SW846 8260B
Ethylbenzene		1940	100	51	ug/l	SW846 8260B
n-Propylbenzene		111 J	500	58	ug/l	SW846 8260B
Toluene		1100	100	51	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		592	500	35	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		167 J	500	47	ug/l	SW846 8260B
m,p-Xylene		4680	100	73	ug/l	SW846 8260B
o-Xylene		721	100	58	ug/l	SW846 8260B
Xylene (total)		5400	100	58	ug/l	SW846 8260B
2,4-Dimethylphenol		9.2 J	10	2.9	ug/l	SW846 8270C
2-Methylphenol		5.6 J	10	0.63	ug/l	SW846 8270C
3&4-Methylphenol		11.6	10	0.78	ug/l	SW846 8270C
Phenol		65.6	5.2	0.97	ug/l	SW846 8270C
Dibenzofuran		0.29 J	2.1	0.22	ug/l	SW846 8270C
Acenaphthene		0.42	0.10	0.014	ug/l	SW846 8270C BY SIM
Anthracene		0.084 J	0.10	0.018	ug/l	SW846 8270C BY SIM
Fluoranthene		0.066 J	0.10	0.034	ug/l	SW846 8270C BY SIM
Fluorene		0.48	0.10	0.048	ug/l	SW846 8270C BY SIM

Summary of Hits

Job Number: MC15576
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 11/02/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
1-Methylnaphthalene		17.9	0.21	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		26.8	0.21	0.054	ug/l	SW846 8270C BY SIM
Phenanthrene		0.73	0.052	0.013	ug/l	SW846 8270C BY SIM
Pyrene		0.093 J	0.10	0.037	ug/l	SW846 8270C BY SIM

MC15576-3 **TB-110212-HCL-W**

No hits reported in this sample.

MC15576-4 **TB-110212-ST-W**

No hits reported in this sample.

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	P59-ROX-110212		
Lab Sample ID:	MC15576-1	**Date Sampled:**	11/02/12
Matrix:	AQ - Ground Water	**Date Received:**	11/03/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69917.D	100	11/13/12	JP	n/a	n/a	MSN2629
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	500	300	ug/l	UJ
107-02-8	Acrolein	ND	2500	1000	ug/l	UJ
107-13-1	Acrylonitrile	ND	500	320	ug/l	
71-43-2	Benzene	10300	50	24	ug/l	
108-86-1	Bromobenzene	ND	500	62	ug/l	
74-97-5	Bromochloromethane	ND	500	130	ug/l	
75-27-4	Bromodichloromethane	ND	100	58	ug/l	
75-25-2	Bromoform	ND	100	78	ug/l	
74-83-9	Bromomethane	ND	200	100	ug/l	
78-93-3	2-Butanone (MEK)	ND	500	240	ug/l	
104-51-8	n-Butylbenzene	ND	500	61	ug/l	
135-98-8	sec-Butylbenzene	ND	500	55	ug/l	
98-06-6	tert-Butylbenzene	ND	500	64	ug/l	
75-15-0	Carbon disulfide	ND	500	61	ug/l	
56-23-5	Carbon tetrachloride	ND	100	87	ug/l	
108-90-7	Chlorobenzene	ND	100	47	ug/l	
75-00-3	Chloroethane	ND	200	50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	500	130	ug/l	
67-66-3	Chloroform	ND	100	50	ug/l	
74-87-3	Chloromethane	ND	200	73	ug/l	
95-49-8	o-Chlorotoluene	ND	500	65	ug/l	
106-43-4	p-Chlorotoluene	ND	500	48	ug/l	
124-48-1	Dibromochloromethane	ND	100	53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	100	93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	100	45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	100	64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	200	170	ug/l	
75-34-3	1,1-Dichloroethane	ND	100	62	ug/l	
107-06-2	1,2-Dichloroethane	ND	100	63	ug/l	
75-35-4	1,1-Dichloroethene	ND	100	41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	100	64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	100	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:	P59-ROX-110212		
Lab Sample ID:	MC15576-1	Date Sampled:	11/02/12
Matrix:	AQ - Ground Water	Date Received:	11/03/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	200	72	ug/l	
142-28-9	1,3-Dichloropropane	ND	500	64	ug/l	
594-20-7	2,2-Dichloropropane	ND	500	160	ug/l	
563-58-6	1,1-Dichloropropene	ND	500	91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	50	45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	50	20	ug/l	
123-91-1	1,4-Dioxane	ND	2500	1500	ug/l	
97-63-2	Ethyl methacrylate	ND	500	81	ug/l	
100-41-4	Ethylbenzene	1870	100	51	ug/l	
87-68-3	Hexachlorobutadiene	ND	500	210	ug/l	
591-78-6	2-Hexanone	ND	500	200	ug/l	
98-82-8	Isopropylbenzene	ND	500	50	ug/l	
99-87-6	p-Isopropyltoluene	ND	500	57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	500	290	ug/l	
74-95-3	Methylene bromide	ND	500	110	ug/l	
75-09-2	Methylene chloride	ND	200	83	ug/l	
91-20-3	Naphthalene	ND	500	50	ug/l	
103-65-1	n-Propylbenzene	105	500	58	ug/l	J
100-42-5	Styrene	ND	500	45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	500	57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	60	ug/l	
127-18-4	Tetrachloroethene	ND	100	42	ug/l	
108-88-3	Toluene	1090	100	51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	500	130	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	500	130	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	100	85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	100	50	ug/l	
79-01-6	Trichloroethene	ND	100	78	ug/l	
75-69-4	Trichlorofluoromethane	ND	100	29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	500	85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	558	500	35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	154	500	47	ug/l	J
108-05-4	Vinyl Acetate	ND	500	130	ug/l	
75-01-4	Vinyl chloride	ND	100	63	ug/l	
	m,p-Xylene	4490	100	73	ug/l	
95-47-6	o-Xylene	686	100	58	ug/l	
1330-20-7	Xylene (total)	5170	100	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:	P59-ROX-110212		
Lab Sample ID:	MC15576-1	Date Sampled:	11/02/12
Matrix:	AQ - Ground Water	Date Received:	11/03/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	82%		70-130%
2037-26-5	Toluene-D8	85%		70-130%
460-00-4	4-Bromofluorobenzene	86%		70-130%

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

ND = Not detected MDL - Method Detection Limit
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:	P59-ROX-110212		
Lab Sample ID:	MC15576-1	Date Sampled:	11/02/12
Matrix:	AQ - Ground Water	Date Received:	11/03/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6937.D	1	11/15/12	KR	11/08/12	OP30951	MSW320
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.3	ug/l	UJ
95-57-8	2-Chlorophenol	ND	5.3	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.39	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.39	ug/l	
105-67-9	2,4-Dimethylphenol	10.2	11	2.9	ug/l	JJ
51-28-5	2,4-Dinitrophenol	ND	21	5.3	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	2.6	ug/l	
95-48-7	2-Methylphenol	6.5	11	0.64	ug/l	J
	3&4-Methylphenol	13.7	11	0.79	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.50	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.9	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.3	ug/l	
108-95-2	Phenol	76.6	5.3	0.98	ug/l	J
95-95-4	2,4,5-Trichlorophenol	ND	11	0.52	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.37	ug/l	
62-53-3	Aniline	ND	11	2.1	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.3	0.34	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.3	0.28	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.28	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.3	0.26	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.67	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.3	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.3	0.40	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.3	0.30	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.3	0.31	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.3	0.26	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.26	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.26	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.3	0.94	ug/l	UJ
132-64-9	Dibenzofuran	0.31	2.1	0.23	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.3	0.38	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.3	0.25	ug/l	

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

Report of Analysis

Client Sample ID:	P59-ROX-110212		
Lab Sample ID:	MC15576-1	**Date Sampled:**	11/02/12
Matrix:	AQ - Ground Water	**Date Received:**	11/03/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.3	0.20	ug/l	
131-11-3	Dimethyl phthalate	ND	5.3	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.1	0.39	ug/l	
118-74-1	Hexachlorobenzene	ND	5.3	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.3	ug/l	
67-72-1	Hexachloroethane	ND	5.3	0.30	ug/l	
78-59-1	Isophorone	ND	5.3	0.33	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.26	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.27	ug/l	
100-01-6	4-Nitroaniline	ND	11	1.3	ug/l	
98-95-3	Nitrobenzene	ND	5.3	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.3	0.62	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.3	0.29	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.3	0.46	ug/l	
110-86-1	Pyridine	ND	11	0.49	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	44%		15-110%
4165-62-2	Phenol-d5	35%		15-110%
118-79-6	2,4,6-Tribromophenol	81%		15-110%
4165-60-0	Nitrobenzene-d5	77%		30-130%
321-60-8	2-Fluorobiphenyl	70%		30-130%
1718-51-0	Terphenyl-d14	55%		30-130%

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

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

Report of Analysis

Client Sample ID:	P59-ROX-110212		
Lab Sample ID:	MC15576-1	Date Sampled:	11/02/12
Matrix:	AQ - Ground Water	Date Received:	11/03/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I79996.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.43	0.11	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.11	0.014	ug/l	
120-12-7	Anthracene	0.086	0.11	0.019	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.053	0.032	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.053	0.025	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.040	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.062	ug/l	
218-01-9	Chrysene	ND	0.11	0.077	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.044	ug/l	
206-44-0	Fluoranthene	0.063	0.11	0.034	ug/l	J
86-73-7	Fluorene	0.50	0.11	0.049	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.048	ug/l	
90-12-0	1-Methylnaphthalene	18.7	0.21	0.15	ug/l	
91-57-6	2-Methylnaphthalene	28.2	0.21	0.055	ug/l	
85-01-8	Phenanthrene	0.75	0.053	0.013	ug/l	
129-00-0	Pyrene	0.090	0.11	0.037	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	44%		15-110%
4165-62-2	Phenol-d5	32%		15-110%
118-79-6	2,4,6-Tribromophenol	80%		15-110%
4165-60-0	Nitrobenzene-d5	63%		30-130%
321-60-8	2-Fluorobiphenyl	69%		30-130%
1718-51-0	Terphenyl-d14	68%		30-130%

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

Report of Analysis

Client Sample ID:	P59-ROX-110212		
Lab Sample ID:	MC15576-1	**Date Sampled:**	11/02/12
Matrix:	AQ - Ground Water	**Date Received:**	11/03/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB44050.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678
Run #2							

	Initial Volume	Final Volume
Run #1	35.5 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	88%		36-173%
460-00-4	Bromofluorobenzene (S)	86%		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:	P59-ROX-110212-DUP		
Lab Sample ID:	MC15576-2	Date Sampled:	11/02/12
Matrix:	AQ - Ground Water	Date Received:	11/03/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N69918.D	100	11/13/12	JP	n/a	n/a	MSN2629
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	500	300	ug/l	UJ
107-02-8	Acrolein	ND	2500	1000	ug/l	UJ
107-13-1	Acrylonitrile	ND	500	320	ug/l	
71-43-2	Benzene	10500	50	24	ug/l	
108-86-1	Bromobenzene	ND	500	62	ug/l	
74-97-5	Bromochloromethane	ND	500	130	ug/l	
75-27-4	Bromodichloromethane	ND	100	58	ug/l	
75-25-2	Bromoform	ND	100	78	ug/l	
74-83-9	Bromomethane	ND	200	100	ug/l	
78-93-3	2-Butanone (MEK)	ND	500	240	ug/l	
104-51-8	n-Butylbenzene	ND	500	61	ug/l	
135-98-8	sec-Butylbenzene	ND	500	55	ug/l	
98-06-6	tert-Butylbenzene	ND	500	64	ug/l	
75-15-0	Carbon disulfide	ND	500	61	ug/l	
56-23-5	Carbon tetrachloride	ND	100	87	ug/l	
108-90-7	Chlorobenzene	ND	100	47	ug/l	
75-00-3	Chloroethane	ND	200	50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	500	130	ug/l	
67-66-3	Chloroform	ND	100	50	ug/l	
74-87-3	Chloromethane	ND	200	73	ug/l	
95-49-8	o-Chlorotoluene	ND	500	65	ug/l	
106-43-4	p-Chlorotoluene	ND	500	48	ug/l	
124-48-1	Dibromochloromethane	ND	100	53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	100	93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	100	45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	100	64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	200	170	ug/l	
75-34-3	1,1-Dichloroethane	ND	100	62	ug/l	
107-06-2	1,2-Dichloroethane	ND	100	63	ug/l	
75-35-4	1,1-Dichloroethene	ND	100	41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	100	64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	100	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:	P59-ROX-110212-DUP		
Lab Sample ID:	MC15576-2	**Date Sampled:**	11/02/12
Matrix:	AQ - Ground Water	**Date Received:**	11/03/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	200	72	ug/l	
142-28-9	1,3-Dichloropropane	ND	500	64	ug/l	
594-20-7	2,2-Dichloropropane	ND	500	160	ug/l	
563-58-6	1,1-Dichloropropene	ND	500	91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	50	45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	50	20	ug/l	
123-91-1	1,4-Dioxane	ND	2500	1500	ug/l	
97-63-2	Ethyl methacrylate	ND	500	81	ug/l	
100-41-4	Ethylbenzene	1940	100	51	ug/l	
87-68-3	Hexachlorobutadiene	ND	500	210	ug/l	
591-78-6	2-Hexanone	ND	500	200	ug/l	
98-82-8	Isopropylbenzene	ND	500	50	ug/l	
99-87-6	p-Isopropyltoluene	ND	500	57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	500	290	ug/l	
74-95-3	Methylene bromide	ND	500	110	ug/l	
75-09-2	Methylene chloride	ND	200	83	ug/l	
91-20-3	Naphthalene	ND	500	50	ug/l	
103-65-1	n-Propylbenzene	111	500	58	ug/l	J
100-42-5	Styrene	ND	500	45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	500	57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	60	ug/l	
127-18-4	Tetrachloroethene	ND	100	42	ug/l	
108-88-3	Toluene	1100	100	51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	500	130	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	500	130	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	100	85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	100	50	ug/l	
79-01-6	Trichloroethene	ND	100	78	ug/l	
75-69-4	Trichlorofluoromethane	ND	100	29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	500	85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	592	500	35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	167	500	47	ug/l	J
108-05-4	Vinyl Acetate	ND	500	130	ug/l	
75-01-4	Vinyl chloride	ND	100	63	ug/l	
	m,p-Xylene	4680	100	73	ug/l	
95-47-6	o-Xylene	721	100	58	ug/l	
1330-20-7	Xylene (total)	5400	100	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:	P59-ROX-110212-DUP		
Lab Sample ID:	MC15576-2	**Date Sampled:**	11/02/12
Matrix:	AQ - Ground Water	**Date Received:**	11/03/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, 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	84%		70-130%
460-00-4	4-Bromofluorobenzene	87%		70-130%

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

ND = Not detected MDL - Method Detection Limit
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:	P59-ROX-110212-DUP		
Lab Sample ID:	MC15576-2	Date Sampled:	11/02/12
Matrix:	AQ - Ground Water	Date Received:	11/03/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6959.D	1	11/15/12	KR	11/08/12	OP30951	MSW322
Run #2							

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

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	UJ
95-57-8	2-Chlorophenol	ND	5.2	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.39	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.39	ug/l	
105-67-9	2,4-Dimethylphenol	9.2	10	2.9	ug/l	J J
51-28-5	2,4-Dinitrophenol	ND	21	5.2	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.6	ug/l	
95-48-7	2-Methylphenol	5.6	10	0.63	ug/l	J
	3&4-Methylphenol	11.6	10	0.78	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.49	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.9	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.66	ug/l	
108-95-2	Phenol	65.6	5.2	0.97	ug/l	J
95-95-4	2,4,5-Trichlorophenol	ND	10	0.51	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.37	ug/l	
62-53-3	Aniline	ND	10	2.1	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.2	0.34	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.2	0.28	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.27	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.2	0.26	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.66	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.2	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.2	0.39	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.2	0.30	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.2	0.30	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.2	0.22	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.26	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.26	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.2	0.93	ug/l	UJ
132-64-9	Dibenzofuran	0.29	2.1	0.22	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.2	0.38	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.2	0.25	ug/l	

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

Report of Analysis

Client Sample ID:	P59-ROX-110212-DUP		
Lab Sample ID:	MC15576-2	**Date Sampled:**	11/02/12
Matrix:	AQ - Ground Water	**Date Received:**	11/03/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.2	0.20	ug/l	
131-11-3	Dimethyl phthalate	ND	5.2	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.1	0.39	ug/l	
118-74-1	Hexachlorobenzene	ND	5.2	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.2	ug/l	
67-72-1	Hexachloroethane	ND	5.2	0.29	ug/l	
78-59-1	Isophorone	ND	5.2	0.33	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.26	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	0.50	ug/l	
98-95-3	Nitrobenzene	ND	5.2	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.2	0.62	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.2	0.29	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.2	0.45	ug/l	
110-86-1	Pyridine	ND	10	0.48	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	40%		15-110%
4165-62-2	Phenol-d5	31%		15-110%
118-79-6	2,4,6-Tribromophenol	80%		15-110%
4165-60-0	Nitrobenzene-d5	75%		30-130%
321-60-8	2-Fluorobiphenyl	66%		30-130%
1718-51-0	Terphenyl-d14	56%		30-130%

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

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

Report of Analysis

Client Sample ID:	P59-ROX-110212-DUP		
Lab Sample ID:	MC15576-2	Date Sampled:	11/02/12
Matrix:	AQ - Ground Water	Date Received:	11/03/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I79997.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.42	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.014	ug/l	
120-12-7	Anthracene	0.084	0.10	0.018	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.052	0.031	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.052	0.025	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.039	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.061	ug/l	
218-01-9	Chrysene	ND	0.10	0.076	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.043	ug/l	
206-44-0	Fluoranthene	0.066	0.10	0.034	ug/l	J
86-73-7	Fluorene	0.48	0.10	0.048	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.048	ug/l	
90-12-0	1-Methylnaphthalene	17.9	0.21	0.15	ug/l	
91-57-6	2-Methylnaphthalene	26.8	0.21	0.054	ug/l	
85-01-8	Phenanthrene	0.73	0.052	0.013	ug/l	
129-00-0	Pyrene	0.093	0.10	0.037	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	43%		15-110%
4165-62-2	Phenol-d5	29%		15-110%
118-79-6	2,4,6-Tribromophenol	78%		15-110%
4165-60-0	Nitrobenzene-d5	63%		30-130%
321-60-8	2-Fluorobiphenyl	67%		30-130%
1718-51-0	Terphenyl-d14	73%		30-130%

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

Report of Analysis

Client Sample ID:	P59-ROX-110212-DUP		
Lab Sample ID:	MC15576-2	**Date Sampled:**	11/02/12
Matrix:	AQ - Ground Water	**Date Received:**	11/03/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB44051.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678
Run #2							

	Initial Volume	Final Volume
Run #1	35.7 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	86%		36-173%
460-00-4	Bromofluorobenzene (S)	80%		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:	TB-110212-HCL-W		
Lab Sample ID:	MC15576-3	Date Sampled:	11/02/12
Matrix:	AQ - Trip Blank Water	Date Received:	11/03/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N70183.D	1	11/19/12	JP	n/a	n/a	MSN2639
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	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:	TB-110212-HCL-W		
Lab Sample ID:	MC15576-3	**Date Sampled:**	11/02/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/03/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	TB-110212-HCL-W		
Lab Sample ID:	MC15576-3	**Date Sampled:**	11/02/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/03/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	82%		70-130%
2037-26-5	Toluene-D8	84%		70-130%
460-00-4	4-Bromofluorobenzene	87%		70-130%

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

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

Report of Analysis

Client Sample ID:	TB-110212-ST-W		
Lab Sample ID:	MC15576-4	**Date Sampled:**	11/02/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/03/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB44052.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678
Run #2							

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

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	87%		36-173%
460-00-4	Bromofluorobenzene (S)	85%		36-173%

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

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

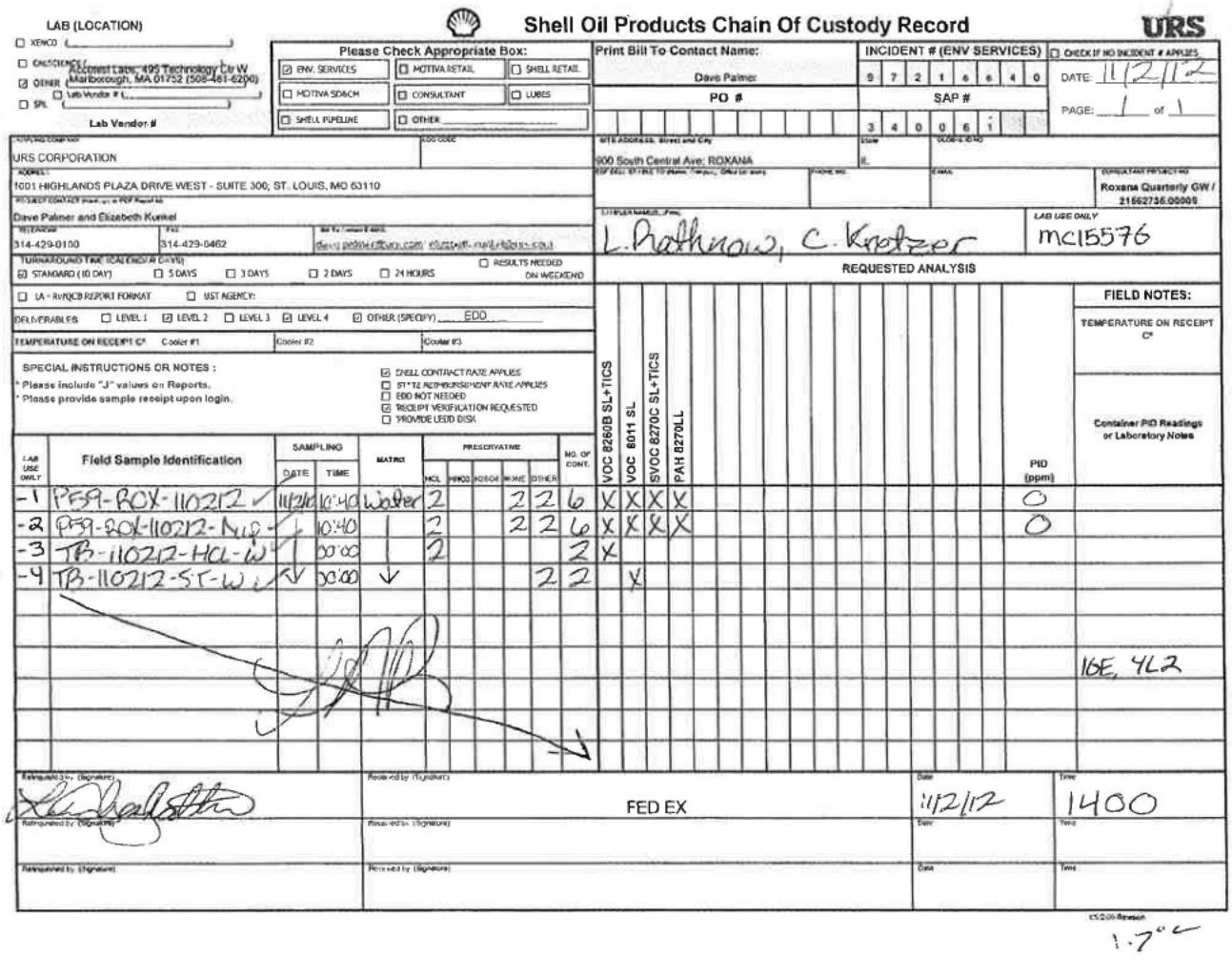
New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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



Shell Oil Products Chain Of Custody Record

URS

LAB (LOCATION)
☐ XENCO (_____)
☐ CALSCIENCE (_____)
☑ OTHER (Accutest Labs, 495 Technology Ctr W (Marlborough, MA 01752 (508-481-6200))
☐ SPL (_____)
Lab Vendor #

Please Check Appropriate Box:
☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SD&CM ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Dave Palmer
INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0
☐ CHECK IF NO INCIDENT # APPLIES
DATE: 11/2/12
PAGE: 1 of 1
PO #
SAP #: 3 4 0 0 6 1

URS CORPORATION
1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
Dave Palmer and Elizabeth Kunkel
314-429-0100 | 314-429-0462
SITE ADDRESS: 900 South Central Ave; ROXANA
Roxana Quarterly GW / 21662736.00009
L. Rathnow, C. Kratzer
LAB USE ONLY: MC15576

TURNAROUND TIME (CALENDAR DAYS)
☑ STANDARD (10 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:
DELIVERABLES ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD
TEMPERATURE ON RECEIPT C° Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:
* Please include "J" values on Reports.
* Please provide sample receipt upon login.
☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	VOC 8260B SL+TICS	VOC 8011 SL	SVOC 8270C SL+TICS	PAH 8270LL	PID (ppm)	Container PID Readings or Laboratory Notes
-1	PS9-ROX-110212	11/2/12	10:40	Water	2			2	2	6	X	X	X	X	0	
-2	PS9-ROX-110212-MS		10:40		2			2	2	6	X	X	X	X	0	
-3	TB-110212-HCL-W		00:00		2					2	X					
-4	TB-110212-ST-W		00:00						2	2		X				
																16E, 4L2

FIELD NOTES:
TEMPERATURE ON RECEIPT C°

Relinquished by (Signature)	Received by (Signature)	Date	Time
	FED EX	11/2/12	1400
Relinquished by (Signature)	Received by (Signature)	Date	Time
Relinquished by (Signature)	Received by (Signature)	Date	Time

1.7°C

5.1
5

MC15576: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC15576 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 11/3/2012 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900 SO CENTRAL **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
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MC15576: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15576

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15576-1 Collected: 02-NOV-12 10:40 By: LRCK Received: 03-NOV-12 By: P59-ROX-110212						
MC15576-1	SW846 8011	06-NOV-12 07:58	AP	05-NOV-12	NK	V8011SL
MC15576-1	SW846 8270C BY SIM	13-NOV-12 19:11	NS	08-NOV-12	FC	B8270SIMSL
MC15576-1	SW846 8260B	13-NOV-12 22:19	JP			V8260SL+
MC15576-1	SW846 8270C	15-NOV-12 12:57	KR	08-NOV-12	FC	AB8270SL+
MC15576-2 Collected: 02-NOV-12 10:40 By: LRCK Received: 03-NOV-12 By: P59-ROX-110212-DUP						
MC15576-2	SW846 8011	06-NOV-12 08:25	AP	05-NOV-12	NK	V8011SL
MC15576-2	SW846 8270C BY SIM	13-NOV-12 19:34	NS	08-NOV-12	FC	B8270SIMSL
MC15576-2	SW846 8260B	13-NOV-12 22:47	JP			V8260SL+
MC15576-2	SW846 8270C	15-NOV-12 23:17	KR	08-NOV-12	FC	AB8270SL+
MC15576-3 Collected: 02-NOV-12 00:00 By: LRCK Received: 03-NOV-12 By: TB-110212-HCL-W						
MC15576-3	SW846 8260B	19-NOV-12 17:49	JP			V8260SL+
MC15576-4 Collected: 02-NOV-12 00:00 By: LRCK Received: 03-NOV-12 By: TB-110212-ST-W						
MC15576-4	SW846 8011	06-NOV-12 08:51	AP	05-NOV-12	NK	V8011SL

Accutest Internal Chain of Custody

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 11/03/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15576-1.2	Walk In Ref #22	Nick Krasinski	11/08/12 07:31	Retrieve from Storage
MC15576-1.2	Nick Krasinski		11/08/12 15:52	Depleted
MC15576-1.3	VOC Ref #4	Jugal Patel	11/13/12 13:04	Retrieve from Storage
MC15576-1.3	Jugal Patel	GCMSN	11/13/12 13:04	Load on Instrument
MC15576-1.3	GCMSN	Jugal Patel	11/14/12 10:50	Unload from Instrument
MC15576-1.3	Jugal Patel	VOC Ref #4	11/14/12 10:50	Return to Storage
MC15576-1.6	VOC Ref #4	Nick Krasinski	11/06/12 07:05	Retrieve from Storage
MC15576-1.6	Nick Krasinski		11/06/12 07:05	Depleted
MC15576-2.1	Walk In Ref #22	Nick Krasinski	11/08/12 07:31	Retrieve from Storage
MC15576-2.1	Nick Krasinski		11/08/12 15:52	Depleted
MC15576-2.4	VOC Ref #4	Jugal Patel	11/13/12 13:04	Retrieve from Storage
MC15576-2.4	Jugal Patel	GCMSN	11/13/12 13:04	Load on Instrument
MC15576-2.4	GCMSN	Jugal Patel	11/14/12 10:50	Unload from Instrument
MC15576-2.4	Jugal Patel	VOC Ref #4	11/14/12 10:50	Return to Storage
MC15576-2.6	VOC Ref #4	Nick Krasinski	11/06/12 07:05	Retrieve from Storage
MC15576-2.6	Nick Krasinski		11/06/12 07:05	Depleted
MC15576-3.1	VOC Ref #4	Jugal Patel	11/19/12 11:31	Retrieve from Storage
MC15576-3.1	Jugal Patel	GCMSN	11/19/12 11:31	Load on Instrument
MC15576-3.1	GCMSN	Jugal Patel	11/20/12 09:58	Unload from Instrument
MC15576-3.1	Jugal Patel	VOC Ref #4	11/20/12 09:59	Return to Storage
MC15576-4.1	VOC Ref #4	Nick Krasinski	11/06/12 07:05	Retrieve from Storage
MC15576-4.1	Nick Krasinski		11/06/12 07:05	Depleted

New England ACCUTEST LABORATORIES

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: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-MB	N69899.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15576-1, MC15576-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.3	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: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-MB	N69899.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15576-1, MC15576-2

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-MB	N69899.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15576-1, MC15576-2

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	82%	70-130%
2037-26-5	Toluene-D8	84%	70-130%
460-00-4	4-Bromofluorobenzene	84%	70-130%

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

Method Blank Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2639-MB	N70171.D	1	11/19/12	JP	n/a	n/a	MSN2639

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

MC15576-3

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: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2639-MB	N70171.D	1	11/19/12	JP	n/a	n/a	MSN2639

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

MC15576-3

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: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2639-MB	N70171.D	1	11/19/12	JP	n/a	n/a	MSN2639

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

MC15576-3

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	82%	70-130%
2037-26-5	Toluene-D8	84%	70-130%
460-00-4	4-Bromofluorobenzene	86%	70-130%

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

Blank Spike Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2639-BS	N70168.D	1	11/19/12	JP	n/a	n/a	MSN2639

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

MC15576-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	36.9	74	70-130
107-02-8	Acrolein	250	143	57* [a]	70-130
107-13-1	Acrylonitrile	50	230	460* [b]	70-130
71-43-2	Benzene	50	49.4	99	70-130
108-86-1	Bromobenzene	50	50.0	100	70-130
74-97-5	Bromochloromethane	50	51.7	103	70-130
75-27-4	Bromodichloromethane	50	50.4	101	70-130
75-25-2	Bromoform	50	44.8	90	70-130
74-83-9	Bromomethane	50	44.9	90	70-130
78-93-3	2-Butanone (MEK)	50	40.1	80	70-130
104-51-8	n-Butylbenzene	50	56.3	113	70-130
135-98-8	sec-Butylbenzene	50	55.7	111	70-130
98-06-6	tert-Butylbenzene	50	52.3	105	70-130
75-15-0	Carbon disulfide	50	48.6	97	70-130
56-23-5	Carbon tetrachloride	50	38.4	77	70-130
108-90-7	Chlorobenzene	50	54.4	109	70-130
75-00-3	Chloroethane	50	44.6	89	70-130
110-75-8	2-Chloroethyl vinyl ether	50	50.8	102	70-130
67-66-3	Chloroform	50	50.3	101	70-130
74-87-3	Chloromethane	50	34.5	69* [a]	70-130
95-49-8	o-Chlorotoluene	50	53.0	106	70-130
106-43-4	p-Chlorotoluene	50	55.0	110	70-130
124-48-1	Dibromochloromethane	50	48.2	96	70-130
95-50-1	1,2-Dichlorobenzene	50	54.2	108	70-130
541-73-1	1,3-Dichlorobenzene	50	53.9	108	70-130
106-46-7	1,4-Dichlorobenzene	50	51.0	102	70-130
75-71-8	Dichlorodifluoromethane	50	36.8	74	70-130
75-34-3	1,1-Dichloroethane	50	50.2	100	70-130
107-06-2	1,2-Dichloroethane	50	45.6	91	70-130
75-35-4	1,1-Dichloroethene	50	53.7	107	70-130
156-59-2	cis-1,2-Dichloroethene	50	50.1	100	70-130
156-60-5	trans-1,2-Dichloroethene	50	49.5	99	70-130
78-87-5	1,2-Dichloropropane	50	50.8	102	70-130
142-28-9	1,3-Dichloropropane	50	48.7	97	70-130
594-20-7	2,2-Dichloropropane	50	32.5	65* [a]	70-130
563-58-6	1,1-Dichloropropene	50	50.9	102	70-130

* = Outside of Control Limits.

6.2.1

6

Blank Spike Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2639-BS	N70168.D	1	11/19/12	JP	n/a	n/a	MSN2639

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

MC15576-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	44.7	89	70-130
10061-02-6	trans-1,3-Dichloropropene	50	40.3	81	70-130
123-91-1	1,4-Dioxane	250	220	88	70-130
97-63-2	Ethyl methacrylate	50	44.1	88	77-137
100-41-4	Ethylbenzene	50	50.9	102	70-130
87-68-3	Hexachlorobutadiene	50	52.6	105	70-130
591-78-6	2-Hexanone	50	36.7	73	70-130
98-82-8	Isopropylbenzene	50	54.2	108	70-130
99-87-6	p-Isopropyltoluene	50	54.0	108	70-130
1634-04-4	Methyl Tert Butyl Ether	50	39.9	80	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	35.2	70	70-130
74-95-3	Methylene bromide	50	48.7	97	70-130
75-09-2	Methylene chloride	50	50.0	100	70-130
91-20-3	Naphthalene	50	45.7	91	70-130
103-65-1	n-Propylbenzene	50	54.8	110	70-130
100-42-5	Styrene	50	50.3	101	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	52.4	105	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	47.3	95	70-130
127-18-4	Tetrachloroethene	50	50.8	102	70-130
108-88-3	Toluene	50	50.3	101	70-130
87-61-6	1,2,3-Trichlorobenzene	50	51.1	102	70-130
120-82-1	1,2,4-Trichlorobenzene	50	54.0	108	70-130
71-55-6	1,1,1-Trichloroethane	50	41.8	84	70-130
79-00-5	1,1,2-Trichloroethane	50	50.1	100	70-130
79-01-6	Trichloroethene	50	47.9	96	70-130
75-69-4	Trichlorofluoromethane	50	43.3	87	70-130
96-18-4	1,2,3-Trichloropropane	50	44.6	89	70-130
95-63-6	1,2,4-Trimethylbenzene	50	48.9	98	70-130
108-67-8	1,3,5-Trimethylbenzene	50	48.7	97	70-130
108-05-4	Vinyl Acetate	50	47.7	95	70-130
75-01-4	Vinyl chloride	50	37.2	74	70-130
	m,p-Xylene	100	104	104	70-130
95-47-6	o-Xylene	50	54.4	109	70-130
1330-20-7	Xylene (total)	150	159	106	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2639-BS	N70168.D	1	11/19/12	JP	n/a	n/a	MSN2639

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

MC15576-3

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	83%	70-130%
2037-26-5	Toluene-D8	85%	70-130%
460-00-4	4-Bromofluorobenzene	82%	70-130%

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

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-BS	N69896.D	1	11/13/12	JP	n/a	n/a	MSN2629
MSN2629-BSD	N69897.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15576-1, MC15576-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	39.4	79	39.6	79	1	70-130/25
107-02-8	Acrolein	250	153	61* a	156	62* a	2	70-130/25
107-13-1	Acrylonitrile	50	246	492* b	247	494* b	0	70-130/25
71-43-2	Benzene	50	50.6	101	49.7	99	2	70-130/25
108-86-1	Bromobenzene	50	50.4	101	49.5	99	2	70-130/25
74-97-5	Bromochloromethane	50	51.8	104	51.3	103	1	70-130/25
75-27-4	Bromodichloromethane	50	51.7	103	51.1	102	1	70-130/25
75-25-2	Bromoform	50	45.5	91	43.6	87	4	70-130/25
74-83-9	Bromomethane	50	50.9	102	52.2	104	3	70-130/25
78-93-3	2-Butanone (MEK)	50	44.7	89	43.7	87	2	70-130/25
104-51-8	n-Butylbenzene	50	57.1	114	55.4	111	3	70-130/25
135-98-8	sec-Butylbenzene	50	57.5	115	55.8	112	3	70-130/25
98-06-6	tert-Butylbenzene	50	53.2	106	51.9	104	2	70-130/25
75-15-0	Carbon disulfide	50	53.9	108	52.2	104	3	70-130/25
56-23-5	Carbon tetrachloride	50	46.7	93	45.7	91	2	70-130/25
108-90-7	Chlorobenzene	50	55.5	111	52.6	105	5	70-130/25
75-00-3	Chloroethane	50	50.5	101	48.1	96	5	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	52.7	105	52.3	105	1	70-130/25
67-66-3	Chloroform	50	51.0	102	50.5	101	1	70-130/25
74-87-3	Chloromethane	50	40.6	81	37.6	75	8	70-130/25
95-49-8	o-Chlorotoluene	50	54.0	108	52.6	105	3	70-130/25
106-43-4	p-Chlorotoluene	50	57.0	114	55.4	111	3	70-130/25
124-48-1	Dibromochloromethane	50	47.9	96	46.3	93	3	70-130/25
95-50-1	1,2-Dichlorobenzene	50	55.4	111	54.1	108	2	70-130/25
541-73-1	1,3-Dichlorobenzene	50	55.2	110	53.8	108	3	70-130/25
106-46-7	1,4-Dichlorobenzene	50	52.5	105	51.0	102	3	70-130/25
75-71-8	Dichlorodifluoromethane	50	47.3	95	46.0	92	3	70-130/25
75-34-3	1,1-Dichloroethane	50	53.9	108	52.8	106	2	70-130/25
107-06-2	1,2-Dichloroethane	50	47.6	95	46.8	94	2	70-130/25
75-35-4	1,1-Dichloroethene	50	51.0	102	49.1	98	4	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	51.8	104	49.7	99	4	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	51.4	103	49.1	98	5	70-130/25
78-87-5	1,2-Dichloropropane	50	52.7	105	52.3	105	1	70-130/25
142-28-9	1,3-Dichloropropane	50	50.8	102	48.4	97	5	70-130/25
594-20-7	2,2-Dichloropropane	50	48.9	98	46.4	93	5	70-130/25
563-58-6	1,1-Dichloropropene	50	53.2	106	51.7	103	3	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-BS	N69896.D	1	11/13/12	JP	n/a	n/a	MSN2629
MSN2629-BSD	N69897.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15576-1, MC15576-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	50	52.7	105	51.8	104	2	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	48.4	97	47.1	94	3	70-130/25
123-91-1	1,4-Dioxane	250	228	91	225	90	1	70-130/25
97-63-2	Ethyl methacrylate	50	49.1	98	47.9	96	2	77-137/25
100-41-4	Ethylbenzene	50	52.0	104	49.1	98	6	70-130/25
87-68-3	Hexachlorobutadiene	50	56.2	112	53.8	108	4	70-130/25
591-78-6	2-Hexanone	50	40.5	81	39.1	78	4	70-130/25
98-82-8	Isopropylbenzene	50	55.1	110	53.8	108	2	70-130/25
99-87-6	p-Isopropyltoluene	50	55.3	111	53.6	107	3	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	41.2	82	39.8	80	3	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	38.3	77	38.1	76	1	70-130/25
74-95-3	Methylene bromide	50	49.8	100	48.9	98	2	70-130/25
75-09-2	Methylene chloride	50	52.4	105	51.1	102	3	70-130/25
91-20-3	Naphthalene	50	52.4	105	51.7	103	1	70-130/25
103-65-1	n-Propylbenzene	50	56.1	112	54.8	110	2	70-130/25
100-42-5	Styrene	50	51.9	104	49.4	99	5	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	53.4	107	51.1	102	4	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	49.4	99	49.3	99	0	70-130/25
127-18-4	Tetrachloroethene	50	52.2	104	48.9	98	7	70-130/25
108-88-3	Toluene	50	52.1	104	51.2	102	2	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	57.1	114	55.3	111	3	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	57.0	114	55.7	111	2	70-130/25
71-55-6	1,1,1-Trichloroethane	50	52.6	105	51.0	102	3	70-130/25
79-00-5	1,1,2-Trichloroethane	50	50.9	102	50.2	100	1	70-130/25
79-01-6	Trichloroethene	50	49.0	98	47.8	96	2	70-130/25
75-69-4	Trichlorofluoromethane	50	47.4	95	46.0	92	3	70-130/25
96-18-4	1,2,3-Trichloropropane	50	54.0	108	52.5	105	3	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	50.0	100	49.0	98	2	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	50.0	100	48.8	98	2	70-130/25
108-05-4	Vinyl Acetate	50	49.4	99	48.9	98	1	70-130/25
75-01-4	Vinyl chloride	50	43.9	88	42.8	86	3	70-130/25
	m,p-Xylene	100	107	107	101	101	6	70-130/25
95-47-6	o-Xylene	50	55.8	112	52.8	106	6	70-130/25
1330-20-7	Xylene (total)	150	163	109	154	103	6	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2629-BS	N69896.D	1	11/13/12	JP	n/a	n/a	MSN2629
MSN2629-BSD	N69897.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15576-1, MC15576-2

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	83%	83%	70-130%
2037-26-5	Toluene-D8	85%	85%	70-130%
460-00-4	4-Bromofluorobenzene	82%	82%	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: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15549-3MS	N69919.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3MSD	N69920.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3	N69911.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15576-1, MC15576-2

CAS No.	Compound	MC15549-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	195	78	206	82	5	70-130/30
107-02-8	Acrolein	ND		1250	786	63* a	800	64* a	2	70-130/30
107-13-1	Acrylonitrile	ND		250	1230	492* b	1290	516* b	5	70-130/30
71-43-2	Benzene	ND		250	255	102	267	107	5	70-130/30
108-86-1	Bromobenzene	ND		250	246	98	256	102	4	70-130/30
74-97-5	Bromochloromethane	ND		250	258	103	273	109	6	70-130/30
75-27-4	Bromodichloromethane	ND		250	257	103	270	108	5	70-130/30
75-25-2	Bromoform	ND		250	219	88	223	89	2	70-130/30
74-83-9	Bromomethane	ND		250	210	84	257	103	20	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	204	82	223	89	9	70-130/30
104-51-8	n-Butylbenzene	ND		250	261	104	279	112	7	70-130/30
135-98-8	sec-Butylbenzene	ND		250	272	109	286	114	5	70-130/30
98-06-6	tert-Butylbenzene	ND		250	255	102	265	106	4	70-130/30
75-15-0	Carbon disulfide	ND		250	269	108	279	112	4	70-130/30
56-23-5	Carbon tetrachloride	ND		250	227	91	237	95	4	70-130/30
108-90-7	Chlorobenzene	ND		250	274	110	275	110	0	70-130/30
75-00-3	Chloroethane	ND		250	260	104	270	108	4	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	270	108	280	112	4	70-130/30
67-66-3	Chloroform	ND		250	253	101	267	107	5	70-130/30
74-87-3	Chloromethane	ND		250	214	86	229	92	7	70-130/30
95-49-8	o-Chlorotoluene	ND		250	260	104	272	109	5	70-130/30
106-43-4	p-Chlorotoluene	ND		250	272	109	284	114	4	70-130/30
124-48-1	Dibromochloromethane	ND		250	238	95	239	96	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	266	106	281	112	5	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	263	105	281	112	7	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	249	100	264	106	6	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	226	90	238	95	5	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	271	108	287	115	6	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	230	92	244	98	6	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	252	101	261	104	4	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	256	102	274	110	7	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	254	102	266	106	5	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	270	108	280	112	4	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	253	101	254	102	0	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	206	82	213	85	3	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	258	103	272	109	5	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15549-3MS	N69919.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3MSD	N69920.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3	N69911.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15576-1, MC15576-2

CAS No.	Compound	MC15549-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		250	258	103	270	108	5	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	233	93	246	98	5	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1080	86	1160	93	7	70-130/30
97-63-2	Ethyl methacrylate	ND		250	234	94	245	98	5	72-139/30
100-41-4	Ethylbenzene	ND		250	254	102	253	101	0	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	248	99	265	106	7	70-130/30
591-78-6	2-Hexanone	ND		250	189	76	193	77	2	70-130/30
98-82-8	Isopropylbenzene	ND		250	267	107	277	111	4	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	260	104	273	109	5	70-130/30
1634-04-4	Methyl Tert Butyl Ether	2.6		250	194	77	205	81	6	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	185	74	193	77	4	70-130/30
74-95-3	Methylene bromide	ND		250	247	99	260	104	5	70-130/30
75-09-2	Methylene chloride	ND		250	266	106	279	112	5	70-130/30
91-20-3	Naphthalene	ND		250	234	94	256	102	9	70-130/30
103-65-1	n-Propylbenzene	ND		250	269	108	280	112	4	70-130/30
100-42-5	Styrene	ND		250	250	100	254	102	2	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	266	106	268	107	1	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	242	97	251	100	4	70-130/30
127-18-4	Tetrachloroethene	53.6		250	321	107	321	107	0	70-130/30
108-88-3	Toluene	ND		250	258	103	270	108	5	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	257	103	280	112	9	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	258	103	281	112	9	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	253	101	265	106	5	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	253	101	264	106	4	70-130/30
79-01-6	Trichloroethene	ND		250	242	97	253	101	4	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	232	93	241	96	4	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	253	101	266	106	5	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	238	95	250	100	5	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	240	96	249	100	4	70-130/30
108-05-4	Vinyl Acetate	ND		250	246	98	255	102	4	70-130/30
75-01-4	Vinyl chloride	ND		250	216	86	225	90	4	70-130/30
	m,p-Xylene	ND		500	524	105	525	105	0	70-130/30
95-47-6	o-Xylene	ND		250	272	109	272	109	0	70-130/30
1330-20-7	Xylene (total)	ND		750	797	106	797	106	0	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15549-3MS	N69919.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3MSD	N69920.D	5	11/13/12	JP	n/a	n/a	MSN2629
MC15549-3	N69911.D	1	11/13/12	JP	n/a	n/a	MSN2629

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

MC15576-1, MC15576-2

CAS No.	Surrogate Recoveries	MS	MSD	MC15549-3	Limits
1868-53-7	Dibromofluoromethane	84%	84%	84%	70-130%
2037-26-5	Toluene-D8	86%	85%	84%	70-130%
460-00-4	4-Bromofluorobenzene	81%	81%	86%	70-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15774-4MS	N70180.D	5	11/19/12	JP	n/a	n/a	MSN2639
MC15774-4MSD	N70181.D	5	11/19/12	JP	n/a	n/a	MSN2639
MC15774-4	N70175.D	1	11/19/12	JP	n/a	n/a	MSN2639

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

MC15576-3

CAS No.	Compound	MC15774-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	195	78	203	81	4	70-130/30
107-02-8	Acrolein	ND		1250	796	64* a	828	66* a	4	70-130/30
107-13-1	Acrylonitrile	ND		250	1180	472* b	1190	476* b	1	70-130/30
71-43-2	Benzene	ND		250	246	98	258	103	5	70-130/30
108-86-1	Bromobenzene	ND		250	246	98	259	104	5	70-130/30
74-97-5	Bromochloromethane	ND		250	260	104	275	110	6	70-130/30
75-27-4	Bromodichloromethane	ND		250	246	98	263	105	7	70-130/30
75-25-2	Bromoform	ND		250	212	85	233	93	9	70-130/30
74-83-9	Bromomethane	ND		250	199	80	240	96	19	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	214	86	226	90	5	70-130/30
104-51-8	n-Butylbenzene	ND		250	272	109	288	115	6	70-130/30
135-98-8	sec-Butylbenzene	ND		250	278	111	292	117	5	70-130/30
98-06-6	tert-Butylbenzene	ND		250	259	104	270	108	4	70-130/30
75-15-0	Carbon disulfide	ND		250	235	94	245	98	4	70-130/30
56-23-5	Carbon tetrachloride	ND		250	186	74	193	77	4	70-130/30
108-90-7	Chlorobenzene	ND		250	261	104	283	113	8	70-130/30
75-00-3	Chloroethane	ND		250	215	86	232	93	8	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	258	103	273	109	6	70-130/30
67-66-3	Chloroform	ND		250	249	100	267	107	7	70-130/30
74-87-3	Chloromethane	ND		250	149	60* a	161	64* a	8	70-130/30
95-49-8	o-Chlorotoluene	ND		250	263	105	273	109	4	70-130/30
106-43-4	p-Chlorotoluene	ND		250	275	110	287	115	4	70-130/30
124-48-1	Dibromochloromethane	ND		250	227	91	249	100	9	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	265	106	284	114	7	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	265	106	282	113	6	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	250	100	265	106	6	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	152	61* a	155	62* a	2	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	251	100	269	108	7	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	221	88	239	96	8	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	265	106	279	112	5	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	250	100	265	106	6	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	242	97	257	103	6	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	258	103	273	109	6	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	235	94	260	104	10	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	165	66* a	166	66* a	1	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	250	100	262	105	5	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15774-4MS	N70180.D	5	11/19/12	JP	n/a	n/a	MSN2639
MC15774-4MSD	N70181.D	5	11/19/12	JP	n/a	n/a	MSN2639
MC15774-4	N70175.D	1	11/19/12	JP	n/a	n/a	MSN2639

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

MC15576-3

CAS No.	Compound	MC15774-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		250	222	89	235	94	6	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	199	80	210	84	5	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1040	83	1150	92	10	70-130/30
97-63-2	Ethyl methacrylate	ND		250	214	86	232	93	8	72-139/30
100-41-4	Ethylbenzene	ND		250	244	98	263	105	7	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	254	102	276	110	8	70-130/30
591-78-6	2-Hexanone	ND		250	176	70	203	81	14	70-130/30
98-82-8	Isopropylbenzene	ND		250	271	108	282	113	4	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	264	106	279	112	6	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		250	206	82	216	86	5	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	180	72	197	79	9	70-130/30
74-95-3	Methylene bromide	ND		250	240	96	262	105	9	70-130/30
75-09-2	Methylene chloride	ND		250	252	101	268	107	6	70-130/30
91-20-3	Naphthalene	ND		250	214	86	242	97	12	70-130/30
103-65-1	n-Propylbenzene	ND		250	272	109	286	114	5	70-130/30
100-42-5	Styrene	ND		250	240	96	262	105	9	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	250	100	270	108	8	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	240	96	257	103	7	70-130/30
127-18-4	Tetrachloroethene	2.6		250	245	97	261	103	6	70-130/30
108-88-3	Toluene	ND		250	253	101	267	107	5	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	240	96	268	107	11	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	252	101	281	112	11	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	211	84	217	87	3	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	251	100	267	107	6	70-130/30
79-01-6	Trichloroethene	ND		250	233	93	250	100	7	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	206	82	215	86	4	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	222	89	243	97	9	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	244	98	254	102	4	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	242	97	252	101	4	70-130/30
108-05-4	Vinyl Acetate	ND		250	250	100	269	108	7	70-130/30
75-01-4	Vinyl chloride	ND		250	174	70	183	73	5	70-130/30
	m,p-Xylene	ND		500	502	100	541	108	7	70-130/30
95-47-6	o-Xylene	ND		250	261	104	280	112	7	70-130/30
1330-20-7	Xylene (total)	ND		750	763	102	821	109	7	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15774-4MS	N70180.D	5	11/19/12	JP	n/a	n/a	MSN2639
MC15774-4MSD	N70181.D	5	11/19/12	JP	n/a	n/a	MSN2639
MC15774-4	N70175.D	1	11/19/12	JP	n/a	n/a	MSN2639

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

MC15576-3

CAS No.	Surrogate Recoveries	MS	MSD	MC15774-4	Limits
1868-53-7	Dibromofluoromethane	84%	85%	82%	70-130%
2037-26-5	Toluene-D8	85%	85%	84%	70-130%
460-00-4	4-Bromofluorobenzene	83%	81%	87%	70-130%

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

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2629-CC2591	Injection Date:	11/13/12
Lab File ID:	N69895.D	Injection Time:	11:59
Instrument ID:	GCMSN	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	332975	9.01	437609	9.88	197238	13.14	221938	15.70	98102	6.56
Upper Limit [a]	665950	9.51	875218	10.38	394476	13.64	443876	16.20	196204	7.06
Lower Limit [b]	166488	8.51	218805	9.38	98619	12.64	110969	15.20	49051	6.06
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2629-BS	331160	9.01	434434	9.88	194359	13.14	219925	15.70	97330	6.56
MSN2629-BSD	330386	9.01	431902	9.88	200259	13.14	219175	15.70	89195	6.56
MSN2629-MB	324761	9.01	423799	9.88	186213	13.14	199101	15.70	85171	6.57
ZZZZZZ	321185	9.01	425275	9.88	184610	13.14	192145	15.70	82535	6.57
ZZZZZZ	322320	9.01	427987	9.88	188381	13.14	196418	15.70	88653	6.56
ZZZZZZ	317139	9.01	420414	9.88	185253	13.14	194203	15.70	90512	6.57
ZZZZZZ	312890	9.01	410639	9.88	182444	13.14	190619	15.70	79911	6.57
ZZZZZZ	315284	9.01	413490	9.88	180532	13.14	189212	15.70	70674	6.57
ZZZZZZ	309308	9.01	410071	9.88	181387	13.14	186533	15.70	76383	6.57
ZZZZZZ	308353	9.01	405041	9.88	180427	13.14	187152	15.70	86792	6.57
ZZZZZZ	305942	9.01	405304	9.88	181879	13.14	198427	15.70	71296	6.56
ZZZZZZ	308084	9.01	403081	9.88	188648	13.14	209917	15.70	74680	6.56
MC15549-3	318614	9.01	423484	9.88	186752	13.14	192492	15.70	73717	6.57
ZZZZZZ	312404	9.01	408807	9.88	180462	13.14	186154	15.70	82134	6.56
ZZZZZZ	310936	9.01	412625	9.88	181386	13.14	186764	15.70	78111	6.56
ZZZZZZ	305817	9.01	403401	9.88	178340	13.14	185473	15.70	71027	6.56
MC15576-1	300738	9.01	395573	9.88	175666	13.14	184995	15.70	77748	6.56
MC15576-2	301008	9.01	400298	9.88	176586	13.14	183504	15.70	73241	6.56
MC15549-3MS	301951	9.01	396782	9.88	178496	13.14	202542	15.70	85241	6.56
MC15549-3MSD	282678	9.01	375009	9.88	176345	13.14	192737	15.70	80849	6.56

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

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

Volatile Internal Standard Area Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2639-CC2591	**Injection Date:**	11/19/12
Lab File ID:	N70167.D	**Injection Time:**	10:18
Instrument ID:	GCMSN	**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	333198	9.01	439516	9.88	197397	13.14	220502	15.70	87197	6.56
Upper Limit [a]	666396	9.51	879032	10.38	394794	13.64	441004	16.20	174394	7.06
Lower Limit [b]	166599	8.51	219758	9.38	98699	12.64	110251	15.20	43599	6.06

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2639-BS	329617	9.01	433410	9.88	194637	13.14	219709	15.70	84102	6.56
MSN2640-BS	329617	9.01	433410	9.88	194637	13.14	219709	15.70	84102	6.56
MSN2639-MB	334370	9.01	437515	9.88	191738	13.14	201130	15.70	89599	6.57
MSN2640-MB	334370	9.01	437515	9.88	191738	13.14	201130	15.70	89599	6.57
MC15812-1	323217	9.01	424110	9.88	187771	13.14	195399	15.70	82052	6.58
MC15812-1DUP	331950	9.01	444537	9.88	195235	13.14	202324	15.70	88631	6.58
ZZZZZZ	316657	9.01	421185	9.88	186612	13.14	196075	15.70	74946	6.57
MC15774-4	317736	9.01	417937	9.88	184937	13.14	187834	15.70	70844	6.57
ZZZZZZ	319211	9.01	419218	9.88	184066	13.14	189203	15.70	77521	6.58
ZZZZZZ	314293	9.01	414396	9.88	181926	13.14	182738	15.70	77647	6.57
ZZZZZZ	310676	9.01	413759	9.88	181089	13.14	184917	15.70	81496	6.57
ZZZZZZ	314185	9.01	419279	9.88	188487	13.14	203799	15.70	77906	6.57
MC15774-4MS	316253	9.01	418629	9.88	195794	13.14	211483	15.70	85493	6.56
MC15774-4MSD	293176	9.01	391684	9.88	177659	13.14	198519	15.70	83059	6.56
ZZZZZZ	293258	9.01	390079	9.88	174493	13.14	178002	15.70	76537	6.58
MC15576-3	316279	9.01	418509	9.88	180489	13.14	186913	15.70	82037	6.57
ZZZZZZ	316499	9.01	416591	9.88	185164	13.14	186738	15.70	82438	6.58
ZZZZZZ	311163	9.01	413020	9.88	183250	13.14	183363	15.70	77698	6.57
ZZZZZZ	317080	9.01	416559	9.88	184941	13.14	184360	15.70	71240	6.58
ZZZZZZ	313502	9.01	413744	9.88	182541	13.14	183970	15.70	66855	6.58
ZZZZZZ	309955	9.01	410202	9.88	181091	13.14	179840	15.70	77427	6.57
ZZZZZZ	303306	9.01	404018	9.88	177131	13.14	180138	15.70	77415	6.57
ZZZZZZ	309718	9.01	409424	9.88	180666	13.14	178702	15.70	73327	6.58
ZZZZZZ	301100	9.01	396411	9.88	176844	13.14	174986	15.70	77912	6.57

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

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

Volatile Surrogate Recovery Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8260B Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC15576-1	N69917.D	82.0	85.0	86.0
MC15576-2	N69918.D	83.0	84.0	87.0
MC15576-3	N70183.D	82.0	84.0	87.0
MC15549-3MS	N69919.D	84.0	86.0	81.0
MC15549-3MSD	N69920.D	84.0	85.0	81.0
MC15774-4MS	N70180.D	84.0	85.0	83.0
MC15774-4MSD	N70181.D	85.0	85.0	81.0
MSN2629-BS	N69896.D	83.0	85.0	82.0
MSN2629-BSD	N69897.D	83.0	85.0	82.0
MSN2629-MB	N69899.D	82.0	84.0	84.0
MSN2639-BS	N70168.D	83.0	85.0	82.0
MSN2639-MB	N70171.D	82.0	84.0	86.0

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

New England ACCUTEST LABORATORIES

GC/MS Semi-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: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-MB	W6928.D	1	11/15/12	KR	11/08/12	OP30951	MSW320

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

MC15576-1, MC15576-2

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	5.0	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	

Method Blank Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-MB	W6928.D	1	11/15/12	KR	11/08/12	OP30951	MSW320

The QC reported here applies to the following samples: Method: SW846 8270C

MC15576-1, MC15576-2

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.28	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	0.48	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.46	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	41%	15-110%
4165-62-2	Phenol-d5	27%	15-110%
118-79-6	2,4,6-Tribromophenol	72%	15-110%
4165-60-0	Nitrobenzene-d5	76%	30-130%
321-60-8	2-Fluorobiphenyl	68%	30-130%
1718-51-0	Terphenyl-d14	94%	30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

Method Blank Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-MB	W6928A.D	1	11/15/12	KR	11/08/12	OP30951	MSW321

The QC reported here applies to the following samples: Method: SW846 8270C

MC15576-1, MC15576-2

CAS No.	Compound	Result	RL	MDL	Units	Q

Method Blank Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30952-MB	I79991.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC15576-1, MC15576-2

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	38%	15-110%
4165-62-2	Phenol-d5	27%	15-110%
118-79-6	2,4,6-Tribromophenol	68%	15-110%
4165-60-0	Nitrobenzene-d5	64%	30-130%
321-60-8	2-Fluorobiphenyl	69%	30-130%
1718-51-0	Terphenyl-d14	114%	30-130%

Blank Spike Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-BS	W6929.D	1	11/15/12	KR	11/08/12	OP30951	MSW320

The QC reported here applies to the following samples: Method: SW846 8270C

MC15576-1, MC15576-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	25.5	26* a	30-130
95-57-8	2-Chlorophenol	100	53.3	53	30-130
59-50-7	4-Chloro-3-methyl phenol	100	56.3	56	30-130
120-83-2	2,4-Dichlorophenol	100	57.3	57	30-130
105-67-9	2,4-Dimethylphenol	100	21.8	22* a	30-130
51-28-5	2,4-Dinitrophenol	100	48.4	48	30-130
534-52-1	4,6-Dinitro-o-cresol	100	63.2	63	30-130
95-48-7	2-Methylphenol	100	44.7	45	30-130
	3&4-Methylphenol	200	84.7	42	30-130
88-75-5	2-Nitrophenol	100	61.6	62	30-130
100-02-7	4-Nitrophenol	100	31.4	31	30-130
87-86-5	Pentachlorophenol	100	59.5	60	30-130
108-95-2	Phenol	100	26.7	27* a	30-130
95-95-4	2,4,5-Trichlorophenol	100	60.5	61	30-130
88-06-2	2,4,6-Trichlorophenol	100	59.2	59	30-130
62-53-3	Aniline	50	23.9	48	40-140
101-55-3	4-Bromophenyl phenyl ether	50	42.8	86	40-140
85-68-7	Butyl benzyl phthalate	50	46.5	93	40-140
100-51-6	Benzyl Alcohol	50	34.9	70	40-140
91-58-7	2-Chloronaphthalene	50	83.4	83	40-140
106-47-8	4-Chloroaniline	50	22.3	45	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	37.3	75	40-140
111-44-4	bis(2-Chloroethyl)ether	50	42.1	84	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	48.6	97	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	41.1	82	40-140
122-66-7	1,2-Diphenylhydrazine	50	44.9	90	40-140
121-14-2	2,4-Dinitrotoluene	50	89.1	89	40-140
606-20-2	2,6-Dinitrotoluene	50	89.9	90	40-140
91-94-1	3,3'-Dichlorobenzidine	50	17.4	35* a	40-140
132-64-9	Dibenzofuran	50	41.2	82	40-140
84-74-2	Di-n-butyl phthalate	50	45.1	90	40-140
117-84-0	Di-n-octyl phthalate	50	48.2	96	40-140
84-66-2	Diethyl phthalate	50	44.2	88	40-140
131-11-3	Dimethyl phthalate	50	42.7	85	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	46.7	93	40-140
118-74-1	Hexachlorobenzene	50	97.5	98	40-140

* = Outside of Control Limits.

7.2.1

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Blank Spike Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-BS	W6929.D	1	11/15/12	KR	11/08/12	OP30951	MSW320

The QC reported here applies to the following samples: Method: SW846 8270C

MC15576-1, MC15576-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	68.9	69	40-140
67-72-1	Hexachloroethane	50	61.5	62	40-140
78-59-1	Isophorone	50	82.6	83	40-140
88-74-4	2-Nitroaniline	50	44.8	90	40-140
99-09-2	3-Nitroaniline	50	32.1	64	40-140
100-01-6	4-Nitroaniline	50	38.1	76	40-140
98-95-3	Nitrobenzene	50	80.8	81	40-140
62-75-9	n-Nitrosodimethylamine	50	27.3	55	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	43.9	88	40-140
86-30-6	N-Nitrosodiphenylamine	50	42.0	84	40-140
110-86-1	Pyridine	50	23.9	48	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	48%	15-110%
4165-62-2	Phenol-d5	33%	15-110%
118-79-6	2,4,6-Tribromophenol	83%	15-110%
4165-60-0	Nitrobenzene-d5	81%	30-130%
321-60-8	2-Fluorobiphenyl	76%	30-130%
1718-51-0	Terphenyl-d14	97%	30-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-BS	W6929A.D	1	11/15/12	KR	11/08/12	OP30951	MSW321

The QC reported here applies to the following samples: Method: SW846 8270C

MC15576-1, MC15576-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30952-BS	I79992.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC15576-1, MC15576-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	41.5	83	40-140
208-96-8	Acenaphthylene	50	32.1	64	40-140
120-12-7	Anthracene	50	40.6	81	40-140
56-55-3	Benzo(a)anthracene	50	50.4	101	40-140
50-32-8	Benzo(a)pyrene	50	42.0	84	40-140
205-99-2	Benzo(b)fluoranthene	50	48.4	97	40-140
191-24-2	Benzo(g,h,i)perylene	50	46.5	93	40-140
207-08-9	Benzo(k)fluoranthene	50	48.1	96	40-140
218-01-9	Chrysene	50	52.0	104	40-140
53-70-3	Dibenzo(a,h)anthracene	50	49.0	98	40-140
206-44-0	Fluoranthene	50	46.2	92	40-140
86-73-7	Fluorene	50	43.6	87	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	48.5	97	40-140
90-12-0	1-Methylnaphthalene	50	42.0	84	40-140
91-57-6	2-Methylnaphthalene	50	39.9	80	40-140
85-01-8	Phenanthrene	50	42.9	86	40-140
129-00-0	Pyrene	50	43.6	87	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	45%	15-110%
4165-62-2	Phenol-d5	33%	15-110%
118-79-6	2,4,6-Tribromophenol	85%	15-110%
4165-60-0	Nitrobenzene-d5	72%	30-130%
321-60-8	2-Fluorobiphenyl	76%	30-130%
1718-51-0	Terphenyl-d14	106%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-MS	W6930.D	1	11/15/12	KR	11/08/12	OP30951	MSW320
OP30951-MSD	W6931.D	1	11/15/12	KR	11/08/12	OP30951	MSW320
MC15652-9	W6932.D	1	11/15/12	KR	11/08/12	OP30951	MSW320

The QC reported here applies to the following samples: **Method: SW846 8270C**

MC15576-1, MC15576-2

7.3.1

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CAS No.	Compound	MC15652-9 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		100	25.5	26* [a]	25.2	25* [a]	1	30-130/20
95-57-8	2-Chlorophenol	ND		100	54.6	55	52.7	53	4	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		100	56.2	56	54.9	55	2	30-130/20
120-83-2	2,4-Dichlorophenol	ND		100	58.1	58	56.8	57	2	30-130/20
105-67-9	2,4-Dimethylphenol	ND		100	38.1	38	22.7	23* [a]	51* [b]	30-130/20
51-28-5	2,4-Dinitrophenol	ND		100	51.6	52	51.7	52	0	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		100	63.5	64	64.5	65	2	30-130/20
95-48-7	2-Methylphenol	ND		100	47.0	47	43.4	43	8	30-130/20
	3&4-Methylphenol	ND		200	87.0	44	82.6	41	5	30-130/20
88-75-5	2-Nitrophenol	ND		100	62.3	62	60.9	61	2	30-130/20
100-02-7	4-Nitrophenol	ND		100	28.8	29* [a]	29.4	29* [a]	2	30-130/20
87-86-5	Pentachlorophenol	ND		100	61.1	61	59.0	59	3	30-130/20
108-95-2	Phenol	ND		100	26.4	26* [a]	25.3	25* [a]	4	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		100	61.0	61	58.8	59	4	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		100	60.7	61	57.6	58	5	30-130/20
62-53-3	Aniline	ND		50	27.8	56	25.7	51	8	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		50	41.5	83	41.6	83	0	40-140/20
85-68-7	Butyl benzyl phthalate	ND		50	45.3	91	45.3	91	0	40-140/20
100-51-6	Benzyl Alcohol	ND		50	34.5	69	34.6	69	0	40-140/20
91-58-7	2-Chloronaphthalene	ND		50	85.3	85	83.7	84	2	40-140/20
106-47-8	4-Chloroaniline	ND		50	23.6	47	23.4	47	1	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		50	37.4	75	36.4	73	3	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		50	42.2	84	41.3	83	2	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		50	49.2	98	47.9	96	3	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		50	40.9	82	40.3	81	1	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		50	44.7	89	44.2	88	1	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		50	88.8	89	86.5	87	3	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		50	90.2	90	87.3	87	3	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		50	24.9	50	17.4	35* [a]	35* [b]	40-140/20
132-64-9	Dibenzofuran	ND		50	41.4	83	40.0	80	3	40-140/20
84-74-2	Di-n-butyl phthalate	ND		50	44.3	89	44.1	88	0	40-140/20
117-84-0	Di-n-octyl phthalate	ND		50	46.4	93	47.1	94	1	40-140/20
84-66-2	Diethyl phthalate	ND		50	43.8	88	42.9	86	2	40-140/20
131-11-3	Dimethyl phthalate	ND		50	42.2	84	41.4	83	2	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND		50	45.5	91	46.0	92	1	40-140/20
118-74-1	Hexachlorobenzene	ND		50	96.6	97	94.2	94	3	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-MS	W6930.D	1	11/15/12	KR	11/08/12	OP30951	MSW320
OP30951-MSD	W6931.D	1	11/15/12	KR	11/08/12	OP30951	MSW320
MC15652-9	W6932.D	1	11/15/12	KR	11/08/12	OP30951	MSW320

The QC reported here applies to the following samples: Method: SW846 8270C

MC15576-1, MC15576-2

CAS No.	Compound	MC15652-9 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		50	74.3	74	70.1	70	6	40-140/20
67-72-1	Hexachloroethane	ND		50	65.8	66	60.9	61	8	40-140/20
78-59-1	Isophorone	ND		50	81.9	82	81.7	82	0	40-140/20
88-74-4	2-Nitroaniline	ND		50	44.8	90	43.9	88	2	40-140/20
99-09-2	3-Nitroaniline	ND		50	31.8	64	32.0	64	1	40-140/20
100-01-6	4-Nitroaniline	ND		50	40.4	81	37.2	74	8	40-140/20
98-95-3	Nitrobenzene	ND		50	81.4	81	80.0	80	2	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		50	27.1	54	26.2	52	3	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		50	44.8	90	43.6	87	3	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		50	43.2	86	40.6	81	6	40-140/20
110-86-1	Pyridine	ND		50	23.9	48	23.1	46	3	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15652-9	Limits
367-12-4	2-Fluorophenol	48%	46%	38%	15-110%
4165-62-2	Phenol-d5	33%	32%	26%	15-110%
118-79-6	2,4,6-Tribromophenol	85%	83%	70%	15-110%
4165-60-0	Nitrobenzene-d5	82%	81%	74%	30-130%
321-60-8	2-Fluorobiphenyl	78%	74%	67%	30-130%
1718-51-0	Terphenyl-d14	97%	96%	96%	30-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
(b) High RPD due to possible matrix interference and/or sample non-homogeneity.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-MS	W6930A.D	1	11/15/12	KR	11/08/12	OP30951	MSW321
OP30951-MSD	W6931A.D	1	11/15/12	KR	11/08/12	OP30951	MSW321
MC15652-9	W6932A.D	1	11/15/12	KR	11/08/12	OP30951	MSW321

The QC reported here applies to the following samples: **Method:** SW846 8270C

MC15576-1, MC15576-2

CAS No.	Compound	MC15652-9 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD

7.3.2

7

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30952-MS	I79993.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980
OP30952-MSD	I79994.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980
MC15652-10	I79995.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC15576-1, MC15576-2

CAS No.	Compound	MC15652-10 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		50	41.8	84	40.9	82	2	40-140/20
208-96-8	Acenaphthylene	ND		50	32.3	65	31.3	63	3	40-140/20
120-12-7	Anthracene	ND		50	41.4	83	40.1	80	3	40-140/20
56-55-3	Benzo(a)anthracene	ND		50	52.8	106	53.0	106	0	40-140/20
50-32-8	Benzo(a)pyrene	ND		50	45.4	91	45.3	91	0	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		50	51.7	103	50.0	100	3	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND		50	50.1	100	51.9	104	4	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		50	50.1	100	53.8	108	7	40-140/20
218-01-9	Chrysene	ND		50	55.0	110	55.1	110	0	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		50	52.7	105	54.0	108	2	40-140/20
206-44-0	Fluoranthene	ND		50	48.1	96	46.8	94	3	40-140/20
86-73-7	Fluorene	ND		50	44.4	89	43.5	87	2	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		50	52.2	104	53.8	108	3	40-140/20
90-12-0	1-Methylnaphthalene	ND		50	42.7	85	41.7	83	2	40-140/20
91-57-6	2-Methylnaphthalene	ND		50	40.3	81	39.5	79	2	40-140/20
85-01-8	Phenanthrene	ND		50	42.9	86	41.8	84	3	40-140/20
129-00-0	Pyrene	ND		50	45.6	91	44.3	89	3	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15652-10	Limits
367-12-4	2-Fluorophenol	45%	43%	36%	15-110%
4165-62-2	Phenol-d5	32%	31%	27%	15-110%
118-79-6	2,4,6-Tribromophenol	86%	81%	72%	15-110%
4165-60-0	Nitrobenzene-d5	72%	69%	63%	30-130%
321-60-8	2-Fluorobiphenyl	77%	73%	67%	30-130%
1718-51-0	Terphenyl-d14	111%	109%	106%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSI2980-CC2969	Injection Date:	11/13/12
Lab File ID:	I79973.D	Injection Time:	09:46
Instrument ID:	GCMSI	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	327166	3.91	1008067	4.88	591438	6.29	1073798	7.60	1025716	0.00	1352775	0.00
Upper Limit [a]	654332	4.41	2016134	5.38	1182876	6.79	2147596	8.10	2051432	0.50	2705550	0.50
Lower Limit [b]	163583	3.41	504034	4.38	295719	5.79	536899	7.10	512858	-0.50	676388	-0.50
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP31003-MB	319602	3.91	995824	4.88	551783	6.29	1034734	7.60	1053406	0.00	1894581	0.00
OP31003-BS	356834	3.91	1098429	4.88	586962	6.29	1014690	7.60	942108	0.00	1400018	0.00
OP31003-BSD	309253	3.91	987185	4.88	564354	6.29	1043527	7.61	1042661	0.00	1891470	0.00
OP31003-MS	314626	3.91	993442	4.88	576977	6.29	1058037	7.61	1013654	0.00	1777882	0.00
OP31003-MSD	332349	3.91	1055117	4.88	602833	6.29	1075094	7.61	1017687	0.00	1766943	0.00
ZZZZZZ	248950	3.91	794336	4.88	464459	6.29	875324	7.60	878080	0.00	1638768	0.00
ZZZZZZ	240100	3.91	750665	4.88	416578	6.29	795795	7.60	851900	0.00	1575081	0.00
ZZZZZZ	285190	3.91	903417	4.88	527460	6.29	1005376	7.60	1023036	0.00	1882041	0.00
MC15914-2	336036	3.91	1031114	4.88	594363	6.29	1044703	7.60	996463	0.00	1820037	0.00
ZZZZZZ	310954	3.91	942580	4.88	529975	6.29	961718	7.60	1021906	0.00	1893971	0.00
ZZZZZZ	247613	3.91	769383	4.88	464621	6.29	907975	7.60	960581	0.00	1774764	0.00
ZZZZZZ	284468	3.91	878152	4.88	513321	6.29	980436	7.60	978169	0.00	1791819	0.00
ZZZZZZ	321315	3.91	1002661	4.88	583793	6.29	1071683	7.60	1032724	0.00	1876609	0.00
ZZZZZZ	259995	3.91	786209	4.88	441846	6.29	834352	7.60	903415	0.00	1713312	0.00
ZZZZZZ	221211	3.91	689968	4.88	407735	6.29	800971	7.60	843846	0.00	1570158	0.00
ZZZZZZ	214628	3.91	665142	4.88	401014	6.29	798637	7.60	857489	0.00	1593813	0.00
OP30952-MB	221586	3.91	673547	4.88	377714	6.29	704137	7.60	810617	0.00	1578359	0.00
OP30952-BS	368706	3.91	1146613	4.88	652806	6.29	1169796	7.61	1081406	0.00	1895122	0.00
OP30952-MS	313939	3.91	982732	4.88	564798	6.29	1028337	7.61	1006526	0.00	1810825	0.00
OP30952-MSD	286076	3.91	890725	4.88	512440	6.29	951482	7.61	952060	0.00	1731411	0.00
MC15652-10	295056	3.91	930053	4.88	548989	6.29	1008270	7.60	997435	0.00	1851731	0.00
MC15576-1	208107	3.91	633963	4.88	371312	6.29	756291	7.60	844734	0.00	1637871	0.00
MC15576-2	212069	3.91	633442	4.88	369406	6.29	765057	7.60	864079	0.00	1650000	0.00
ZZZZZZ	347578	3.91	1031744	4.88	576269	6.29	1027450	7.60	946549	0.00	1673131	0.00
ZZZZZZ	273229	3.91	853397	4.88	513671	6.29	1011193	7.60	1047073	0.00	1951681	0.00
ZZZZZZ	268928	3.91	816846	4.88	468697	6.29	906765	7.60	993375	0.00	1868108	0.00

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.

Semivolatile Internal Standard Area Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSI2980-CC2969	Injection Date:	11/13/12
Lab File ID:	I79973.D	Injection Time:	09:46
Instrument ID:	GCMSI	Method:	SW846 8270C BY SIM

Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

7.4.1

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Semivolatile Internal Standard Area Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW320-CC318	Injection Date:	11/15/12
Lab File ID:	W6926.D	Injection Time:	08:12
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	98334	4.11	389927	5.10	223404	6.54	384212	7.91	429229	10.85	407634	12.43
Upper Limit [a]	196668	4.61	779854	5.60	446808	7.04	768424	8.41	858458	11.35	815268	12.93
Lower Limit [b]	49167	3.61	194964	4.60	111702	6.04	192106	7.41	214615	10.35	203817	11.93
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30951-MB	126386	4.11	497263	5.10	282771	6.54	489333	7.91	536511	10.84	522579	12.43
OP30951-MB	126373	4.11	497323	5.10	282811	6.54	489317	7.91	536507	10.84	522659	12.43
OP30951-BS	121961	4.11	483347	5.10	272918	6.54	463928	7.91	510500	10.85	457348	12.43
OP30934-BSD	121961	4.11	483347	5.10	272918	6.54	463928	7.91	510500	10.85	457348	12.43
OP30951-BS	121970	4.11	483519	5.10	272976	6.54	463971	7.91	510512	10.85	457335	12.43
OP30951-MS	121638	4.11	483996	5.10	271758	6.54	466794	7.91	512991	10.85	468492	12.43
OP30951-MS	121619	4.11	484038	5.10	271860	6.54	466794	7.91	513081	10.85	467305	12.43
OP30951-MSD	120870	4.11	482043	5.10	272848	6.54	462852	7.91	512067	10.85	464781	12.43
OP30951-MSD	120879	4.11	482225	5.10	272902	6.54	463029	7.91	512061	10.85	464779	12.43
MC15652-9	118831	4.11	471492	5.10	266320	6.54	462810	7.91	496825	10.84	483987	12.43
MC15652-9	118839	4.11	471465	5.10	266362	6.54	462795	7.91	496890	10.84	484369	12.43
ZZZZZZ	116138	4.11	462341	5.10	261174	6.54	455920	7.91	499366	10.84	482249	12.43
ZZZZZZ	118357	4.11	466851	5.10	269852	6.54	468576	7.91	517877	10.84	499481	12.43
ZZZZZZ	113253	4.11	455376	5.10	258479	6.54	452377	7.91	483650	10.84	469490	12.43
ZZZZZZ	113246	4.11	455569	5.10	258514	6.54	452377	7.91	483764	10.84	469475	12.43
ZZZZZZ	116689	4.11	463443	5.10	263856	6.54	458088	7.91	497660	10.84	480468	12.43
ZZZZZZ	116697	4.11	463462	5.10	263834	6.54	458088	7.91	497051	10.84	480592	12.43
MC15576-1	124568	4.11	494987	5.10	282004	6.54	489884	7.91	521585	10.84	494789	12.43
OP31026-MB	104142	4.11	422943	5.10	239473	6.54	416599	7.91	444501	10.84	430807	12.43
ZZZZZZ	114478	4.11	454996	5.10	258917	6.54	447744	7.91	489792	10.84	464931	12.43
ZZZZZZ	111851	4.11	445703	5.10	256072	6.54	442624	7.91	477900	10.84	465671	12.43
ZZZZZZ	105881	4.11	422475	5.10	241719	6.54	419468	7.91	460697	10.84	446809	12.43

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Internal Standard Area Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW322-CC318	Injection Date:	11/15/12
Lab File ID:	W6945.D	Injection Time:	18:04
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	98351	4.09	398301	5.08	227903	6.51	398323	7.88	457313	10.82	437171	12.40
Upper Limit [a]	196702	4.59	796602	5.58	455806	7.01	796646	8.38	914626	11.32	874342	12.90
Lower Limit [b]	49176	3.59	199151	4.58	113952	6.01	199162	7.38	228657	10.32	218586	11.90
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
ZZZZZZ	129445	4.09	521083	5.08	302003	6.51	526840	7.88	578658	10.82	556938	12.40
ZZZZZZ	131916	4.09	526005	5.08	303766	6.51	531885	7.88	589691	10.82	568171	12.40
ZZZZZZ	117811	4.09	471603	5.08	270350	6.51	468886	7.88	505388	10.82	489972	12.40
ZZZZZZ	113652	4.09	452543	5.08	261705	6.51	454639	7.88	486155	10.82	476813	12.40
MC15576-2	133085	4.09	528673	5.08	305890	6.51	529856	7.88	589182	10.82	555040	12.40
ZZZZZZ	108767	4.09	438504	5.08	253627	6.51	441039	7.88	475461	10.82	454032	12.40
ZZZZZZ	120066	4.09	482490	5.08	279961	6.51	487846	7.88	551393	10.82	520771	12.40
ZZZZZZ	116844	4.09	467184	5.08	263968	6.51	451661	7.88	476222	10.82	458329	12.40
ZZZZZZ	119524	4.09	476406	5.08	271812	6.51	464768	7.88	493653	10.82	467542	12.40
ZZZZZZ	116793	4.09	459271	5.08	265419	6.51	466501	7.88	510742	10.82	490633	12.40
ZZZZZZ	116157	4.09	467121	5.08	261980	6.51	459188	7.88	491133	10.82	477157	12.40
ZZZZZZ	110607	4.09	444477	5.08	255560	6.51	448719	7.88	521237	10.82	501932	12.40
ZZZZZZ	113365	4.09	457432	5.08	262372	6.51	452083	7.88	543515	10.82	503964	12.40
ZZZZZZ	118906	4.09	473588	5.08	277678	6.51	474959	7.88	722802	10.83	717316	12.43
ZZZZZZ	119711	4.09	481641	5.08	281437	6.51	492325	7.88	576130	10.82	564497	12.40
ZZZZZZ	137202	4.09	536292	5.08	299725	6.51	490110	7.88	504731	10.82	492190	12.40
ZZZZZZ	135221	4.09	524433	5.08	294709	6.51	488731	7.88	496340	10.82	485772	12.40
ZZZZZZ	120901	4.09	479656	5.08	277482	6.51	481080	7.88	509463	10.82	502884	12.40
ZZZZZZ	126368	4.09	504678	5.08	288055	6.51	500610	7.88	527621	10.82	506582	12.40

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Surrogate Recovery Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15576-1	W6937.D	44.0	35.0	81.0	77.0	70.0	55.0
MC15576-2	W6959.D	40.0	31.0	80.0	75.0	66.0	56.0
OP30951-BS	W6929.D	48.0	33.0	83.0	81.0	76.0	97.0
OP30951-BS	W6929A.D						
OP30951-MB	W6928.D	41.0	27.0	72.0	76.0	68.0	94.0
OP30951-MB	W6928A.D						
OP30951-MS	W6930.D	48.0	33.0	85.0	82.0	78.0	97.0
OP30951-MS	W6930A.D						
OP30951-MSD	W6931.D	46.0	32.0	83.0	81.0	74.0	96.0
OP30951-MSD	W6931A.D						

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	15-110%
S2 = Phenol-d5	15-110%
S3 = 2,4,6-Tribromophenol	15-110%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

Semivolatile Surrogate Recovery Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15576-1	I79996.D	44.0	32.0	80.0	63.0	69.0	68.0
MC15576-2	I79997.D	43.0	29.0	78.0	63.0	67.0	73.0
OP30952-BS	I79992.D	45.0	33.0	85.0	72.0	76.0	106.0
OP30952-MB	I79991.D	38.0	27.0	68.0	64.0	69.0	114.0
OP30952-MS	I79993.D	45.0	32.0	86.0	72.0	77.0	111.0
OP30952-MSD	I79994.D	43.0	31.0	81.0	69.0	73.0	109.0

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	15-110%
S2 = Phenol-d5	15-110%
S3 = 2,4,6-Tribromophenol	15-110%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

New England ACCUTEST LABORATORIES

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: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30911-MB	BB44031A.D	1	11/05/12	AP	11/05/12	OP30911	GBB2678

The QC reported here applies to the following samples: Method: SW846 8011

MC15576-1, MC15576-2, MC15576-4

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)	93%	36-173%
460-00-4	Bromofluorobenzene (S)	92%	36-173%

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Blank Spike Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30911-BS	BB44032A.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678

The QC reported here applies to the following samples: Method: SW846 8011

MC15576-1, MC15576-2, MC15576-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.060	85	60-140
106-93-4	1,2-Dibromoethane	0.071	0.060	85	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	85%	36-173%
460-00-4	Bromofluorobenzene (S)	84%	36-173%

8.2.1

8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30911-MS	BB44033A.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678
OP30911-MSD	BB44034A.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678
MC15603-5	BB44035A.D	1	11/06/12	AP	11/05/12	OP30911	GBB2678

The QC reported here applies to the following samples: Method: SW846 8011

MC15576-1, MC15576-2, MC15576-4

CAS No.	Compound	MC15603-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		0.071	0.061	86	0.064	90	5	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.071	0.062	87	0.061	86	2	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC15603-5	Limits
460-00-4	Bromofluorobenzene (S)	87%	90%	93%	36-173%
460-00-4	Bromofluorobenzene (S)	85%	89%	93%	36-173%

8.3.1

8

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8011	Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC15576-1	BB44050.D	88.0	86.0
MC15576-2	BB44051.D	86.0	80.0
MC15576-4	BB44052.D	87.0	85.0
OP30911-BS	BB44032A.D	85.0	84.0
OP30911-MB	BB44031A.D	93.0	92.0
OP30911-MS	BB44033A.D	87.0	85.0
OP30911-MSD	BB44034A.D	90.0	89.0

Surrogate Compounds	Recovery Limits
S1 = Bromofluorobenzene (S)	36-173%

(a) Recovery from GC signal #1
(b) Recovery from GC signal #2

8.4.1

8

GC Surrogate Retention Time Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBB2678-CC2678	Injection Date:	11/05/12
Lab File ID:	BB44025.D	Injection Time:	21:02
Instrument ID:	GCBB	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	3.88	4.18

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BB44026.D	11/05/12	21:29	3.88	4.18
ZZZZZZ	BB44027.D	11/05/12	21:55	3.88	4.18
ZZZZZZ	BB44028.D	11/05/12	22:21	3.88	4.18
ZZZZZZ	BB44029.D	11/05/12	22:48	3.88	4.18
ZZZZZZ	BB44030.D	11/05/12	23:14	3.88	4.18
OP30910-MB	BB44031.D	11/05/12	23:40	3.88	4.18
OP30911-MB	BB44031A.D	11/05/12	23:40	3.88	4.18
OP30910-BS	BB44032.D	11/06/12	00:06	3.88	4.18
OP30911-BS	BB44032A.D	11/06/12	00:06	3.88	4.18
OP30910-MS	BB44033.D	11/06/12	00:32	3.88	4.18
OP30911-MS	BB44033A.D	11/06/12	00:32	3.88	4.18
OP30910-MSD	BB44034.D	11/06/12	00:58	3.88	4.18
OP30911-MSD	BB44034A.D	11/06/12	00:58	3.88	4.18
MC15603-7	BB44035.D	11/06/12	01:25	3.88	4.18
MC15603-5	BB44035A.D	11/06/12	01:25	3.88	4.18

Surrogate Compounds

S1 = Bromofluorobenzene (S)

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: MC15576
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBB2678-CC2678	Injection Date:	11/06/12
Lab File ID:	BB44047.D	Injection Time:	06:40
Instrument ID:	GCBB	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	3.88	4.18

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BB44048.D	11/06/12	07:06	3.88	4.18
ZZZZZZ	BB44049.D	11/06/12	07:32	3.88	4.18
MC15576-1	BB44050.D	11/06/12	07:58	3.88	4.18
MC15576-2	BB44051.D	11/06/12	08:25	3.88	4.18
MC15576-4	BB44052.D	11/06/12	08:51	3.88	4.18
GBB2678-ECC2678	BB44053.D	11/06/12	09:17	3.88	4.18

Surrogate Compounds

S1 = Bromofluorobenzene (S)

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

Roxana Groundwater Quarterly – 4th Quarter 2012 Data Review

Laboratory SDG: MC15641

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 12/11/2012

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Sample Identification	Sample Identification
T12-ROX-110512	P57-ROX-110512
TB-110512-HCL-W	TB-110512-ST-W

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated that VOC LCS/LCSD and SVOC LCS recoveries were outside evaluation criteria. Samples were diluted due to high levels of VOC target analytes. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated samples were received by the laboratory at a temperature of 1.3 ºC, which is outside the 4ºC ± 2ºC criteria. Samples were received in good condition; therefore, no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSH1921-BS/BSD	VOCs	Acetone	**147**/130	12	70-130/25
MSH1921-BS/BSD	VOCs	Acrolein	**67/66**	1	70-130/25

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSH1921-BS/BSD	VOCs	Carbon tetrachloride	**139/139**	0	70-130/25
MSH1921-BS/BSD	VOCs	2,2-Dichloropropane	130/**131**	0	70-130/25
OP30951-BS	SVOCs	Benzoic acid	**26**	NA	30-130
OP30951-BS	SVOCs	2,4-Dimethylphenol	**22**	NA	30-130
OP30951-BS	SVOCs	Phenol	**27**	NA	30-130
OP30951-BS	SVOCs	3,3'-Dichlorobenzidine	**35**	NA	40-140

Analytical data that required qualification based on LCS data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. LCS/LCSD MSH1921-BS/BSD was associated with trip blank TB-110512-HCL-W. Trip blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
T12-ROX-110512	VOCs	Acrolein	**UJ**
P57-ROX-110512	VOCs	Acrolein	**UJ**
T12-ROX-110512	SVOCs	Benzoic acid	**UJ**
T12-ROX-110512	SVOCs	2,4-Dimethylphenol	**J**
T12-ROX-110512	SVOCs	Phenol	**UJ**
T12-ROX-110512	SVOCs	3,3'-Dichlorobenzidine	**UJ**
P57-ROX-110512	SVOCs	Benzoic acid	**UJ**
P57-ROX-110512	SVOCs	2,4-Dimethylphenol	**UJ**
P57-ROX-110512	SVOCs	Phenol	**J**
P57-ROX-110512	SVOCs	3,3'-Dichlorobenzidine	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

New England ACCUTEST LABORATORIES

12/11/12



Technical Report for

Shell Oil

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana,

Accutest Job Number: MC15641

Sampling Date: 11/05/12

Report to:

URS Corporation

elizabeth.kunkel@URS.com

ATTN: Elizabeth Kunkel

Total number of pages in report: **68**

Reviewed on 12/11/12

Reza Tand
Lab Director

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Sample Summary

Shell Oil

Job No: MC15641

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC15641-1	11/05/12	12:55	LRCK	11/06/12	AQ	Ground Water	T12-ROX-110512
MC15641-2	11/05/12	15:40	LRCK	11/06/12	AQ	Ground Water	P57-ROX-110512
MC15641-3	11/05/12	00:00	LRCK	11/06/12	AQ	Trip Blank Water	TB-110512-HCL-W
MC15641-4	11/05/12	00:00	LRCK	11/06/12	AQ	Trip Blank Water	TB-110512-ST-W

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	**Job No**	MC15641
Site:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central	**Report Date**	12/6/2012 3:07:54 PM

2 Sample(s), 2 Trip Blank(s) were collected on 11/05/2012 and were received at Accutest on 11/06/2012 properly preserved, at 1.3 Deg. C and intact. These Samples received an Accutest job number of MC15641. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. 1-Chlorohexane, Benzenethiol, Dibenz(a,h)acridine, Indene, and Quinoline were searched in the library search and reported only if detections were found.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** MSH1921

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15754-1MS, MC15754-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Blank Spike Recovery(s) for Acetone, Acrolein, Carbon tetrachloride are outside control limits. Blank Spike meets program technical requirements.
- MS/MSD Recovery(s) for 2-Chloroethyl vinyl ether, Carbon disulfide, Chloromethane, Dichlorodifluoromethane, n-Butylbenzene, o-Chlorotoluene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MS/MSD Recovery(s) for 1,2,4-Trimethylbenzene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- BSD Recovery(s) for 2,2-Dichloropropane, Acrolein, Carbon tetrachloride are outside control limits. Blank Spike meets program technical requirements.

Extractables by GCMS By Method SW846 8270C

Matrix AQ **Batch ID:** OP30951

- All samples were extracted and analyzed within the recommended method holding time.
- OP30951-MB/BS/MS/MSD, file W6928A/W6929A/W6930A/W6931A not associated with this job .
- Sample(s) MC15652-9MS, MC15652-9MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Blank Spike Recovery(s) for 2,4-Dimethylphenol, 3,3'-Dichlorobenzidine, Benzoic Acid, Phenol are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for 4-Nitrophenol, Benzoic Acid, Phenol are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for 4-Nitrophenol, Benzoic Acid, Phenol, 2,4-Dimethylphenol, 3,3'-Dichlorobenzidine are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- RPD(s) for MSD for 2,4-Dimethylphenol, 3,3'-Dichlorobenzidine are outside control limits for sample OP30951-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix AQ	Batch ID: OP30952

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC15652-10MS, MC15652-10MSD were used as the QC samples indicated.
-

Volatiles by GC By Method SW846 8011

Matrix AQ	Batch ID: OP31005

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC15914-8MS, MC15914-8MSD were used as the QC samples indicated.

The Accutest Laboratories of 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 Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC15641).

Summary of Hits

Job Number: MC15641
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 11/05/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC15641-1	T12-ROX-110512					
Benzene		1710	5.0	2.4	ug/l	SW846 8260B
Ethylbenzene		1730	10	5.1	ug/l	SW846 8260B
Isopropylbenzene		46.8 J	50	5.0	ug/l	SW846 8260B
Naphthalene		125	50	5.0	ug/l	SW846 8260B
n-Propylbenzene		83.1	50	5.8	ug/l	SW846 8260B
Toluene		322	10	5.1	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		385	50	3.5	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		54.3	50	4.7	ug/l	SW846 8260B
m,p-Xylene		2550	10	7.3	ug/l	SW846 8260B
o-Xylene		176	10	5.8	ug/l	SW846 8260B
Xylene (total)		2730	10	5.8	ug/l	SW846 8260B
2,4-Dimethylphenol		2.8 J	10	2.7	ug/l	SW846 8270C
2-Methylphenol		0.96 J	10	0.60	ug/l	SW846 8270C
3&4-Methylphenol		1.5 J	10	0.75	ug/l	SW846 8270C
Dibenzofuran		0.29 J	2.0	0.21	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		0.54 J	2.0	0.38	ug/l	SW846 8270C
Acenaphthene		0.44	0.10	0.014	ug/l	SW846 8270C BY SIM
Anthracene		0.10	0.10	0.018	ug/l	SW846 8270C BY SIM
Fluorene		0.31	0.10	0.046	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		23.2	0.20	0.14	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		35.4	0.20	0.052	ug/l	SW846 8270C BY SIM
Phenanthrene		0.83	0.050	0.013	ug/l	SW846 8270C BY SIM
Pyrene		0.048 J	0.10	0.036	ug/l	SW846 8270C BY SIM
MC15641-2	P57-ROX-110512					
Benzene		142000	250	120	ug/l	SW846 8260B
Ethylbenzene		1090	500	250	ug/l	SW846 8260B
Naphthalene		1530 J	2500	250	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		577 J	2500	170	ug/l	SW846 8260B
m,p-Xylene		1030	500	370	ug/l	SW846 8260B
Xylene (total)		1030	500	290	ug/l	SW846 8260B
Phenol		54.7	5.0	0.93	ug/l	SW846 8270C
Dibenzofuran		0.60 J	2.0	0.21	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		0.52 J	2.0	0.38	ug/l	SW846 8270C
Acenaphthene		0.53	0.10	0.014	ug/l	SW846 8270C BY SIM
Anthracene		0.061 J	0.10	0.018	ug/l	SW846 8270C BY SIM
Benzo(g,h,i)perylene		0.050 J	0.10	0.038	ug/l	SW846 8270C BY SIM
Dibenzo(a,h)anthracene		0.049 J	0.10	0.042	ug/l	SW846 8270C BY SIM
Fluorene		0.62	0.10	0.046	ug/l	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene		0.050 J	0.10	0.046	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		24.9	0.20	0.14	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		30.5	0.20	0.052	ug/l	SW846 8270C BY SIM

Summary of Hits

Job Number: MC15641
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 11/05/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Phenanthrene		0.48	0.050	0.013	ug/l	SW846 8270C BY SIM

MC15641-3 TB-110512-HCL-W

No hits reported in this sample.

MC15641-4 TB-110512-ST-W

No hits reported in this sample.

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	T12-ROX-110512		
Lab Sample ID:	MC15641-1	Date Sampled:	11/05/12
Matrix:	AQ - Ground Water	Date Received:	11/06/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H58449.D	10	11/17/12	DFT	n/a	n/a	MSH1921
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	50	30	ug/l	
107-02-8	Acrolein	ND	250	100	ug/l	UJ
107-13-1	Acrylonitrile	ND	50	32	ug/l	
71-43-2	Benzene	1710	5.0	2.4	ug/l	
108-86-1	Bromobenzene	ND	50	6.2	ug/l	
74-97-5	Bromochloromethane	ND	50	13	ug/l	
75-27-4	Bromodichloromethane	ND	10	5.8	ug/l	
75-25-2	Bromoform	ND	10	7.8	ug/l	
74-83-9	Bromomethane	ND	20	10	ug/l	
78-93-3	2-Butanone (MEK)	ND	50	24	ug/l	
104-51-8	n-Butylbenzene	ND	50	6.1	ug/l	
135-98-8	sec-Butylbenzene	ND	50	5.5	ug/l	
98-06-6	tert-Butylbenzene	ND	50	6.4	ug/l	
75-15-0	Carbon disulfide	ND	50	6.1	ug/l	
56-23-5	Carbon tetrachloride	ND	10	8.7	ug/l	
108-90-7	Chlorobenzene	ND	10	4.7	ug/l	
75-00-3	Chloroethane	ND	20	5.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	50	13	ug/l	
67-66-3	Chloroform	ND	10	5.0	ug/l	
74-87-3	Chloromethane	ND	20	7.3	ug/l	
95-49-8	o-Chlorotoluene	ND	50	6.5	ug/l	
106-43-4	p-Chlorotoluene	ND	50	4.8	ug/l	
124-48-1	Dibromochloromethane	ND	10	5.3	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	10	9.3	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	10	4.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	10	6.4	ug/l	
75-71-8	Dichlorodifluoromethane	ND	20	17	ug/l	
75-34-3	1,1-Dichloroethane	ND	10	6.2	ug/l	
107-06-2	1,2-Dichloroethane	ND	10	6.3	ug/l	
75-35-4	1,1-Dichloroethene	ND	10	4.1	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	10	6.4	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	10	9.5	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	T12-ROX-110512		
Lab Sample ID:	MC15641-1	**Date Sampled:**	11/05/12
Matrix:	AQ - Ground Water	**Date Received:**	11/06/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	20	7.2	ug/l	
142-28-9	1,3-Dichloropropane	ND	50	6.4	ug/l	
594-20-7	2,2-Dichloropropane	ND	50	16	ug/l	
563-58-6	1,1-Dichloropropene	ND	50	9.1	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	4.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	2.0	ug/l	
123-91-1	1,4-Dioxane	ND	250	150	ug/l	
97-63-2	Ethyl methacrylate	ND	50	8.1	ug/l	
100-41-4	Ethylbenzene	1730	10	5.1	ug/l	
87-68-3	Hexachlorobutadiene	ND	50	21	ug/l	
591-78-6	2-Hexanone	ND	50	20	ug/l	
98-82-8	Isopropylbenzene	46.8	50	5.0	ug/l	J
99-87-6	p-Isopropyltoluene	ND	50	5.7	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	10	4.1	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	50	29	ug/l	
74-95-3	Methylene bromide	ND	50	11	ug/l	
75-09-2	Methylene chloride	ND	20	8.3	ug/l	
91-20-3	Naphthalene	125	50	5.0	ug/l	
103-65-1	n-Propylbenzene	83.1	50	5.8	ug/l	
100-42-5	Styrene	ND	50	4.5	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	50	5.7	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	6.0	ug/l	
127-18-4	Tetrachloroethene	ND	10	4.2	ug/l	
108-88-3	Toluene	322	10	5.1	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	50	13	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	50	13	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	10	8.5	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	10	5.0	ug/l	
79-01-6	Trichloroethene	ND	10	7.8	ug/l	
75-69-4	Trichlorofluoromethane	ND	10	2.9	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	50	8.5	ug/l	
95-63-6	1,2,4-Trimethylbenzene	385	50	3.5	ug/l	
108-67-8	1,3,5-Trimethylbenzene	54.3	50	4.7	ug/l	
108-05-4	Vinyl Acetate	ND	50	13	ug/l	
75-01-4	Vinyl chloride	ND	10	6.3	ug/l	
	m,p-Xylene	2550	10	7.3	ug/l	
95-47-6	o-Xylene	176	10	5.8	ug/l	
1330-20-7	Xylene (total)	2730	10	5.8	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	T12-ROX-110512		
Lab Sample ID:	MC15641-1	Date Sampled:	11/05/12
Matrix:	AQ - Ground Water	Date Received:	11/06/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		70-130%
2037-26-5	Toluene-D8	104%		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	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	T12-ROX-110512		
Lab Sample ID:	MC15641-1	Date Sampled:	11/05/12
Matrix:	AQ - Ground Water	Date Received:	11/06/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6955.D	1	11/15/12	KR	11/08/12	OP30951	MSW322
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	UJ
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	2.8	10	2.7	ug/l	J J
51-28-5	2,4-Dinitrophenol	ND	20	5.0	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	0.96	10	0.60	ug/l	J
	3&4-Methylphenol	1.5	10	0.75	ug/l	J
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	UJ
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	UJ
132-64-9	Dibenzofuran	0.29	2.0	0.21	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	T12-ROX-110512		
Lab Sample ID:	MC15641-1	Date Sampled:	11/05/12
Matrix:	AQ - Ground Water	Date Received:	11/06/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.54	2.0	0.38	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.28	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	0.48	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	38%		15-110%
4165-62-2	Phenol-d5	25%		15-110%
118-79-6	2,4,6-Tribromophenol	71%		15-110%
4165-60-0	Nitrobenzene-d5	66%		30-130%
321-60-8	2-Fluorobiphenyl	59%		30-130%
1718-51-0	Terphenyl-d14	59%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

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E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	T12-ROX-110512		
Lab Sample ID:	MC15641-1	Date Sampled:	11/05/12
Matrix:	AQ - Ground Water	Date Received:	11/06/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I79998.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.44	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	0.10	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	0.31	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	23.2	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	35.4	0.20	0.052	ug/l	
85-01-8	Phenanthrene	0.83	0.050	0.013	ug/l	
129-00-0	Pyrene	0.048	0.10	0.036	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	34%		15-110%
4165-62-2	Phenol-d5	23%		15-110%
118-79-6	2,4,6-Tribromophenol	74%		15-110%
4165-60-0	Nitrobenzene-d5	57%		30-130%
321-60-8	2-Fluorobiphenyl	62%		30-130%
1718-51-0	Terphenyl-d14	66%		30-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	T12-ROX-110512		
Lab Sample ID:	MC15641-1	**Date Sampled:**	11/05/12
Matrix:	AQ - Ground Water	**Date Received:**	11/06/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18821.D	1	11/13/12	AP	11/12/12	OP31005	GBK686
Run #2							

	Initial Volume	Final Volume
Run #1	35.4 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	94%		36-173%
460-00-4	Bromofluorobenzene (S)	97%		36-173%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P57-ROX-110512		
Lab Sample ID:	MC15641-2	Date Sampled:	11/05/12
Matrix:	AQ - Ground Water	Date Received:	11/06/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H58450.D	500	11/17/12	DFT	n/a	n/a	MSH1921
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	2500	1500	ug/l	
107-02-8	Acrolein	ND	13000	5100	ug/l	UJ
107-13-1	Acrylonitrile	ND	2500	1600	ug/l	
71-43-2	Benzene	142000	250	120	ug/l	
108-86-1	Bromobenzene	ND	2500	310	ug/l	
74-97-5	Bromochloromethane	ND	2500	630	ug/l	
75-27-4	Bromodichloromethane	ND	500	290	ug/l	
75-25-2	Bromoform	ND	500	390	ug/l	
74-83-9	Bromomethane	ND	1000	510	ug/l	
78-93-3	2-Butanone (MEK)	ND	2500	1200	ug/l	
104-51-8	n-Butylbenzene	ND	2500	300	ug/l	
135-98-8	sec-Butylbenzene	ND	2500	280	ug/l	
98-06-6	tert-Butylbenzene	ND	2500	320	ug/l	
75-15-0	Carbon disulfide	ND	2500	310	ug/l	
56-23-5	Carbon tetrachloride	ND	500	430	ug/l	
108-90-7	Chlorobenzene	ND	500	230	ug/l	
75-00-3	Chloroethane	ND	1000	250	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	2500	630	ug/l	
67-66-3	Chloroform	ND	500	250	ug/l	
74-87-3	Chloromethane	ND	1000	370	ug/l	
95-49-8	o-Chlorotoluene	ND	2500	320	ug/l	
106-43-4	p-Chlorotoluene	ND	2500	240	ug/l	
124-48-1	Dibromochloromethane	ND	500	260	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	500	460	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	500	230	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	500	320	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1000	860	ug/l	
75-34-3	1,1-Dichloroethane	ND	500	310	ug/l	
107-06-2	1,2-Dichloroethane	ND	500	320	ug/l	
75-35-4	1,1-Dichloroethene	ND	500	210	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	500	320	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	500	470	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P57-ROX-110512		
Lab Sample ID:	MC15641-2	**Date Sampled:**	11/05/12
Matrix:	AQ - Ground Water	**Date Received:**	11/06/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	1000	360	ug/l	
142-28-9	1,3-Dichloropropane	ND	2500	320	ug/l	
594-20-7	2,2-Dichloropropane	ND	2500	790	ug/l	
563-58-6	1,1-Dichloropropene	ND	2500	460	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	250	220	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	250	98	ug/l	
123-91-1	1,4-Dioxane	ND	13000	7400	ug/l	
97-63-2	Ethyl methacrylate	ND	2500	410	ug/l	
100-41-4	Ethylbenzene	1090	500	250	ug/l	
87-68-3	Hexachlorobutadiene	ND	2500	1000	ug/l	
591-78-6	2-Hexanone	ND	2500	980	ug/l	
98-82-8	Isopropylbenzene	ND	2500	250	ug/l	
99-87-6	p-Isopropyltoluene	ND	2500	290	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	500	210	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2500	1500	ug/l	
74-95-3	Methylene bromide	ND	2500	550	ug/l	
75-09-2	Methylene chloride	ND	1000	420	ug/l	
91-20-3	Naphthalene	1530	2500	250	ug/l	J
103-65-1	n-Propylbenzene	ND	2500	290	ug/l	
100-42-5	Styrene	ND	2500	230	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2500	290	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	500	300	ug/l	
127-18-4	Tetrachloroethene	ND	500	210	ug/l	
108-88-3	Toluene	ND	500	250	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2500	630	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2500	640	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	500	420	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	500	250	ug/l	
79-01-6	Trichloroethene	ND	500	390	ug/l	
75-69-4	Trichlorofluoromethane	ND	500	140	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2500	420	ug/l	
95-63-6	1,2,4-Trimethylbenzene	577	2500	170	ug/l	J
108-67-8	1,3,5-Trimethylbenzene	ND	2500	230	ug/l	
108-05-4	Vinyl Acetate	ND	2500	630	ug/l	
75-01-4	Vinyl chloride	ND	500	310	ug/l	
	m,p-Xylene	1030	500	370	ug/l	
95-47-6	o-Xylene	ND	500	290	ug/l	
1330-20-7	Xylene (total)	1030	500	290	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P57-ROX-110512		
Lab Sample ID:	MC15641-2	**Date Sampled:**	11/05/12
Matrix:	AQ - Ground Water	**Date Received:**	11/06/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, 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	101%		70-130%
460-00-4	4-Bromofluorobenzene	111%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P57-ROX-110512		
Lab Sample ID:	MC15641-2	Date Sampled:	11/05/12
Matrix:	AQ - Ground Water	Date Received:	11/06/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6956.D	1	11/15/12	KR	11/08/12	OP30951	MSW322
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	UJ
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	UJ
51-28-5	2,4-Dinitrophenol	ND	20	5.0	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	54.7	5.0	0.93	ug/l	J
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	UJ
132-64-9	Dibenzofuran	0.60	2.0	0.21	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P57-ROX-110512		
Lab Sample ID:	MC15641-2	Date Sampled:	11/05/12
Matrix:	AQ - Ground Water	Date Received:	11/06/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.52	2.0	0.38	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.28	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	0.48	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	39%		15-110%
4165-62-2	Phenol-d5	32%		15-110%
118-79-6	2,4,6-Tribromophenol	73%		15-110%
4165-60-0	Nitrobenzene-d5	65%		30-130%
321-60-8	2-Fluorobiphenyl	60%		30-130%
1718-51-0	Terphenyl-d14	56%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P57-ROX-110512		
Lab Sample ID:	MC15641-2	**Date Sampled:**	11/05/12
Matrix:	AQ - Ground Water	**Date Received:**	11/06/12
Method:	SW846 8270C BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I79999.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.53	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	0.061	0.10	0.018	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	0.050	0.10	0.038	ug/l	J
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	0.049	0.10	0.042	ug/l	J
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	0.62	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	0.050	0.10	0.046	ug/l	J
90-12-0	1-Methylnaphthalene	24.9	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	30.5	0.20	0.052	ug/l	
85-01-8	Phenanthrene	0.48	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	33%		15-110%
4165-62-2	Phenol-d5	31%		15-110%
118-79-6	2,4,6-Tribromophenol	75%		15-110%
4165-60-0	Nitrobenzene-d5	54%		30-130%
321-60-8	2-Fluorobiphenyl	60%		30-130%
1718-51-0	Terphenyl-d14	70%		30-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P57-ROX-110512		
Lab Sample ID:	MC15641-2	**Date Sampled:**	11/05/12
Matrix:	AQ - Ground Water	**Date Received:**	11/06/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18822.D	1	11/13/12	AP	11/12/12	OP31005	GBK686
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)	98%		36-173%
460-00-4	Bromofluorobenzene (S)	110%		36-173%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-110512-HCL-W		
Lab Sample ID:	MC15641-3	**Date Sampled:**	11/05/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/06/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H58448.D	1	11/17/12	DFT	n/a	n/a	MSH1921
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	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:	TB-110512-HCL-W		
Lab Sample ID:	MC15641-3	Date Sampled:	11/05/12
Matrix:	AQ - Trip Blank Water	Date Received:	11/06/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	TB-110512-HCL-W		
Lab Sample ID:	MC15641-3	**Date Sampled:**	11/05/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/06/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, 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	107%		70-130%
460-00-4	4-Bromofluorobenzene	110%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-110512-ST-W		
Lab Sample ID:	MC15641-4	**Date Sampled:**	11/05/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/06/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18823.D	1	11/13/12	AP	11/12/12	OP31005	GBK686
Run #2							

	Initial Volume	Final Volume
Run #1	34.4 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.011	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	102%		36-173%
460-00-4	Bromofluorobenzene (S)	115%		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

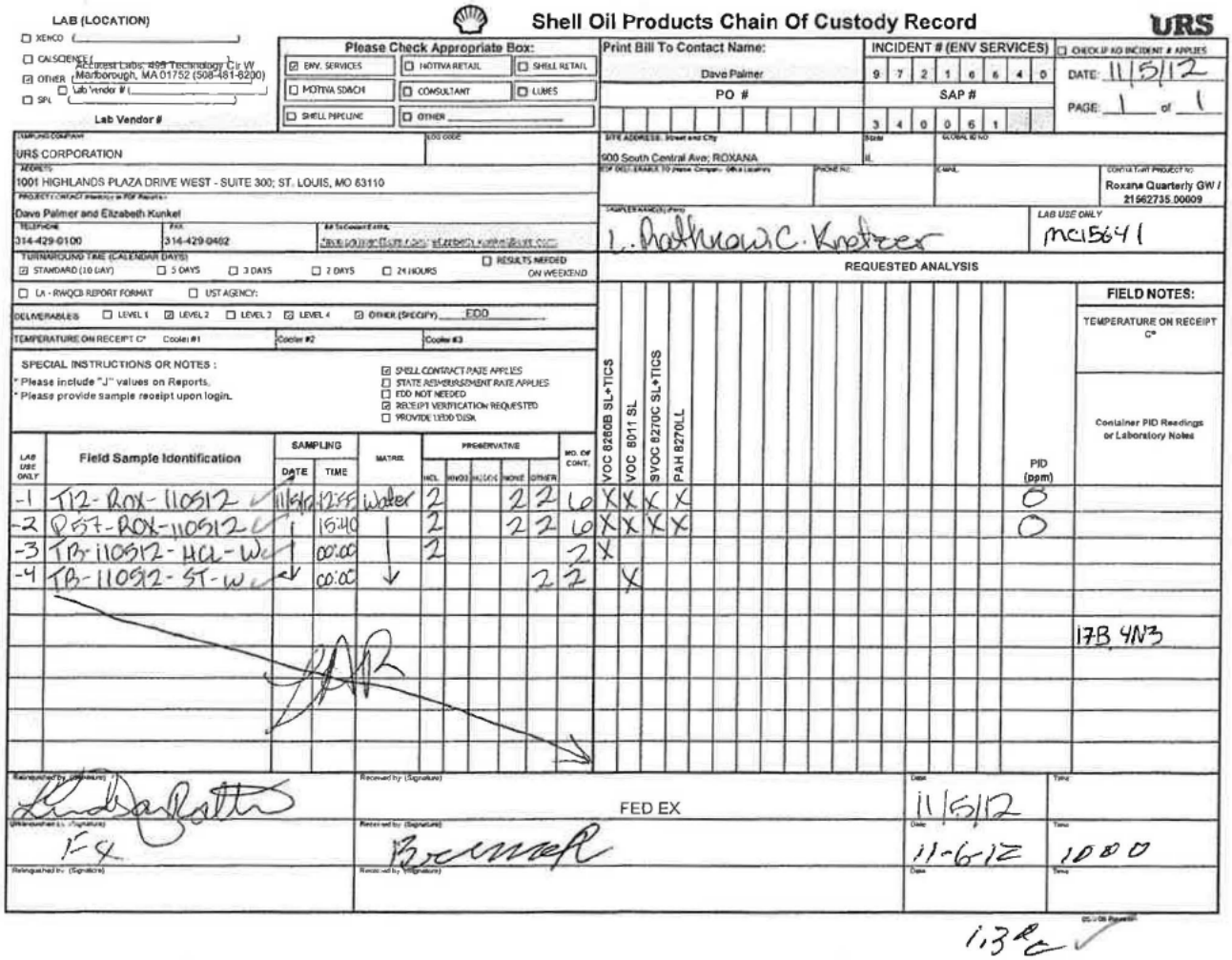
New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody



LAB (LOCATION)
☐ XENCO (_____)
☐ CALSCIENCE (_____)
☑ OTHER (Accutest Labs; 495 Technology Ctr W Marlborough, MA 01752 (508-481-6200))
☐ SPL (_____)
Lab Vendor #: ☐ Lab Vendor # (_____)

Shell Oil Products Chain Of Custody Record

URS

Please Check Appropriate Box:
☑ ENV. SERVICES | ☐ MOTIVA RETAIL | ☐ SHELL RETAIL
☐ MOTIVA SOAOH | ☐ CONSULTANT | ☐ LUBES
☐ SHELL PIPELINE | ☐ OTHER

Print Bill To Contact Name: Dave Palmer
PO #
INCIDENT # (ENV SERVICES): 9721664 0
SAP #: 340061
☐ CHECK IF NO INCIDENT # APPLIES
DATE: 11/5/12
PAGE: 1 of 1

COMPANY NAME: URS CORPORATION
LOG CODE:
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
PROJECT CONTACT (Hardcopy or PDF Report to): Dave Palmer and Elizabeth Kunkel
TELEPHONE: 314-429-0100
FAX: 314-429-0462
e-mail To: dave.palmer@urs.com; elizabeth.kunkel@urs.com
SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA
State: IL
GLOBAL ID NO:
PHONE NO:
EMAIL:
CONSULTANT PROJECT NO: Roxana Quarterly GW / 21562735.00009
SAMPLER NAME(S) (Print): L. Rathnow, C. Kretzer
LAB USE ONLY: MC15641

TURNAROUND TIME (CALENDAR DAYS)
☑ STANDARD (10 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:
DELIVERABLES ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD
TEMPERATURE ON RECEIPT C° Cooler #1 Cooler #2 Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:
* Please include "J" values on Reports.
* Please provide sample receipt upon login.
☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE EDD TO DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	PRESERVATIVE HNO3	PRESERVATIVE H2SO4	PRESERVATIVE NONE	PRESERVATIVE OTHER	NO. OF CONT.	VOC 8260B SL+TICS	VOC 8011 SL	SVOC 8270C SL+TICS	PAH 8270LL	PID (ppm)	Container PID Readings or Laboratory Notes
-1	TB-ROX-110512	11/5/12	12:55	Water	2			2	2	10	X	X	X	X	0	
-2	RST-ROX-110512	↓	15:40	↓	2			2	2	10	X	X	X	X	0	
-3	TB-110512-HCL-W	↓	00:00	↓	2					2	X					
-4	TB-110512-ST-W	↓	00:00	↓					2	2		X				

FIELD NOTES:
TEMPERATURE ON RECEIPT C°
Container PID Readings or Laboratory Notes
17B, 4N3

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	FED EX	11/5/12	
1-4			
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
		11-6-12	1000
Relinquished by: (Signature)	Received by: (Signature)	Date	Time

1,3 R

5.1
5

MC15641: Chain of Custody
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ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC15641 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 11/6/2012 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900 SO CENTRAL. **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

5.1

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MC15641: Chain of Custody
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Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15641

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15641-1 Collected: 05-NOV-12 12:55 By: LRCK Received: 06-NOV-12 By: T12-ROX-110512						
MC15641-1	SW846 8011	13-NOV-12 17:51	AP	12-NOV-12	CA	V8011SL
MC15641-1	SW846 8270C BY SIM	13-NOV-12 19:57	NS	08-NOV-12	FC	B8270SIMSL
MC15641-1	SW846 8270C	15-NOV-12 21:47	KR	08-NOV-12	FC	AB8270SL+
MC15641-1	SW846 8260B	17-NOV-12 17:56	DFT			V8260SL+
MC15641-2 Collected: 05-NOV-12 15:40 By: LRCK Received: 06-NOV-12 By: P57-ROX-110512						
MC15641-2	SW846 8011	13-NOV-12 18:15	AP	12-NOV-12	CA	V8011SL
MC15641-2	SW846 8270C BY SIM	13-NOV-12 20:20	NS	08-NOV-12	FC	B8270SIMSL
MC15641-2	SW846 8270C	15-NOV-12 22:10	KR	08-NOV-12	FC	AB8270SL+
MC15641-2	SW846 8260B	17-NOV-12 18:22	DFT			V8260SL+
MC15641-3 Collected: 05-NOV-12 00:00 By: LRCK Received: 06-NOV-12 By: TB-110512-HCL-W						
MC15641-3	SW846 8260B	17-NOV-12 17:29	DFT			V8260SL+
MC15641-4 Collected: 05-NOV-12 00:00 By: LRCK Received: 06-NOV-12 By: TB-110512-ST-W						
MC15641-4	SW846 8011	13-NOV-12 18:39	AP	12-NOV-12	CA	V8011SL

Accutest Internal Chain of Custody

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 11/06/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15641-1.1	Walk In Ref #22	Nick Krasinski	11/08/12 07:31	Retrieve from Storage
MC15641-1.1	Nick Krasinski		11/08/12 15:52	Depleted
MC15641-1.4	VOC Ref #4	Dana Tyron	11/17/12 12:10	Retrieve from Storage
MC15641-1.4	Dana Tyron	GCMSH	11/17/12 12:10	Load on Instrument
MC15641-1.4	GCMSH	Dana Tyron	11/19/12 09:55	Unload from Instrument
MC15641-1.4	Dana Tyron	VOC Ref #4	11/19/12 09:55	Return to Storage
MC15641-1.5	VOC Ref #4	Nick Krasinski	11/12/12 14:05	Retrieve from Storage
MC15641-1.5	Nick Krasinski		11/12/12 21:17	Depleted
MC15641-2.2	Walk In Ref #22	Nick Krasinski	11/08/12 07:31	Retrieve from Storage
MC15641-2.2	Nick Krasinski		11/08/12 15:52	Depleted
MC15641-2.3	VOC Ref #4	Dana Tyron	11/17/12 12:10	Retrieve from Storage
MC15641-2.3	Dana Tyron	GCMSH	11/17/12 12:10	Load on Instrument
MC15641-2.3	GCMSH	Dana Tyron	11/19/12 09:55	Unload from Instrument
MC15641-2.3	Dana Tyron	VOC Ref #4	11/19/12 09:55	Return to Storage
MC15641-2.6	VOC Ref #4	Nick Krasinski	11/12/12 14:05	Retrieve from Storage
MC15641-2.6	Nick Krasinski		11/12/12 21:17	Depleted
MC15641-3.2	VOC Ref #4	Dana Tyron	11/17/12 12:10	Retrieve from Storage
MC15641-3.2	Dana Tyron	GCMSH	11/17/12 12:10	Load on Instrument
MC15641-3.2	GCMSH	Dana Tyron	11/19/12 09:55	Unload from Instrument
MC15641-3.2	Dana Tyron	VOC Ref #4	11/19/12 09:55	Return to Storage
MC15641-4.2	VOC Ref #4	Nick Krasinski	11/12/12 14:05	Retrieve from Storage
MC15641-4.2	Nick Krasinski		11/12/12 21:17	Depleted

New England ACCUTEST LABORATORIES

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: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH1921-MB	H58438.D	1	11/17/12	DFT	n/a	n/a	MSH1921

The QC reported here applies to the following samples: Method: SW846 8260B

MC15641-1, MC15641-2, MC15641-3

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: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH1921-MB	H58438.D	1	11/17/12	DFT	n/a	n/a	MSH1921

The QC reported here applies to the following samples: Method: SW846 8260B

MC15641-1, MC15641-2, MC15641-3

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: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH1921-MB	H58438.D	1	11/17/12	DFT	n/a	n/a	MSH1921

The QC reported here applies to the following samples: Method: SW846 8260B

MC15641-1, MC15641-2, MC15641-3

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	109%	70-130%
2037-26-5	Toluene-D8	107%	70-130%
460-00-4	4-Bromofluorobenzene	110%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH1921-BS	H58436.D	1	11/17/12	DFT	n/a	n/a	MSH1921
MSH1921-BSD	H58437.D	1	11/17/12	DFT	n/a	n/a	MSH1921

The QC reported here applies to the following samples: Method: SW846 8260B

MC15641-1, MC15641-2, MC15641-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	73.3	147* a	64.9	130	12	70-130/25
107-02-8	Acrolein	250	167	67* a	165	66* a	1	70-130/25
107-13-1	Acrylonitrile	50	48.8	98	47.8	96	2	70-130/25
71-43-2	Benzene	50	49.7	99	50.7	101	2	70-130/25
108-86-1	Bromobenzene	50	49.6	99	50.9	102	3	70-130/25
74-97-5	Bromochloromethane	50	53.5	107	53.8	108	1	70-130/25
75-27-4	Bromodichloromethane	50	59.9	120	60.2	120	0	70-130/25
75-25-2	Bromoform	50	63.2	126	63.9	128	1	70-130/25
74-83-9	Bromomethane	50	49.3	99	48.5	97	2	70-130/25
78-93-3	2-Butanone (MEK)	50	58.9	118	57.9	116	2	70-130/25
104-51-8	n-Butylbenzene	50	57.6	115	57.9	116	1	70-130/25
135-98-8	sec-Butylbenzene	50	58.8	118	60.6	121	3	70-130/25
98-06-6	tert-Butylbenzene	50	58.3	117	60.0	120	3	70-130/25
75-15-0	Carbon disulfide	50	52.3	105	52.3	105	0	70-130/25
56-23-5	Carbon tetrachloride	50	69.4	139* a	69.7	139* a	0	70-130/25
108-90-7	Chlorobenzene	50	51.8	104	53.0	106	2	70-130/25
75-00-3	Chloroethane	50	50.4	101	50.2	100	0	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	37.7	75	43.2	86	14	70-130/25
67-66-3	Chloroform	50	55.7	111	55.7	111	0	70-130/25
74-87-3	Chloromethane	50	55.6	111	54.1	108	3	70-130/25
95-49-8	o-Chlorotoluene	50	54.6	109	56.7	113	4	70-130/25
106-43-4	p-Chlorotoluene	50	56.7	113	58.7	117	3	70-130/25
124-48-1	Dibromochloromethane	50	55.9	112	56.5	113	1	70-130/25
95-50-1	1,2-Dichlorobenzene	50	54.7	109	55.7	111	2	70-130/25
541-73-1	1,3-Dichlorobenzene	50	54.9	110	56.6	113	3	70-130/25
106-46-7	1,4-Dichlorobenzene	50	50.6	101	51.6	103	2	70-130/25
75-71-8	Dichlorodifluoromethane	50	61.7	123	60.9	122	1	70-130/25
75-34-3	1,1-Dichloroethane	50	53.6	107	53.6	107	0	70-130/25
107-06-2	1,2-Dichloroethane	50	52.8	106	52.9	106	0	70-130/25
75-35-4	1,1-Dichloroethene	50	55.0	110	55.9	112	2	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	51.4	103	52.5	105	2	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	50.8	102	52.1	104	3	70-130/25
78-87-5	1,2-Dichloropropane	50	50.9	102	51.8	104	2	70-130/25
142-28-9	1,3-Dichloropropane	50	47.8	96	48.9	98	2	70-130/25
594-20-7	2,2-Dichloropropane	50	65.2	130	65.4	131* a	0	70-130/25
563-58-6	1,1-Dichloropropene	50	53.8	108	54.0	108	0	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH1921-BS	H58436.D	1	11/17/12	DFT	n/a	n/a	MSH1921
MSH1921-BSD	H58437.D	1	11/17/12	DFT	n/a	n/a	MSH1921

The QC reported here applies to the following samples: Method: SW846 8260B

MC15641-1, MC15641-2, MC15641-3

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	51.3	103	52.0	104	1	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	54.7	109	55.3	111	1	70-130/25
123-91-1	1,4-Dioxane	250	245	98	257	103	5	70-130/25
97-63-2	Ethyl methacrylate	50	51.7	103	53.1	106	3	77-137/25
100-41-4	Ethylbenzene	50	50.6	101	51.7	103	2	70-130/25
87-68-3	Hexachlorobutadiene	50	53.2	106	54.6	109	3	70-130/25
591-78-6	2-Hexanone	50	55.2	110	55.2	110	0	70-130/25
98-82-8	Isopropylbenzene	50	57.2	114	59.1	118	3	70-130/25
99-87-6	p-Isopropyltoluene	50	56.4	113	57.5	115	2	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	51.3	103	51.6	103	1	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	47.6	95	48.8	98	2	70-130/25
74-95-3	Methylene bromide	50	52.2	104	52.7	105	1	70-130/25
75-09-2	Methylene chloride	50	53.0	106	52.8	106	0	70-130/25
91-20-3	Naphthalene	50	49.1	98	50.1	100	2	70-130/25
103-65-1	n-Propylbenzene	50	57.4	115	59.0	118	3	70-130/25
100-42-5	Styrene	50	52.2	104	53.1	106	2	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	62.5	125	63.9	128	2	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	52.9	106	54.8	110	4	70-130/25
127-18-4	Tetrachloroethene	50	48.7	97	49.4	99	1	70-130/25
108-88-3	Toluene	50	51.6	103	52.2	104	1	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	50.5	101	51.0	102	1	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	50.2	100	51.0	102	2	70-130/25
71-55-6	1,1,1-Trichloroethane	50	61.1	122	61.0	122	0	70-130/25
79-00-5	1,1,2-Trichloroethane	50	52.1	104	52.8	106	1	70-130/25
79-01-6	Trichloroethene	50	51.7	103	52.2	104	1	70-130/25
75-69-4	Trichlorofluoromethane	50	56.1	112	55.4	111	1	70-130/25
96-18-4	1,2,3-Trichloropropane	50	55.9	112	56.8	114	2	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	52.8	106	54.3	109	3	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	52.5	105	54.1	108	3	70-130/25
108-05-4	Vinyl Acetate	50	52.2	104	51.8	104	1	70-130/25
75-01-4	Vinyl chloride	50	51.1	102	49.2	98	4	70-130/25
	m,p-Xylene	100	107	107	109	109	2	70-130/25
95-47-6	o-Xylene	50	55.7	111	56.3	113	1	70-130/25
1330-20-7	Xylene (total)	150	163	109	165	110	1	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH1921-BS	H58436.D	1	11/17/12	DFT	n/a	n/a	MSH1921
MSH1921-BSD	H58437.D	1	11/17/12	DFT	n/a	n/a	MSH1921

The QC reported here applies to the following samples: Method: SW846 8260B

MC15641-1, MC15641-2, MC15641-3

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	116%	114%	70-130%
2037-26-5	Toluene-D8	108%	108%	70-130%
460-00-4	4-Bromofluorobenzene	106%	106%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15754-1MS	H58440.D	1	11/17/12	DFT	n/a	n/a	MSH1921
MC15754-1MSD	H58441.D	1	11/17/12	DFT	n/a	n/a	MSH1921
MC15754-1	H58439.D	1	11/17/12	DFT	n/a	n/a	MSH1921

The QC reported here applies to the following samples: Method: SW846 8260B

MC15641-1, MC15641-2, MC15641-3

CAS No.	Compound	MC15754-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		50	52.2	104	55.0	110	5	70-130/30
107-02-8	Acrolein	ND		250	191	76	201	80	5	70-130/30
107-13-1	Acrylonitrile	ND		50	38.5	77	40.7	81	6	70-130/30
71-43-2	Benzene	ND		50	44.3	89	45.5	91	3	70-130/30
108-86-1	Bromobenzene	ND		50	46.7	93	48.0	96	3	70-130/30
74-97-5	Bromochloromethane	ND		50	46.7	93	48.2	96	3	70-130/30
75-27-4	Bromodichloromethane	ND		50	51.8	104	53.9	108	4	70-130/30
75-25-2	Bromoform	ND		50	51.9	104	54.9	110	6	70-130/30
74-83-9	Bromomethane	ND		50	34.8	70	35.7	71	3	70-130/30
78-93-3	2-Butanone (MEK)	ND		50	48.1	96	49.4	99	3	70-130/30
104-51-8	n-Butylbenzene	ND		50	72.3	145* a	72.9	146* a	1	70-130/30
135-98-8	sec-Butylbenzene	7.5		50	58.2	101	59.4	104	2	70-130/30
98-06-6	tert-Butylbenzene	ND		50	51.0	102	52.2	104	2	70-130/30
75-15-0	Carbon disulfide	ND		50	33.0	66* a	33.8	68* a	2	70-130/30
56-23-5	Carbon tetrachloride	ND		50	56.7	113	58.6	117	3	70-130/30
108-90-7	Chlorobenzene	ND		50	45.8	92	47.7	95	4	70-130/30
75-00-3	Chloroethane	ND		50	36.0	72	36.7	73	2	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		50	18.6	37* a	17.6	35* a	6	70-130/30
67-66-3	Chloroform	ND		50	48.8	98	49.4	99	1	70-130/30
74-87-3	Chloromethane	ND		50	33.2	66* a	34.6	69* a	4	70-130/30
95-49-8	o-Chlorotoluene	ND		50	81.1	162* a	82.6	165* a	2	70-130/30
106-43-4	p-Chlorotoluene	ND		50	61.8	124	61.7	123	0	70-130/30
124-48-1	Dibromochloromethane	ND		50	49.2	98	51.4	103	4	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		50	48.9	98	50.1	100	2	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		50	48.4	97	49.3	99	2	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		50	46.5	93	47.8	96	3	70-130/30
75-71-8	Dichlorodifluoromethane	ND		50	29.6	59* a	29.7	59* a	0	70-130/30
75-34-3	1,1-Dichloroethane	ND		50	45.2	90	46.5	93	3	70-130/30
107-06-2	1,2-Dichloroethane	ND		50	45.4	91	45.8	92	1	70-130/30
75-35-4	1,1-Dichloroethene	ND		50	39.8	80	40.7	81	2	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		50	46.1	92	47.3	95	3	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		50	42.8	86	44.3	89	3	70-130/30
78-87-5	1,2-Dichloropropane	ND		50	46.8	94	48.4	97	3	70-130/30
142-28-9	1,3-Dichloropropane	ND		50	44.7	89	46.7	93	4	70-130/30
594-20-7	2,2-Dichloropropane	ND		50	55.1	110	55.7	111	1	70-130/30
563-58-6	1,1-Dichloropropene	ND		50	45.5	91	47.1	94	3	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15754-1MS	H58440.D	1	11/17/12	DFT	n/a	n/a	MSH1921
MC15754-1MSD	H58441.D	1	11/17/12	DFT	n/a	n/a	MSH1921
MC15754-1	H58439.D	1	11/17/12	DFT	n/a	n/a	MSH1921

The QC reported here applies to the following samples: Method: SW846 8260B

MC15641-1, MC15641-2, MC15641-3

CAS No.	Compound	MC15754-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		50	48.3	97	49.0	98	1	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		50	48.0	96	49.3	99	3	70-130/30
123-91-1	1,4-Dioxane	ND		250	227	91	241	96	6	70-130/30
97-63-2	Ethyl methacrylate	ND		50	51.3	103	52.9	106	3	72-139/30
100-41-4	Ethylbenzene	ND		50	47.9	96	49.7	99	4	70-130/30
87-68-3	Hexachlorobutadiene	ND		50	48.7	97	48.6	97	0	70-130/30
591-78-6	2-Hexanone	ND		50	48.3	97	55.7	111	14	70-130/30
98-82-8	Isopropylbenzene	14.1		50	65.0	102	66.2	104	2	70-130/30
99-87-6	p-Isopropyltoluene	4.6		50	53.7	98	55.4	102	3	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		50	46.1	92	47.4	95	3	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		50	47.8	96	50.2	100	5	70-130/30
74-95-3	Methylene bromide	ND		50	47.6	95	48.3	97	1	70-130/30
75-09-2	Methylene chloride	ND		50	43.6	87	43.8	88	0	70-130/30
91-20-3	Naphthalene	5.1		50	50.3	90	51.8	93	3	70-130/30
103-65-1	n-Propylbenzene	62.9		50	111	96	113	100	2	70-130/30
100-42-5	Styrene	ND		50	44.4	89	47.0	94	6	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		50	57.5	115	60.6	121	5	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		50	49.4	99	50.9	102	3	70-130/30
127-18-4	Tetrachloroethene	ND		50	44.4	89	47.5	95	7	70-130/30
108-88-3	Toluene	ND		50	47.1	94	48.2	96	2	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		50	47.3	95	47.3	95	0	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		50	47.8	96	48.1	96	1	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		50	51.0	102	52.3	105	3	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		50	50.7	101	51.8	104	2	70-130/30
79-01-6	Trichloroethene	ND		50	47.1	94	48.4	97	3	70-130/30
75-69-4	Trichlorofluoromethane	ND		50	38.6	77	39.1	78	1	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		50	49.7	99	51.6	103	4	70-130/30
95-63-6	1,2,4-Trimethylbenzene	311		50	333	44* [b]	337	52* [b]	1	70-130/30
108-67-8	1,3,5-Trimethylbenzene	89.4		50	136	93	138	97	1	70-130/30
108-05-4	Vinyl Acetate	ND		50	53.8	108	55.4	111	3	70-130/30
75-01-4	Vinyl chloride	ND		50	36.3	73	37.4	75	3	70-130/30
	m,p-Xylene	1.4		100	97.3	96	102	101	5	70-130/30
95-47-6	o-Xylene	ND		50	48.5	97	50.8	102	5	70-130/30
1330-20-7	Xylene (total)	1.4		150	146	96	153	101	5	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15754-1MS	H58440.D	1	11/17/12	DFT	n/a	n/a	MSH1921
MC15754-1MSD	H58441.D	1	11/17/12	DFT	n/a	n/a	MSH1921
MC15754-1	H58439.D	1	11/17/12	DFT	n/a	n/a	MSH1921

The QC reported here applies to the following samples: Method: SW846 8260B

MC15641-1, MC15641-2, MC15641-3

CAS No.	Surrogate Recoveries	MS	MSD	MC15754-1	Limits
1868-53-7	Dibromofluoromethane	111%	110%	106%	70-130%
2037-26-5	Toluene-D8	108%	108%	108%	70-130%
460-00-4	4-Bromofluorobenzene	109%	106%	105%	70-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
(b) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSH1921-CC1910	Injection Date:	11/17/12
Lab File ID:	H58436.D	Injection Time:	12:01
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	233124	8.71	344962	9.57	161736	12.83	187487	15.40	52560	6.28
Upper Limit [a]	466248	9.21	689924	10.07	323472	13.33	374974	15.90	105120	6.78
Lower Limit [b]	116562	8.21	172481	9.07	80868	12.33	93744	14.90	26280	5.78

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSH1921-BS	233124	8.71	344962	9.57	161736	12.83	187487	15.40	52560	6.28
MSH1921-BSD	239408	8.70	351337	9.57	163754	12.83	187955	15.40	52711	6.27
MSH1921-MB	228440	8.71	332257	9.57	143105	12.83	161430	15.40	51666	6.28
MC15754-1	234520	8.70	339687	9.57	148910	12.83	180538	15.40	43343	6.27
MC15754-1MS	263855	8.71	384961	9.57	177325	12.83	203701	15.40	53858	6.28
MC15754-1MSD	279216	8.70	408096	9.57	183727	12.83	215385	15.40	61730	6.27
ZZZZZZ	266275	8.71	389650	9.58	164315	12.83	187869	15.40	57842	6.28
ZZZZZZ	280419	8.71	405698	9.57	182235	12.83	216655	15.40	54762	6.28
ZZZZZZ	280056	8.70	398789	9.57	167794	12.83	196229	15.40	62481	6.28
ZZZZZZ	287437	8.71	415727	9.57	174831	12.83	214566	15.40	58435	6.27
ZZZZZZ	282515	8.71	407636	9.58	172892	12.83	205012	15.40	57963	6.28
ZZZZZZ	289874	8.71	417100	9.57	176158	12.83	217579	15.40	58761	6.27
MC15641-3	276907	8.71	394511	9.57	167358	12.83	190091	15.40	58490	6.28
MC15641-1	288008	8.70	413683	9.57	169812	12.83	202778	15.40	62811	6.28
MC15641-2	271840	8.70	410194	9.57	163464	12.83	187537	15.40	55913	6.28
ZZZZZZ	264008	8.70	377241	9.57	162115	12.83	189280	15.40	54836	6.28
ZZZZZZ	262810	8.71	371236	9.57	160686	12.83	185669	15.40	54674	6.28
ZZZZZZ	255913	8.71	360636	9.57	156614	12.83	180664	15.40	51958	6.28
ZZZZZZ	250882	8.71	356376	9.58	153708	12.83	177754	15.40	52835	6.28
ZZZZZZ	250916	8.71	359610	9.57	153946	12.83	171093	15.40	51073	6.28
ZZZZZZ	237871	8.71	344109	9.57	146874	12.83	166045	15.40	48270	6.28
ZZZZZZ	237971	8.71	342053	9.57	148771	12.83	167991	15.40	45262	6.28
ZZZZZZ	236531	8.71	331675	9.57	144569	12.83	181491	15.40	53694	6.28

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: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8260B Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC15641-1	H58449.D	106.0	104.0	108.0
MC15641-2	H58450.D	105.0	101.0	111.0
MC15641-3	H58448.D	105.0	107.0	110.0
MC15754-1MS	H58440.D	111.0	108.0	109.0
MC15754-1MSD	H58441.D	110.0	108.0	106.0
MSH1921-BS	H58436.D	116.0	108.0	106.0
MSH1921-BSD	H58437.D	114.0	108.0	106.0
MSH1921-MB	H58438.D	109.0	107.0	110.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	70-130%
S2 = Toluene-D8	70-130%
S3 = 4-Bromofluorobenzene	70-130%

New England ACCUTEST LABORATORIES

GC/MS Semi-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: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-MB	W6928.D	1	11/15/12	KR	11/08/12	OP30951	MSW320

The QC reported here applies to the following samples: Method: SW846 8270C

MC15641-1, MC15641-2

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	5.0	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	

Method Blank Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-MB	W6928.D	1	11/15/12	KR	11/08/12	OP30951	MSW320

The QC reported here applies to the following samples: Method: SW846 8270C

MC15641-1, MC15641-2

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.28	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	0.48	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.46	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	41%	15-110%
4165-62-2	Phenol-d5	27%	15-110%
118-79-6	2,4,6-Tribromophenol	72%	15-110%
4165-60-0	Nitrobenzene-d5	76%	30-130%
321-60-8	2-Fluorobiphenyl	68%	30-130%
1718-51-0	Terphenyl-d14	94%	30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

Method Blank Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-MB	W6928A.D	1	11/15/12	KR	11/08/12	OP30951	MSW321

The QC reported here applies to the following samples: Method: SW846 8270C

MC15641-1, MC15641-2

CAS No.	Compound	Result	RL	MDL	Units	Q

Method Blank Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30952-MB	I79991.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC15641-1, MC15641-2

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	38%	15-110%
4165-62-2	Phenol-d5	27%	15-110%
118-79-6	2,4,6-Tribromophenol	68%	15-110%
4165-60-0	Nitrobenzene-d5	64%	30-130%
321-60-8	2-Fluorobiphenyl	69%	30-130%
1718-51-0	Terphenyl-d14	114%	30-130%

Blank Spike Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-BS	W6929.D	1	11/15/12	KR	11/08/12	OP30951	MSW320

The QC reported here applies to the following samples: Method: SW846 8270C

MC15641-1, MC15641-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	25.5	26* a	30-130
95-57-8	2-Chlorophenol	100	53.3	53	30-130
59-50-7	4-Chloro-3-methyl phenol	100	56.3	56	30-130
120-83-2	2,4-Dichlorophenol	100	57.3	57	30-130
105-67-9	2,4-Dimethylphenol	100	21.8	22* a	30-130
51-28-5	2,4-Dinitrophenol	100	48.4	48	30-130
534-52-1	4,6-Dinitro-o-cresol	100	63.2	63	30-130
95-48-7	2-Methylphenol	100	44.7	45	30-130
	3&4-Methylphenol	200	84.7	42	30-130
88-75-5	2-Nitrophenol	100	61.6	62	30-130
100-02-7	4-Nitrophenol	100	31.4	31	30-130
87-86-5	Pentachlorophenol	100	59.5	60	30-130
108-95-2	Phenol	100	26.7	27* a	30-130
95-95-4	2,4,5-Trichlorophenol	100	60.5	61	30-130
88-06-2	2,4,6-Trichlorophenol	100	59.2	59	30-130
62-53-3	Aniline	50	23.9	48	40-140
101-55-3	4-Bromophenyl phenyl ether	50	42.8	86	40-140
85-68-7	Butyl benzyl phthalate	50	46.5	93	40-140
100-51-6	Benzyl Alcohol	50	34.9	70	40-140
91-58-7	2-Chloronaphthalene	50	83.4	83	40-140
106-47-8	4-Chloroaniline	50	22.3	45	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	37.3	75	40-140
111-44-4	bis(2-Chloroethyl)ether	50	42.1	84	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	48.6	97	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	41.1	82	40-140
122-66-7	1,2-Diphenylhydrazine	50	44.9	90	40-140
121-14-2	2,4-Dinitrotoluene	50	89.1	89	40-140
606-20-2	2,6-Dinitrotoluene	50	89.9	90	40-140
91-94-1	3,3'-Dichlorobenzidine	50	17.4	35* a	40-140
132-64-9	Dibenzofuran	50	41.2	82	40-140
84-74-2	Di-n-butyl phthalate	50	45.1	90	40-140
117-84-0	Di-n-octyl phthalate	50	48.2	96	40-140
84-66-2	Diethyl phthalate	50	44.2	88	40-140
131-11-3	Dimethyl phthalate	50	42.7	85	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	46.7	93	40-140
118-74-1	Hexachlorobenzene	50	97.5	98	40-140

* = Outside of Control Limits.

7.2.1

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Blank Spike Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-BS	W6929.D	1	11/15/12	KR	11/08/12	OP30951	MSW320

The QC reported here applies to the following samples: Method: SW846 8270C

MC15641-1, MC15641-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	68.9	69	40-140
67-72-1	Hexachloroethane	50	61.5	62	40-140
78-59-1	Isophorone	50	82.6	83	40-140
88-74-4	2-Nitroaniline	50	44.8	90	40-140
99-09-2	3-Nitroaniline	50	32.1	64	40-140
100-01-6	4-Nitroaniline	50	38.1	76	40-140
98-95-3	Nitrobenzene	50	80.8	81	40-140
62-75-9	n-Nitrosodimethylamine	50	27.3	55	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	43.9	88	40-140
86-30-6	N-Nitrosodiphenylamine	50	42.0	84	40-140
110-86-1	Pyridine	50	23.9	48	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	48%	15-110%
4165-62-2	Phenol-d5	33%	15-110%
118-79-6	2,4,6-Tribromophenol	83%	15-110%
4165-60-0	Nitrobenzene-d5	81%	30-130%
321-60-8	2-Fluorobiphenyl	76%	30-130%
1718-51-0	Terphenyl-d14	97%	30-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-BS	W6929A.D	1	11/15/12	KR	11/08/12	OP30951	MSW321

The QC reported here applies to the following samples: Method: SW846 8270C

MC15641-1, MC15641-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30952-BS	I79992.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC15641-1, MC15641-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	41.5	83	40-140
208-96-8	Acenaphthylene	50	32.1	64	40-140
120-12-7	Anthracene	50	40.6	81	40-140
56-55-3	Benzo(a)anthracene	50	50.4	101	40-140
50-32-8	Benzo(a)pyrene	50	42.0	84	40-140
205-99-2	Benzo(b)fluoranthene	50	48.4	97	40-140
191-24-2	Benzo(g,h,i)perylene	50	46.5	93	40-140
207-08-9	Benzo(k)fluoranthene	50	48.1	96	40-140
218-01-9	Chrysene	50	52.0	104	40-140
53-70-3	Dibenzo(a,h)anthracene	50	49.0	98	40-140
206-44-0	Fluoranthene	50	46.2	92	40-140
86-73-7	Fluorene	50	43.6	87	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	48.5	97	40-140
90-12-0	1-Methylnaphthalene	50	42.0	84	40-140
91-57-6	2-Methylnaphthalene	50	39.9	80	40-140
85-01-8	Phenanthrene	50	42.9	86	40-140
129-00-0	Pyrene	50	43.6	87	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	45%	15-110%
4165-62-2	Phenol-d5	33%	15-110%
118-79-6	2,4,6-Tribromophenol	85%	15-110%
4165-60-0	Nitrobenzene-d5	72%	30-130%
321-60-8	2-Fluorobiphenyl	76%	30-130%
1718-51-0	Terphenyl-d14	106%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-MS	W6930.D	1	11/15/12	KR	11/08/12	OP30951	MSW320
OP30951-MSD	W6931.D	1	11/15/12	KR	11/08/12	OP30951	MSW320
MC15652-9	W6932.D	1	11/15/12	KR	11/08/12	OP30951	MSW320

The QC reported here applies to the following samples: Method: SW846 8270C

MC15641-1, MC15641-2

CAS No.	Compound	MC15652-9 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		100	25.5	26* [a]	25.2	25* [a]	1	30-130/20
95-57-8	2-Chlorophenol	ND		100	54.6	55	52.7	53	4	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		100	56.2	56	54.9	55	2	30-130/20
120-83-2	2,4-Dichlorophenol	ND		100	58.1	58	56.8	57	2	30-130/20
105-67-9	2,4-Dimethylphenol	ND		100	38.1	38	22.7	23* [a]	51* [b]	30-130/20
51-28-5	2,4-Dinitrophenol	ND		100	51.6	52	51.7	52	0	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		100	63.5	64	64.5	65	2	30-130/20
95-48-7	2-Methylphenol	ND		100	47.0	47	43.4	43	8	30-130/20
	3&4-Methylphenol	ND		200	87.0	44	82.6	41	5	30-130/20
88-75-5	2-Nitrophenol	ND		100	62.3	62	60.9	61	2	30-130/20
100-02-7	4-Nitrophenol	ND		100	28.8	29* [a]	29.4	29* [a]	2	30-130/20
87-86-5	Pentachlorophenol	ND		100	61.1	61	59.0	59	3	30-130/20
108-95-2	Phenol	ND		100	26.4	26* [a]	25.3	25* [a]	4	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		100	61.0	61	58.8	59	4	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		100	60.7	61	57.6	58	5	30-130/20
62-53-3	Aniline	ND		50	27.8	56	25.7	51	8	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		50	41.5	83	41.6	83	0	40-140/20
85-68-7	Butyl benzyl phthalate	ND		50	45.3	91	45.3	91	0	40-140/20
100-51-6	Benzyl Alcohol	ND		50	34.5	69	34.6	69	0	40-140/20
91-58-7	2-Chloronaphthalene	ND		50	85.3	85	83.7	84	2	40-140/20
106-47-8	4-Chloroaniline	ND		50	23.6	47	23.4	47	1	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		50	37.4	75	36.4	73	3	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		50	42.2	84	41.3	83	2	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		50	49.2	98	47.9	96	3	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		50	40.9	82	40.3	81	1	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		50	44.7	89	44.2	88	1	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		50	88.8	89	86.5	87	3	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		50	90.2	90	87.3	87	3	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		50	24.9	50	17.4	35* [a]	35* [b]	40-140/20
132-64-9	Dibenzofuran	ND		50	41.4	83	40.0	80	3	40-140/20
84-74-2	Di-n-butyl phthalate	ND		50	44.3	89	44.1	88	0	40-140/20
117-84-0	Di-n-octyl phthalate	ND		50	46.4	93	47.1	94	1	40-140/20
84-66-2	Diethyl phthalate	ND		50	43.8	88	42.9	86	2	40-140/20
131-11-3	Dimethyl phthalate	ND		50	42.2	84	41.4	83	2	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND		50	45.5	91	46.0	92	1	40-140/20
118-74-1	Hexachlorobenzene	ND		50	96.6	97	94.2	94	3	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-MS	W6930.D	1	11/15/12	KR	11/08/12	OP30951	MSW320
OP30951-MSD	W6931.D	1	11/15/12	KR	11/08/12	OP30951	MSW320
MC15652-9	W6932.D	1	11/15/12	KR	11/08/12	OP30951	MSW320

The QC reported here applies to the following samples: **Method: SW846 8270C**

MC15641-1, MC15641-2

CAS No.	Compound	MC15652-9 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		50	74.3	74	70.1	70	6	40-140/20
67-72-1	Hexachloroethane	ND		50	65.8	66	60.9	61	8	40-140/20
78-59-1	Isophorone	ND		50	81.9	82	81.7	82	0	40-140/20
88-74-4	2-Nitroaniline	ND		50	44.8	90	43.9	88	2	40-140/20
99-09-2	3-Nitroaniline	ND		50	31.8	64	32.0	64	1	40-140/20
100-01-6	4-Nitroaniline	ND		50	40.4	81	37.2	74	8	40-140/20
98-95-3	Nitrobenzene	ND		50	81.4	81	80.0	80	2	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		50	27.1	54	26.2	52	3	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		50	44.8	90	43.6	87	3	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		50	43.2	86	40.6	81	6	40-140/20
110-86-1	Pyridine	ND		50	23.9	48	23.1	46	3	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15652-9	Limits
367-12-4	2-Fluorophenol	48%	46%	38%	15-110%
4165-62-2	Phenol-d5	33%	32%	26%	15-110%
118-79-6	2,4,6-Tribromophenol	85%	83%	70%	15-110%
4165-60-0	Nitrobenzene-d5	82%	81%	74%	30-130%
321-60-8	2-Fluorobiphenyl	78%	74%	67%	30-130%
1718-51-0	Terphenyl-d14	97%	96%	96%	30-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
(b) High RPD due to possible matrix interference and/or sample non-homogeneity.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-MS	W6930A.D	1	11/15/12	KR	11/08/12	OP30951	MSW321
OP30951-MSD	W6931A.D	1	11/15/12	KR	11/08/12	OP30951	MSW321
MC15652-9	W6932A.D	1	11/15/12	KR	11/08/12	OP30951	MSW321

The QC reported here applies to the following samples: Method: SW846 8270C

MC15641-1, MC15641-2

CAS No.	Compound	MC15652-9 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30952-MS	I79993.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980
OP30952-MSD	I79994.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980
MC15652-10	I79995.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC15641-1, MC15641-2

CAS No.	Compound	MC15652-10 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		50	41.8	84	40.9	82	2	40-140/20
208-96-8	Acenaphthylene	ND		50	32.3	65	31.3	63	3	40-140/20
120-12-7	Anthracene	ND		50	41.4	83	40.1	80	3	40-140/20
56-55-3	Benzo(a)anthracene	ND		50	52.8	106	53.0	106	0	40-140/20
50-32-8	Benzo(a)pyrene	ND		50	45.4	91	45.3	91	0	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		50	51.7	103	50.0	100	3	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND		50	50.1	100	51.9	104	4	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		50	50.1	100	53.8	108	7	40-140/20
218-01-9	Chrysene	ND		50	55.0	110	55.1	110	0	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		50	52.7	105	54.0	108	2	40-140/20
206-44-0	Fluoranthene	ND		50	48.1	96	46.8	94	3	40-140/20
86-73-7	Fluorene	ND		50	44.4	89	43.5	87	2	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		50	52.2	104	53.8	108	3	40-140/20
90-12-0	1-Methylnaphthalene	ND		50	42.7	85	41.7	83	2	40-140/20
91-57-6	2-Methylnaphthalene	ND		50	40.3	81	39.5	79	2	40-140/20
85-01-8	Phenanthrene	ND		50	42.9	86	41.8	84	3	40-140/20
129-00-0	Pyrene	ND		50	45.6	91	44.3	89	3	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15652-10	Limits
367-12-4	2-Fluorophenol	45%	43%	36%	15-110%
4165-62-2	Phenol-d5	32%	31%	27%	15-110%
118-79-6	2,4,6-Tribromophenol	86%	81%	72%	15-110%
4165-60-0	Nitrobenzene-d5	72%	69%	63%	30-130%
321-60-8	2-Fluorobiphenyl	77%	73%	67%	30-130%
1718-51-0	Terphenyl-d14	111%	109%	106%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSI2980-CC2969	Injection Date:	11/13/12
Lab File ID:	I79973.D	Injection Time:	09:46
Instrument ID:	GCMSI	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	327166	3.91	1008067	4.88	591438	6.29	1073798	7.60	1025716	0.00	1352775	0.00
Upper Limit [a]	654332	4.41	2016134	5.38	1182876	6.79	2147596	8.10	2051432	0.50	2705550	0.50
Lower Limit [b]	163583	3.41	504034	4.38	295719	5.79	536899	7.10	512858	-0.50	676388	-0.50
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP31003-MB	319602	3.91	995824	4.88	551783	6.29	1034734	7.60	1053406	0.00	1894581	0.00
OP31003-BS	356834	3.91	1098429	4.88	586962	6.29	1014690	7.60	942108	0.00	1400018	0.00
OP31003-BSD	309253	3.91	987185	4.88	564354	6.29	1043527	7.61	1042661	0.00	1891470	0.00
OP31003-MS	314626	3.91	993442	4.88	576977	6.29	1058037	7.61	1013654	0.00	1777882	0.00
OP31003-MSD	332349	3.91	1055117	4.88	602833	6.29	1075094	7.61	1017687	0.00	1766943	0.00
ZZZZZZ	248950	3.91	794336	4.88	464459	6.29	875324	7.60	878080	0.00	1638768	0.00
ZZZZZZ	240100	3.91	750665	4.88	416578	6.29	795795	7.60	851900	0.00	1575081	0.00
ZZZZZZ	285190	3.91	903417	4.88	527460	6.29	1005376	7.60	1023036	0.00	1882041	0.00
MC15914-2	336036	3.91	1031114	4.88	594363	6.29	1044703	7.60	996463	0.00	1820037	0.00
ZZZZZZ	310954	3.91	942580	4.88	529975	6.29	961718	7.60	1021906	0.00	1893971	0.00
ZZZZZZ	247613	3.91	769383	4.88	464621	6.29	907975	7.60	960581	0.00	1774764	0.00
ZZZZZZ	284468	3.91	878152	4.88	513321	6.29	980436	7.60	978169	0.00	1791819	0.00
ZZZZZZ	321315	3.91	1002661	4.88	583793	6.29	1071683	7.60	1032724	0.00	1876609	0.00
ZZZZZZ	259995	3.91	786209	4.88	441846	6.29	834352	7.60	903415	0.00	1713312	0.00
ZZZZZZ	221211	3.91	689968	4.88	407735	6.29	800971	7.60	843846	0.00	1570158	0.00
ZZZZZZ	214628	3.91	665142	4.88	401014	6.29	798637	7.60	857489	0.00	1593813	0.00
OP30952-MB	221586	3.91	673547	4.88	377714	6.29	704137	7.60	810617	0.00	1578359	0.00
OP30952-BS	368706	3.91	1146613	4.88	652806	6.29	1169796	7.61	1081406	0.00	1895122	0.00
OP30952-MS	313939	3.91	982732	4.88	564798	6.29	1028337	7.61	1006526	0.00	1810825	0.00
OP30952-MSD	286076	3.91	890725	4.88	512440	6.29	951482	7.61	952060	0.00	1731411	0.00
MC15652-10	295056	3.91	930053	4.88	548989	6.29	1008270	7.60	997435	0.00	1851731	0.00
ZZZZZZ	208107	3.91	633963	4.88	371312	6.29	756291	7.60	844734	0.00	1637871	0.00
ZZZZZZ	212069	3.91	633442	4.88	369406	6.29	765057	7.60	864079	0.00	1650000	0.00
MC15641-1	347578	3.91	1031744	4.88	576269	6.29	1027450	7.60	946549	0.00	1673131	0.00
MC15641-2	273229	3.91	853397	4.88	513671	6.29	1011193	7.60	1047073	0.00	1951681	0.00
ZZZZZZ	268928	3.91	816846	4.88	468697	6.29	906765	7.60	993375	0.00	1868108	0.00

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.

Semivolatile Internal Standard Area Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSI2980-CC2969	Injection Date:	11/13/12
Lab File ID:	I79973.D	Injection Time:	09:46
Instrument ID:	GCMSI	Method:	SW846 8270C BY SIM

Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

7.4.1

7

Semivolatile Internal Standard Area Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW320-CC318	Injection Date:	11/15/12
Lab File ID:	W6926.D	Injection Time:	08:12
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	98334	4.11	389927	5.10	223404	6.54	384212	7.91	429229	10.85	407634	12.43
Upper Limit [a]	196668	4.61	779854	5.60	446808	7.04	768424	8.41	858458	11.35	815268	12.93
Lower Limit [b]	49167	3.61	194964	4.60	111702	6.04	192106	7.41	214615	10.35	203817	11.93
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30951-MB	126386	4.11	497263	5.10	282771	6.54	489333	7.91	536511	10.84	522579	12.43
OP30951-MB	126373	4.11	497323	5.10	282811	6.54	489317	7.91	536507	10.84	522659	12.43
OP30951-BS	121961	4.11	483347	5.10	272918	6.54	463928	7.91	510500	10.85	457348	12.43
OP30934-BSD	121961	4.11	483347	5.10	272918	6.54	463928	7.91	510500	10.85	457348	12.43
OP30951-BS	121970	4.11	483519	5.10	272976	6.54	463971	7.91	510512	10.85	457335	12.43
OP30951-MS	121638	4.11	483996	5.10	271758	6.54	466794	7.91	512991	10.85	468492	12.43
OP30951-MS	121619	4.11	484038	5.10	271860	6.54	466794	7.91	513081	10.85	467305	12.43
OP30951-MSD	120870	4.11	482043	5.10	272848	6.54	462852	7.91	512067	10.85	464781	12.43
OP30951-MSD	120879	4.11	482225	5.10	272902	6.54	463029	7.91	512061	10.85	464779	12.43
MC15652-9	118831	4.11	471492	5.10	266320	6.54	462810	7.91	496825	10.84	483987	12.43
MC15652-9	118839	4.11	471465	5.10	266362	6.54	462795	7.91	496890	10.84	484369	12.43
ZZZZZZ	116138	4.11	462341	5.10	261174	6.54	455920	7.91	499366	10.84	482249	12.43
ZZZZZZ	118357	4.11	466851	5.10	269852	6.54	468576	7.91	517877	10.84	499481	12.43
ZZZZZZ	113253	4.11	455376	5.10	258479	6.54	452377	7.91	483650	10.84	469490	12.43
ZZZZZZ	113246	4.11	455569	5.10	258514	6.54	452377	7.91	483764	10.84	469475	12.43
ZZZZZZ	116689	4.11	463443	5.10	263856	6.54	458088	7.91	497660	10.84	480468	12.43
ZZZZZZ	116697	4.11	463462	5.10	263834	6.54	458088	7.91	497051	10.84	480592	12.43
ZZZZZZ	124568	4.11	494987	5.10	282004	6.54	489884	7.91	521585	10.84	494789	12.43
OP31026-MB	104142	4.11	422943	5.10	239473	6.54	416599	7.91	444501	10.84	430807	12.43
ZZZZZZ	114478	4.11	454996	5.10	258917	6.54	447744	7.91	489792	10.84	464931	12.43
ZZZZZZ	111851	4.11	445703	5.10	256072	6.54	442624	7.91	477900	10.84	465671	12.43
ZZZZZZ	105881	4.11	422475	5.10	241719	6.54	419468	7.91	460697	10.84	446809	12.43

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Internal Standard Area Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW322-CC318	Injection Date:	11/15/12
Lab File ID:	W6945.D	Injection Time:	18:04
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	98351	4.09	398301	5.08	227903	6.51	398323	7.88	457313	10.82	437171	12.40
Upper Limit [a]	196702	4.59	796602	5.58	455806	7.01	796646	8.38	914626	11.32	874342	12.90
Lower Limit [b]	49176	3.59	199151	4.58	113952	6.01	199162	7.38	228657	10.32	218586	11.90
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
MC15641-1	129445	4.09	521083	5.08	302003	6.51	526840	7.88	578658	10.82	556938	12.40
MC15641-2	131916	4.09	526005	5.08	303766	6.51	531885	7.88	589691	10.82	568171	12.40
ZZZZZZ	117811	4.09	471603	5.08	270350	6.51	468886	7.88	505388	10.82	489972	12.40
ZZZZZZ	113652	4.09	452543	5.08	261705	6.51	454639	7.88	486155	10.82	476813	12.40
ZZZZZZ	133085	4.09	528673	5.08	305890	6.51	529856	7.88	589182	10.82	555040	12.40
ZZZZZZ	108767	4.09	438504	5.08	253627	6.51	441039	7.88	475461	10.82	454032	12.40
ZZZZZZ	120066	4.09	482490	5.08	279961	6.51	487846	7.88	551393	10.82	520771	12.40
ZZZZZZ	116844	4.09	467184	5.08	263968	6.51	451661	7.88	476222	10.82	458329	12.40
ZZZZZZ	119524	4.09	476406	5.08	271812	6.51	464768	7.88	493653	10.82	467542	12.40
ZZZZZZ	116793	4.09	459271	5.08	265419	6.51	466501	7.88	510742	10.82	490633	12.40
ZZZZZZ	116157	4.09	467121	5.08	261980	6.51	459188	7.88	491133	10.82	477157	12.40
ZZZZZZ	110607	4.09	444477	5.08	255560	6.51	448719	7.88	521237	10.82	501932	12.40
ZZZZZZ	113365	4.09	457432	5.08	262372	6.51	452083	7.88	543515	10.82	503964	12.40
ZZZZZZ	118906	4.09	473588	5.08	277678	6.51	474959	7.88	722802	10.83	717316	12.43
ZZZZZZ	119711	4.09	481641	5.08	281437	6.51	492325	7.88	576130	10.82	564497	12.40
ZZZZZZ	137202	4.09	536292	5.08	299725	6.51	490110	7.88	504731	10.82	492190	12.40
ZZZZZZ	135221	4.09	524433	5.08	294709	6.51	488731	7.88	496340	10.82	485772	12.40
ZZZZZZ	120901	4.09	479656	5.08	277482	6.51	481080	7.88	509463	10.82	502884	12.40
ZZZZZZ	126368	4.09	504678	5.08	288055	6.51	500610	7.88	527621	10.82	506582	12.40

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Surrogate Recovery Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15641-1	W6955.D	38.0	25.0	71.0	66.0	59.0	59.0
MC15641-2	W6956.D	39.0	32.0	73.0	65.0	60.0	56.0
OP30951-BS	W6929.D	48.0	33.0	83.0	81.0	76.0	97.0
OP30951-BS	W6929A.D						
OP30951-MB	W6928.D	41.0	27.0	72.0	76.0	68.0	94.0
OP30951-MB	W6928A.D						
OP30951-MS	W6930.D	48.0	33.0	85.0	82.0	78.0	97.0
OP30951-MS	W6930A.D						
OP30951-MSD	W6931.D	46.0	32.0	83.0	81.0	74.0	96.0
OP30951-MSD	W6931A.D						

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	15-110%
S2 = Phenol-d5	15-110%
S3 = 2,4,6-Tribromophenol	15-110%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

Semivolatile Surrogate Recovery Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15641-1	I79998.D	34.0	23.0	74.0	57.0	62.0	66.0
MC15641-2	I79999.D	33.0	31.0	75.0	54.0	60.0	70.0
OP30952-BS	I79992.D	45.0	33.0	85.0	72.0	76.0	106.0
OP30952-MB	I79991.D	38.0	27.0	68.0	64.0	69.0	114.0
OP30952-MS	I79993.D	45.0	32.0	86.0	72.0	77.0	111.0
OP30952-MSD	I79994.D	43.0	31.0	81.0	69.0	73.0	109.0

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	15-110%
S2 = Phenol-d5	15-110%
S3 = 2,4,6-Tribromophenol	15-110%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

New England ACCUTEST LABORATORIES

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: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31005-MB	BK18816.D	1	11/13/12	AP	11/12/12	OP31005	GBK686

The QC reported here applies to the following samples: Method: SW846 8011

MC15641-1, MC15641-2, MC15641-4

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)	88%	36-173%
460-00-4	Bromofluorobenzene (S)	94%	36-173%

8.1.1

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Blank Spike Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31005-BS	BK18817.D	1	11/13/12	AP	11/12/12	OP31005	GBK686

The QC reported here applies to the following samples: **Method:** SW846 8011

MC15641-1, MC15641-2, MC15641-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.070	99	60-140
106-93-4	1,2-Dibromoethane	0.071	0.075	106	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	92%	36-173%
460-00-4	Bromofluorobenzene (S)	96%	36-173%

8.2.1

8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31005-MS	BK18818.D	1	11/13/12	AP	11/12/12	OP31005	GBK686
OP31005-MSD	BK18819.D	1	11/13/12	AP	11/12/12	OP31005	GBK686
MC15914-8	BK18820.D	1	11/13/12	AP	11/12/12	OP31005	GBK686

The QC reported here applies to the following samples: Method: SW846 8011

MC15641-1, MC15641-2, MC15641-4

CAS No.	Compound	MC15914-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		0.071	0.071	100	0.071	100	0	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.071	0.075	106	0.075	106	0	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC15914-8	Limits
460-00-4	Bromofluorobenzene (S)	92%	98%	90%	36-173%
460-00-4	Bromofluorobenzene (S)	98%	104%	96%	36-173%

* = Outside of Control Limits.

8.3.1

Volatile Surrogate Recovery Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8011 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC15641-1	BK18821.D	94.0	97.0
MC15641-2	BK18822.D	98.0	110.0
MC15641-4	BK18823.D	102.0	115.0
OP31005-BS	BK18817.D	92.0	96.0
OP31005-MB	BK18816.D	88.0	94.0
OP31005-MS	BK18818.D	92.0	98.0
OP31005-MSD	BK18819.D	98.0	104.0

Surrogate Compounds	Recovery Limits
S1 = Bromofluorobenzene (S)	36-173%

(a) Recovery from GC signal #1
(b) Recovery from GC signal #2

GC Surrogate Retention Time Summary

Job Number: MC15641
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBK686-ICC686	Injection Date:	11/13/12
Lab File ID:	BK18811.D	Injection Time:	13:49
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.93	4.61

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK18814A.D	11/13/12	15:02	4.93	4.61
OP31005-MB	BK18816.D	11/13/12	15:50	4.93	4.61
OP31005-BS	BK18817.D	11/13/12	16:14	4.93	4.61
OP31005-MS	BK18818.D	11/13/12	16:38	4.93	4.61
OP31005-MSD	BK18819.D	11/13/12	17:03	4.93	4.61
MC15914-8	BK18820.D	11/13/12	17:27	4.93	4.61
MC15641-1	BK18821.D	11/13/12	17:51	4.93	4.61
MC15641-2	BK18822.D	11/13/12	18:15	4.93	4.61
MC15641-4	BK18823.D	11/13/12	18:39	4.93	4.61
ZZZZZZ	BK18824.D	11/13/12	19:03	4.93	4.61
ZZZZZZ	BK18825.D	11/13/12	19:27	4.93	4.61

Surrogate Compounds

S1 = Bromofluorobenzene (S)

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

Roxana Groundwater Quarterly – 4th Quarter 2012 Data Review

Laboratory SDG: MC15702

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 12/5/2012

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Sample Identification	Sample Identification
P58-ROX-110612	TB-110612-HCL-W
TB-110612-ST-W	-

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated that VOC LCS/LCSD recoveries and SVOC LCS recoveries were outside evaluation criteria. SVOC and PAH surrogate standards in sample P58-ROX-110612 were not analyzed. Well P-58 was resampled for SVOCs and PAHs on December 10, 2012, and data is reported in SDG MC16746. Sample P58-ROX-110612 was diluted due to high levels of VOC target analytes. Additionally, the initial calibration verification for acetone exceeded 50 percent difference (%D). These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated one of two coolers were received by the laboratory at a temperature of 1.2ºC, which is outside the 4ºC ± 2ºC criteria. Samples were received in good condition; therefore, no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSN2635-BS/BSD	VOCs	Acrolein	**62/62**	1	70-130/25
MSN2635-BS/BSD	VOCs	Acrylonitrile	**486/486**	0	70-130/25
MSN2635-BS/BSD	VOCs	Carbon tetrachloride	73/**69**	6	70-130/25
MSN2635-BS/BSD	VOCs	2,2-Dichloropropane	**59/57**	4	70-130/25
OP30951-BS	SVOCs	Benzoic acid	**26**	NA	30-130
OP30951-BS	SVOCs	2,4-Dimethylphenol	**22**	NA	30-130
OP30951-BS	SVOCs	Phenol	**27**	NA	30-130
OP30951-BS	SVOCs	3,3'-Dichlorobenzidine	**35**	NA	40-140

Analytical data that required qualification based on LCS data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. LCS/LCSD MSN2635-BS/BSD was associated with trip blank TB110612-HCL-W. Trip blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
P58-ROX-110612	VOCs	Acrolein	**UJ**
P58-ROX-110612	VOCs	Carbon tetrachloride	**UJ**
P58-ROX-110612	VOCs	2,2-Dichloropropane	**UJ**
P58-ROX-110612	SVOCs	Benzoic acid	**UJ**
P58-ROX-110612	SVOCs	2,4-Dimethylphenol	**UJ**
P58-ROX-110612	SVOCs	Phenol	**UJ**
P58-ROX-110612	SVOCs	3,3'-Dichlorobenzidine	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery	Criteria
P58-ROX-110612	SVOCs	2-Fluorophenol	**0**	15-110
P58-ROX-110612	SVOCs	Phenol-d_5	**0**	15-110
P58-ROX-110612	SVOCs	2,4,6-Tribromophenol	**0**	15-110
P58-ROX-110612	SVOCs	Nitrobenzene-d_5	**0**	30-130
P58-ROX-110612	SVOCs	2-Fluorobiphenyl	**0**	30-130
P58-ROX-110612	SVOCs	Terphenyl-d_{14}	**0**	30-130
P58-ROX-110612	PAHs	Nitrobenzene-d_5	**0**	30-130
P58-ROX-110612	PAHs	2-Fluorobiphenyl	**0**	30-130
P58-ROX-110612	PAHs	Terphenyl-d_{14}	**0**	30-130

SVOC and PAH surrogate standards were not analyzed, due to laboratory omission. Well P-58 was resampled for SVOCs and PAHs on December 10, 2012, and data is reported in SDG MC16746. Analytical data that required qualification based on surrogate data are included in the table below.

Sample ID	Parameter	Analyte	Qualification
P58-ROX-110612	SVOCs	All SVOCs	**R**
P58-ROX-110612	PAHs	All PAHs	**R**

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes, the initial calibration verification recovery for acetone exceeded 50 percent difference (%D) in sample P58-ROX-110612; analytes in associated samples were qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
P58-ROX-110612	VOCs	Acetone	**UJ**

New England ACCUTEST LABORATORIES

12/05/12



Technical Report for

Shell Oil

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana,

Accutest Job Number: MC15702

Sampling Date: 11/06/12

Report to:

URS Corporation

elizabeth.kunkel@URS.com

ATTN: Elizabeth Kunkel

Total number of pages in report: **67**

Reviewed on 12/5/12

Reza Pand
Lab Director

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Test results relate only to samples analyzed.

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Sample Summary

Shell Oil

Job No: MC15702

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC15702-1	11/06/12	11:40	LRCK	11/07/12	AQ	Ground Water	P58-ROX-110612
MC15702-2	11/06/12	00:00	LRCK	11/07/12	AQ	Trip Blank Water	TB-110612-HCL-W
MC15702-3	11/06/12	00:00	LRCK	11/07/12	AQ	Trip Blank Water	TB-110612-ST-W

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	**Job No**	MC15702
Site:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central	**Report Date**	12/5/2012 11:00:50 AM

1 Sample(s), 2 Trip Blank(s) were collected on 11/06/2012 and were received at Accutest on 11/07/2012 properly preserved, at 1.2 Deg. C and intact. These Samples received an Accutest job number of MC15702. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. 1-Chlorohexane, Benzenethiol, Dibenz(a,h)acridine, Indene, and Quinoline were searched in the library search and reported only if detections were found.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** MSN2635

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC15864-2MS, MC15864-2MSD were used as the QC samples indicated.
- Blank Spike Recovery(s) for 2,2-Dichloropropane, Acrolein are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for 2,2-Dichloropropane, Acrolein are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for 2,2-Dichloropropane, Acrolein, Carbon tetrachloride are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC15864-2MS/MSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MSN2635-BS/BSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- Initial calibration verification MSN2591-ICV2591 for acetone exceeds 50% Difference (response bias high). Associated sample is non-detect for this compound.
- BSD Recovery(s) for Carbon tetrachloride, 2,2-Dichloropropane, Acrolein are outside control limits. Blank Spike meets program technical requirements.

Matrix AQ **Batch ID:** MSN2636

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15899-6MS, MC15899-6MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MC15899-6MS, MC15899-6MSD: The pH of the sample aliquot for VOA analysis was >2 at time of analysis.

Extractables by GCMS By Method SW846 8270C

Matrix AQ	Batch ID: OP30951

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC15652-9MS, MC15652-9MSD were used as the QC samples indicated.
- Blank Spike Recovery(s) for 2,4-Dimethylphenol, 3,3'-Dichlorobenzidine, Benzoic Acid, Phenol are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for 4-Nitrophenol, Benzoic Acid, Phenol are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for 4-Nitrophenol, Benzoic Acid, Phenol, 2,4-Dimethylphenol, 3,3'-Dichlorobenzidine are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- RPD(s) for MSD for 2,4-Dimethylphenol, 3,3'-Dichlorobenzidine are outside control limits for sample OP30951-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- Sample(s) MC15702-1 have surrogates outside control limits. Surrogate standard not added. Insufficient sample volume for re-extraction/reanalysis.
- Calibration standard MSW319-ICC319, MSW319-ICV319, MSW321-CC319 not associated with this job.
- OP30951-MB/BS/MS/MSD, fileW6928A/W6929A /W6930A/W6931A not associated with this job.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix AQ	Batch ID: OP30952

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC15652-10MS, MC15652-10MSD were used as the QC samples indicated.
- Sample(s) MC15702-1 have surrogates outside control limits. Surrogate standard not added. Insufficient sample volume for re-extraction/reanalysis.

Volatiles by GC By Method SW846 8011

Matrix AQ	Batch ID: OP31007

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15914-10MS, MC15914-10MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

The Accutest Laboratories of 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 Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC15702).

Summary of Hits

Job Number: MC15702
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 11/06/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC15702-1	P58-ROX-110612					
Benzene		415000	5000	2400	ug/l	SW846 8260B
Ethylbenzene		844	100	51	ug/l	SW846 8260B
Toluene		124	100	51	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		658	500	35	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		108 J	500	47	ug/l	SW846 8260B
m,p-Xylene		544	100	73	ug/l	SW846 8260B
o-Xylene		80.7 J	100	58	ug/l	SW846 8260B
Xylene (total)		624	100	58	ug/l	SW846 8260B
MC15702-2	TB-110612-HCL-W					
No hits reported in this sample.						
MC15702-3	TB-110612-ST-W					
No hits reported in this sample.						

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	P58-ROX-110612		
Lab Sample ID:	MC15702-1	Date Sampled:	11/06/12
Matrix:	AQ - Ground Water	Date Received:	11/07/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N70080.D	100	11/17/12	JP	n/a	n/a	MSN2635
Run #2	N70095.D	10000	11/17/12	JP	n/a	n/a	MSN2636

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	500	300	ug/l	UJ
107-02-8	Acrolein	ND	2500	1000	ug/l	UJ
107-13-1	Acrylonitrile	ND	500	320	ug/l	
71-43-2	Benzene	415000 [a]	5000	2400	ug/l	
108-86-1	Bromobenzene	ND	500	62	ug/l	
74-97-5	Bromochloromethane	ND	500	130	ug/l	
75-27-4	Bromodichloromethane	ND	100	58	ug/l	
75-25-2	Bromoform	ND	100	78	ug/l	
74-83-9	Bromomethane	ND	200	100	ug/l	
78-93-3	2-Butanone (MEK)	ND	500	240	ug/l	
104-51-8	n-Butylbenzene	ND	500	61	ug/l	
135-98-8	sec-Butylbenzene	ND	500	55	ug/l	
98-06-6	tert-Butylbenzene	ND	500	64	ug/l	
75-15-0	Carbon disulfide	ND	500	61	ug/l	
56-23-5	Carbon tetrachloride	ND	100	87	ug/l	UJ
108-90-7	Chlorobenzene	ND	100	47	ug/l	
75-00-3	Chloroethane	ND	200	50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	500	130	ug/l	
67-66-3	Chloroform	ND	100	50	ug/l	
74-87-3	Chloromethane	ND	200	73	ug/l	
95-49-8	o-Chlorotoluene	ND	500	65	ug/l	
106-43-4	p-Chlorotoluene	ND	500	48	ug/l	
124-48-1	Dibromochloromethane	ND	100	53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	100	93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	100	45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	100	64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	200	170	ug/l	
75-34-3	1,1-Dichloroethane	ND	100	62	ug/l	
107-06-2	1,2-Dichloroethane	ND	100	63	ug/l	
75-35-4	1,1-Dichloroethene	ND	100	41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	100	64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	100	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:	P58-ROX-110612		
Lab Sample ID:	MC15702-1	Date Sampled:	11/06/12
Matrix:	AQ - Ground Water	Date Received:	11/07/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	200	72	ug/l	
142-28-9	1,3-Dichloropropane	ND	500	64	ug/l	
594-20-7	2,2-Dichloropropane	ND	500	160	ug/l	UJ
563-58-6	1,1-Dichloropropene	ND	500	91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	50	45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	50	20	ug/l	
123-91-1	1,4-Dioxane	ND	2500	1500	ug/l	
97-63-2	Ethyl methacrylate	ND	500	81	ug/l	
100-41-4	Ethylbenzene	844	100	51	ug/l	
87-68-3	Hexachlorobutadiene	ND	500	210	ug/l	
591-78-6	2-Hexanone	ND	500	200	ug/l	
98-82-8	Isopropylbenzene	ND	500	50	ug/l	
99-87-6	p-Isopropyltoluene	ND	500	57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	500	290	ug/l	
74-95-3	Methylene bromide	ND	500	110	ug/l	
75-09-2	Methylene chloride	ND	200	83	ug/l	
91-20-3	Naphthalene	ND	500	50	ug/l	
103-65-1	n-Propylbenzene	ND	500	58	ug/l	
100-42-5	Styrene	ND	500	45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	500	57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	60	ug/l	
127-18-4	Tetrachloroethene	ND	100	42	ug/l	
108-88-3	Toluene	124	100	51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	500	130	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	500	130	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	100	85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	100	50	ug/l	
79-01-6	Trichloroethene	ND	100	78	ug/l	
75-69-4	Trichlorofluoromethane	ND	100	29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	500	85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	658	500	35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	108	500	47	ug/l	J
108-05-4	Vinyl Acetate	ND	500	130	ug/l	
75-01-4	Vinyl chloride	ND	100	63	ug/l	
	m,p-Xylene	544	100	73	ug/l	
95-47-6	o-Xylene	80.7	100	58	ug/l	J
1330-20-7	Xylene (total)	624	100	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:	P58-ROX-110612		
Lab Sample ID:	MC15702-1	Date Sampled:	11/06/12
Matrix:	AQ - Ground Water	Date Received:	11/07/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	82%	83%	70-130%
2037-26-5	Toluene-D8	84%	84%	70-130%
460-00-4	4-Bromofluorobenzene	87%	86%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P58-ROX-110612		
Lab Sample ID:	MC15702-1	Date Sampled:	11/06/12
Matrix:	AQ - Ground Water	Date Received:	11/07/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W6957.D	1	11/15/12	KR	11/08/12	OP30951	MSW322
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	UJ R
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	UJ
51-28-5	2,4-Dinitrophenol	ND	20	5.0	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	UJ
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	UJ
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P58-ROX-110612		
Lab Sample ID:	MC15702-1	Date Sampled:	11/06/12
Matrix:	AQ - Ground Water	Date Received:	11/07/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.28	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	0.48	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	0% [a]		15-110%
4165-62-2	Phenol-d5	0% [a]		15-110%
118-79-6	2,4,6-Tribromophenol	0% [a]		15-110%
4165-60-0	Nitrobenzene-d5	0% [a]		30-130%
321-60-8	2-Fluorobiphenyl	0% [a]		30-130%
1718-51-0	Terphenyl-d14	0% [a]		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

(a) Surrogate standard not added. Insufficient sample volume for re-extraction/reanalysis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P58-ROX-110612		
Lab Sample ID:	MC15702-1	Date Sampled:	11/06/12
Matrix:	AQ - Ground Water	Date Received:	11/07/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I80000.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	0% [a]		30-130%
321-60-8	2-Fluorobiphenyl	0% [a]		30-130%
1718-51-0	Terphenyl-d14	0% [a]		30-130%

(a) Surrogate standard not added. Insufficient sample volume for re-extraction/reanalysis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P58-ROX-110612		
Lab Sample ID:	MC15702-1	**Date Sampled:**	11/06/12
Matrix:	AQ - Ground Water	**Date Received:**	11/07/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18880.D	1	11/14/12	AP	11/12/12	OP31007	GBK686
Run #2							

	Initial Volume	Final Volume
Run #1	35.7 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	83%		36-173%
460-00-4	Bromofluorobenzene (S)	118%		36-173%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-110612-HCL-W		
Lab Sample ID:	MC15702-2	**Date Sampled:**	11/06/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/07/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N70073.D	1	11/17/12	JP	n/a	n/a	MSN2635
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	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:	TB-110612-HCL-W		
Lab Sample ID:	MC15702-2	**Date Sampled:**	11/06/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/07/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	TB-110612-HCL-W		
Lab Sample ID:	MC15702-2	**Date Sampled:**	11/06/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/07/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, 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	83%		70-130%
460-00-4	4-Bromofluorobenzene	87%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-110612-ST-W		
Lab Sample ID:	MC15702-3	**Date Sampled:**	11/06/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/07/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18882.D	1	11/14/12	AP	11/12/12	OP31007	GBK686
Run #2							

	Initial Volume	Final Volume
Run #1	34.2 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.011	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	83%		36-173%
460-00-4	Bromofluorobenzene (S)	97%		36-173%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

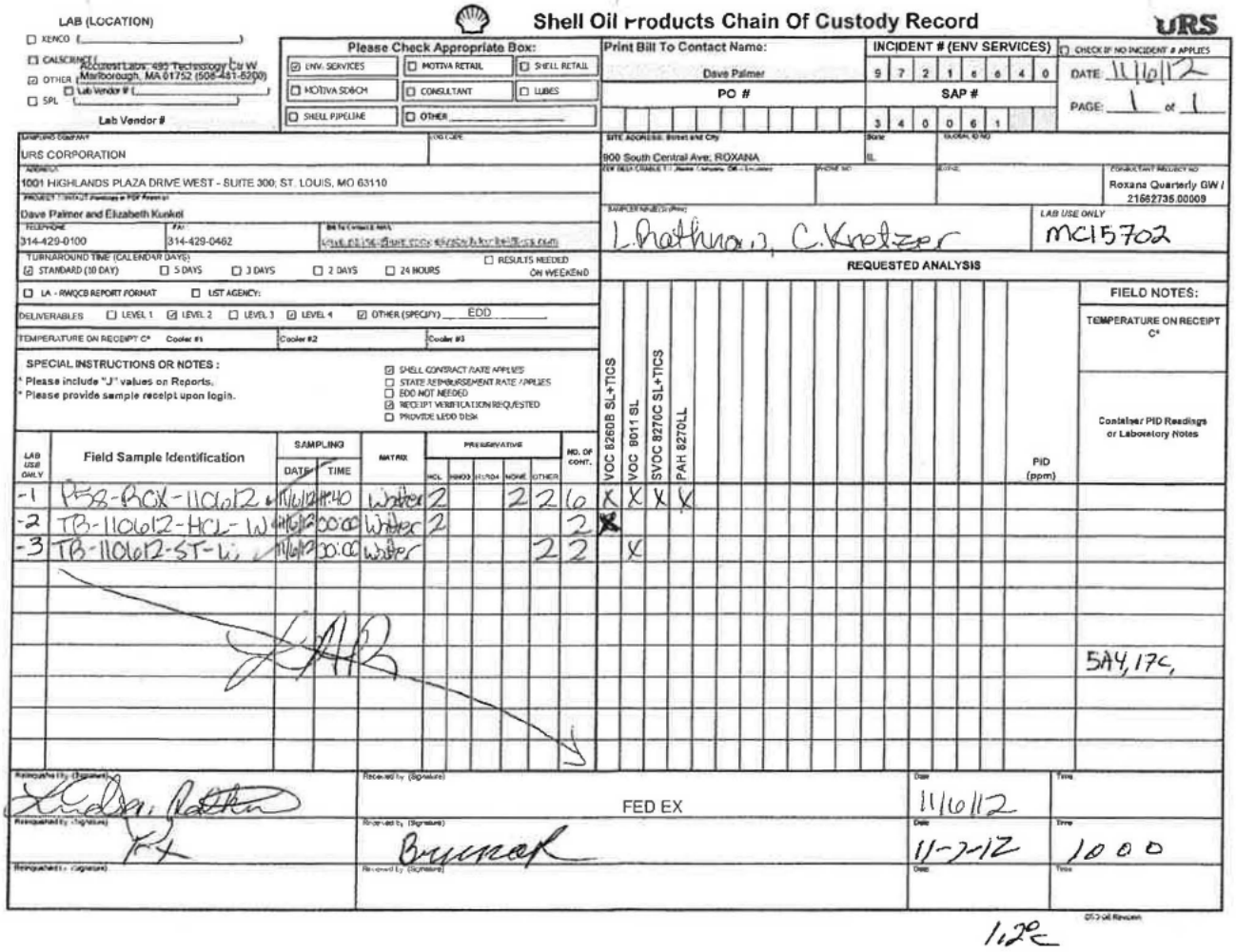
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

New England ACCUTEST LABORATORIES

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody



LAB (LOCATION)

☐ XENCO (_____)
☐ CALSCIENCE (_____)
☑ OTHER (Accutest Labs, 495 Technology Ctr W Marlborough, MA 01752 (508-481-6200)
☐ Lab Vendor # (_____)
☐ SPL (_____)

Lab Vendor #

Shell Oil Products Chain Of Custody Record

URS

Please Check Appropriate Box:		
☑ ENV. SERVICES	☐ MOTIVA RETAIL	☐ SHELL RETAIL
☐ MOTIVA SDB/CH	☐ CONSULTANT	☐ LUBES
☐ SHELL PIPELINE	☐ OTHER _____	

Print Bill To Contact Name: Dave Palmer

PO #

INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0

SAP #: 3 4 0 0 6 1

☐ CHECK IF NO INCIDENT # APPLIES

DATE: 11/6/12

PAGE: 1 of 1

SAMPLING COMPANY: URS CORPORATION

LOG CODE:

SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA

State: IL

GLOBAL ID NO:

ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110

FOR DELIVERABLE TO: Name / Company / Office / Location

PHONE NO:

EXTN:

CONSULTANT PROJECT NO: Roxana Quarterly GW / 21662735.00009

PROJECT / INTAKE Planning or PDF Form of: Dave Palmer and Elizabeth Kunkel

TELEPHONE: 314-429-0100

FAX: 314-429-0462

BILL TO CONTACT NAME: [illegible]

SAMPLER NAME(S) (Print): L. Rathman, C. Kretzer

LAB USE ONLY: MC15702

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (10 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ LIST AGENCY:

DELIVERABLES ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 Cooler #2 Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:
* Please include "J" values on Reports.
* Please provide sample receipt upon login.

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

FIELD NOTES: TEMPERATURE ON RECEIPT C°

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	VOC 8260B SL+TICS	VOC 8011 SL	SVOC 8270C SL+TICS	PAH 8270LL	PID (ppm)	Container PID Readings or Laboratory Notes
-1	P58-ROX-110612	11/6/12	11:40	Water	2			2	2	6	X	X	X	X		
-2	TB-110612-HCL-W	11/6/12	00:00	Water	2					2	X					
-3	TB-110612-ST-W	11/6/12	00:00	Water					2	2		X				
																5A4, 17C,

LAB

Relinquished by (Signature)	Received by (Signature)	Date	Time
Linda Rathman	FED EX	11/6/12	
Relinquished by (Signature)	Received by (Signature)	Date	Time
FX	Brunak	11-7-12	1000
Relinquished by (Signature)	Received by (Signature)	Date	Time

CS 2 Oil Revision

1.2°C

MC15702: Chain of Custody
Page 1 of 2

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ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC15702 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 11/7/2012 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900 SO CENTRAL **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

5.1

5

MC15702: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15702

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15702-1 Collected: 06-NOV-12 11:40 By: LRCK Received: 07-NOV-12 By: P58-ROX-110612						
MC15702-1	SW846 8270C BY SIM	13-NOV-12 20:44	NS	08-NOV-12	FC	B8270SIMSL
MC15702-1	SW846 8011	14-NOV-12 17:41	AP	12-NOV-12	CA	V8011SL
MC15702-1	SW846 8270C	15-NOV-12 22:32	KR	08-NOV-12	FC	AB8270SL+
MC15702-1	SW846 8260B	17-NOV-12 04:10	JP			V8260SL+
MC15702-1	SW846 8260B	17-NOV-12 11:13	JP			V8260SL+
MC15702-2 Collected: 06-NOV-12 00:00 By: LRCK Received: 07-NOV-12 By: TB-110612-HCL-W						
MC15702-2	SW846 8260B	17-NOV-12 00:53	JP			V8260SL+
MC15702-3 Collected: 06-NOV-12 00:00 By: LRCK Received: 07-NOV-12 By: TB-110612-ST-W						
MC15702-3	SW846 8011	14-NOV-12 18:29	AP	12-NOV-12	CA	V8011SL

Accutest Internal Chain of Custody

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 11/07/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15702-1.1	Walk In Ref #22	Nick Krasinski	11/08/12 07:31	Retrieve from Storage
MC15702-1.1	Nick Krasinski		11/08/12 15:52	Depleted
MC15702-1.3	VOC Ref #5	Jugal Patel	11/17/12 10:47	Retrieve from Storage
MC15702-1.3	Jugal Patel	GCMSN	11/17/12 10:47	Load on Instrument
MC15702-1.3	GCMSN	Jugal Patel	11/17/12 10:48	Unload from Instrument
MC15702-1.3	Jugal Patel	VOC Ref #5	11/17/12 10:48	Return to Storage
MC15702-1.6	VOC Ref #5	Nick Krasinski	11/12/12 14:07	Retrieve from Storage
MC15702-1.6	Nick Krasinski		11/12/12 21:17	Depleted
MC15702-2.1	VOC Ref #5	Jugal Patel	11/17/12 10:47	Retrieve from Storage
MC15702-2.1	Jugal Patel	GCMSN	11/17/12 10:47	Load on Instrument
MC15702-2.1	GCMSN	Jugal Patel	11/17/12 10:48	Unload from Instrument
MC15702-2.1	Jugal Patel	VOC Ref #5	11/17/12 10:48	Return to Storage
MC15702-3.2	VOC Ref #5	Nick Krasinski	11/12/12 14:07	Retrieve from Storage
MC15702-3.2	Nick Krasinski		11/12/12 21:17	Depleted

New England ACCUTEST LABORATORIES

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: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2635-MB	N70059.D	1	11/16/12	JP	n/a	n/a	MSN2635

The QC reported here applies to the following samples: Method: SW846 8260B

MC15702-1, MC15702-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.3	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: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2635-MB	N70059.D	1	11/16/12	JP	n/a	n/a	MSN2635

The QC reported here applies to the following samples: Method: SW846 8260B

MC15702-1, MC15702-2

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2635-MB	N70059.D	1	11/16/12	JP	n/a	n/a	MSN2635

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC15702-1, MC15702-2

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	83%	70-130%
2037-26-5	Toluene-D8	84%	70-130%
460-00-4	4-Bromofluorobenzene	87%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2636-MB	N70087.D	1	11/17/12	JP	n/a	n/a	MSN2636

The QC reported here applies to the following samples: Method: SW846 8260B

MC15702-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.24	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	82%	70-130%
2037-26-5	Toluene-D8	84%	70-130%
460-00-4	4-Bromofluorobenzene	87%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2635-BS	N70056.D	1	11/16/12	JP	n/a	n/a	MSN2635
MSN2635-BSD	N70057.D	1	11/16/12	JP	n/a	n/a	MSN2635

The QC reported here applies to the following samples: Method: SW846 8260B

MC15702-1, MC15702-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	38.3	77	36.8	74	4	70-130/25
107-02-8	Acrolein	250	154	62* a	155	62* a	1	70-130/25
107-13-1	Acrylonitrile	50	243	486* b	243	486* b	0	70-130/25
71-43-2	Benzene	50	50.8	102	49.2	98	3	70-130/25
108-86-1	Bromobenzene	50	50.3	101	48.9	98	3	70-130/25
74-97-5	Bromochloromethane	50	52.0	104	52.0	104	0	70-130/25
75-27-4	Bromodichloromethane	50	50.9	102	49.3	99	3	70-130/25
75-25-2	Bromoform	50	43.1	86	45.0	90	4	70-130/25
74-83-9	Bromomethane	50	54.8	110	52.6	105	4	70-130/25
78-93-3	2-Butanone (MEK)	50	42.4	85	44.3	89	4	70-130/25
104-51-8	n-Butylbenzene	50	54.9	110	53.3	107	3	70-130/25
135-98-8	sec-Butylbenzene	50	55.0	110	53.3	107	3	70-130/25
98-06-6	tert-Butylbenzene	50	50.8	102	49.3	99	3	70-130/25
75-15-0	Carbon disulfide	50	52.1	104	49.8	100	5	70-130/25
56-23-5	Carbon tetrachloride	50	36.6	73	34.5	69* a	6	70-130/25
108-90-7	Chlorobenzene	50	53.1	106	54.3	109	2	70-130/25
75-00-3	Chloroethane	50	49.7	99	47.9	96	4	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	52.7	105	51.6	103	2	70-130/25
67-66-3	Chloroform	50	50.0	100	48.8	98	2	70-130/25
74-87-3	Chloromethane	50	45.9	92	42.7	85	7	70-130/25
95-49-8	o-Chlorotoluene	50	52.7	105	50.6	101	4	70-130/25
106-43-4	p-Chlorotoluene	50	55.2	110	53.7	107	3	70-130/25
124-48-1	Dibromochloromethane	50	45.9	92	47.4	95	3	70-130/25
95-50-1	1,2-Dichlorobenzene	50	53.7	107	53.1	106	1	70-130/25
541-73-1	1,3-Dichlorobenzene	50	54.6	109	53.0	106	3	70-130/25
106-46-7	1,4-Dichlorobenzene	50	50.9	102	49.5	99	3	70-130/25
75-71-8	Dichlorodifluoromethane	50	41.4	83	39.8	80	4	70-130/25
75-34-3	1,1-Dichloroethane	50	51.7	103	50.1	100	3	70-130/25
107-06-2	1,2-Dichloroethane	50	44.9	90	44.8	90	0	70-130/25
75-35-4	1,1-Dichloroethene	50	56.4	113	55.1	110	2	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	51.2	102	50.1	100	2	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	50.1	100	48.4	97	3	70-130/25
78-87-5	1,2-Dichloropropane	50	52.7	105	51.6	103	2	70-130/25
142-28-9	1,3-Dichloropropane	50	47.5	95	49.4	99	4	70-130/25
594-20-7	2,2-Dichloropropane	50	29.6	59* a	28.4	57* a	4	70-130/25
563-58-6	1,1-Dichloropropene	50	51.7	103	48.8	98	6	70-130/25

* = Outside of Control Limits.

6.2.1

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Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2635-BS	N70056.D	1	11/16/12	JP	n/a	n/a	MSN2635
MSN2635-BSD	N70057.D	1	11/16/12	JP	n/a	n/a	MSN2635

The QC reported here applies to the following samples: Method: SW846 8260B

MC15702-1, MC15702-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	50	44.2	88	43.1	86	3	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	39.0	78	39.0	78	0	70-130/25
123-91-1	1,4-Dioxane	250	233	93	217	87	7	70-130/25
97-63-2	Ethyl methacrylate	50	43.7	87	43.8	88	0	77-137/25
100-41-4	Ethylbenzene	50	48.9	98	49.2	98	1	70-130/25
87-68-3	Hexachlorobutadiene	50	50.5	101	51.0	102	1	70-130/25
591-78-6	2-Hexanone	50	36.1	72	39.0	78	8	70-130/25
98-82-8	Isopropylbenzene	50	53.5	107	51.8	104	3	70-130/25
99-87-6	p-Isopropyltoluene	50	52.7	105	51.5	103	2	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	37.6	75	37.1	74	1	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	36.5	73	36.4	73	0	70-130/25
74-95-3	Methylene bromide	50	49.7	99	48.9	98	2	70-130/25
75-09-2	Methylene chloride	50	52.4	105	51.2	102	2	70-130/25
91-20-3	Naphthalene	50	45.6	91	46.5	93	2	70-130/25
103-65-1	n-Propylbenzene	50	54.4	109	52.7	105	3	70-130/25
100-42-5	Styrene	50	49.1	98	50.0	100	2	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	49.9	100	50.8	102	2	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	48.5	97	47.4	95	2	70-130/25
127-18-4	Tetrachloroethene	50	49.1	98	49.8	100	1	70-130/25
108-88-3	Toluene	50	51.3	103	49.9	100	3	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	50.7	101	50.6	101	0	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	53.2	106	53.1	106	0	70-130/25
71-55-6	1,1,1-Trichloroethane	50	40.1	80	38.5	77	4	70-130/25
79-00-5	1,1,2-Trichloroethane	50	50.5	101	50.5	101	0	70-130/25
79-01-6	Trichloroethene	50	48.1	96	46.3	93	4	70-130/25
75-69-4	Trichlorofluoromethane	50	44.0	88	41.9	84	5	70-130/25
96-18-4	1,2,3-Trichloropropane	50	45.1	90	44.9	90	0	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	48.3	97	46.7	93	3	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	48.0	96	46.3	93	4	70-130/25
108-05-4	Vinyl Acetate	50	51.0	102	50.7	101	1	70-130/25
75-01-4	Vinyl chloride	50	40.7	81	38.7	77	5	70-130/25
	m,p-Xylene	100	101	101	103	103	2	70-130/25
95-47-6	o-Xylene	50	52.6	105	53.3	107	1	70-130/25
1330-20-7	Xylene (total)	150	154	103	156	104	1	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2635-BS	N70056.D	1	11/16/12	JP	n/a	n/a	MSN2635
MSN2635-BSD	N70057.D	1	11/16/12	JP	n/a	n/a	MSN2635

The QC reported here applies to the following samples: Method: SW846 8260B

MC15702-1, MC15702-2

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	82%	83%	70-130%
2037-26-5	Toluene-D8	85%	85%	70-130%
460-00-4	4-Bromofluorobenzene	81%	81%	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.

6.2.1

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Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2636-BS	N70084.D	1	11/17/12	JP	n/a	n/a	MSN2636
MSN2636-BSD	N70085.D	1	11/17/12	JP	n/a	n/a	MSN2636

The QC reported here applies to the following samples: Method: SW846 8260B

MC15702-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	50	51.0	102	49.8	100	2	70-130/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	84%	83%	70-130%
2037-26-5	Toluene-D8	85%	85%	70-130%
460-00-4	4-Bromofluorobenzene	81%	81%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15864-2MS	N70070.D	5	11/16/12	JP	n/a	n/a	MSN2635
MC15864-2MSD	N70071.D	5	11/16/12	JP	n/a	n/a	MSN2635
MC15864-2	N70069.D	1	11/16/12	JP	n/a	n/a	MSN2635

The QC reported here applies to the following samples: Method: SW846 8260B

MC15702-1, MC15702-2

CAS No.	Compound	MC15864-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	184	74	186	74	1	70-130/30
107-02-8	Acrolein	ND		1250	751	60* [a]	743	59* [a]	1	70-130/30
107-13-1	Acrylonitrile	ND		250	1170	468* [b]	1170	468* [b]	0	70-130/30
71-43-2	Benzene	ND		250	250	100	242	97	3	70-130/30
108-86-1	Bromobenzene	ND		250	246	98	242	97	2	70-130/30
74-97-5	Bromochloromethane	ND		250	259	104	252	101	3	70-130/30
75-27-4	Bromodichloromethane	ND		250	249	100	244	98	2	70-130/30
75-25-2	Bromoform	ND		250	218	87	216	86	1	70-130/30
74-83-9	Bromomethane	ND		250	242	97	256	102	6	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	211	84	205	82	3	70-130/30
104-51-8	n-Butylbenzene	ND		250	258	103	255	102	1	70-130/30
135-98-8	sec-Butylbenzene	ND		250	269	108	262	105	3	70-130/30
98-06-6	tert-Butylbenzene	ND		250	250	100	243	97	3	70-130/30
75-15-0	Carbon disulfide	ND		250	256	102	246	98	4	70-130/30
56-23-5	Carbon tetrachloride	ND		250	182	73	168	67* [a]	8	70-130/30
108-90-7	Chlorobenzene	ND		250	270	108	262	105	3	70-130/30
75-00-3	Chloroethane	ND		250	243	97	231	92	5	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	261	104	251	100	4	70-130/30
67-66-3	Chloroform	ND		250	247	99	242	97	2	70-130/30
74-87-3	Chloromethane	ND		250	208	83	203	81	2	70-130/30
95-49-8	o-Chlorotoluene	ND		250	256	102	251	100	2	70-130/30
106-43-4	p-Chlorotoluene	ND		250	268	107	262	105	2	70-130/30
124-48-1	Dibromochloromethane	ND		250	232	93	228	91	2	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	263	105	261	104	1	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	263	105	262	105	0	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	248	99	244	98	2	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	203	81	194	78	5	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	254	102	244	98	4	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	221	88	216	86	2	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	283	113	279	112	1	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	247	99	241	96	2	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	247	99	238	95	4	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	261	104	251	100	4	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	244	98	239	96	2	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	131	52* [a]	124	50* [a]	5	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	252	101	245	98	3	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15864-2MS	N70070.D	5	11/16/12	JP	n/a	n/a	MSN2635
MC15864-2MSD	N70071.D	5	11/16/12	JP	n/a	n/a	MSN2635
MC15864-2	N70069.D	1	11/16/12	JP	n/a	n/a	MSN2635

The QC reported here applies to the following samples: Method: SW846 8260B

MC15702-1, MC15702-2

CAS No.	Compound	MC15864-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		250	209	84	203	81	3	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	184	74	183	73	1	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1060	85	1110	89	5	70-130/30
97-63-2	Ethyl methacrylate	ND		250	205	82	206	82	0	72-139/30
100-41-4	Ethylbenzene	ND		250	249	100	239	96	4	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	244	98	242	97	1	70-130/30
591-78-6	2-Hexanone	ND		250	175	70	177	71	1	70-130/30
98-82-8	Isopropylbenzene	ND		250	264	106	256	102	3	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	256	102	252	101	2	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		250	184	74	181	72	2	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	174	70	176	70	1	70-130/30
74-95-3	Methylene bromide	ND		250	243	97	241	96	1	70-130/30
75-09-2	Methylene chloride	ND		250	256	102	249	100	3	70-130/30
91-20-3	Naphthalene	ND		250	207	83	221	88	7	70-130/30
103-65-1	n-Propylbenzene	ND		250	265	106	258	103	3	70-130/30
100-42-5	Styrene	ND		250	246	98	241	96	2	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	257	103	246	98	4	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	233	93	233	93	0	70-130/30
127-18-4	Tetrachloroethene	ND		250	250	100	240	96	4	70-130/30
108-88-3	Toluene	ND		250	255	102	245	98	4	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	234	94	243	97	4	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	249	100	255	102	2	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	199	80	185	74	7	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	249	100	248	99	0	70-130/30
79-01-6	Trichloroethene	ND		250	238	95	230	92	3	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	217	87	209	84	4	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	214	86	217	87	1	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	236	94	230	92	3	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	235	94	228	91	3	70-130/30
108-05-4	Vinyl Acetate	ND		250	242	97	239	96	1	70-130/30
75-01-4	Vinyl chloride	ND		250	202	81	193	77	5	70-130/30
	m,p-Xylene	ND		500	512	102	494	99	4	70-130/30
95-47-6	o-Xylene	ND		250	269	108	258	103	4	70-130/30
1330-20-7	Xylene (total)	ND		750	781	104	752	100	4	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15864-2MS	N70070.D	5	11/16/12	JP	n/a	n/a	MSN2635
MC15864-2MSD	N70071.D	5	11/16/12	JP	n/a	n/a	MSN2635
MC15864-2	N70069.D	1	11/16/12	JP	n/a	n/a	MSN2635

The QC reported here applies to the following samples: Method: SW846 8260B

MC15702-1, MC15702-2

CAS No.	Surrogate Recoveries	MS	MSD	MC15864-2	Limits
1868-53-7	Dibromofluoromethane	84%	84%	85%	70-130%
2037-26-5	Toluene-D8	85%	85%	84%	70-130%
460-00-4	4-Bromofluorobenzene	82%	82%	88%	70-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
(b) Outside control limits. Associated samples are non-detect for this compound.

6.3.1

6

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15899-6MS [a]	N70093.D	5	11/17/12	JP	n/a	n/a	MSN2636
MC15899-6MSD [a]	N70094.D	5	11/17/12	JP	n/a	n/a	MSN2636
MC15899-6	N70096.D	1	11/17/12	JP	n/a	n/a	MSN2636

The QC reported here applies to the following samples: Method: SW846 8260B

MC15702-1

CAS No.	Compound	MC15899-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		250	261	104	240	96	8	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	MC15899-6	Limits
1868-53-7	Dibromofluoromethane	82%	84%	81%	70-130%
2037-26-5	Toluene-D8	85%	85%	83%	70-130%
460-00-4	4-Bromofluorobenzene	81%	82%	86%	70-130%

(a) The pH of the sample aliquot for VOA analysis was > 2 at time of analysis.

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2635-CC2591	Injection Date:	11/16/12
Lab File ID:	N70055.D	Injection Time:	16:25
Instrument ID:	GCMSN	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	291160	9.01	388383	9.88	173097	13.14	195407	15.70	81486	6.56
Upper Limit [a]	582320	9.51	776766	10.38	346194	13.64	390814	16.20	162972	7.06
Lower Limit [b]	145580	8.51	194192	9.38	86549	12.64	97704	15.20	40743	6.06
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2635-BS	293964	9.01	384108	9.88	180012	13.14	195797	15.70	70187	6.56
MSN2635-BSD	293647	9.01	385757	9.88	172252	13.14	197433	15.70	76573	6.56
MSN2635-MB	295351	9.01	390782	9.88	170615	13.14	177758	15.70	73175	6.58
ZZZZZZ	279815	9.01	368565	9.88	160958	13.14	160266	15.70	66557	6.57
ZZZZZZ	293227	9.01	384912	9.88	169411	13.14	177044	15.70	69776	6.56
ZZZZZZ	294899	9.01	382558	9.88	167715	13.14	177108	15.70	73492	6.57
ZZZZZZ	292566	9.01	385432	9.88	168846	13.14	167372	15.70	72942	6.57
ZZZZZZ	293433	9.01	383500	9.88	169113	13.14	168658	15.70	76043	6.57
ZZZZZZ	293821	9.01	385220	9.88	168586	13.14	166875	15.70	65078	6.58
ZZZZZZ	287934	9.01	374916	9.88	166549	13.14	172629	15.70	71423	6.57
ZZZZZZ	295783	9.01	387472	9.88	170954	13.14	171991	15.70	73872	6.57
ZZZZZZ	295900	9.01	386516	9.88	169938	13.14	170419	15.70	75503	6.57
MC15864-2	288424	9.01	384389	9.88	169466	13.14	172367	15.70	76602	6.57
MC15864-2MS	295387	9.01	385374	9.88	173552	13.14	196524	15.70	70135	6.56
MC15864-2MSD	292301	9.01	383317	9.88	174602	13.14	195404	15.70	72316	6.56
MC15702-2	292152	9.01	386227	9.88	167642	13.14	172773	15.70	70880	6.58
ZZZZZZ	290248	9.01	381925	9.88	168830	13.14	170844	15.70	70420	6.58
ZZZZZZ	291195	9.01	384410	9.88	169788	13.14	172411	15.70	75185	6.56
ZZZZZZ	291388	9.01	383355	9.88	171982	13.14	185678	15.70	70720	6.56
ZZZZZZ	295662	9.01	392459	9.88	170383	13.14	173926	15.70	73236	6.58
ZZZZZZ	275266	9.01	361624	9.88	158427	13.14	159610	15.70	73012	6.57
ZZZZZZ	291955	9.01	383595	9.88	167234	13.14	184395	15.70	69547	6.57
MC15702-1	298946	9.01	389640	9.88	171109	13.14	178801	15.70	73777	6.57

IS 1 = Pentafluorobenzene
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5
IS 4 = 1,4-Dichlorobenzene-d4
IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2636-CC2591	Injection Date:	11/17/12
Lab File ID:	N70083.D	Injection Time:	05:35
Instrument ID:	GCMSN	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	292522	9.01	380916	9.88	171264	13.14	193257	15.70	72648	6.56
Upper Limit [a]	585044	9.51	761832	10.38	342528	13.64	386514	16.20	145296	7.06
Lower Limit [b]	146261	8.51	190458	9.38	85632	12.64	96629	15.20	36324	6.06
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2636-BS	292137	9.01	383083	9.88	173992	13.14	195228	15.70	72668	6.56
MSN2636-BSD	291967	9.01	380014	9.88	172112	13.14	193070	15.70	70476	6.56
MSN2636-MB	288918	9.01	375648	9.88	164584	13.14	169473	15.70	65293	6.58
ZZZZZZ	270292	9.01	350183	9.88	152754	13.14	152820	15.70	66090	6.58
ZZZZZZ	289676	9.01	384223	9.88	169316	13.14	204577	15.70	99127	6.57
ZZZZZZ	292476	9.01	385762	9.88	167522	13.14	177775	15.70	71738	6.57
MC15899-6MS [c]	290576	9.01	380116	9.88	169475	13.14	189034	15.70	71370	6.56
MC15899-6MSD [c]	295829	9.01	389887	9.88	175902	13.14	197434	15.70	77389	6.56
MC15702-1	299287	9.01	394780	9.88	172980	13.14	182742	15.70	71439	6.58
MC15899-6	292990	9.01	384842	9.88	167947	13.14	169208	15.70	69672	6.57
ZZZZZZ	297256	9.01	386401	9.88	170421	13.14	174983	15.70	68441	6.57
ZZZZZZ	290557	9.01	379154	9.88	165023	13.14	165969	15.70	67766	6.58
ZZZZZZ	289895	9.01	380108	9.88	166142	13.14	166486	15.70	74869	6.57
ZZZZZZ	284388	9.01	371390	9.88	163432	13.14	163594	15.70	69023	6.57
ZZZZZZ	288448	9.01	375976	9.88	164928	13.14	165309	15.70	71589	6.57
ZZZZZZ	289226	9.01	382498	9.88	169383	13.14	181357	15.70	79044	6.60
ZZZZZZ	286706	9.01	379004	9.88	161460	13.14	167759	15.70	69007	6.58
ZZZZZZ	288519	9.01	375374	9.88	163388	13.14	167431	15.70	67567	6.57
ZZZZZZ	286815	9.01	376102	9.88	163820	13.14	164240	15.70	70146	6.58
ZZZZZZ	287395	9.01	377132	9.88	163551	13.14	163607	15.70	66430	6.58
ZZZZZZ	284302	9.01	371810	9.88	162778	13.14	165338	15.70	66987	6.58
ZZZZZZ	286877	9.01	373859	9.88	165486	13.14	163896	15.70	63048	6.58

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) The pH of the sample aliquot for VOA analysis was >2 at time of analysis.

Volatile Surrogate Recovery Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8260B Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC15702-1	N70095.D	83.0	84.0	86.0
MC15702-1	N70080.D	82.0	84.0	87.0
MC15702-2	N70073.D	83.0	83.0	87.0
MC15864-2MS	N70070.D	84.0	85.0	82.0
MC15864-2MSD	N70071.D	84.0	85.0	82.0
MC15899-6MS	N70093.D	82.0	85.0	81.0
MC15899-6MSD	N70094.D	84.0	85.0	82.0
MSN2635-BS	N70056.D	82.0	85.0	81.0
MSN2635-BSD	N70057.D	83.0	85.0	81.0
MSN2635-MB	N70059.D	83.0	84.0	87.0
MSN2636-BS	N70084.D	84.0	85.0	81.0
MSN2636-BSD	N70085.D	83.0	85.0	81.0
MSN2636-MB	N70087.D	82.0	84.0	87.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	70-130%
S2 = Toluene-D8	70-130%
S3 = 4-Bromofluorobenzene	70-130%

New England ACCUTEST LABORATORIES

GC/MS Semi-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: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-MB	W6928.D	1	11/15/12	KR	11/08/12	OP30951	MSW320

The QC reported here applies to the following samples: Method: SW846 8270C

MC15702-1

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	5.0	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	0.64	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.21	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	

Method Blank Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-MB	W6928.D	1	11/15/12	KR	11/08/12	OP30951	MSW320

The QC reported here applies to the following samples: Method: SW846 8270C

MC15702-1

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.28	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	0.48	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.46	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	41%	15-110%
4165-62-2	Phenol-d5	27%	15-110%
118-79-6	2,4,6-Tribromophenol	72%	15-110%
4165-60-0	Nitrobenzene-d5	76%	30-130%
321-60-8	2-Fluorobiphenyl	68%	30-130%
1718-51-0	Terphenyl-d14	94%	30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

Method Blank Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-MB	W6928A.D	1	11/15/12	KR	11/08/12	OP30951	MSW321

The QC reported here applies to the following samples: Method: SW846 8270C

MC15702-1

CAS No.	Compound	Result	RL	MDL	Units	Q

Method Blank Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30952-MB	I79991.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC15702-1

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	38%	15-110%
4165-62-2	Phenol-d5	27%	15-110%
118-79-6	2,4,6-Tribromophenol	68%	15-110%
4165-60-0	Nitrobenzene-d5	64%	30-130%
321-60-8	2-Fluorobiphenyl	69%	30-130%
1718-51-0	Terphenyl-d14	114%	30-130%

Blank Spike Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-BS	W6929.D	1	11/15/12	KR	11/08/12	OP30951	MSW320

The QC reported here applies to the following samples: Method: SW846 8270C

MC15702-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	25.5	26* a	30-130
95-57-8	2-Chlorophenol	100	53.3	53	30-130
59-50-7	4-Chloro-3-methyl phenol	100	56.3	56	30-130
120-83-2	2,4-Dichlorophenol	100	57.3	57	30-130
105-67-9	2,4-Dimethylphenol	100	21.8	22* a	30-130
51-28-5	2,4-Dinitrophenol	100	48.4	48	30-130
534-52-1	4,6-Dinitro-o-cresol	100	63.2	63	30-130
95-48-7	2-Methylphenol	100	44.7	45	30-130
	3&4-Methylphenol	200	84.7	42	30-130
88-75-5	2-Nitrophenol	100	61.6	62	30-130
100-02-7	4-Nitrophenol	100	31.4	31	30-130
87-86-5	Pentachlorophenol	100	59.5	60	30-130
108-95-2	Phenol	100	26.7	27* a	30-130
95-95-4	2,4,5-Trichlorophenol	100	60.5	61	30-130
88-06-2	2,4,6-Trichlorophenol	100	59.2	59	30-130
62-53-3	Aniline	50	23.9	48	40-140
101-55-3	4-Bromophenyl phenyl ether	50	42.8	86	40-140
85-68-7	Butyl benzyl phthalate	50	46.5	93	40-140
100-51-6	Benzyl Alcohol	50	34.9	70	40-140
91-58-7	2-Chloronaphthalene	50	83.4	83	40-140
106-47-8	4-Chloroaniline	50	22.3	45	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	37.3	75	40-140
111-44-4	bis(2-Chloroethyl)ether	50	42.1	84	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	48.6	97	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	41.1	82	40-140
122-66-7	1,2-Diphenylhydrazine	50	44.9	90	40-140
121-14-2	2,4-Dinitrotoluene	50	89.1	89	40-140
606-20-2	2,6-Dinitrotoluene	50	89.9	90	40-140
91-94-1	3,3'-Dichlorobenzidine	50	17.4	35* a	40-140
132-64-9	Dibenzofuran	50	41.2	82	40-140
84-74-2	Di-n-butyl phthalate	50	45.1	90	40-140
117-84-0	Di-n-octyl phthalate	50	48.2	96	40-140
84-66-2	Diethyl phthalate	50	44.2	88	40-140
131-11-3	Dimethyl phthalate	50	42.7	85	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	46.7	93	40-140
118-74-1	Hexachlorobenzene	50	97.5	98	40-140

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-BS	W6929.D	1	11/15/12	KR	11/08/12	OP30951	MSW320

The QC reported here applies to the following samples: Method: SW846 8270C

MC15702-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	68.9	69	40-140
67-72-1	Hexachloroethane	50	61.5	62	40-140
78-59-1	Isophorone	50	82.6	83	40-140
88-74-4	2-Nitroaniline	50	44.8	90	40-140
99-09-2	3-Nitroaniline	50	32.1	64	40-140
100-01-6	4-Nitroaniline	50	38.1	76	40-140
98-95-3	Nitrobenzene	50	80.8	81	40-140
62-75-9	n-Nitrosodimethylamine	50	27.3	55	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	43.9	88	40-140
86-30-6	N-Nitrosodiphenylamine	50	42.0	84	40-140
110-86-1	Pyridine	50	23.9	48	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	48%	15-110%
4165-62-2	Phenol-d5	33%	15-110%
118-79-6	2,4,6-Tribromophenol	83%	15-110%
4165-60-0	Nitrobenzene-d5	81%	30-130%
321-60-8	2-Fluorobiphenyl	76%	30-130%
1718-51-0	Terphenyl-d14	97%	30-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-BS	W6929A.D	1	11/15/12	KR	11/08/12	OP30951	MSW321

The QC reported here applies to the following samples: Method: SW846 8270C

MC15702-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30952-BS	I79992.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC15702-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	41.5	83	40-140
208-96-8	Acenaphthylene	50	32.1	64	40-140
120-12-7	Anthracene	50	40.6	81	40-140
56-55-3	Benzo(a)anthracene	50	50.4	101	40-140
50-32-8	Benzo(a)pyrene	50	42.0	84	40-140
205-99-2	Benzo(b)fluoranthene	50	48.4	97	40-140
191-24-2	Benzo(g,h,i)perylene	50	46.5	93	40-140
207-08-9	Benzo(k)fluoranthene	50	48.1	96	40-140
218-01-9	Chrysene	50	52.0	104	40-140
53-70-3	Dibenzo(a,h)anthracene	50	49.0	98	40-140
206-44-0	Fluoranthene	50	46.2	92	40-140
86-73-7	Fluorene	50	43.6	87	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	48.5	97	40-140
90-12-0	1-Methylnaphthalene	50	42.0	84	40-140
91-57-6	2-Methylnaphthalene	50	39.9	80	40-140
85-01-8	Phenanthrene	50	42.9	86	40-140
129-00-0	Pyrene	50	43.6	87	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	45%	15-110%
4165-62-2	Phenol-d5	33%	15-110%
118-79-6	2,4,6-Tribromophenol	85%	15-110%
4165-60-0	Nitrobenzene-d5	72%	30-130%
321-60-8	2-Fluorobiphenyl	76%	30-130%
1718-51-0	Terphenyl-d14	106%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-MS	W6930.D	1	11/15/12	KR	11/08/12	OP30951	MSW320
OP30951-MSD	W6931.D	1	11/15/12	KR	11/08/12	OP30951	MSW320
MC15652-9	W6932.D	1	11/15/12	KR	11/08/12	OP30951	MSW320

The QC reported here applies to the following samples: Method: SW846 8270C

MC15702-1

CAS No.	Compound	MC15652-9 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		100	25.5	26* [a]	25.2	25* [a]	1	30-130/20
95-57-8	2-Chlorophenol	ND		100	54.6	55	52.7	53	4	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		100	56.2	56	54.9	55	2	30-130/20
120-83-2	2,4-Dichlorophenol	ND		100	58.1	58	56.8	57	2	30-130/20
105-67-9	2,4-Dimethylphenol	ND		100	38.1	38	22.7	23* [a]	51* [b]	30-130/20
51-28-5	2,4-Dinitrophenol	ND		100	51.6	52	51.7	52	0	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		100	63.5	64	64.5	65	2	30-130/20
95-48-7	2-Methylphenol	ND		100	47.0	47	43.4	43	8	30-130/20
	3&4-Methylphenol	ND		200	87.0	44	82.6	41	5	30-130/20
88-75-5	2-Nitrophenol	ND		100	62.3	62	60.9	61	2	30-130/20
100-02-7	4-Nitrophenol	ND		100	28.8	29* [a]	29.4	29* [a]	2	30-130/20
87-86-5	Pentachlorophenol	ND		100	61.1	61	59.0	59	3	30-130/20
108-95-2	Phenol	ND		100	26.4	26* [a]	25.3	25* [a]	4	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		100	61.0	61	58.8	59	4	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		100	60.7	61	57.6	58	5	30-130/20
62-53-3	Aniline	ND		50	27.8	56	25.7	51	8	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		50	41.5	83	41.6	83	0	40-140/20
85-68-7	Butyl benzyl phthalate	ND		50	45.3	91	45.3	91	0	40-140/20
100-51-6	Benzyl Alcohol	ND		50	34.5	69	34.6	69	0	40-140/20
91-58-7	2-Chloronaphthalene	ND		50	85.3	85	83.7	84	2	40-140/20
106-47-8	4-Chloroaniline	ND		50	23.6	47	23.4	47	1	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		50	37.4	75	36.4	73	3	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		50	42.2	84	41.3	83	2	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		50	49.2	98	47.9	96	3	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		50	40.9	82	40.3	81	1	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		50	44.7	89	44.2	88	1	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		50	88.8	89	86.5	87	3	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		50	90.2	90	87.3	87	3	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		50	24.9	50	17.4	35* [a]	35* [b]	40-140/20
132-64-9	Dibenzofuran	ND		50	41.4	83	40.0	80	3	40-140/20
84-74-2	Di-n-butyl phthalate	ND		50	44.3	89	44.1	88	0	40-140/20
117-84-0	Di-n-octyl phthalate	ND		50	46.4	93	47.1	94	1	40-140/20
84-66-2	Diethyl phthalate	ND		50	43.8	88	42.9	86	2	40-140/20
131-11-3	Dimethyl phthalate	ND		50	42.2	84	41.4	83	2	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND		50	45.5	91	46.0	92	1	40-140/20
118-74-1	Hexachlorobenzene	ND		50	96.6	97	94.2	94	3	40-140/20

* = Outside of Control Limits.

7.3.1

7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-MS	W6930.D	1	11/15/12	KR	11/08/12	OP30951	MSW320
OP30951-MSD	W6931.D	1	11/15/12	KR	11/08/12	OP30951	MSW320
MC15652-9	W6932.D	1	11/15/12	KR	11/08/12	OP30951	MSW320

The QC reported here applies to the following samples: Method: SW846 8270C

MC15702-1

CAS No.	Compound	MC15652-9 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		50	74.3	74	70.1	70	6	40-140/20
67-72-1	Hexachloroethane	ND		50	65.8	66	60.9	61	8	40-140/20
78-59-1	Isophorone	ND		50	81.9	82	81.7	82	0	40-140/20
88-74-4	2-Nitroaniline	ND		50	44.8	90	43.9	88	2	40-140/20
99-09-2	3-Nitroaniline	ND		50	31.8	64	32.0	64	1	40-140/20
100-01-6	4-Nitroaniline	ND		50	40.4	81	37.2	74	8	40-140/20
98-95-3	Nitrobenzene	ND		50	81.4	81	80.0	80	2	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		50	27.1	54	26.2	52	3	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		50	44.8	90	43.6	87	3	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		50	43.2	86	40.6	81	6	40-140/20
110-86-1	Pyridine	ND		50	23.9	48	23.1	46	3	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15652-9	Limits
367-12-4	2-Fluorophenol	48%	46%	38%	15-110%
4165-62-2	Phenol-d5	33%	32%	26%	15-110%
118-79-6	2,4,6-Tribromophenol	85%	83%	70%	15-110%
4165-60-0	Nitrobenzene-d5	82%	81%	74%	30-130%
321-60-8	2-Fluorobiphenyl	78%	74%	67%	30-130%
1718-51-0	Terphenyl-d14	97%	96%	96%	30-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
(b) High RPD due to possible matrix interference and/or sample non-homogeneity.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30951-MS	W6930A.D	1	11/15/12	KR	11/08/12	OP30951	MSW321
OP30951-MSD	W6931A.D	1	11/15/12	KR	11/08/12	OP30951	MSW321
MC15652-9	W6932A.D	1	11/15/12	KR	11/08/12	OP30951	MSW321

The QC reported here applies to the following samples: Method: SW846 8270C

MC15702-1

CAS No.	Compound	MC15652-9 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD

7.3.2

7

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP30952-MS	I79993.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980
OP30952-MSD	I79994.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980
MC15652-10	I79995.D	1	11/13/12	NS	11/08/12	OP30952	MSI2980

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC15702-1

CAS No.	Compound	MC15652-10 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		50	41.8	84	40.9	82	2	40-140/20
208-96-8	Acenaphthylene	ND		50	32.3	65	31.3	63	3	40-140/20
120-12-7	Anthracene	ND		50	41.4	83	40.1	80	3	40-140/20
56-55-3	Benzo(a)anthracene	ND		50	52.8	106	53.0	106	0	40-140/20
50-32-8	Benzo(a)pyrene	ND		50	45.4	91	45.3	91	0	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		50	51.7	103	50.0	100	3	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND		50	50.1	100	51.9	104	4	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		50	50.1	100	53.8	108	7	40-140/20
218-01-9	Chrysene	ND		50	55.0	110	55.1	110	0	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		50	52.7	105	54.0	108	2	40-140/20
206-44-0	Fluoranthene	ND		50	48.1	96	46.8	94	3	40-140/20
86-73-7	Fluorene	ND		50	44.4	89	43.5	87	2	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		50	52.2	104	53.8	108	3	40-140/20
90-12-0	1-Methylnaphthalene	ND		50	42.7	85	41.7	83	2	40-140/20
91-57-6	2-Methylnaphthalene	ND		50	40.3	81	39.5	79	2	40-140/20
85-01-8	Phenanthrene	ND		50	42.9	86	41.8	84	3	40-140/20
129-00-0	Pyrene	ND		50	45.6	91	44.3	89	3	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15652-10	Limits
367-12-4	2-Fluorophenol	45%	43%	36%	15-110%
4165-62-2	Phenol-d5	32%	31%	27%	15-110%
118-79-6	2,4,6-Tribromophenol	86%	81%	72%	15-110%
4165-60-0	Nitrobenzene-d5	72%	69%	63%	30-130%
321-60-8	2-Fluorobiphenyl	77%	73%	67%	30-130%
1718-51-0	Terphenyl-d14	111%	109%	106%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSI2980-CC2969	Injection Date:	11/13/12
Lab File ID:	I79973.D	Injection Time:	09:46
Instrument ID:	GCMSI	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	327166	3.91	1008067	4.88	591438	6.29	1073798	7.60	1025716	0.00	1352775	0.00
Upper Limit [a]	654332	4.41	2016134	5.38	1182876	6.79	2147596	8.10	2051432	0.50	2705550	0.50
Lower Limit [b]	163583	3.41	504034	4.38	295719	5.79	536899	7.10	512858	-0.50	676388	-0.50
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP31003-MB	319602	3.91	995824	4.88	551783	6.29	1034734	7.60	1053406	0.00	1894581	0.00
OP31003-BS	356834	3.91	1098429	4.88	586962	6.29	1014690	7.60	942108	0.00	1400018	0.00
OP31003-BSD	309253	3.91	987185	4.88	564354	6.29	1043527	7.61	1042661	0.00	1891470	0.00
OP31003-MS	314626	3.91	993442	4.88	576977	6.29	1058037	7.61	1013654	0.00	1777882	0.00
OP31003-MSD	332349	3.91	1055117	4.88	602833	6.29	1075094	7.61	1017687	0.00	1766943	0.00
ZZZZZZ	248950	3.91	794336	4.88	464459	6.29	875324	7.60	878080	0.00	1638768	0.00
ZZZZZZ	240100	3.91	750665	4.88	416578	6.29	795795	7.60	851900	0.00	1575081	0.00
ZZZZZZ	285190	3.91	903417	4.88	527460	6.29	1005376	7.60	1023036	0.00	1882041	0.00
MC15914-2	336036	3.91	1031114	4.88	594363	6.29	1044703	7.60	996463	0.00	1820037	0.00
ZZZZZZ	310954	3.91	942580	4.88	529975	6.29	961718	7.60	1021906	0.00	1893971	0.00
ZZZZZZ	247613	3.91	769383	4.88	464621	6.29	907975	7.60	960581	0.00	1774764	0.00
ZZZZZZ	284468	3.91	878152	4.88	513321	6.29	980436	7.60	978169	0.00	1791819	0.00
ZZZZZZ	321315	3.91	1002661	4.88	583793	6.29	1071683	7.60	1032724	0.00	1876609	0.00
ZZZZZZ	259995	3.91	786209	4.88	441846	6.29	834352	7.60	903415	0.00	1713312	0.00
ZZZZZZ	221211	3.91	689968	4.88	407735	6.29	800971	7.60	843846	0.00	1570158	0.00
ZZZZZZ	214628	3.91	665142	4.88	401014	6.29	798637	7.60	857489	0.00	1593813	0.00
OP30952-MB	221586	3.91	673547	4.88	377714	6.29	704137	7.60	810617	0.00	1578359	0.00
OP30952-BS	368706	3.91	1146613	4.88	652806	6.29	1169796	7.61	1081406	0.00	1895122	0.00
OP30952-MS	313939	3.91	982732	4.88	564798	6.29	1028337	7.61	1006526	0.00	1810825	0.00
OP30952-MSD	286076	3.91	890725	4.88	512440	6.29	951482	7.61	952060	0.00	1731411	0.00
MC15652-10	295056	3.91	930053	4.88	548989	6.29	1008270	7.60	997435	0.00	1851731	0.00
ZZZZZZ	208107	3.91	633963	4.88	371312	6.29	756291	7.60	844734	0.00	1637871	0.00
ZZZZZZ	212069	3.91	633442	4.88	369406	6.29	765057	7.60	864079	0.00	1650000	0.00
ZZZZZZ	347578	3.91	1031744	4.88	576269	6.29	1027450	7.60	946549	0.00	1673131	0.00
ZZZZZZ	273229	3.91	853397	4.88	513671	6.29	1011193	7.60	1047073	0.00	1951681	0.00
MC15702-1	268928	3.91	816846	4.88	468697	6.29	906765	7.60	993375	0.00	1868108	0.00

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.

7.4.1

7

Semivolatile Internal Standard Area Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSI2980-CC2969	Injection Date:	11/13/12
Lab File ID:	I79973.D	Injection Time:	09:46
Instrument ID:	GCMSI	Method:	SW846 8270C BY SIM

Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Internal Standard Area Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW320-CC318	Injection Date:	11/15/12
Lab File ID:	W6926.D	Injection Time:	08:12
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	98334	4.11	389927	5.10	223404	6.54	384212	7.91	429229	10.85	407634	12.43
Upper Limit [a]	196668	4.61	779854	5.60	446808	7.04	768424	8.41	858458	11.35	815268	12.93
Lower Limit [b]	49167	3.61	194964	4.60	111702	6.04	192106	7.41	214615	10.35	203817	11.93
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP30951-MB	126386	4.11	497263	5.10	282771	6.54	489333	7.91	536511	10.84	522579	12.43
OP30951-MB	126373	4.11	497323	5.10	282811	6.54	489317	7.91	536507	10.84	522659	12.43
OP30951-BS	121961	4.11	483347	5.10	272918	6.54	463928	7.91	510500	10.85	457348	12.43
OP30934-BSD	121961	4.11	483347	5.10	272918	6.54	463928	7.91	510500	10.85	457348	12.43
OP30951-BS	121970	4.11	483519	5.10	272976	6.54	463971	7.91	510512	10.85	457335	12.43
OP30951-MS	121638	4.11	483996	5.10	271758	6.54	466794	7.91	512991	10.85	468492	12.43
OP30951-MS	121619	4.11	484038	5.10	271860	6.54	466794	7.91	513081	10.85	467305	12.43
OP30951-MSD	120870	4.11	482043	5.10	272848	6.54	462852	7.91	512067	10.85	464781	12.43
OP30951-MSD	120879	4.11	482225	5.10	272902	6.54	463029	7.91	512061	10.85	464779	12.43
MC15652-9	118831	4.11	471492	5.10	266320	6.54	462810	7.91	496825	10.84	483987	12.43
MC15652-9	118839	4.11	471465	5.10	266362	6.54	462795	7.91	496890	10.84	484369	12.43
ZZZZZZ	116138	4.11	462341	5.10	261174	6.54	455920	7.91	499366	10.84	482249	12.43
ZZZZZZ	118357	4.11	466851	5.10	269852	6.54	468576	7.91	517877	10.84	499481	12.43
ZZZZZZ	113253	4.11	455376	5.10	258479	6.54	452377	7.91	483650	10.84	469490	12.43
ZZZZZZ	113246	4.11	455569	5.10	258514	6.54	452377	7.91	483764	10.84	469475	12.43
ZZZZZZ	116689	4.11	463443	5.10	263856	6.54	458088	7.91	497660	10.84	480468	12.43
ZZZZZZ	116697	4.11	463462	5.10	263834	6.54	458088	7.91	497051	10.84	480592	12.43
ZZZZZZ	124568	4.11	494987	5.10	282004	6.54	489884	7.91	521585	10.84	494789	12.43
OP31026-MB	104142	4.11	422943	5.10	239473	6.54	416599	7.91	444501	10.84	430807	12.43
ZZZZZZ	114478	4.11	454996	5.10	258917	6.54	447744	7.91	489792	10.84	464931	12.43
ZZZZZZ	111851	4.11	445703	5.10	256072	6.54	442624	7.91	477900	10.84	465671	12.43
ZZZZZZ	105881	4.11	422475	5.10	241719	6.54	419468	7.91	460697	10.84	446809	12.43

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Internal Standard Area Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW322-CC318	Injection Date:	11/15/12
Lab File ID:	W6945.D	Injection Time:	18:04
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	98351	4.09	398301	5.08	227903	6.51	398323	7.88	457313	10.82	437171	12.40
Upper Limit [a]	196702	4.59	796602	5.58	455806	7.01	796646	8.38	914626	11.32	874342	12.90
Lower Limit [b]	49176	3.59	199151	4.58	113952	6.01	199162	7.38	228657	10.32	218586	11.90
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
ZZZZZZ	129445	4.09	521083	5.08	302003	6.51	526840	7.88	578658	10.82	556938	12.40
ZZZZZZ	131916	4.09	526005	5.08	303766	6.51	531885	7.88	589691	10.82	568171	12.40
MC15702-1	117811	4.09	471603	5.08	270350	6.51	468886	7.88	505388	10.82	489972	12.40
ZZZZZZ	113652	4.09	452543	5.08	261705	6.51	454639	7.88	486155	10.82	476813	12.40
ZZZZZZ	133085	4.09	528673	5.08	305890	6.51	529856	7.88	589182	10.82	555040	12.40
ZZZZZZ	108767	4.09	438504	5.08	253627	6.51	441039	7.88	475461	10.82	454032	12.40
ZZZZZZ	120066	4.09	482490	5.08	279961	6.51	487846	7.88	551393	10.82	520771	12.40
ZZZZZZ	116844	4.09	467184	5.08	263968	6.51	451661	7.88	476222	10.82	458329	12.40
ZZZZZZ	119524	4.09	476406	5.08	271812	6.51	464768	7.88	493653	10.82	467542	12.40
ZZZZZZ	116793	4.09	459271	5.08	265419	6.51	466501	7.88	510742	10.82	490633	12.40
ZZZZZZ	116157	4.09	467121	5.08	261980	6.51	459188	7.88	491133	10.82	477157	12.40
ZZZZZZ	110607	4.09	444477	5.08	255560	6.51	448719	7.88	521237	10.82	501932	12.40
ZZZZZZ	113365	4.09	457432	5.08	262372	6.51	452083	7.88	543515	10.82	503964	12.40
ZZZZZZ	118906	4.09	473588	5.08	277678	6.51	474959	7.88	722802	10.83	717316	12.43
ZZZZZZ	119711	4.09	481641	5.08	281437	6.51	492325	7.88	576130	10.82	564497	12.40
ZZZZZZ	137202	4.09	536292	5.08	299725	6.51	490110	7.88	504731	10.82	492190	12.40
ZZZZZZ	135221	4.09	524433	5.08	294709	6.51	488731	7.88	496340	10.82	485772	12.40
ZZZZZZ	120901	4.09	479656	5.08	277482	6.51	481080	7.88	509463	10.82	502884	12.40
ZZZZZZ	126368	4.09	504678	5.08	288055	6.51	500610	7.88	527621	10.82	506582	12.40

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Surrogate Recovery Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15702-1	W6957.D	0.0* [a]	0.0* [a]	0.0* [a]	0.0* [a]	0.0* [a]	0.0* [a]
OP30951-BS	W6929.D	48.0	33.0	83.0	81.0	76.0	97.0
OP30951-BS	W6929A.D						
OP30951-MB	W6928.D	41.0	27.0	72.0	76.0	68.0	94.0
OP30951-MB	W6928A.D						
OP30951-MS	W6930.D	48.0	33.0	85.0	82.0	78.0	97.0
OP30951-MS	W6930A.D						
OP30951-MSD	W6931.D	46.0	32.0	83.0	81.0	74.0	96.0
OP30951-MSD	W6931A.D						

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	15-110%
S2 = Phenol-d5	15-110%
S3 = 2,4,6-Tribromophenol	15-110%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

(a) Surrogate standard not added. Insufficient sample volume for re-extraction/reanalysis.

Semivolatile Surrogate Recovery Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC15702-1	I80000.D	0.0* [a]	0.0* [a]	0.0* [a]
OP30952-BS	I79992.D	72.0	76.0	106.0
OP30952-MB	I79991.D	64.0	69.0	114.0
OP30952-MS	I79993.D	72.0	77.0	111.0
OP30952-MSD	I79994.D	69.0	73.0	109.0

Surrogate Compounds	Recovery Limits
S1 = Nitrobenzene-d5	30-130%
S2 = 2-Fluorobiphenyl	30-130%
S3 = Terphenyl-d14	30-130%

(a) Surrogate standard not added. Insufficient sample volume for re-extraction/reanalysis.

New England ACCUTEST LABORATORIES

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: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31007-MB	BK18856.D	1	11/14/12	AP	11/12/12	OP31007	GBK686

The QC reported here applies to the following samples: Method: SW846 8011

MC15702-1, MC15702-3

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)	100%	36-173%
460-00-4	Bromofluorobenzene (S)	110%	36-173%

Blank Spike Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31007-BS	BK18857.D	1	11/14/12	AP	11/12/12	OP31007	GBK686

The QC reported here applies to the following samples: Method: SW846 8011

MC15702-1, MC15702-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.071	100	60-140
106-93-4	1,2-Dibromoethane	0.071	0.073	103	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	98%	36-173%
460-00-4	Bromofluorobenzene (S)	110%	36-173%

8.2.1

8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31007-MS	BK18858.D	1	11/14/12	AP	11/12/12	OP31007	GBK686
OP31007-MSD	BK18860.D	1	11/14/12	AP	11/12/12	OP31007	GBK686
MC15914-10	BK18861.D	1	11/14/12	AP	11/12/12	OP31007	GBK686

The QC reported here applies to the following samples: **Method: SW846 8011**

MC15702-1, MC15702-3

CAS No.	Compound	MC15914-10 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		0.071	0.072	101	0.070	99	3	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.071	0.077	108	0.076	107	1	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC15914-10	Limits
460-00-4	Bromofluorobenzene (S)	105%	105%	90%	36-173%
460-00-4	Bromofluorobenzene (S)	115%	117%	102%	36-173%

8.3.1

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8011 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC15702-1	BK18880.D	83.0	118.0
MC15702-3	BK18882.D	83.0	97.0
OP31007-BS	BK18857.D	98.0	110.0
OP31007-MB	BK18856.D	100.0	110.0
OP31007-MS	BK18858.D	105.0	115.0
OP31007-MSD	BK18860.D	105.0	117.0

Surrogate Compounds	Recovery Limits
S1 = Bromofluorobenzene (S)	36-173%

(a) Recovery from GC signal #1
(b) Recovery from GC signal #2

8.4.1

8

GC Surrogate Retention Time Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBK686-CC686	Injection Date:	11/14/12
Lab File ID:	BK18848.D	Injection Time:	04:48
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.93	4.61

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK18849.D	11/14/12	05:12	4.93	4.61
ZZZZZZ	BK18850.D	11/14/12	05:36	4.93	4.61
ZZZZZZ	BK18851.D	11/14/12	06:00	4.93	4.61
ZZZZZZ	BK18852.D	11/14/12	06:24	4.93	4.61
ZZZZZZ	BK18853.D	11/14/12	06:48	4.93	4.61
ZZZZZZ	BK18854.D	11/14/12	07:12	4.93	4.61
ZZZZZZ	BK18855.D	11/14/12	07:36	4.93	4.61
OP31007-MB	BK18856.D	11/14/12	08:00	4.93	4.61
OP31007-BS	BK18857.D	11/14/12	08:24	4.93	4.61
OP31007-MS	BK18858.D	11/14/12	08:48	4.93	4.61

Surrogate Compounds

S1 = Bromofluorobenzene (S)

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

8.5.1

8

GC Surrogate Retention Time Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBK686-CC686	Injection Date:	11/14/12
Lab File ID:	BK18859.D	Injection Time:	09:12
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.93	4.61

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP31007-MSD	BK18860.D	11/14/12	09:37	4.93	4.61
MC15914-10	BK18861.D	11/14/12	10:01	4.93	4.61
ZZZZZZ	BK18862.D	11/14/12	10:25	4.93	4.61
ZZZZZZ	BK18863.D	11/14/12	10:49	4.93	4.61
ZZZZZZ	BK18864.D	11/14/12	11:14	4.93	4.61
ZZZZZZ	BK18865.D	11/14/12	11:38	4.93	4.61
ZZZZZZ	BK18866.D	11/14/12	12:03	4.93	4.61
ZZZZZZ	BK18867.D	11/14/12	12:27	4.93	4.61
ZZZZZZ	BK18868.D	11/14/12	12:51	4.93	4.61
ZZZZZZ	BK18869.D	11/14/12	13:15	4.93	4.61

Surrogate Compounds

S1 = Bromofluorobenzene (S)

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBK686-CC686	Injection Date:	11/14/12
Lab File ID:	BK18870.D	Injection Time:	13:39
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.93	4.61

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK18871.D	11/14/12	14:04	4.93	4.61
ZZZZZZ	BK18872.D	11/14/12	14:28	4.93	4.61
ZZZZZZ	BK18873.D	11/14/12	14:52	4.93	4.61
ZZZZZZ	BK18874.D	11/14/12	15:16	4.93	4.61
ZZZZZZ	BK18875.D	11/14/12	15:41	4.93	4.61
ZZZZZZ	BK18876.D	11/14/12	16:05	4.93	4.61
ZZZZZZ	BK18877.D	11/14/12	16:29	4.93	4.61
ZZZZZZ	BK18878.D	11/14/12	16:53	4.93	4.61
ZZZZZZ	BK18879.D	11/14/12	17:17	4.93	4.61
MC15702-1	BK18880.D	11/14/12	17:41	4.93	4.61

Surrogate Compounds

S1 = Bromofluorobenzene (S)

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

8.5.3

GC Surrogate Retention Time Summary

Job Number: MC15702
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBK686-CC686	Injection Date:	11/14/12
Lab File ID:	BK18881.D	Injection Time:	18:06
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.93	4.61

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
MC15702-3	BK18882.D	11/14/12	18:29	4.93	4.61
GBK686-ECC686	BK18883.D	11/14/12	18:53	4.93	4.61

Surrogate Compounds

S1 = Bromofluorobenzene (S)

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

8.5.4

Roxana Groundwater Quarterly – 4th Quarter 2012 Data Review

Laboratory SDG: MC15773

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 12/12/2012

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Sample Identification	Sample Identification
P93A-ROX-110712	P93A-ROX-110712-Dup
P93B-ROX-110712	P93B-ROX-110712-Dup
TB-110712-HCL-W	TB-110712-ST-W

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated that VOC LCS recoveries and SVOC LCS/LCSD RPDs were outside evaluation criteria. Although not indicated in the laboratory case narrative, field duplicate pair P93B-ROX-110712/P93B-ROX-110712-Dup was re-analyzed for benzene outside holding time criteria. PAHs were detected in the method blank. Samples were diluted due to high levels of VOC target analytes. Field duplicate RPD for benzene was outside evaluation criteria in field duplicate pair P93B-ROX-110712/P93B-ROX-110712-Dup. Additionally, the initial calibration verification for acetone exceeded 50 percent difference (%D). These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated samples were received by the laboratory at a temperature of 1.9ºC, which is outside the 4ºC ± 2ºC criteria. Samples were received in good condition; therefore, no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

No, benzene in field duplicate pair P93B-ROX-110712/P93B-ROX-110712-Dup was re-analyzed one (1) day outside the fourteen (14) day holding time criteria for analysis.

Sample ID	Parameter	Analyte	Qualification
P93B-ROX-110712-Run#3	VOCs	Benzene	**J**
P93B-ROX-110712-Dup-Run#3	VOCs	Benzene	**J**

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
OP31024-MB	PAHs	Acenaphthene	0.049 ug/L
OP31024-MB	PAHs	2-Methylnaphthalene	0.086 ug/L
OP31024-MB	PAHs	Phenanthrene	0.056 ug/L

Qualifications due to blank contamination are included in the table below. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
P93A-ROX-110712	PAHs	Acenaphthene	0.22 ug/L	**U**
P93B-ROX-110712-Dup	PAHs	Acenaphthene	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSN2642-BS	VOCs	Acrolein	**56**	NA	70-130
MSN2642-BS	VOCs	Acrylonitrile	**474**	NA	70-130
OP31023-BS/BSD	SVOCs	3,3'-Dichlorobenzidine	60/45	**28**	40-140/20

Analytical data that required qualification based on LCS data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. LCS MSN2642-BS was associated with trip blank TB-110712-HCL-W. Trip blanks are quality control samples and are not qualified. LCS samples are not qualified based on RPD alone; therefore, samples associated did not require qualification.

Sample ID	Parameter	Analyte	Qualification
P93A-ROX-110712	VOCs	Acrolein	**UJ**
P93A-ROX-110712-Dup	VOCs	Acrolein	**UJ**
P93B-ROX-110712	VOCs	Acrolein	**UJ**
P93B-ROX-110712-Dup	VOCs	Acrolein	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
P93A-ROX-110712	P93A-ROX-110712-Dup
P93B-ROX-110712	P93B-ROX-110712-Dup

Were field duplicates within evaluation criteria?

No, benzene RPD in field duplicate pair P93B-ROX-110712/P93B-ROX-110712-Dup was 87, although benzene had been previously qualified in field duplicate pair P93B-ROX-110712/P93B-ROX-110712-Dup due to holding time criteria in section 3.0 of this report. No further qualification of benzene was necessary.

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes, the initial calibration verification recovery for acetone exceeded 50 percent difference (%D); analytes in associated samples were qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
P93A-ROX-110712	VOCs	Acetone	**UJ**
P93A-ROX-110712-Dup	VOCs	Acetone	**UJ**
P93B-ROX-110712	VOCs	Acetone	**UJ**
P93B-ROX-110712-Dup	VOCs	Acetone	**UJ**

New England ACCUTEST LABORATORIES

12/11/12



Technical Report for

Shell Oil

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana,

Accutest Job Number: MC15773

Sampling Date: 11/07/12

Report to:

URS Corporation

elizabeth.kunkel@URS.com

ATTN: Elizabeth Kunkel

Total number of pages in report: **92**

Reviewed on 12/12/12

Reza Pand
Lab Director

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Sample Summary

Shell Oil

Job No: MC15773

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC15773-1	11/07/12	10:50	CWMM	1/08/12	AQ	Ground Water	P93A-ROX-110712
MC15773-2	11/07/12	10:50	CWMM	1/08/12	AQ	Ground Water	P93A-ROX-110712-DUP
MC15773-3	11/07/12	16:30	CWMM	1/08/12	AQ	Ground Water	P93B-ROX-110712
MC15773-4	11/07/12	16:30	CWMM	1/08/12	AQ	Ground Water	P93B-ROX-110712-DUP
MC15773-5	11/07/12	00:00	CWMM	1/08/12	AQ	Trip Blank Water	TB-110712-HCL-W
MC15773-6	11/07/12	00:00	CWMM	1/08/12	AQ	Trip Blank Water	TB-110712-ST-W

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	**Job No**	MC15773
Site:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central	**Report Date**	12/11/2012 4:27:03 PM

4 Sample(s), 2 Trip Blank(s) were collected on 11/07/2012 and were received at Accutest on 11/08/2012 properly preserved, at 1.9 Deg. C and intact. These Samples received an Accutest job number of MC15773. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. 1-Chlorohexane, Benzenethiol, Dibenz(a,h)acridine, Indene, and Quinoline were searched in the library search and reported only if detections were found.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** MSN2642

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15701-1MS, MC15701-1MSD 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. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for 2,2-Dichloropropane, Acrolein are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for Acrolein are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MSN2642-BS for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MC15701-1MS/MSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- Initial calibration verification MSN2591-ICV2591 for acetone exceeds 50% Difference (response bias high). Associated sample is non-detect for this compound.

Matrix AQ **Batch ID:** MSN2644

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15829-3MS, MC15829-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix AQ **Batch ID:** MSN2646

- All method blanks for this batch meet method specific criteria.
- Sample(s) MC15901-1MS, MC15901-1MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for Benzene are outside control limits. Outside control limits due to high level in sample relative to spike amount.

Extractables by GCMS By Method SW846 8270C

Matrix AQ	Batch ID: OP31023

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC15914-14MS, MC15914-14MSD were used as the QC samples indicated.
- RPD(s) for MSD for 3,3'-Dichlorobenzidine are outside control limits for sample OP31023-MSD. Outside control limits. Individual spike recoveries within acceptance limits.
- RPD(s) for BSD for 3,3'-Dichlorobenzidine are outside control limits. Outside control limits. Individual spike recoveries within acceptance limits.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix AQ	Batch ID: OP31024

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15914-21MS, MC15914-21MSD were used as the QC samples indicated.
- Sample(s) MC15773-1, MC15773-2, MC15773-3, MC15773-4 have compound(s) reported with a "B" qualifier, indicating analyte is found in the associated method blank.

Volatiles by GC By Method SW846 8011

Matrix AQ	Batch ID: OP31005

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15914-8MS, MC15914-8MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

The Accutest Laboratories of 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 Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC15773).

Summary of Hits

Job Number: MC15773
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 11/07/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC15773-1	P93A-ROX-110712					
Benzene		148000	500	240	ug/l	SW846 8260B
Ethylbenzene		265	100	51	ug/l	SW846 8260B
m,p-Xylene		430	100	73	ug/l	SW846 8260B
o-Xylene		76.0 J	100	58	ug/l	SW846 8260B
Xylene (total)		506	100	58	ug/l	SW846 8260B
Phenol		190	26	4.8	ug/l	SW846 8270C
Dibenzofuran		0.27 J	2.1	0.22	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		2.6	2.1	0.39	ug/l	SW846 8270C
Acenaphthene		0.22 B	0.10	0.014	ug/l	SW846 8270C BY SIM
Fluorene		0.29	0.10	0.048	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		15.0	0.21	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		19.4	0.21	0.054	ug/l	SW846 8270C BY SIM
Phenanthrene		0.28 B	0.052	0.013	ug/l	SW846 8270C BY SIM
MC15773-2	P93A-ROX-110712-DUP					
Benzene		156000	500	240	ug/l	SW846 8260B
Ethylbenzene		262	100	51	ug/l	SW846 8260B
m,p-Xylene		404	100	73	ug/l	SW846 8260B
o-Xylene		73.0 J	100	58	ug/l	SW846 8260B
Xylene (total)		477	100	58	ug/l	SW846 8260B
Phenol		217	26	4.8	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		2.3	2.1	0.39	ug/l	SW846 8270C
Acenaphthene		0.29 B	0.10	0.014	ug/l	SW846 8270C BY SIM
Anthracene		0.061 J	0.10	0.018	ug/l	SW846 8270C BY SIM
Fluorene		0.37	0.10	0.048	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		16.0	0.21	0.14	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		20.6	0.21	0.054	ug/l	SW846 8270C BY SIM
Phenanthrene		0.34 B	0.052	0.013	ug/l	SW846 8270C BY SIM
MC15773-3	P93B-ROX-110712					
Benzene		162000	1000	480	ug/l	SW846 8260B
m,p-Xylene		98.6 J	100	73	ug/l	SW846 8260B
Xylene (total)		98.6 J	100	58	ug/l	SW846 8260B
Phenol		130	5.1	0.94	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		1.7 J	2.0	0.38	ug/l	SW846 8270C
Acenaphthylene		0.073 JB	0.10	0.013	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		0.26	0.20	0.14	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		0.45 B	0.20	0.052	ug/l	SW846 8270C BY SIM

Summary of Hits

Job Number: MC15773
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 11/07/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC15773-4	P93B-ROX-110712-DUP					
Benzene		413000	1000	480	ug/l	SW846 8260B
Ethylbenzene		69.5 J	100	51	ug/l	SW846 8260B
Toluene		71.9 J	100	51	ug/l	SW846 8260B
m,p-Xylene		237	100	73	ug/l	SW846 8260B
Xylene (total)		237	100	58	ug/l	SW846 8260B
Phenol		114	5.0	0.93	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		0.57 J	2.0	0.38	ug/l	SW846 8270C
Acenaphthene		0.047 JB	0.10	0.014	ug/l	SW846 8270C BY SIM
Acenaphthylene		0.058 J	0.10	0.013	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		0.30	0.20	0.14	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		0.50 B	0.20	0.052	ug/l	SW846 8270C BY SIM
MC15773-5	TB-110712-HCL-W					
No hits reported in this sample.						
MC15773-6	TB-110712-ST-W					
No hits reported in this sample.						

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	P93A-ROX-110712		
Lab Sample ID:	MC15773-1	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N70243.D	100	11/20/12	JP	n/a	n/a	MSN2642
Run #2	N70279.D	1000	11/21/12	JP	n/a	n/a	MSN2644

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	500	300	ug/l	UJ
107-02-8	Acrolein	ND	2500	1000	ug/l	UJ
107-13-1	Acrylonitrile	ND	500	320	ug/l	
71-43-2	Benzene	148000 [a]	500	240	ug/l	
108-86-1	Bromobenzene	ND	500	62	ug/l	
74-97-5	Bromochloromethane	ND	500	130	ug/l	
75-27-4	Bromodichloromethane	ND	100	58	ug/l	
75-25-2	Bromoform	ND	100	78	ug/l	
74-83-9	Bromomethane	ND	200	100	ug/l	
78-93-3	2-Butanone (MEK)	ND	500	240	ug/l	
104-51-8	n-Butylbenzene	ND	500	61	ug/l	
135-98-8	sec-Butylbenzene	ND	500	55	ug/l	
98-06-6	tert-Butylbenzene	ND	500	64	ug/l	
75-15-0	Carbon disulfide	ND	500	61	ug/l	
56-23-5	Carbon tetrachloride	ND	100	87	ug/l	
108-90-7	Chlorobenzene	ND	100	47	ug/l	
75-00-3	Chloroethane	ND	200	50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	500	130	ug/l	
67-66-3	Chloroform	ND	100	50	ug/l	
74-87-3	Chloromethane	ND	200	73	ug/l	
95-49-8	o-Chlorotoluene	ND	500	65	ug/l	
106-43-4	p-Chlorotoluene	ND	500	48	ug/l	
124-48-1	Dibromochloromethane	ND	100	53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	100	93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	100	45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	100	64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	200	170	ug/l	
75-34-3	1,1-Dichloroethane	ND	100	62	ug/l	
107-06-2	1,2-Dichloroethane	ND	100	63	ug/l	
75-35-4	1,1-Dichloroethene	ND	100	41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	100	64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	100	95	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93A-ROX-110712		
Lab Sample ID:	MC15773-1	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	200	72	ug/l	
142-28-9	1,3-Dichloropropane	ND	500	64	ug/l	
594-20-7	2,2-Dichloropropane	ND	500	160	ug/l	
563-58-6	1,1-Dichloropropene	ND	500	91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	50	45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	50	20	ug/l	
123-91-1	1,4-Dioxane	ND	2500	1500	ug/l	
97-63-2	Ethyl methacrylate	ND	500	81	ug/l	
100-41-4	Ethylbenzene	265	100	51	ug/l	
87-68-3	Hexachlorobutadiene	ND	500	210	ug/l	
591-78-6	2-Hexanone	ND	500	200	ug/l	
98-82-8	Isopropylbenzene	ND	500	50	ug/l	
99-87-6	p-Isopropyltoluene	ND	500	57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	500	290	ug/l	
74-95-3	Methylene bromide	ND	500	110	ug/l	
75-09-2	Methylene chloride	ND	200	83	ug/l	
91-20-3	Naphthalene	ND	500	50	ug/l	
103-65-1	n-Propylbenzene	ND	500	58	ug/l	
100-42-5	Styrene	ND	500	45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	500	57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	60	ug/l	
127-18-4	Tetrachloroethene	ND	100	42	ug/l	
108-88-3	Toluene	ND	100	51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	500	130	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	500	130	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	100	85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	100	50	ug/l	
79-01-6	Trichloroethene	ND	100	78	ug/l	
75-69-4	Trichlorofluoromethane	ND	100	29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	500	85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	500	35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	500	47	ug/l	
108-05-4	Vinyl Acetate	ND	500	130	ug/l	
75-01-4	Vinyl chloride	ND	100	63	ug/l	
	m,p-Xylene	430	100	73	ug/l	
95-47-6	o-Xylene	76.0	100	58	ug/l	J
1330-20-7	Xylene (total)	506	100	58	ug/l	

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93A-ROX-110712		
Lab Sample ID:	MC15773-1	**Date Sampled:**	11/07/12
Matrix:	AQ - Ground Water	**Date Received:**	11/08/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%	83%	70-130%
2037-26-5	Toluene-D8	85%	84%	70-130%
460-00-4	4-Bromofluorobenzene	88%	86%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
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E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93A-ROX-110712		
Lab Sample ID:	MC15773-1	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F59489.D	1	11/20/12	KR	11/14/12	OP31023	MSF2806
Run #2	F59940.D	5	12/04/12	KR	11/14/12	OP31023	MSF2826

	Initial Volume	Final Volume
Run #1	960 ml	1.0 ml
Run #2	960 ml	1.0 ml

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.2	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.39	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.39	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.9	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	5.2	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.6	ug/l	
95-48-7	2-Methylphenol	ND	10	0.63	ug/l	
	3&4-Methylphenol	ND	10	0.78	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.49	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.9	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	190 [a]	26	4.8	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.51	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.37	ug/l	
62-53-3	Aniline	ND	10	2.1	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.2	0.34	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.2	0.28	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.27	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.2	0.26	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.66	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.2	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.2	0.39	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.2	0.30	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.2	0.30	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.2	0.26	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.26	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.26	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.2	0.93	ug/l	
132-64-9	Dibenzofuran	0.27	2.1	0.22	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.2	0.38	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.2	0.25	ug/l	

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Report of Analysis

Client Sample ID:	P93A-ROX-110712		
Lab Sample ID:	MC15773-1	**Date Sampled:**	11/07/12
Matrix:	AQ - Ground Water	**Date Received:**	11/08/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.2	0.20	ug/l	
131-11-3	Dimethyl phthalate	ND	5.2	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	2.6	2.1	0.39	ug/l	
118-74-1	Hexachlorobenzene	ND	5.2	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.2	ug/l	
67-72-1	Hexachloroethane	ND	5.2	0.29	ug/l	
78-59-1	Isophorone	ND	5.2	0.33	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.26	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	1.3	ug/l	
98-95-3	Nitrobenzene	ND	5.2	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.2	0.62	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.2	0.29	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.2	0.45	ug/l	
110-86-1	Pyridine	ND	10	0.48	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	44%	43%	15-110%
4165-62-2	Phenol-d5	36%	35%	15-110%
118-79-6	2,4,6-Tribromophenol	86%	84%	15-110%
4165-60-0	Nitrobenzene-d5	76%	73%	30-130%
321-60-8	2-Fluorobiphenyl	71%	70%	30-130%
1718-51-0	Terphenyl-d14	63%	62%	30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

(a) Result is from Run# 2

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93A-ROX-110712		
Lab Sample ID:	MC15773-1	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I80128.D	1	11/20/12	NS	11/14/12	OP31024	MSI2985
Run #2							

	Initial Volume	Final Volume
Run #1	960 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	~~0.22~~ U	~~0.10~~ 0.22	0.014	ug/l	B U
208-96-8	Acenaphthylene	ND	0.10	0.014	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.052	0.031	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.052	0.025	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.039	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.061	ug/l	
218-01-9	Chrysene	ND	0.10	0.076	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.043	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.034	ug/l	
86-73-7	Fluorene	0.29	0.10	0.048	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.048	ug/l	
90-12-0	1-Methylnaphthalene	15.0	0.21	0.15	ug/l	
91-57-6	2-Methylnaphthalene	19.4	0.21	0.054	ug/l	
85-01-8	Phenanthrene	0.28	0.052	0.013	ug/l	B
129-00-0	Pyrene	ND	0.10	0.037	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	75%		30-130%
321-60-8	2-Fluorobiphenyl	76%		30-130%
1718-51-0	Terphenyl-d14	65%		30-130%

ND = Not detected MDL - Method Detection Limit
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E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93A-ROX-110712		
Lab Sample ID:	MC15773-1	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18824.D	1	11/13/12	AP	11/12/12	OP31005	GBK686
Run #2							

	Initial Volume	Final Volume
Run #1	35.6 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	106%		36-173%
460-00-4	Bromofluorobenzene (S)	128%		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:	P93A-ROX-110712-DUP		
Lab Sample ID:	MC15773-2	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N70244.D	100	11/20/12	JP	n/a	n/a	MSN2642
Run #2	N70280.D	1000	11/21/12	JP	n/a	n/a	MSN2644

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	500	300	ug/l	UJ
107-02-8	Acrolein	ND	2500	1000	ug/l	UJ
107-13-1	Acrylonitrile	ND	500	320	ug/l	
71-43-2	Benzene	156000 [a]	500	240	ug/l	
108-86-1	Bromobenzene	ND	500	62	ug/l	
74-97-5	Bromochloromethane	ND	500	130	ug/l	
75-27-4	Bromodichloromethane	ND	100	58	ug/l	
75-25-2	Bromoform	ND	100	78	ug/l	
74-83-9	Bromomethane	ND	200	100	ug/l	
78-93-3	2-Butanone (MEK)	ND	500	240	ug/l	
104-51-8	n-Butylbenzene	ND	500	61	ug/l	
135-98-8	sec-Butylbenzene	ND	500	55	ug/l	
98-06-6	tert-Butylbenzene	ND	500	64	ug/l	
75-15-0	Carbon disulfide	ND	500	61	ug/l	
56-23-5	Carbon tetrachloride	ND	100	87	ug/l	
108-90-7	Chlorobenzene	ND	100	47	ug/l	
75-00-3	Chloroethane	ND	200	50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	500	130	ug/l	
67-66-3	Chloroform	ND	100	50	ug/l	
74-87-3	Chloromethane	ND	200	73	ug/l	
95-49-8	o-Chlorotoluene	ND	500	65	ug/l	
106-43-4	p-Chlorotoluene	ND	500	48	ug/l	
124-48-1	Dibromochloromethane	ND	100	53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	100	93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	100	45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	100	64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	200	170	ug/l	
75-34-3	1,1-Dichloroethane	ND	100	62	ug/l	
107-06-2	1,2-Dichloroethane	ND	100	63	ug/l	
75-35-4	1,1-Dichloroethene	ND	100	41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	100	64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	100	95	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
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J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93A-ROX-110712-DUP		
Lab Sample ID:	MC15773-2	**Date Sampled:**	11/07/12
Matrix:	AQ - Ground Water	**Date Received:**	11/08/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	200	72	ug/l	
142-28-9	1,3-Dichloropropane	ND	500	64	ug/l	
594-20-7	2,2-Dichloropropane	ND	500	160	ug/l	
563-58-6	1,1-Dichloropropene	ND	500	91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	50	45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	50	20	ug/l	
123-91-1	1,4-Dioxane	ND	2500	1500	ug/l	
97-63-2	Ethyl methacrylate	ND	500	81	ug/l	
100-41-4	Ethylbenzene	262	100	51	ug/l	
87-68-3	Hexachlorobutadiene	ND	500	210	ug/l	
591-78-6	2-Hexanone	ND	500	200	ug/l	
98-82-8	Isopropylbenzene	ND	500	50	ug/l	
99-87-6	p-Isopropyltoluene	ND	500	57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	500	290	ug/l	
74-95-3	Methylene bromide	ND	500	110	ug/l	
75-09-2	Methylene chloride	ND	200	83	ug/l	
91-20-3	Naphthalene	ND	500	50	ug/l	
103-65-1	n-Propylbenzene	ND	500	58	ug/l	
100-42-5	Styrene	ND	500	45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	500	57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	60	ug/l	
127-18-4	Tetrachloroethene	ND	100	42	ug/l	
108-88-3	Toluene	ND	100	51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	500	130	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	500	130	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	100	85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	100	50	ug/l	
79-01-6	Trichloroethene	ND	100	78	ug/l	
75-69-4	Trichlorofluoromethane	ND	100	29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	500	85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	500	35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	500	47	ug/l	
108-05-4	Vinyl Acetate	ND	500	130	ug/l	
75-01-4	Vinyl chloride	ND	100	63	ug/l	
	m,p-Xylene	404	100	73	ug/l	
95-47-6	o-Xylene	73.0	100	58	ug/l	J
1330-20-7	Xylene (total)	477	100	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:	P93A-ROX-110712-DUP		
Lab Sample ID:	MC15773-2	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	83%	82%	70-130%
2037-26-5	Toluene-D8	84%	85%	70-130%
460-00-4	4-Bromofluorobenzene	87%	87%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93A-ROX-110712-DUP		
Lab Sample ID:	MC15773-2	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F59490.D	1	11/20/12	KR	11/14/12	OP31023	MSF2806
Run #2	F59942.D	5	12/04/12	KR	11/14/12	OP31023	MSF2826

	Initial Volume	Final Volume
Run #1	970 ml	1.0 ml
Run #2	970 ml	1.0 ml

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.2	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.39	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.39	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.8	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	5.2	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.6	ug/l	
95-48-7	2-Methylphenol	ND	10	0.62	ug/l	
	3&4-Methylphenol	ND	10	0.78	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.49	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	217 [a]	26	4.8	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.51	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.36	ug/l	
62-53-3	Aniline	ND	10	2.1	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.2	0.34	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.2	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.27	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.2	0.26	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.65	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.2	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.2	0.39	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.2	0.29	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.2	0.30	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.2	0.26	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.26	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.26	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.2	0.92	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.2	0.37	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.2	0.24	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93A-ROX-110712-DUP		
Lab Sample ID:	MC15773-2	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.2	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.2	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	2.3	2.1	0.39	ug/l	
118-74-1	Hexachlorobenzene	ND	5.2	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.2	ug/l	
67-72-1	Hexachloroethane	ND	5.2	0.29	ug/l	
78-59-1	Isophorone	ND	5.2	0.33	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.26	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	1.3	ug/l	
98-95-3	Nitrobenzene	ND	5.2	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.2	0.61	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.2	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.2	0.45	ug/l	
110-86-1	Pyridine	ND	10	0.48	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	34%	35%	15-110%
4165-62-2	Phenol-d5	27%	29%	15-110%
118-79-6	2,4,6-Tribromophenol	80%	81%	15-110%
4165-60-0	Nitrobenzene-d5	70%	72%	30-130%
321-60-8	2-Fluorobiphenyl	65%	67%	30-130%
1718-51-0	Terphenyl-d14	50%	50%	30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93A-ROX-110712-DUP		
Lab Sample ID:	MC15773-2	**Date Sampled:**	11/07/12
Matrix:	AQ - Ground Water	**Date Received:**	11/08/12
Method:	SW846 8270C BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I80129.D	1	11/20/12	NS	11/14/12	OP31024	MSI2985
Run #2							

	Initial Volume	Final Volume
Run #1	970 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.29	0.10	0.014	ug/l	B
208-96-8	Acenaphthylene	ND	0.10	0.014	ug/l	
120-12-7	Anthracene	0.061	0.10	0.018	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.052	0.031	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.052	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.039	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.060	ug/l	
218-01-9	Chrysene	ND	0.10	0.075	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.043	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.034	ug/l	
86-73-7	Fluorene	0.37	0.10	0.048	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.047	ug/l	
90-12-0	1-Methylnaphthalene	16.0	0.21	0.14	ug/l	
91-57-6	2-Methylnaphthalene	20.6	0.21	0.054	ug/l	
85-01-8	Phenanthrene	0.34	0.052	0.013	ug/l	B
129-00-0	Pyrene	ND	0.10	0.037	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	67%		30-130%
321-60-8	2-Fluorobiphenyl	70%		30-130%
1718-51-0	Terphenyl-d14	53%		30-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93A-ROX-110712-DUP		
Lab Sample ID:	MC15773-2	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18825.D	1	11/13/12	AP	11/12/12	OP31005	GBK686
Run #2							

	Initial Volume	Final Volume
Run #1	35.1 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	106%		36-173%
460-00-4	Bromofluorobenzene (S)	128%		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:	P93B-ROX-110712		
Lab Sample ID:	MC15773-3	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N70245.D	100	11/20/12	JP	n/a	n/a	MSN2642
Run #2	N70281.D	1000	11/21/12	JP	n/a	n/a	MSN2644
Run #3	N70335.D	2000	11/22/12	JP	n/a	n/a	MSN2646

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml
Run #3	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	500	300	ug/l	UJ
107-02-8	Acrolein	ND	2500	1000	ug/l	UJ
107-13-1	Acrylonitrile	ND	500	320	ug/l	
71-43-2	Benzene	162000 [a]	1000	480	ug/l	J
108-86-1	Bromobenzene	ND	500	62	ug/l	
74-97-5	Bromochloromethane	ND	500	130	ug/l	
75-27-4	Bromodichloromethane	ND	100	58	ug/l	
75-25-2	Bromoform	ND	100	78	ug/l	
74-83-9	Bromomethane	ND	200	100	ug/l	
78-93-3	2-Butanone (MEK)	ND	500	240	ug/l	
104-51-8	n-Butylbenzene	ND	500	61	ug/l	
135-98-8	sec-Butylbenzene	ND	500	55	ug/l	
98-06-6	tert-Butylbenzene	ND	500	64	ug/l	
75-15-0	Carbon disulfide	ND	500	61	ug/l	
56-23-5	Carbon tetrachloride	ND	100	87	ug/l	
108-90-7	Chlorobenzene	ND	100	47	ug/l	
75-00-3	Chloroethane	ND	200	50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	500	130	ug/l	
67-66-3	Chloroform	ND	100	50	ug/l	
74-87-3	Chloromethane	ND	200	73	ug/l	
95-49-8	o-Chlorotoluene	ND	500	65	ug/l	
106-43-4	p-Chlorotoluene	ND	500	48	ug/l	
124-48-1	Dibromochloromethane	ND	100	53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	100	93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	100	45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	100	64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	200	170	ug/l	
75-34-3	1,1-Dichloroethane	ND	100	62	ug/l	
107-06-2	1,2-Dichloroethane	ND	100	63	ug/l	
75-35-4	1,1-Dichloroethene	ND	100	41	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93B-ROX-110712		
Lab Sample ID:	MC15773-3	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethene	ND	100	64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	100	95	ug/l	
78-87-5	1,2-Dichloropropane	ND	200	72	ug/l	
142-28-9	1,3-Dichloropropane	ND	500	64	ug/l	
594-20-7	2,2-Dichloropropane	ND	500	160	ug/l	
563-58-6	1,1-Dichloropropene	ND	500	91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	50	45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	50	20	ug/l	
123-91-1	1,4-Dioxane	ND	2500	1500	ug/l	
97-63-2	Ethyl methacrylate	ND	500	81	ug/l	
100-41-4	Ethylbenzene	ND	100	51	ug/l	
87-68-3	Hexachlorobutadiene	ND	500	210	ug/l	
591-78-6	2-Hexanone	ND	500	200	ug/l	
98-82-8	Isopropylbenzene	ND	500	50	ug/l	
99-87-6	p-Isopropyltoluene	ND	500	57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	500	290	ug/l	
74-95-3	Methylene bromide	ND	500	110	ug/l	
75-09-2	Methylene chloride	ND	200	83	ug/l	
91-20-3	Naphthalene	ND	500	50	ug/l	
103-65-1	n-Propylbenzene	ND	500	58	ug/l	
100-42-5	Styrene	ND	500	45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	500	57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	60	ug/l	
127-18-4	Tetrachloroethene	ND	100	42	ug/l	
108-88-3	Toluene	ND	100	51	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	500	130	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	500	130	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	100	85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	100	50	ug/l	
79-01-6	Trichloroethene	ND	100	78	ug/l	
75-69-4	Trichlorofluoromethane	ND	100	29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	500	85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	500	35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	500	47	ug/l	
108-05-4	Vinyl Acetate	ND	500	130	ug/l	
75-01-4	Vinyl chloride	ND	100	63	ug/l	
	m,p-Xylene	98.6	100	73	ug/l	J
95-47-6	o-Xylene	ND	100	58	ug/l	
1330-20-7	Xylene (total)	98.6	100	58	ug/l	J

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93B-ROX-110712		
Lab Sample ID:	MC15773-3	**Date Sampled:**	11/07/12
Matrix:	AQ - Ground Water	**Date Received:**	11/08/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
1868-53-7	Dibromofluoromethane	83%	82%	82%	70-130%
2037-26-5	Toluene-D8	85%	84%	83%	70-130%
460-00-4	4-Bromofluorobenzene	87%	87%	87%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Result is from Run# 3

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93B-ROX-110712		
Lab Sample ID:	MC15773-3	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F59491.D	1	11/20/12	KR	11/14/12	OP31023	MSF2806
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.1	0.41	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.38	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.8	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	5.1	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.61	ug/l	
	3&4-Methylphenol	ND	10	0.76	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.48	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	130	5.1	0.94	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.50	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.36	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.1	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.1	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.1	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.64	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.1	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.1	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.1	0.29	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.1	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.1	0.25	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.1	0.90	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.1	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.1	0.24	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93B-ROX-110712		
Lab Sample ID:	MC15773-3	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.1	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.1	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	1.7	2.0	0.38	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.1	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.1	ug/l	
67-72-1	Hexachloroethane	ND	5.1	0.28	ug/l	
78-59-1	Isophorone	ND	5.1	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	1.3	ug/l	
98-95-3	Nitrobenzene	ND	5.1	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.1	0.60	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.1	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.1	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.47	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	37%		15-110%
4165-62-2	Phenol-d5	27%		15-110%
118-79-6	2,4,6-Tribromophenol	77%		15-110%
4165-60-0	Nitrobenzene-d5	71%		30-130%
321-60-8	2-Fluorobiphenyl	65%		30-130%
1718-51-0	Terphenyl-d14	89%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93B-ROX-110712		
Lab Sample ID:	MC15773-3	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I80130.D	1	11/20/12	NS	11/14/12	OP31024	MSI2985
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	0.073	0.10	0.013	ug/l	JB
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.051	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.051	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.047	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	0.26	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	0.45	0.20	0.052	ug/l	B
85-01-8	Phenanthrene	ND	0.051	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	69%		30-130%
321-60-8	2-Fluorobiphenyl	70%		30-130%
1718-51-0	Terphenyl-d14	93%		30-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93B-ROX-110712		
Lab Sample ID:	MC15773-3	**Date Sampled:**	11/07/12
Matrix:	AQ - Ground Water	**Date Received:**	11/08/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18827.D	1	11/13/12	AP	11/12/12	OP31005	GBK686
Run #2							

	Initial Volume	Final Volume
Run #1	36.7 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.014	0.012	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0099	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	99%		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

Report of Analysis

Client Sample ID:	P93B-ROX-110712-DUP		
Lab Sample ID:	MC15773-4	**Date Sampled:**	11/07/12
Matrix:	AQ - Ground Water	**Date Received:**	11/08/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N70246.D	100	11/20/12	JP	n/a	n/a	MSN2642
Run #2	N70282.D	1000	11/21/12	JP	n/a	n/a	MSN2644
Run #3	N70336.D	2000	11/22/12	JP	n/a	n/a	MSN2646

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml
Run #3	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	500	300	ug/l	UJ
107-02-8	Acrolein	ND	2500	1000	ug/l	UJ
107-13-1	Acrylonitrile	ND	500	320	ug/l	
71-43-2	Benzene	413000 [a]	1000	480	ug/l	J
108-86-1	Bromobenzene	ND	500	62	ug/l	
74-97-5	Bromochloromethane	ND	500	130	ug/l	
75-27-4	Bromodichloromethane	ND	100	58	ug/l	
75-25-2	Bromoform	ND	100	78	ug/l	
74-83-9	Bromomethane	ND	200	100	ug/l	
78-93-3	2-Butanone (MEK)	ND	500	240	ug/l	
104-51-8	n-Butylbenzene	ND	500	61	ug/l	
135-98-8	sec-Butylbenzene	ND	500	55	ug/l	
98-06-6	tert-Butylbenzene	ND	500	64	ug/l	
75-15-0	Carbon disulfide	ND	500	61	ug/l	
56-23-5	Carbon tetrachloride	ND	100	87	ug/l	
108-90-7	Chlorobenzene	ND	100	47	ug/l	
75-00-3	Chloroethane	ND	200	50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	500	130	ug/l	
67-66-3	Chloroform	ND	100	50	ug/l	
74-87-3	Chloromethane	ND	200	73	ug/l	
95-49-8	o-Chlorotoluene	ND	500	65	ug/l	
106-43-4	p-Chlorotoluene	ND	500	48	ug/l	
124-48-1	Dibromochloromethane	ND	100	53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	100	93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	100	45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	100	64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	200	170	ug/l	
75-34-3	1,1-Dichloroethane	ND	100	62	ug/l	
107-06-2	1,2-Dichloroethane	ND	100	63	ug/l	
75-35-4	1,1-Dichloroethene	ND	100	41	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93B-ROX-110712-DUP		
Lab Sample ID:	MC15773-4	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethene	ND	100	64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	100	95	ug/l	
78-87-5	1,2-Dichloropropane	ND	200	72	ug/l	
142-28-9	1,3-Dichloropropane	ND	500	64	ug/l	
594-20-7	2,2-Dichloropropane	ND	500	160	ug/l	
563-58-6	1,1-Dichloropropene	ND	500	91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	50	45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	50	20	ug/l	
123-91-1	1,4-Dioxane	ND	2500	1500	ug/l	
97-63-2	Ethyl methacrylate	ND	500	81	ug/l	
100-41-4	Ethylbenzene	69.5	100	51	ug/l	J
87-68-3	Hexachlorobutadiene	ND	500	210	ug/l	
591-78-6	2-Hexanone	ND	500	200	ug/l	
98-82-8	Isopropylbenzene	ND	500	50	ug/l	
99-87-6	p-Isopropyltoluene	ND	500	57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	500	290	ug/l	
74-95-3	Methylene bromide	ND	500	110	ug/l	
75-09-2	Methylene chloride	ND	200	83	ug/l	
91-20-3	Naphthalene	ND	500	50	ug/l	
103-65-1	n-Propylbenzene	ND	500	58	ug/l	
100-42-5	Styrene	ND	500	45	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	500	57	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	60	ug/l	
127-18-4	Tetrachloroethene	ND	100	42	ug/l	
108-88-3	Toluene	71.9	100	51	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	ND	500	130	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	500	130	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	100	85	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	100	50	ug/l	
79-01-6	Trichloroethene	ND	100	78	ug/l	
75-69-4	Trichlorofluoromethane	ND	100	29	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	500	85	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	500	35	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	500	47	ug/l	
108-05-4	Vinyl Acetate	ND	500	130	ug/l	
75-01-4	Vinyl chloride	ND	100	63	ug/l	
	m,p-Xylene	237	100	73	ug/l	
95-47-6	o-Xylene	ND	100	58	ug/l	
1330-20-7	Xylene (total)	237	100	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:	P93B-ROX-110712-DUP		
Lab Sample ID:	MC15773-4	**Date Sampled:**	11/07/12
Matrix:	AQ - Ground Water	**Date Received:**	11/08/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
1868-53-7	Dibromofluoromethane	82%	82%	84%	70-130%
2037-26-5	Toluene-D8	85%	84%	84%	70-130%
460-00-4	4-Bromofluorobenzene	89%	89%	89%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Result is from Run# 3

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93B-ROX-110712-DUP		
Lab Sample ID:	MC15773-4	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F59941.D	1	12/04/12	KR	11/14/12	OP31023	MSF2826
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	5.0	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	114	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.25	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93B-ROX-110712-DUP		
Lab Sample ID:	MC15773-4	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.57	2.0	0.38	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.28	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	1.3	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	37%		15-110%
4165-62-2	Phenol-d5	32%		15-110%
118-79-6	2,4,6-Tribromophenol	85%		15-110%
4165-60-0	Nitrobenzene-d5	71%		30-130%
321-60-8	2-Fluorobiphenyl	65%		30-130%
1718-51-0	Terphenyl-d14	94%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93B-ROX-110712-DUP		
Lab Sample ID:	MC15773-4	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I80185.D	1	11/22/12	NS	11/14/12	OP31024	MSI2987
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	~~0.047~~ U	0.10	0.014	ug/l	JB U
208-96-8	Acenaphthylene	0.058	0.10	0.013	ug/l	J
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	0.30	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	0.50	0.20	0.052	ug/l	B
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	68%		30-130%
321-60-8	2-Fluorobiphenyl	71%		30-130%
1718-51-0	Terphenyl-d14	102%		30-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93B-ROX-110712-DUP		
Lab Sample ID:	MC15773-4	Date Sampled:	11/07/12
Matrix:	AQ - Ground Water	Date Received:	11/08/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18828.D	1	11/13/12	AP	11/12/12	OP31005	GBK686
Run #2							

	Initial Volume	Final Volume
Run #1	35.4 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	95%		36-173%
460-00-4	Bromofluorobenzene (S)	106%		36-173%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-110712-HCL-W		
Lab Sample ID:	MC15773-5	**Date Sampled:**	11/07/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/08/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N70228.D	1	11/20/12	JP	n/a	n/a	MSN2642
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	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:	TB-110712-HCL-W		
Lab Sample ID:	MC15773-5	**Date Sampled:**	11/07/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/08/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	TB-110712-HCL-W		
Lab Sample ID:	MC15773-5	**Date Sampled:**	11/07/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/08/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		70-130%
2037-26-5	Toluene-D8	85%		70-130%
460-00-4	4-Bromofluorobenzene	87%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-110712-ST-W		
Lab Sample ID:	MC15773-6	**Date Sampled:**	11/07/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/08/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18829.D	1	11/13/12	AP	11/12/12	OP31005	GBK686
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)	103%		36-173%
460-00-4	Bromofluorobenzene (S)	119%		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

New England ACCUTEST LABORATORIES

Custody Documents and Other Forms

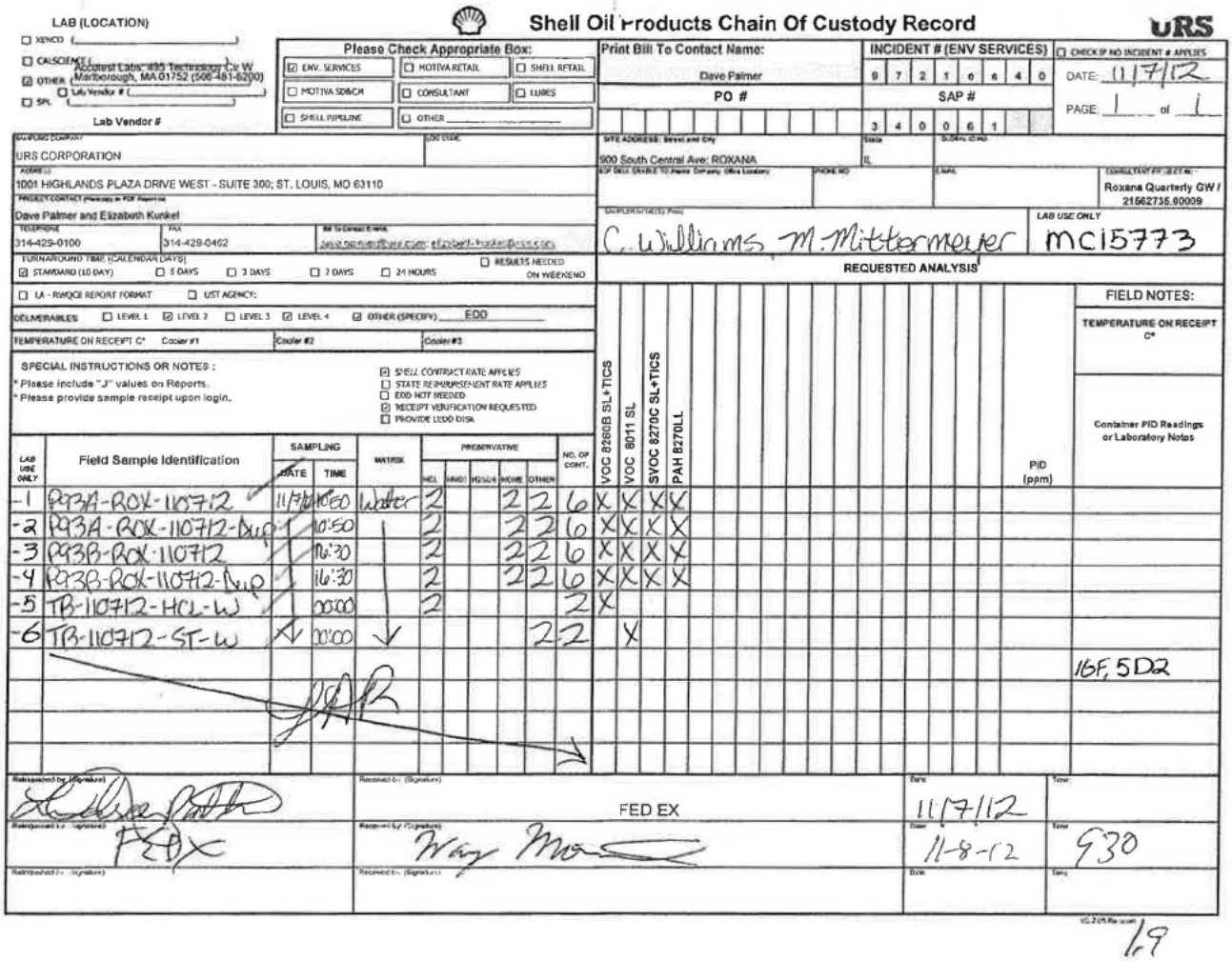
Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

LAB (LOCATION)

☐ XENCO ( )
☐ CALSCIENCE ( )
☑ OTHER (Accutest Labs, 495 Technology Cir W Marlborough, MA 01752 (508-481-6200))
☐ Lab Vendor # ( )
☐ SPL ( )

Lab Vendor #



Shell Oil Products Chain Of Custody Record

URS

Please Check Appropriate Box:

☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SD&CM ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Dave Palmer

PO #

INCIDENT # (ENV SERVICES) 9 7 2 1 6 4 4 0

SAP # 3 4 0 0 6 1

☐ CHECK IF NO INCIDENT # APPLIES

DATE: 11/7/12

PAGE: 1 of 1

SAMPLING COMPANY: URS CORPORATION

LOG CODE:

SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA

State: IL

GLOBAL ID NO.:

ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110

EDF DELIVERABLE TO (Name, Company, Office Location):

PHONE NO:

E-MAIL:

CONSULTANT PROJECT NO.: Roxana Quarterly GW / 21562735.00009

PROJECT CONTACT (Hardcopy or PDF Report to): Dave Palmer and Elizabeth Kunkel

TELEPHONE: 314-429-0100

FAX: 314-429-0462

Bill To Contact E-MAIL: dave.palmer@urs.com; elizabeth.kunkel@urs.com

SAMPLER NAME(S) Print: C. Williams, M. Mittermeyer

LAB USE ONLY: MC15773

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (10 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C°: Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:
* Please include "J" values on Reports.
* Please provide sample receipt upon login.

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	VOC 8260B SL+TICS	VOC 8011 SL	SVOC 8270C SL+TICS	PAH 8270LL	PID (ppm)	Container PID Readings or Laboratory Notes
-1	P93A-ROX-110712	11/7/12	10:50	Water	2			2	2	6	X	X	X	X		
-2	P93A-ROX-110712-Dup		10:50		2			2	2	6	X	X	X	X		
-3	P93B-ROX-110712		16:30		2			2	2	6	X	X	X	X		
-4	P93B-ROX-110712-Dup		16:30		2			2	2	6	X	X	X	X		
-5	TB-110712-HCL-W		00:00		2					2	X					
-6	TB-110712-ST-W		00:00						2	2		X				
																16F, 5D2

Relinquished by (Signature)	Received by (Signature)	Date	Time
[signature]	FED EX	11/7/12	
FEDX	[signature]	11-8-12	930

IC 2.05 Revision 1.9

MC15773: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC15773 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 11/8/2012 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900 SO CENTRAL **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

5.1 5

MC15773: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15773

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15773-1 Collected: 07-NOV-12 10:50 By: CWMM Received: 08-NOV-12 By: P93A-ROX-110712						
MC15773-1	SW846 8011	13-NOV-12 19:03	AP	12-NOV-12	CA	V8011SL
MC15773-1	SW846 8270C	20-NOV-12 18:14	KR	14-NOV-12	MT	AB8270SL+
MC15773-1	SW846 8260B	20-NOV-12 22:10	JP			V8260SL+
MC15773-1	SW846 8270C BY SIM	20-NOV-12 22:48	NS	14-NOV-12	MT	B8270SIMSL
MC15773-1	SW846 8260B	21-NOV-12 15:09	JP			V8260SL+
MC15773-1	SW846 8270C	04-DEC-12 15:49	KR	14-NOV-12	MT	AB8270SL+
MC15773-2 Collected: 07-NOV-12 10:50 By: CWMM Received: 08-NOV-12 By: P93A-ROX-110712-DUP						
MC15773-2	SW846 8011	13-NOV-12 19:27	AP	12-NOV-12	CA	V8011SL
MC15773-2	SW846 8270C	20-NOV-12 18:36	KR	14-NOV-12	MT	AB8270SL+
MC15773-2	SW846 8260B	20-NOV-12 22:38	JP			V8260SL+
MC15773-2	SW846 8270C BY SIM	20-NOV-12 23:11	NS	14-NOV-12	MT	B8270SIMSL
MC15773-2	SW846 8260B	21-NOV-12 15:38	JP			V8260SL+
MC15773-2	SW846 8270C	04-DEC-12 16:32	KR	14-NOV-12	MT	AB8270SL+
MC15773-3 Collected: 07-NOV-12 16:30 By: CWMM Received: 08-NOV-12 By: P93B-ROX-110712						
MC15773-3	SW846 8011	13-NOV-12 20:16	AP	12-NOV-12	CA	V8011SL
MC15773-3	SW846 8270C	20-NOV-12 18:59	KR	14-NOV-12	MT	AB8270SL+
MC15773-3	SW846 8260B	20-NOV-12 23:07	JP			V8260SL+
MC15773-3	SW846 8270C BY SIM	20-NOV-12 23:34	NS	14-NOV-12	MT	B8270SIMSL
MC15773-3	SW846 8260B	21-NOV-12 16:06	JP			V8260SL+
MC15773-3	SW846 8260B	22-NOV-12 17:31	JP			V8260SL+
MC15773-4 Collected: 07-NOV-12 16:30 By: CWMM Received: 08-NOV-12 By: P93B-ROX-110712-DUP						
MC15773-4	SW846 8011	13-NOV-12 20:40	AP	12-NOV-12	CA	V8011SL
MC15773-4	SW846 8260B	20-NOV-12 23:35	JP			V8260SL+
MC15773-4	SW846 8260B	21-NOV-12 16:34	JP			V8260SL+
MC15773-4	SW846 8270C BY SIM	22-NOV-12 01:49	NS	14-NOV-12	MT	B8270SIMSL
MC15773-4	SW846 8260B	22-NOV-12 17:59	JP			V8260SL+
MC15773-4	SW846 8270C	04-DEC-12 16:12	KR	14-NOV-12	MT	AB8270SL+

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15773

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15773-5 Collected: 07-NOV-12 00:00 By: CWMM Received: 08-NOV-12 By: TB-110712-HCL-W						
MC15773-5	SW846 8260B	20-NOV-12 15:07	JP			V8260SL+
MC15773-6 Collected: 07-NOV-12 00:00 By: CWMM Received: 08-NOV-12 By: TB-110712-ST-W						
MC15773-6	SW846 8011	13-NOV-12 21:05	AP	12-NOV-12	CA	V8011SL

Accutest Internal Chain of Custody

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 11/08/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15773-1.2	Walk In Ref #22	Michael Rolo	11/14/12 07:39	Retrieve from Storage
MC15773-1.2	Michael Rolo		11/19/12 07:12	Depleted
MC15773-1.3	VOC Ref #5	Jugal Patel	11/20/12 12:41	Retrieve from Storage
MC15773-1.3	Jugal Patel	GCMSN	11/20/12 12:42	Load on Instrument
MC15773-1.3	GCMSN	Dana Tyron	11/21/12 11:27	Unload from Instrument
MC15773-1.3	Dana Tyron	VOC Ref #5	11/21/12 11:27	Return to Storage
MC15773-1.4	VOC Ref #5	Amy Min Yang	11/21/12 11:23	Retrieve from Storage
MC15773-1.4	Amy Min Yang	GCMSN	11/21/12 11:23	Load on Instrument
MC15773-1.4	GCMSN	Dana Tyron	11/21/12 11:27	Unload from Instrument
MC15773-1.4	Dana Tyron	VOC Ref #5	11/21/12 11:27	Return to Storage
MC15773-1.5	VOC Ref #5	Nick Krasinski	11/12/12 14:07	Retrieve from Storage
MC15773-1.5	Nick Krasinski		11/12/12 21:17	Depleted
MC15773-2.1	Walk In Ref #22	Michael Rolo	11/14/12 07:39	Retrieve from Storage
MC15773-2.1	Michael Rolo		11/19/12 07:12	Depleted
MC15773-2.3	VOC Ref #5	Jugal Patel	11/20/12 12:41	Retrieve from Storage
MC15773-2.3	Jugal Patel	GCMSN	11/20/12 12:42	Load on Instrument
MC15773-2.3	GCMSN	Dana Tyron	11/21/12 11:27	Unload from Instrument
MC15773-2.3	Dana Tyron	VOC Ref #5	11/21/12 11:27	Return to Storage
MC15773-2.4	VOC Ref #5	Amy Min Yang	11/21/12 11:23	Retrieve from Storage
MC15773-2.4	Amy Min Yang	GCMSN	11/21/12 11:23	Load on Instrument
MC15773-2.4	GCMSN	Dana Tyron	11/21/12 11:27	Unload from Instrument
MC15773-2.4	Dana Tyron	VOC Ref #5	11/21/12 11:27	Return to Storage
MC15773-2.6	VOC Ref #5	Nick Krasinski	11/12/12 14:07	Retrieve from Storage
MC15773-2.6	Nick Krasinski		11/12/12 21:17	Depleted
MC15773-3.2	Walk In Ref #22	Michael Rolo	11/14/12 07:39	Retrieve from Storage
MC15773-3.2	Michael Rolo		11/19/12 07:12	Depleted
MC15773-3.3	VOC Ref #5	Jugal Patel	11/20/12 12:41	Retrieve from Storage
MC15773-3.3	Jugal Patel	GCMSN	11/20/12 12:42	Load on Instrument
MC15773-3.3	GCMSN	Dana Tyron	11/21/12 11:27	Unload from Instrument
MC15773-3.3	Dana Tyron	VOC Ref #5	11/21/12 11:27	Return to Storage
MC15773-3.3	VOC Ref #5	Dana Tyron	11/22/12 12:25	Retrieve from Storage
MC15773-3.3	Dana Tyron	GCMSN	11/22/12 12:25	Load on Instrument
MC15773-3.3	GCMSN	Krysten Dufort	11/27/12 16:17	Unload from Instrument
MC15773-3.3	Krysten Dufort	VOC Ref #5	11/28/12 16:01	Return to Storage

Accutest Internal Chain of Custody

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 11/08/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15773-3.4	VOC Ref #5	Amy Min Yang	11/21/12 11:23	Retrieve from Storage
MC15773-3.4	Amy Min Yang	GCMSN	11/21/12 11:23	Load on Instrument
MC15773-3.4	GCMSN	Dana Tyron	11/21/12 11:27	Unload from Instrument
MC15773-3.4	Dana Tyron	VOC Ref #5	11/21/12 11:27	Return to Storage
MC15773-3.5	VOC Ref #5	Nick Krasinski	11/12/12 14:07	Retrieve from Storage
MC15773-3.5	Nick Krasinski		11/12/12 21:17	Depleted
MC15773-4.1	Walk In Ref #22	Michael Rolo	11/14/12 07:39	Retrieve from Storage
MC15773-4.1	Michael Rolo		11/19/12 07:12	Depleted
MC15773-4.3	VOC Ref #5	Jugal Patel	11/20/12 12:41	Retrieve from Storage
MC15773-4.3	Jugal Patel	GCMSN	11/20/12 12:42	Load on Instrument
MC15773-4.3	GCMSN	Dana Tyron	11/21/12 11:27	Unload from Instrument
MC15773-4.3	Dana Tyron	VOC Ref #5	11/21/12 11:27	Return to Storage
MC15773-4.3	VOC Ref #5	Dana Tyron	11/22/12 12:25	Retrieve from Storage
MC15773-4.3	Dana Tyron	GCMSN	11/22/12 12:25	Load on Instrument
MC15773-4.3	GCMSN	Krysten Dufort	11/27/12 16:17	Unload from Instrument
MC15773-4.3	Krysten Dufort	VOC Ref #5	11/28/12 16:01	Return to Storage
MC15773-4.4	VOC Ref #5	Amy Min Yang	11/21/12 11:23	Retrieve from Storage
MC15773-4.4	Amy Min Yang	GCMSN	11/21/12 11:23	Load on Instrument
MC15773-4.4	GCMSN	Dana Tyron	11/21/12 11:27	Unload from Instrument
MC15773-4.4	Dana Tyron	VOC Ref #5	11/21/12 11:27	Return to Storage
MC15773-4.6	VOC Ref #5	Nick Krasinski	11/12/12 14:07	Retrieve from Storage
MC15773-4.6	Nick Krasinski		11/12/12 21:17	Depleted
MC15773-5.1	VOC Ref #5	Jugal Patel	11/20/12 12:41	Retrieve from Storage
MC15773-5.1	Jugal Patel	GCMSN	11/20/12 12:42	Load on Instrument
MC15773-5.1	GCMSN	Dana Tyron	11/21/12 11:27	Unload from Instrument
MC15773-5.1	Dana Tyron	VOC Ref #5	11/21/12 11:27	Return to Storage
MC15773-6.2	VOC Ref #5	Nick Krasinski	11/12/12 14:07	Retrieve from Storage
MC15773-6.2	Nick Krasinski		11/12/12 21:17	Depleted

New England ACCUTEST LABORATORIES

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: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2642-MB	N70226.D	1	11/20/12	JP	n/a	n/a	MSN2642

The QC reported here applies to the following samples: Method: SW846 8260B

MC15773-1, MC15773-2, MC15773-3, MC15773-4, MC15773-5

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: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2642-MB	N70226.D	1	11/20/12	JP	n/a	n/a	MSN2642

The QC reported here applies to the following samples: Method: SW846 8260B

MC15773-1, MC15773-2, MC15773-3, MC15773-4, MC15773-5

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: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2642-MB	N70226.D	1	11/20/12	JP	n/a	n/a	MSN2642

The QC reported here applies to the following samples: Method: SW846 8260B

MC15773-1, MC15773-2, MC15773-3, MC15773-4, MC15773-5

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	81%	70-130%
2037-26-5	Toluene-D8	84%	70-130%
460-00-4	4-Bromofluorobenzene	87%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2644-MB	N70275.D	1	11/21/12	JP	n/a	n/a	MSN2644

The QC reported here applies to the following samples: Method: SW846 8260B

MC15773-1, MC15773-2, MC15773-3, MC15773-4

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.24	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	83%	70-130%
2037-26-5	Toluene-D8	85%	70-130%
460-00-4	4-Bromofluorobenzene	87%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2646-MB	N70329.D	1	11/22/12	JP	n/a	n/a	MSN2646

The QC reported here applies to the following samples: Method: SW846 8260B

MC15773-3, MC15773-4

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.24	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	84%	70-130%
2037-26-5	Toluene-D8	84%	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	ug/l	

Blank Spike Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2642-BS	N70224.D	1	11/20/12	JP	n/a	n/a	MSN2642

The QC reported here applies to the following samples: Method: SW846 8260B

MC15773-1, MC15773-2, MC15773-3, MC15773-4, MC15773-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	36.7	73	70-130
107-02-8	Acrolein	250	141	56* a	70-130
107-13-1	Acrylonitrile	50	237	474* b	70-130
71-43-2	Benzene	50	49.8	100	70-130
108-86-1	Bromobenzene	50	49.4	99	70-130
74-97-5	Bromochloromethane	50	52.8	106	70-130
75-27-4	Bromodichloromethane	50	50.0	100	70-130
75-25-2	Bromoform	50	44.1	88	70-130
74-83-9	Bromomethane	50	59.4	119	70-130
78-93-3	2-Butanone (MEK)	50	41.9	84	70-130
104-51-8	n-Butylbenzene	50	54.4	109	70-130
135-98-8	sec-Butylbenzene	50	54.6	109	70-130
98-06-6	tert-Butylbenzene	50	50.9	102	70-130
75-15-0	Carbon disulfide	50	57.7	115	70-130
56-23-5	Carbon tetrachloride	50	37.6	75	70-130
108-90-7	Chlorobenzene	50	54.3	109	70-130
75-00-3	Chloroethane	50	51.7	103	70-130
110-75-8	2-Chloroethyl vinyl ether	50	50.5	101	70-130
67-66-3	Chloroform	50	51.1	102	70-130
74-87-3	Chloromethane	50	46.3	93	70-130
95-49-8	o-Chlorotoluene	50	52.1	104	70-130
106-43-4	p-Chlorotoluene	50	54.7	109	70-130
124-48-1	Dibromochloromethane	50	47.9	96	70-130
95-50-1	1,2-Dichlorobenzene	50	53.4	107	70-130
541-73-1	1,3-Dichlorobenzene	50	53.9	108	70-130
106-46-7	1,4-Dichlorobenzene	50	50.3	101	70-130
75-71-8	Dichlorodifluoromethane	50	44.8	90	70-130
75-34-3	1,1-Dichloroethane	50	51.7	103	70-130
107-06-2	1,2-Dichloroethane	50	45.9	92	70-130
75-35-4	1,1-Dichloroethene	50	59.9	120	70-130
156-59-2	cis-1,2-Dichloroethene	50	51.3	103	70-130
156-60-5	trans-1,2-Dichloroethene	50	51.0	102	70-130
78-87-5	1,2-Dichloropropane	50	50.5	101	70-130
142-28-9	1,3-Dichloropropane	50	49.4	99	70-130
594-20-7	2,2-Dichloropropane	50	35.1	70	70-130
563-58-6	1,1-Dichloropropene	50	51.3	103	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2642-BS	N70224.D	1	11/20/12	JP	n/a	n/a	MSN2642

The QC reported here applies to the following samples: **Method: SW846 8260B**

MC15773-1, MC15773-2, MC15773-3, MC15773-4, MC15773-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	44.6	89	70-130
10061-02-6	trans-1,3-Dichloropropene	50	41.0	82	70-130
123-91-1	1,4-Dioxane	250	215	86	70-130
97-63-2	Ethyl methacrylate	50	43.0	86	77-137
100-41-4	Ethylbenzene	50	50.4	101	70-130
87-68-3	Hexachlorobutadiene	50	50.7	101	70-130
591-78-6	2-Hexanone	50	37.0	74	70-130
98-82-8	Isopropylbenzene	50	52.8	106	70-130
99-87-6	p-Isopropyltoluene	50	52.7	105	70-130
1634-04-4	Methyl Tert Butyl Ether	50	41.5	83	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	35.0	70	70-130
74-95-3	Methylene bromide	50	49.9	100	70-130
75-09-2	Methylene chloride	50	52.9	106	70-130
91-20-3	Naphthalene	50	45.8	92	70-130
103-65-1	n-Propylbenzene	50	53.7	107	70-130
100-42-5	Styrene	50	50.1	100	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	51.9	104	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	46.5	93	70-130
127-18-4	Tetrachloroethene	50	50.8	102	70-130
108-88-3	Toluene	50	50.9	102	70-130
87-61-6	1,2,3-Trichlorobenzene	50	50.6	101	70-130
120-82-1	1,2,4-Trichlorobenzene	50	53.0	106	70-130
71-55-6	1,1,1-Trichloroethane	50	42.1	84	70-130
79-00-5	1,1,2-Trichloroethane	50	49.4	99	70-130
79-01-6	Trichloroethene	50	48.5	97	70-130
75-69-4	Trichlorofluoromethane	50	48.3	97	70-130
96-18-4	1,2,3-Trichloropropane	50	45.0	90	70-130
95-63-6	1,2,4-Trimethylbenzene	50	48.4	97	70-130
108-67-8	1,3,5-Trimethylbenzene	50	48.1	96	70-130
108-05-4	Vinyl Acetate	50	51.0	102	70-130
75-01-4	Vinyl chloride	50	46.8	94	70-130
	m,p-Xylene	100	104	104	70-130
95-47-6	o-Xylene	50	53.9	108	70-130
1330-20-7	Xylene (total)	150	158	105	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2642-BS	N70224.D	1	11/20/12	JP	n/a	n/a	MSN2642

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC15773-1, MC15773-2, MC15773-3, MC15773-4, MC15773-5

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	84%	70-130%
2037-26-5	Toluene-D8	84%	70-130%
460-00-4	4-Bromofluorobenzene	82%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.
(b) Outside control limits. Associated samples are non-detect for this compound.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2644-BS	N70273.D	1	11/21/12	JP	n/a	n/a	MSN2644

The QC reported here applies to the following samples: Method: SW846 8260B

MC15773-1, MC15773-2, MC15773-3, MC15773-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	50	51.5	103	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	84%	70-130%
2037-26-5	Toluene-D8	85%	70-130%
460-00-4	4-Bromofluorobenzene	81%	70-130%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2646-BS	N70326.D	1	11/22/12	JP	n/a	n/a	MSN2646
MSN2646-BSD	N70327.D	1	11/22/12	JP	n/a	n/a	MSN2646

The QC reported here applies to the following samples: Method: SW846 8260B

MC15773-3, MC15773-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	50	51.7	103	52.9	106	2	70-130/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	84%	84%	70-130%
2037-26-5	Toluene-D8	84%	85%	70-130%
460-00-4	4-Bromofluorobenzene	82%	81%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15701-1MS	N70231.D	1	11/20/12	JP	n/a	n/a	MSN2642
MC15701-1MSD	N70232.D	1	11/20/12	JP	n/a	n/a	MSN2642
MC15701-1	N70230.D	1	11/20/12	JP	n/a	n/a	MSN2642

The QC reported here applies to the following samples: Method: SW846 8260B

MC15773-1, MC15773-2, MC15773-3, MC15773-4, MC15773-5

CAS No.	Compound	MC15701-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		50	37.8	76	40.0	80	6	70-130/30
107-02-8	Acrolein	ND		250	134	54* [a]	142	57* [a]	6	70-130/30
107-13-1	Acrylonitrile	ND		50	235	470* [b]	251	502* [b]	7	70-130/30
71-43-2	Benzene	ND		50	51.6	103	51.1	102	1	70-130/30
108-86-1	Bromobenzene	ND		50	48.3	97	50.0	100	3	70-130/30
74-97-5	Bromochloromethane	ND		50	53.1	106	54.1	108	2	70-130/30
75-27-4	Bromodichloromethane	ND		50	50.1	100	51.0	102	2	70-130/30
75-25-2	Bromoform	ND		50	41.4	83	44.1	88	6	70-130/30
74-83-9	Bromomethane	ND		50	56.6	113	63.5	127	11	70-130/30
78-93-3	2-Butanone (MEK)	ND		50	42.2	84	44.0	88	4	70-130/30
104-51-8	n-Butylbenzene	ND		50	52.5	105	54.6	109	4	70-130/30
135-98-8	sec-Butylbenzene	ND		50	53.9	108	55.0	110	2	70-130/30
98-06-6	tert-Butylbenzene	ND		50	50.1	100	50.8	102	1	70-130/30
75-15-0	Carbon disulfide	ND		50	60.8	122	60.3	121	1	70-130/30
56-23-5	Carbon tetrachloride	ND		50	39.2	78	39.1	78	0	70-130/30
108-90-7	Chlorobenzene	ND		50	53.0	106	54.5	109	3	70-130/30
75-00-3	Chloroethane	ND		50	56.0	112	56.0	112	0	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		50	51.9	104	52.5	105	1	70-130/30
67-66-3	Chloroform	ND		50	52.1	104	51.9	104	0	70-130/30
74-87-3	Chloromethane	ND		50	47.6	95	50.2	100	5	70-130/30
95-49-8	o-Chlorotoluene	ND		50	51.5	103	52.8	106	2	70-130/30
106-43-4	p-Chlorotoluene	ND		50	54.3	109	55.0	110	1	70-130/30
124-48-1	Dibromochloromethane	ND		50	45.4	91	47.4	95	4	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		50	52.1	104	53.9	108	3	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		50	52.4	105	53.6	107	2	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		50	49.3	99	50.5	101	2	70-130/30
75-71-8	Dichlorodifluoromethane	ND		50	48.5	97	46.8	94	4	70-130/30
75-34-3	1,1-Dichloroethane	ND		50	54.1	108	53.9	108	0	70-130/30
107-06-2	1,2-Dichloroethane	ND		50	46.4	93	46.5	93	0	70-130/30
75-35-4	1,1-Dichloroethene	ND		50	61.1	122	60.2	120	1	70-130/30
156-59-2	cis-1,2-Dichloroethene	1.4		50	53.9	105	53.5	104	1	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		50	52.6	105	52.9	106	1	70-130/30
78-87-5	1,2-Dichloropropane	ND		50	51.9	104	52.5	105	1	70-130/30
142-28-9	1,3-Dichloropropane	ND		50	47.4	95	49.5	99	4	70-130/30
594-20-7	2,2-Dichloropropane	ND		50	34.6	69* [a]	35.8	72	3	70-130/30
563-58-6	1,1-Dichloropropene	ND		50	53.4	107	52.2	104	2	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15701-1MS	N70231.D	1	11/20/12	JP	n/a	n/a	MSN2642
MC15701-1MSD	N70232.D	1	11/20/12	JP	n/a	n/a	MSN2642
MC15701-1	N70230.D	1	11/20/12	JP	n/a	n/a	MSN2642

The QC reported here applies to the following samples: Method: SW846 8260B

MC15773-1, MC15773-2, MC15773-3, MC15773-4, MC15773-5

CAS No.	Compound	MC15701-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		50	45.3	91	47.1	94	4	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		50	39.9	80	41.9	84	5	70-130/30
123-91-1	1,4-Dioxane	ND		250	232	93	237	95	2	70-130/30
97-63-2	Ethyl methacrylate	ND		50	41.8	84	43.8	88	5	72-139/30
100-41-4	Ethylbenzene	ND		50	49.1	98	50.1	100	2	70-130/30
87-68-3	Hexachlorobutadiene	ND		50	48.0	96	50.6	101	5	70-130/30
591-78-6	2-Hexanone	ND		50	35.2	70	39.2	78	11	70-130/30
98-82-8	Isopropylbenzene	ND		50	52.9	106	53.8	108	2	70-130/30
99-87-6	p-Isopropyltoluene	ND		50	52.0	104	52.7	105	1	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		50	41.8	84	43.7	87	4	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		50	35.3	71	36.9	74	4	70-130/30
74-95-3	Methylene bromide	ND		50	49.1	98	49.7	99	1	70-130/30
75-09-2	Methylene chloride	ND		50	54.7	109	54.4	109	1	70-130/30
91-20-3	Naphthalene	ND		50	41.5	83	46.5	93	11	70-130/30
103-65-1	n-Propylbenzene	ND		50	53.4	107	54.2	108	1	70-130/30
100-42-5	Styrene	ND		50	48.7	97	50.0	100	3	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		50	49.4	99	51.5	103	4	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		50	45.7	91	48.9	98	7	70-130/30
127-18-4	Tetrachloroethene	ND		50	49.8	100	49.9	100	0	70-130/30
108-88-3	Toluene	ND		50	52.2	104	51.9	104	1	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		50	46.0	92	50.4	101	9	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		50	49.5	99	53.0	106	7	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		50	43.9	88	43.7	87	0	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		50	49.3	99	50.3	101	2	70-130/30
79-01-6	Trichloroethene	ND		50	49.8	100	49.0	98	2	70-130/30
75-69-4	Trichlorofluoromethane	ND		50	49.8	100	49.6	99	0	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		50	43.1	86	46.7	93	8	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		50	47.7	95	48.6	97	2	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		50	47.3	95	48.1	96	2	70-130/30
108-05-4	Vinyl Acetate	ND		50	50.8	102	53.5	107	5	70-130/30
75-01-4	Vinyl chloride	ND		50	49.9	100	49.1	98	2	70-130/30
	m,p-Xylene	ND		100	101	101	103	103	2	70-130/30
95-47-6	o-Xylene	ND		50	52.5	105	54.4	109	4	70-130/30
1330-20-7	Xylene (total)	ND		150	154	103	158	105	3	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15701-1MS	N70231.D	1	11/20/12	JP	n/a	n/a	MSN2642
MC15701-1MSD	N70232.D	1	11/20/12	JP	n/a	n/a	MSN2642
MC15701-1	N70230.D	1	11/20/12	JP	n/a	n/a	MSN2642

The QC reported here applies to the following samples: Method: SW846 8260B

MC15773-1, MC15773-2, MC15773-3, MC15773-4, MC15773-5

CAS No.	Surrogate Recoveries	MS	MSD	MC15701-1	Limits
1868-53-7	Dibromofluoromethane	84%	85%	82%	70-130%
2037-26-5	Toluene-D8	85%	85%	85%	70-130%
460-00-4	4-Bromofluorobenzene	81%	82%	86%	70-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
(b) Outside control limits. Associated samples are non-detect for this compound.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15829-3MS	N70288.D	10	11/21/12	JP	n/a	n/a	MSN2644
MC15829-3MSD	N70289.D	10	11/21/12	JP	n/a	n/a	MSN2644
MC15829-3	N70287.D	10	11/21/12	JP	n/a	n/a	MSN2644

The QC reported here applies to the following samples: Method: SW846 8260B

MC15773-1, MC15773-2, MC15773-3, MC15773-4

CAS No.	Compound	MC15829-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		500	481	96	485	97	1	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	MC15829-3	Limits
1868-53-7	Dibromofluoromethane	84%	84%	84%	70-130%
2037-26-5	Toluene-D8	84%	85%	83%	70-130%
460-00-4	4-Bromofluorobenzene	81%	81%	88%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15901-1MS	N70332.D	5	11/22/12	JP	n/a	n/a	MSN2646
MC15901-1MSD	N70333.D	5	11/22/12	JP	n/a	n/a	MSN2646
MC15901-1	N70331.D	5	11/22/12	JP	n/a	n/a	MSN2646

The QC reported here applies to the following samples: Method: SW846 8260B

MC15773-3, MC15773-4

CAS No.	Compound	MC15901-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1090		250	1250	64* [a]	1300	84	4	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	MC15901-1	Limits
1868-53-7	Dibromofluoromethane	83%	83%	83%	70-130%
2037-26-5	Toluene-D8	85%	86%	85%	70-130%
460-00-4	4-Bromofluorobenzene	82%	82%	84%	70-130%

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2642-CC2591	Injection Date:	11/20/12
Lab File ID:	N70221.D	Injection Time:	11:50
Instrument ID:	GCMSN	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	325830	9.01	427965	9.88	198299	13.14	220406	15.70	82886	6.56
Upper Limit [a]	651660	9.51	855930	10.38	396598	13.64	440812	16.20	165772	7.06
Lower Limit [b]	162915	8.51	213983	9.38	99150	12.64	110203	15.20	41443	6.06
Lab Sample ID	**IS 1 AREA**	**RT**	**IS 2 AREA**	**RT**	**IS 3 AREA**	**RT**	**IS 4 AREA**	**RT**	**IS 5 AREA**	**RT**
MSN2642-BS	326338	9.01	432939	9.88	193798	13.14	219958	15.70	82356	6.56
MSN2642-MB	320919	9.01	418327	9.88	182602	13.14	192242	15.70	79532	6.58
ZZZZZZ	318695	9.01	418893	9.88	183209	13.14	190588	15.70	81203	6.57
MC15773-5	318128	9.01	418293	9.88	184661	13.14	192232	15.70	81570	6.58
ZZZZZZ	316483	9.01	419285	9.88	182459	13.14	188704	15.70	78119	6.58
MC15701-1	319074	9.01	418315	9.88	184763	13.14	192549	15.70	80964	6.58
MC15701-1MS	317218	9.01	421283	9.88	195793	13.14	216497	15.70	77890	6.56
MC15701-1MSD	316670	9.01	422483	9.88	190874	13.14	212632	15.70	80974	6.56
ZZZZZZ	287300	9.01	382715	9.88	167309	13.14	172071	15.70	71949	6.58
ZZZZZZ	314349	9.01	411443	9.88	180611	13.14	184453	15.70	86432	6.58
ZZZZZZ	310554	9.01	411289	9.88	180681	13.14	194046	15.70	78833	6.58
ZZZZZZ	308466	9.01	410796	9.88	180739	13.14	184367	15.70	78948	6.57
ZZZZZZ	306504	9.01	406908	9.88	179149	13.14	180121	15.70	72649	6.58
ZZZZZZ	306417	9.01	407329	9.88	178715	13.14	184312	15.70	79407	6.58
ZZZZZZ	308759	9.01	410096	9.88	179347	13.14	181583	15.70	72554	6.57
ZZZZZZ	307417	9.01	408271	9.88	177224	13.14	178994	15.70	70417	6.58
ZZZZZZ	299715	9.01	394620	9.88	175502	13.14	177581	15.70	71757	6.57
MC15773-1	278993	9.01	368483	9.88	162400	13.14	165562	15.70	71891	6.57
MC15773-2	298221	9.01	396050	9.88	175151	13.14	178379	15.70	70754	6.58
MC15773-3	301437	9.01	393256	9.88	174880	13.14	176758	15.70	65529	6.58
MC15773-4	302675	9.01	391176	9.88	173965	13.14	171955	15.70	74225	6.58

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: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2644-CC2591	Injection Date:	11/21/12
Lab File ID:	N70273.D	Injection Time:	12:20
Instrument ID:	GCMSN	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	301929	9.01	400606	9.88	182027	13.14	206420	15.70	92226	6.56
Upper Limit [a]	603858	9.51	801212	10.38	364054	13.64	412840	16.20	184452	7.06
Lower Limit [b]	150965	8.51	200303	9.38	91014	12.64	103210	15.20	46113	6.06
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2644-BS	301929	9.01	400606	9.88	182027	13.14	206420	15.70	92226	6.56
MSN2644-MB	287702	9.01	384616	9.88	170440	13.14	173304	15.70	76975	6.58
ZZZZZZ	302893	9.01	399834	9.88	175014	13.14	182501	15.70	74218	6.57
ZZZZZZ	308091	9.01	402589	9.88	180645	13.14	199780	15.70	72050	6.57
ZZZZZZ	310218	9.01	409629	9.88	178392	13.14	195363	15.70	73486	6.57
MC15773-1	303495	9.01	402484	9.88	177005	13.14	184942	15.70	76181	6.57
MC15773-2	306402	9.01	403267	9.88	178022	13.14	184334	15.70	76826	6.57
MC15773-3	304283	9.01	400889	9.88	178089	13.14	184628	15.70	80954	6.58
MC15773-4	301258	9.01	395291	9.88	176856	13.14	179039	15.70	81606	6.58
ZZZZZZ	298703	9.01	398964	9.88	175340	13.14	177266	15.70	72389	6.58
ZZZZZZ	293541	9.01	387441	9.88	168545	13.14	172970	15.70	63011	6.59
ZZZZZZ	293300	9.01	384401	9.88	168211	13.14	173552	15.70	76504	6.57
MC15829-3	294284	9.01	390464	9.88	170377	13.14	173231	15.70	71801	6.58
MC15829-3MS	289025	9.01	383645	9.88	172779	13.14	195569	15.70	77932	6.56
MC15829-3MSD	292161	9.01	384074	9.88	174856	13.14	196430	15.70	74725	6.56
ZZZZZZ	297324	9.01	390213	9.88	171301	13.14	178815	15.70	76556	6.57
ZZZZZZ	310487	9.01	404873	9.88	183930	13.14	192574	15.70	72493	6.57
ZZZZZZ	301678	9.01	397056	9.88	174911	13.14	193111	15.70	78508	6.57
ZZZZZZ	332456	9.01	433317	9.88	192491	13.14	217056	15.70	85579	6.57
ZZZZZZ	337064	9.01	430603	9.88	189722	13.14	214486	15.69	86106	6.57

IS 1 = Pentafluorobenzene
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5
IS 4 = 1,4-Dichlorobenzene-d4
IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2646-CC2591	Injection Date:	11/22/12
Lab File ID:	N70325.D	Injection Time:	12:49
Instrument ID:	GCMSN	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	286327	9.01	384071	9.88	178223	13.14	192412	15.70	80859	6.56
Upper Limit [a]	572654	9.51	768142	10.38	356446	13.64	384824	16.20	161718	7.06
Lower Limit [b]	143164	8.51	192036	9.38	89112	12.64	96206	15.20	40430	6.06
Lab Sample ID	**IS 1 AREA**	**RT**	**IS 2 AREA**	**RT**	**IS 3 AREA**	**RT**	**IS 4 AREA**	**RT**	**IS 5 AREA**	**RT**
MSN2646-BS	306895	9.01	410236	9.88	190001	13.14	208592	15.70	90374	6.56
MSN2646-BSD	305895	9.01	406670	9.88	183492	13.14	207867	15.70	88235	6.56
MSN2646-MB	301526	9.01	402898	9.88	177475	13.14	180609	15.70	94271	6.58
ZZZZZZ	288573	9.01	390490	9.88	170691	13.14	171189	15.70	83755	6.57
MC15901-1	304538	9.01	402367	9.88	179907	13.14	190877	15.70	80668	6.57
MC15901-1MS	306794	9.01	405276	9.88	188310	13.14	204273	15.70	88585	6.56
MC15901-1MSD	308456	9.01	408346	9.88	185979	13.14	204170	15.70	90989	6.56
ZZZZZZ	324492	9.01	429520	9.88	191192	13.14	202550	15.70	89156	6.57
MC15773-3	317164	9.01	424738	9.88	183784	13.14	187635	15.70	85274	6.58
MC15773-4	319566	9.01	424607	9.88	186655	13.14	186959	15.70	93092	6.58
ZZZZZZ	318060	9.01	419582	9.88	183210	13.14	183355	15.70	74976	6.56
ZZZZZZ	309352	9.01	411227	9.88	182824	13.14	182552	15.70	79055	6.56
ZZZZZZ	278781	9.01	369029	9.88	161380	13.14	156972	15.70	70116	6.58
ZZZZZZ	303294	9.01	401337	9.88	175381	13.14	174578	15.70	75139	6.57
ZZZZZZ	300768	9.01	398729	9.88	176613	13.14	181268	15.70	81721	6.56
ZZZZZZ	299997	9.02	404567	9.89	181744	13.14	214532	15.70	127404	6.67
ZZZZZZ	316367	9.01	412851	9.88	183137	13.14	197370	15.70	78024	6.58
ZZZZZZ	329295	9.01	429925	9.88	188113	13.14	199441	15.70	90544	6.58
ZZZZZZ	330395	9.01	433264	9.88	187717	13.14	198281	15.70	87027	6.57
ZZZZZZ	326627	9.01	428634	9.88	184643	13.14	191287	15.70	86273	6.58
ZZZZZZ	324867	9.01	426772	9.88	188152	13.14	194177	15.70	83889	6.58
ZZZZZZ	325331	9.01	428571	9.88	184395	13.14	190924	15.70	83023	6.59
ZZZZZZ	305666	9.01	406682	9.88	175658	13.14	179973	15.70	78360	6.58

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: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8260B Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC15773-1	N70279.D	83.0	84.0	86.0
MC15773-1	N70243.D	84.0	85.0	88.0
MC15773-2	N70280.D	82.0	85.0	87.0
MC15773-2	N70244.D	83.0	84.0	87.0
MC15773-3	N70281.D	82.0	84.0	87.0
MC15773-3	N70335.D	82.0	83.0	87.0
MC15773-3	N70245.D	83.0	85.0	87.0
MC15773-4	N70282.D	82.0	84.0	89.0
MC15773-4	N70336.D	84.0	84.0	89.0
MC15773-4	N70246.D	82.0	85.0	89.0
MC15773-5	N70228.D	84.0	85.0	87.0
MC15701-1MS	N70231.D	84.0	85.0	81.0
MC15701-1MSD	N70232.D	85.0	85.0	82.0
MC15829-3MS	N70288.D	84.0	84.0	81.0
MC15829-3MSD	N70289.D	84.0	85.0	81.0
MC15901-1MS	N70332.D	83.0	85.0	82.0
MC15901-1MSD	N70333.D	83.0	86.0	82.0
MSN2642-BS	N70224.D	84.0	84.0	82.0
MSN2642-MB	N70226.D	81.0	84.0	87.0
MSN2644-BS	N70273.D	84.0	85.0	81.0
MSN2644-MB	N70275.D	83.0	85.0	87.0
MSN2646-BS	N70326.D	84.0	84.0	82.0
MSN2646-BSD	N70327.D	84.0	85.0	81.0
MSN2646-MB	N70329.D	84.0	84.0	89.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	70-130%
S2 = Toluene-D8	70-130%
S3 = 4-Bromofluorobenzene	70-130%

New England ACCUTEST LABORATORIES

GC/MS Semi-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: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31023-MB	F59483.D	1	11/20/12	KR	11/14/12	OP31023	MSF2806

The QC reported here applies to the following samples: Method: SW846 8270C

MC15773-1, MC15773-2, MC15773-3, MC15773-4

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	5.0	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.25	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	

Method Blank Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31023-MB	F59483.D	1	11/20/12	KR	11/14/12	OP31023	MSF2806

The QC reported here applies to the following samples: Method: SW846 8270C

MC15773-1, MC15773-2, MC15773-3, MC15773-4

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.28	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	1.3	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.46	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	33%	15-110%
4165-62-2	Phenol-d5	24%	15-110%
118-79-6	2,4,6-Tribromophenol	67%	15-110%
4165-60-0	Nitrobenzene-d5	66%	30-130%
321-60-8	2-Fluorobiphenyl	63%	30-130%
1718-51-0	Terphenyl-d14	84%	30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

Method Blank Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31024-MB	I80122.D	1	11/20/12	NS	11/14/12	OP31024	MSI2985

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC15773-1, MC15773-2, MC15773-3, MC15773-4

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.049	0.10	0.014	ug/l	J
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	0.086	0.20	0.052	ug/l	J
85-01-8	Phenanthrene	0.056	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	33%	15-110%
4165-62-2	Phenol-d5	28%	15-110%
118-79-6	2,4,6-Tribromophenol	69%	15-110%
4165-60-0	Nitrobenzene-d5	66%	30-130%
321-60-8	2-Fluorobiphenyl	68%	30-130%
1718-51-0	Terphenyl-d14	87%	30-130%

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31023-BS	F59484.D	1	11/20/12	KR	11/14/12	OP31023	MSF2806
OP31023-BSD	F59485.D	1	11/20/12	KR	11/14/12	OP31023	MSF2806

The QC reported here applies to the following samples: Method: SW846 8270C

MC15773-1, MC15773-2, MC15773-3, MC15773-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	100	37.3	37	37.9	38	2	30-130/20
95-57-8	2-Chlorophenol	100	65.6	66	67.2	67	2	30-130/20
59-50-7	4-Chloro-3-methyl phenol	100	71.5	72	72.7	73	2	30-130/20
120-83-2	2,4-Dichlorophenol	100	71.8	72	73.9	74	3	30-130/20
105-67-9	2,4-Dimethylphenol	100	57.4	57	59.4	59	3	30-130/20
51-28-5	2,4-Dinitrophenol	100	71.6	72	76.9	77	7	30-130/20
534-52-1	4,6-Dinitro-o-cresol	100	74.6	75	76.5	77	3	30-130/20
95-48-7	2-Methylphenol	100	58.5	59	60.9	61	4	30-130/20
	3&4-Methylphenol	200	111	56	115	58	4	30-130/20
88-75-5	2-Nitrophenol	100	76.1	76	77.4	77	2	30-130/20
100-02-7	4-Nitrophenol	100	36.7	37	38.0	38	3	30-130/20
87-86-5	Pentachlorophenol	100	76.3	76	79.3	79	4	30-130/20
108-95-2	Phenol	100	31.5	32	32.7	33	4	30-130/20
95-95-4	2,4,5-Trichlorophenol	100	78.0	78	79.4	79	2	30-130/20
88-06-2	2,4,6-Trichlorophenol	100	72.8	73	78.0	78	7	30-130/20
62-53-3	Aniline	50	27.0	54	28.1	56	4	40-140/20
101-55-3	4-Bromophenyl phenyl ether	50	38.5	77	39.8	80	3	40-140/20
85-68-7	Butyl benzyl phthalate	50	44.6	89	45.9	92	3	40-140/20
100-51-6	Benzyl Alcohol	50	32.6	65	34.4	69	5	40-140/20
91-58-7	2-Chloronaphthalene	50	69.2	69	74.2	74	7	40-140/20
106-47-8	4-Chloroaniline	50	30.4	61	30.5	61	0	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	50	33.1	66	34.3	69	4	40-140/20
111-44-4	bis(2-Chloroethyl)ether	50	37.6	75	38.5	77	2	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	50	43.2	86	45.9	92	6	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	50	36.6	73	38.3	77	5	40-140/20
122-66-7	1,2-Diphenylhydrazine	50	38.6	77	40.0	80	4	40-140/20
121-14-2	2,4-Dinitrotoluene	50	74.9	75	80.8	81	8	40-140/20
606-20-2	2,6-Dinitrotoluene	50	75.8	76	82.2	82	8	40-140/20
91-94-1	3,3'-Dichlorobenzidine	50	29.9	60	22.5	45	28* a	40-140/20
132-64-9	Dibenzofuran	50	35.6	71	37.0	74	4	40-140/20
84-74-2	Di-n-butyl phthalate	50	41.6	83	42.7	85	3	40-140/20
117-84-0	Di-n-octyl phthalate	50	42.9	86	45.1	90	5	40-140/20
84-66-2	Diethyl phthalate	50	38.8	78	40.1	80	3	40-140/20
131-11-3	Dimethyl phthalate	50	37.8	76	39.2	78	4	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	50	45.4	91	46.4	93	2	40-140/20
118-74-1	Hexachlorobenzene	50	76.3	76	80.2	80	5	40-140/20

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31023-BS	F59484.D	1	11/20/12	KR	11/14/12	OP31023	MSF2806
OP31023-BSD	F59485.D	1	11/20/12	KR	11/14/12	OP31023	MSF2806

The QC reported here applies to the following samples: Method: SW846 8270C

MC15773-1, MC15773-2, MC15773-3, MC15773-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	50	66.5	67	69.7	70	5	40-140/20
67-72-1	Hexachloroethane	50	50.7	51	56.2	56	10	40-140/20
78-59-1	Isophorone	50	78.2	78	82.4	82	5	40-140/20
88-74-4	2-Nitroaniline	50	42.4	85	43.7	87	3	40-140/20
99-09-2	3-Nitroaniline	50	33.1	66	34.3	69	4	40-140/20
100-01-6	4-Nitroaniline	50	38.8	78	39.9	80	3	40-140/20
98-95-3	Nitrobenzene	50	72.4	72	76.1	76	5	40-140/20
62-75-9	n-Nitrosodimethylamine	50	24.6	49	25.8	52	5	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	50	41.6	83	41.7	83	0	40-140/20
86-30-6	N-Nitrosodiphenylamine	50	38.7	77	39.7	79	3	40-140/20
110-86-1	Pyridine	50	22.1	44	23.0	46	4	40-140/20

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	42%	43%	15-110%
4165-62-2	Phenol-d5	31%	32%	15-110%
118-79-6	2,4,6-Tribromophenol	79%	80%	15-110%
4165-60-0	Nitrobenzene-d5	76%	79%	30-130%
321-60-8	2-Fluorobiphenyl	69%	71%	30-130%
1718-51-0	Terphenyl-d14	93%	92%	30-130%

(a) Outside control limits. Individual spike recoveries within acceptance limits.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31024-BS	I80123.D	1	11/20/12	NS	11/14/12	OP31024	MSI2985
OP31024-BSD	I80124.D	1	11/20/12	NS	11/14/12	OP31024	MSI2985

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC15773-1, MC15773-2, MC15773-3, MC15773-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	50	39.9	80	41.7	83	4	40-140/30
208-96-8	Acenaphthylene	50	30.4	61	31.3	63	3	40-140/30
120-12-7	Anthracene	50	39.4	79	40.9	82	4	40-140/30
56-55-3	Benzo(a)anthracene	50	46.0	92	47.1	94	2	40-140/30
50-32-8	Benzo(a)pyrene	50	36.3	73	36.5	73	1	40-140/30
205-99-2	Benzo(b)fluoranthene	50	41.3	83	40.3	81	2	40-140/30
191-24-2	Benzo(g,h,i)perylene	50	40.1	80	41.3	83	3	40-140/30
207-08-9	Benzo(k)fluoranthene	50	43.3	87	47.1	94	8	40-140/30
218-01-9	Chrysene	50	41.2	82	42.3	85	3	40-140/30
53-70-3	Dibenzo(a,h)anthracene	50	42.9	86	44.2	88	3	40-140/30
206-44-0	Fluoranthene	50	43.0	86	44.2	88	3	40-140/30
86-73-7	Fluorene	50	40.9	82	42.4	85	4	40-140/30
193-39-5	Indeno(1,2,3-cd)pyrene	50	41.4	83	42.5	85	3	40-140/30
90-12-0	1-Methylnaphthalene	50	38.4	77	40.0	80	4	40-140/30
91-57-6	2-Methylnaphthalene	50	38.2	76	39.5	79	3	40-140/30
85-01-8	Phenanthrene	50	41.1	82	42.6	85	4	40-140/30
129-00-0	Pyrene	50	40.9	82	41.8	84	2	40-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	41%	41%	15-110%
4165-62-2	Phenol-d5	33%	33%	15-110%
118-79-6	2,4,6-Tribromophenol	79%	82%	15-110%
4165-60-0	Nitrobenzene-d5	75%	76%	30-130%
321-60-8	2-Fluorobiphenyl	75%	77%	30-130%
1718-51-0	Terphenyl-d14	93%	93%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31023-MS	F59486.D	1	11/20/12	KR	11/14/12	OP31023	MSF2806
OP31023-MSD	F59487.D	1	11/20/12	KR	11/14/12	OP31023	MSF2806
MC15914-14	F59488.D	1	11/20/12	KR	11/14/12	OP31023	MSF2806

The QC reported here applies to the following samples: Method: SW846 8270C

MC15773-1, MC15773-2, MC15773-3, MC15773-4

CAS No.	Compound	MC15914-14 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		100	36.9	37	38.2	38	3	30-130/20
95-57-8	2-Chlorophenol	ND		100	65.8	66	65.1	65	1	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		100	70.3	70	70.6	71	0	30-130/20
120-83-2	2,4-Dichlorophenol	ND		100	71.0	71	70.5	71	1	30-130/20
105-67-9	2,4-Dimethylphenol	ND		100	56.2	56	62.8	63	11	30-130/20
51-28-5	2,4-Dinitrophenol	ND		100	75.3	75	74.8	75	1	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		100	76.1	76	74.4	74	2	30-130/20
95-48-7	2-Methylphenol	ND		100	59.3	59	60.2	60	2	30-130/20
	3&4-Methylphenol	ND		200	110	55	111	56	1	30-130/20
88-75-5	2-Nitrophenol	ND		100	74.0	74	75.3	75	2	30-130/20
100-02-7	4-Nitrophenol	ND		100	36.7	37	36.0	36	2	30-130/20
87-86-5	Pentachlorophenol	ND		100	77.6	78	76.3	76	2	30-130/20
108-95-2	Phenol	ND		100	31.9	32	31.8	32	0	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		100	76.5	77	76.5	77	0	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		100	75.9	76	73.3	73	3	30-130/20
62-53-3	Aniline	ND		50	28.2	56	27.0	54	4	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		50	37.4	75	38.5	77	3	40-140/20
85-68-7	Butyl benzyl phthalate	ND		50	44.3	89	43.8	88	1	40-140/20
100-51-6	Benzyl Alcohol	ND		50	33.3	67	32.9	66	1	40-140/20
91-58-7	2-Chloronaphthalene	ND		50	70.9	71	71.2	71	0	40-140/20
106-47-8	4-Chloroaniline	ND		50	30.5	61	31.0	62	2	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		50	33.3	67	33.4	67	0	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		50	37.6	75	36.4	73	3	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		50	43.9	88	42.3	85	4	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		50	36.4	73	36.9	74	1	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		50	38.3	77	39.0	78	2	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		50	78.8	79	78.3	78	1	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		50	79.2	79	78.7	79	1	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		50	26.0	52	20.7	41	23* [a]	40-140/20
132-64-9	Dibenzofuran	ND		50	36.3	73	36.6	73	1	40-140/20
84-74-2	Di-n-butyl phthalate	ND		50	40.9	82	41.8	84	2	40-140/20
117-84-0	Di-n-octyl phthalate	ND		50	42.4	85	41.7	83	2	40-140/20
84-66-2	Diethyl phthalate	ND		50	38.6	77	38.5	77	0	40-140/20
131-11-3	Dimethyl phthalate	ND		50	38.5	77	38.5	77	0	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND		50	43.9	88	44.0	88	0	40-140/20
118-74-1	Hexachlorobenzene	ND		50	76.4	76	78.0	78	2	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31023-MS	F59486.D	1	11/20/12	KR	11/14/12	OP31023	MSF2806
OP31023-MSD	F59487.D	1	11/20/12	KR	11/14/12	OP31023	MSF2806
MC15914-14	F59488.D	1	11/20/12	KR	11/14/12	OP31023	MSF2806

The QC reported here applies to the following samples: Method: SW846 8270C

MC15773-1, MC15773-2, MC15773-3, MC15773-4

CAS No.	Compound	MC15914-14 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		50	67.1	67	74.0	74	10	40-140/20
67-72-1	Hexachloroethane	ND		50	54.4	54	54.4	54	0	40-140/20
78-59-1	Isophorone	ND		50	78.2	78	78.7	79	1	40-140/20
88-74-4	2-Nitroaniline	ND		50	43.6	87	43.2	86	1	40-140/20
99-09-2	3-Nitroaniline	ND		50	33.9	68	34.1	68	1	40-140/20
100-01-6	4-Nitroaniline	ND		50	39.1	78	37.8	76	3	40-140/20
98-95-3	Nitrobenzene	ND		50	73.4	73	74.0	74	1	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		50	24.7	49	24.2	48	2	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		50	40.7	81	40.4	81	1	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		50	37.1	74	38.6	77	4	40-140/20
110-86-1	Pyridine	ND		50	22.8	46	21.3	43	7	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15914-14	Limits
367-12-4	2-Fluorophenol	41%	40%	40%	15-110%
4165-62-2	Phenol-d5	31%	31%	28%	15-110%
118-79-6	2,4,6-Tribromophenol	76%	77%	73%	15-110%
4165-60-0	Nitrobenzene-d5	74%	74%	73%	30-130%
321-60-8	2-Fluorobiphenyl	68%	67%	68%	30-130%
1718-51-0	Terphenyl-d14	87%	88%	91%	30-130%

(a) Outside control limits. Individual spike recoveries within acceptance limits.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31024-MS	I80125.D	1	11/20/12	NS	11/14/12	OP31024	MSI2985
OP31024-MSD	I80126.D	1	11/20/12	NS	11/14/12	OP31024	MSI2985
MC15914-21	I80127.D	1	11/20/12	NS	11/14/12	OP31024	MSI2985

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC15773-1, MC15773-2, MC15773-3, MC15773-4

CAS No.	Compound	MC15914-21 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		50	39.6	79	38.1	76	4	40-140/20
208-96-8	Acenaphthylene	ND		50	30.1	60	29.5	59	2	40-140/20
120-12-7	Anthracene	ND		50	39.9	80	38.6	77	3	40-140/20
56-55-3	Benzo(a)anthracene	ND		50	46.1	92	43.8	88	5	40-140/20
50-32-8	Benzo(a)pyrene	ND		50	35.9	72	34.8	70	3	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		50	39.3	79	37.2	74	5	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND		50	39.9	80	38.1	76	5	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		50	45.5	91	43.4	87	5	40-140/20
218-01-9	Chrysene	ND		50	40.8	82	39.3	79	4	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		50	42.6	85	40.6	81	5	40-140/20
206-44-0	Fluoranthene	ND		50	42.9	86	40.6	81	6	40-140/20
86-73-7	Fluorene	ND		50	40.6	81	39.5	79	3	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		50	41.3	83	39.3	79	5	40-140/20
90-12-0	1-Methylnaphthalene	ND		50	38.6	77	37.1	74	4	40-140/20
91-57-6	2-Methylnaphthalene	ND		50	38.4	77	36.7	73	5	40-140/20
85-01-8	Phenanthrene	ND		50	41.8	84	40.2	80	4	40-140/20
129-00-0	Pyrene	ND		50	41.1	82	39.3	79	4	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15914-21	Limits
367-12-4	2-Fluorophenol	41%	40%	40%	15-110%
4165-62-2	Phenol-d5	32%	32%	33%	15-110%
118-79-6	2,4,6-Tribromophenol	80%	79%	75%	15-110%
4165-60-0	Nitrobenzene-d5	74%	73%	74%	30-130%
321-60-8	2-Fluorobiphenyl	74%	74%	74%	30-130%
1718-51-0	Terphenyl-d14	92%	93%	95%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSF2806-CC2795	Injection Date:	11/20/12
Lab File ID:	F59481.D	Injection Time:	15:14
Instrument ID:	GCMSF	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	149099	4.22	539718	5.20	356665	6.63	690867	8.01	768698	10.76	767658	12.24
Upper Limit [a]	298198	4.72	1079436	5.70	713330	7.13	1381734	8.51	1537396	11.26	1535316	12.74
Lower Limit [b]	74550	3.72	269859	4.70	178333	6.13	345434	7.51	384349	10.26	383829	11.74
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP31023-MB	166393	4.21	593825	5.20	391965	6.63	752213	8.01	826600	10.76	840048	12.23
OP31023-BS	169310	4.21	594906	5.20	399230	6.63	757626	8.00	823421	10.76	825106	12.23
OP31023-BSD	170752	4.21	607507	5.20	400833	6.63	763084	8.01	826812	10.76	807286	12.23
OP31023-MS	166610	4.21	603123	5.20	393539	6.63	762634	8.00	838639	10.76	834311	12.23
OP31023-MSD	167149	4.21	584866	5.20	388642	6.63	736577	8.01	801483	10.76	795012	12.23
MC15914-14	168839	4.21	602284	5.20	399499	6.63	756707	8.01	823330	10.76	838413	12.23
MC15773-1	160683	4.21	566974	5.20	373113	6.63	707465	8.00	756552	10.76	787525	12.23
MC15773-2	157743	4.21	555256	5.20	367021	6.63	688630	8.01	762087	10.76	770855	12.23
MC15773-3	163802	4.21	571232	5.20	390523	6.63	731897	8.01	794870	10.75	817584	12.23
ZZZZZZ	155159	4.21	569729	5.20	372562	6.63	715643	8.01	793064	10.76	812292	12.23
ZZZZZZ	150709	4.21	539908	5.20	359925	6.63	683624	8.00	729547	10.76	773413	12.23
ZZZZZZ	156272	4.21	558197	5.20	373238	6.63	703823	8.00	722027	10.76	738438	12.23
ZZZZZZ	148818	4.21	534678	5.20	355362	6.63	680130	8.00	737728	10.76	784373	12.23
ZZZZZZ	151763	4.21	538082	5.20	363683	6.63	674796	8.00	728607	10.76	777969	12.23
ZZZZZZ	159664	4.21	575143	5.20	378657	6.63	705701	8.01	718458	10.76	769326	12.23
ZZZZZZ	163949	4.21	594173	5.20	387391	6.63	718725	8.01	757409	10.76	755528	12.23
ZZZZZZ	143582	4.21	524488	5.20	344932	6.63	671911	8.00	733696	10.76	768707	12.23
ZZZZZZ	152804	4.21	559081	5.20	365062	6.63	683086	8.00	750867	10.76	781843	12.23
ZZZZZZ	150325	4.21	541548	5.20	359068	6.63	676797	8.00	725907	10.76	760172	12.23
ZZZZZZ	150368	4.21	539483	5.20	353974	6.63	678070	8.00	734092	10.76	773607	12.23
ZZZZZZ	155962	4.21	572277	5.20	376988	6.63	717760	8.00	784435	10.76	795994	12.23
ZZZZZZ	152527	4.21	539380	5.20	359597	6.63	670485	8.00	732294	10.76	764980	12.23
ZZZZZZ	149932	4.21	541900	5.20	351965	6.63	684872	8.00	742609	10.76	786851	12.24
ZZZZZZ	149910	4.21	539795	5.20	357361	6.63	677080	8.00	719624	10.76	780932	12.23

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Internal Standard Area Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSF2826-CC2795	Injection Date:	12/04/12
Lab File ID:	F59919.D	Injection Time:	07:56
Instrument ID:	GCMSF	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	160024	4.14	586776	5.13	402408	6.56	781025	7.92	879684	10.69	907365	12.16
Upper Limit [a]	320048	4.64	1173552	5.63	804816	7.06	1562050	8.42	1759368	11.19	1814730	12.66
Lower Limit [b]	80012	3.64	293388	4.63	201204	6.06	390513	7.42	439842	10.19	453683	11.66

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
ZZZZZZ	182007	4.14	655097	5.12	441843	6.56	856076	7.92	948331	10.68	997642	12.16
ZZZZZZ	184814	4.14	671928	5.13	445360	6.56	859634	7.92	944124	10.69	1037039	12.16
ZZZZZZ	180289	4.14	650710	5.13	448822	6.55	869826	7.92	963402	10.69	1019794	12.16
ZZZZZZ	199667	4.14	737024	5.13	496491	6.56	942762	7.92	1083936	10.68	1140197	12.16
ZZZZZZ	171160	4.14	633017	5.13	436373	6.56	830454	7.92	943569	10.68	980944	12.16
ZZZZZZ	174877	4.14	627093	5.12	421011	6.56	814793	7.93	929996	10.69	997495	12.16
ZZZZZZ	172865	4.14	632304	5.12	432509	6.56	823046	7.93	925985	10.69	995906	12.16
ZZZZZZ	170554	4.14	625326	5.13	428061	6.56	835877	7.92	960115	10.69	1034958	12.16
ZZZZZZ	210637	4.14	756870	5.13	506632	6.56	957423	7.92	1047498	10.68	1115395	12.16
ZZZZZZ	197102	4.14	737070	5.13	503322	6.56	995613	7.92	1120036	10.68	1181571	12.16
ZZZZZZ	176407	4.14	646434	5.13	439776	6.56	856287	7.92	934281	10.69	1049302	12.16
ZZZZZZ	225918	4.14	806015	5.13	543971	6.56	1023457	7.92	1100759	10.69	1218568	12.16
ZZZZZZ	131118	4.14	462299	5.13	312691	6.56	621600	7.92	723042	10.68	784097	12.16
ZZZZZZ	219001	4.14	790520	5.13	528104	6.56	1010229	7.93	1085115	10.69	1180389	12.16
ZZZZZZ	182710	4.14	651546	5.13	438215	6.56	829958	7.92	946936	10.68	1034399	12.16
MC16337-5	199688	4.14	716957	5.13	481809	6.56	927123	7.93	1078108	10.68	1189319	12.16
OP31251-MS1	206055	4.14	724252	5.13	475277	6.56	891003	7.92	985541	10.69	1097194	12.16
OP31251-MSD1	216367	4.14	762520	5.13	497538	6.56	927736	7.93	1005567	10.69	1135095	12.16
OP31283-MB	129140	4.14	464980	5.13	319523	6.55	619705	7.92	718748	10.69	784558	12.15
OP31283-BS	137682	4.14	491315	5.13	332950	6.56	652721	7.93	773521	10.69	845886	12.16
MC15773-1	133144	4.14	482346	5.13	329195	6.56	628755	7.92	743953	10.69	824527	12.15
MC15773-4	154969	4.14	546238	5.12	376806	6.56	721083	7.93	832651	10.68	898139	12.16
MC15773-2	130033	4.14	488595	5.12	330480	6.56	645335	7.92	775421	10.68	864576	12.16
OP31283-MS	139544	4.14	495341	5.13	328391	6.56	653889	7.93	759766	10.69	850513	12.16
OP31283-MSD	136635	4.14	491446	5.12	328402	6.56	656615	7.93	760710	10.69	827227	12.16
MC16500-3	135819	4.14	495565	5.13	335161	6.56	661668	7.92	783083	10.68	881004	12.16
ZZZZZZ	131875	4.14	472780	5.13	317250	6.56	623698	7.92	736430	10.68	819948	12.16
ZZZZZZ	140747	4.14	507601	5.13	339653	6.56	670831	7.92	797992	10.68	877320	12.16
ZZZZZZ	133357	4.14	486530	5.13	328037	6.56	640658	7.92	755181	10.68	836324	12.16

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12

Semivolatile Internal Standard Area Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSF2826-CC2795	Injection Date:	12/04/12
Lab File ID:	F59919.D	Injection Time:	07:56
Instrument ID:	GCMSF	Method:	SW846 8270C

Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

7.4.2

7

Semivolatile Internal Standard Area Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSI2985-CC2981	Injection Date:	11/20/12
Lab File ID:	I80110.D	Injection Time:	15:54
Instrument ID:	GCMSI	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	437354	3.84	1147473	4.81	591118	6.22	982496	7.52	741799	10.27	1495323	11.70
Upper Limit [a]	874708	4.34	2294946	5.31	1182236	6.72	1964992	8.02	1483598	10.77	2990646	12.20
Lower Limit [b]	218677	3.34	573737	4.31	295559	5.72	491248	7.02	370900	9.77	747662	11.20
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
ZZZZZZ	471521	3.84	1273813	4.81	644687	6.22	1075096	7.52	821971	10.26	1657628	11.69
ZZZZZZ	488006	3.84	1293898	4.81	661712	6.22	1086024	7.52	829625	10.26	1678618	11.69
ZZZZZZ	471641	3.84	1254869	4.81	642010	6.22	1065615	7.52	821817	10.26	1643868	11.69
ZZZZZZ	528913	3.84	1414985	4.81	736007	6.22	1220145	7.52	946728	10.26	1899220	11.69
OP31059-MS	501480	3.84	1332096	4.81	816070	6.22	1057798	7.53	768011	10.27	1495559	11.69
OP31059-MSD	478771	3.84	1273504	4.81	813491	6.22	1063305	7.53	793405	10.27	1604939	11.70
MC15901-2	469607	3.84	1258994	4.81	814732	6.22	1056025	7.52	807236	10.26	1623496	11.69
ZZZZZZ	483157	3.84	1319991	4.82	662471	6.22	1107954	7.52	847966	10.26	1715740	11.69
ZZZZZZ	455396	3.84	1229870	4.81	609840	6.22	1027842	7.52	786463	10.26	1580249	11.69
ZZZZZZ	485907	3.84	1300740	4.81	659030	6.22	1081258	7.52	851532	10.26	1720100	11.69
ZZZZZZ	449940	3.84	1204364	4.81	623243	6.22	1036109	7.52	806872	10.26	1622647	11.69
OP31024-MB	458332	3.84	1232685	4.81	628835	6.21	1054203	7.52	815766	10.26	1638943	11.69
OP31024-BS	451415	3.84	1199112	4.81	597523	6.22	990901	7.52	742924	10.26	1451200	11.69
OP31027-BS	451415	3.84	1199112	4.81	597523	6.22	990901	7.52	742924	10.26	1451200	11.69
OP31024-BSD	437749	3.84	1184025	4.81	580298	6.22	947367	7.52	708898	10.26	1383678	11.69
OP31024-MS	447588	3.84	1192715	4.81	593868	6.22	963893	7.52	732873	10.26	1431648	11.69
OP31024-MSD	420079	3.84	1113489	4.81	557567	6.22	910824	7.52	689331	10.26	1358654	11.69
MC15914-21	422968	3.84	1147816	4.81	584392	6.21	954548	7.52	736632	10.26	1502615	11.69
MC15773-1	413657	3.84	1108620	4.81	564563	6.21	934314	7.52	703357	10.26	1425650	11.69
MC15773-2	399310	3.84	1089966	4.81	553021	6.21	923854	7.52	720425	10.26	1460253	11.69
MC15773-3	436561	3.84	1167064	4.81	591536	6.21	975821	7.52	756817	10.26	1507352	11.69
ZZZZZZ	382517	3.84	1034139	4.81	520772	6.21	861440	7.52	665763	10.26	1291196	11.69
ZZZZZZ	386019	3.84	1031015	4.81	525211	6.21	861535	7.52	675834	10.26	1340856	11.68
ZZZZZZ	378798	3.84	1029050	4.81	508354	6.21	857260	7.52	646781	10.26	1309192	11.69
ZZZZZZ	398188	3.84	1064697	4.81	529523	6.21	866925	7.52	643254	10.26	1277445	11.69

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Internal Standard Area Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSI2987-CC2981	Injection Date:	11/21/12
Lab File ID:	I80158.D	Injection Time:	15:27
Instrument ID:	GCMSI	Method:	SW846 8270C BY SIM

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	401751	3.83	1118946	4.80	563528	6.20	950211	7.51	741906	10.24	1501233	11.66
Upper Limit [a]	803502	4.33	2237892	5.30	1127056	6.70	1900422	8.01	1483812	10.74	3002466	12.16
Lower Limit [b]	200876	3.33	559473	4.30	281764	5.70	475106	7.01	370953	9.74	750617	11.16
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
ZZZZZZ	412341	3.83	1123384	4.80	562665	6.20	940247	7.50	718662	10.24	1420049	11.66
ZZZZZZ	382213	3.83	1045114	4.80	532565	6.20	890275	7.50	668760	10.24	1343906	11.66
ZZZZZZ	393248	3.83	1076228	4.80	541145	6.20	916339	7.51	696150	10.24	1402251	11.66
ZZZZZZ	390091	3.83	1071743	4.80	539337	6.20	898888	7.50	687768	10.24	1387729	11.66
ZZZZZZ	387117	3.83	1061285	4.80	537218	6.20	890486	7.50	681724	10.24	1382671	11.66
ZZZZZZ	390596	3.83	1069867	4.80	541986	6.20	896182	7.50	681630	10.24	1351476	11.66
ZZZZZZ	407490	3.83	1114103	4.80	552975	6.20	920206	7.50	712192	10.24	1418215	11.66
ZZZZZZ	379759	3.83	1042351	4.80	536350	6.20	885470	7.50	667650	10.24	1335199	11.66
ZZZZZZ	399460	3.83	1089520	4.80	546958	6.20	913905	7.50	687045	10.24	1372985	11.66
ZZZZZZ	387204	3.83	1041189	4.80	528807	6.20	876323	7.50	679007	10.24	1375535	11.66
ZZZZZZ	394969	3.83	1050422	4.80	542754	6.20	896419	7.50	692025	10.24	1397729	11.66
ZZZZZZ	400903	3.83	1080379	4.80	544254	6.20	902814	7.50	693739	10.24	1381087	11.66
ZZZZZZ	407664	3.83	1127725	4.80	566001	6.20	934674	7.50	712859	10.24	1433000	11.66
ZZZZZZ	388892	3.83	1044096	4.79	539177	6.20	890762	7.50	670637	10.24	1344594	11.66
ZZZZZZ	396028	3.83	1066040	4.80	551899	6.20	907488	7.50	689839	10.24	1386277	11.66
ZZZZZZ	415503	3.83	1128020	4.80	589578	6.20	980166	7.50	759433	10.24	1534059	11.66
ZZZZZZ	400355	3.83	1094561	4.80	565855	6.20	952699	7.50	737072	10.24	1468126	11.66
ZZZZZZ	392652	3.83	1069386	4.80	541748	6.20	888291	7.50	668094	10.24	1312668	11.66
ZZZZZZ	374467	3.83	1030401	4.80	521528	6.20	878676	7.50	688948	10.24	1379058	11.66
ZZZZZZ	370034	3.83	1016729	4.80	510810	6.20	867816	7.50	667724	10.24	1311087	11.66
ZZZZZZ	374842	3.83	1034239	4.80	524078	6.20	807774	7.51	688517	10.24	1386032	11.66
ZZZZZZ	374431	3.83	1015491	4.80	516697	6.20	879059	7.50	673454	10.24	1318184	11.66
ZZZZZZ	395451	3.83	899008	4.81	528354	6.21	921623	7.52	734271	10.24	1447424	11.66
ZZZZZZ	374076	3.83	1038838	4.80	533575	6.20	895932	7.50	685339	10.24	1395453	11.66
ZZZZZZ	381190	3.83	1037179	4.80	532563	6.20	894590	7.50	699491	10.24	1409376	11.66
ZZZZZZ	360642	3.83	1003508	4.80	512022	6.20	863156	7.50	678485	10.24	1362075	11.66
MC15773-4	387050	3.83	1045481	4.80	534667	6.20	899140	7.50	702637	10.24	1412480	11.66

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

Semivolatile Internal Standard Area Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSI2987-CC2981	Injection Date:	11/21/12
Lab File ID:	I80158.D	Injection Time:	15:27
Instrument ID:	GCMSI	Method:	SW846 8270C BY SIM

Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

7.4.4

7

Semivolatile Surrogate Recovery Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15773-1	F59940.D	43.0	35.0	84.0	73.0	70.0	62.0
MC15773-1	F59489.D	44.0	36.0	86.0	76.0	71.0	63.0
MC15773-2	F59942.D	35.0	29.0	81.0	72.0	67.0	50.0
MC15773-2	F59490.D	34.0	27.0	80.0	70.0	65.0	50.0
MC15773-3	F59491.D	37.0	27.0	77.0	71.0	65.0	89.0
MC15773-4	F59941.D	37.0	32.0	85.0	71.0	65.0	94.0
OP31023-BS	F59484.D	42.0	31.0	79.0	76.0	69.0	93.0
OP31023-BSD	F59485.D	43.0	32.0	80.0	79.0	71.0	92.0
OP31023-MB	F59483.D	33.0	24.0	67.0	66.0	63.0	84.0
OP31023-MS	F59486.D	41.0	31.0	76.0	74.0	68.0	87.0
OP31023-MSD	F59487.D	40.0	31.0	77.0	74.0	67.0	88.0

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	15-110%
S2 = Phenol-d5	15-110%
S3 = 2,4,6-Tribromophenol	15-110%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

Semivolatile Surrogate Recovery Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC15773-1	I80128.D	75.0	76.0	65.0
MC15773-2	I80129.D	67.0	70.0	53.0
MC15773-3	I80130.D	69.0	70.0	93.0
MC15773-4	I80185.D	68.0	71.0	102.0
OP31024-BS	I80123.D	75.0	75.0	93.0
OP31024-BSD	I80124.D	76.0	77.0	93.0
OP31024-MB	I80122.D	66.0	68.0	87.0
OP31024-MS	I80125.D	74.0	74.0	92.0
OP31024-MSD	I80126.D	73.0	74.0	93.0

Surrogate Compounds	Recovery Limits
S1 = Nitrobenzene-d5	30-130%
S2 = 2-Fluorobiphenyl	30-130%
S3 = Terphenyl-d14	30-130%

New England ACCUTEST LABORATORIES

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: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31005-MB	BK18816.D	1	11/13/12	AP	11/12/12	OP31005	GBK686

The QC reported here applies to the following samples: Method: SW846 8011

MC15773-1, MC15773-2, MC15773-3, MC15773-4, MC15773-6

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	88%	36-173%
460-00-4	Bromofluorobenzene (S)	94%	36-173%

Blank Spike Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31005-BS	BK18817.D	1	11/13/12	AP	11/12/12	OP31005	GBK686

The QC reported here applies to the following samples: Method: SW846 8011

MC15773-1, MC15773-2, MC15773-3, MC15773-4, MC15773-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.070	99	60-140
106-93-4	1,2-Dibromoethane	0.071	0.075	106	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	92%	36-173%
460-00-4	Bromofluorobenzene (S)	96%	36-173%

8.2.1

8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31005-MS	BK18818.D	1	11/13/12	AP	11/12/12	OP31005	GBK686
OP31005-MSD	BK18819.D	1	11/13/12	AP	11/12/12	OP31005	GBK686
MC15914-8	BK18820.D	1	11/13/12	AP	11/12/12	OP31005	GBK686

The QC reported here applies to the following samples: Method: SW846 8011

MC15773-1, MC15773-2, MC15773-3, MC15773-4, MC15773-6

CAS No.	Compound	MC15914-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		0.071	0.071	100	0.071	100	0	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.071	0.075	106	0.075	106	0	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC15914-8	Limits
460-00-4	Bromofluorobenzene (S)	92%	98%	90%	36-173%
460-00-4	Bromofluorobenzene (S)	98%	104%	96%	36-173%

8.3.1

8

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8011 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC15773-1	BK18824.D	106.0	128.0
MC15773-2	BK18825.D	106.0	128.0
MC15773-3	BK18827.D	99.0	112.0
MC15773-4	BK18828.D	95.0	106.0
MC15773-6	BK18829.D	103.0	119.0
OP31005-BS	BK18817.D	92.0	96.0
OP31005-MB	BK18816.D	88.0	94.0
OP31005-MS	BK18818.D	92.0	98.0
OP31005-MSD	BK18819.D	98.0	104.0

Surrogate Compounds	Recovery Limits
S1 = Bromofluorobenzene (S)	36-173%

(a) Recovery from GC signal #1
(b) Recovery from GC signal #2

GC Surrogate Retention Time Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBK686-ICC686	Injection Date:	11/13/12
Lab File ID:	BK18811.D	Injection Time:	13:49
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.93	4.61

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK18814A.D	11/13/12	15:02	4.93	4.61
OP31005-MB	BK18816.D	11/13/12	15:50	4.93	4.61
OP31005-BS	BK18817.D	11/13/12	16:14	4.93	4.61
OP31005-MS	BK18818.D	11/13/12	16:38	4.93	4.61
OP31005-MSD	BK18819.D	11/13/12	17:03	4.93	4.61
MC15914-8	BK18820.D	11/13/12	17:27	4.93	4.61
ZZZZZZ	BK18821.D	11/13/12	17:51	4.93	4.61
ZZZZZZ	BK18822.D	11/13/12	18:15	4.93	4.61
ZZZZZZ	BK18823.D	11/13/12	18:39	4.93	4.61
MC15773-1	BK18824.D	11/13/12	19:03	4.93	4.61
MC15773-2	BK18825.D	11/13/12	19:27	4.93	4.61

Surrogate Compounds

S1 = Bromofluorobenzene (S)

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: MC15773
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBK686-CC686	Injection Date:	11/13/12
Lab File ID:	BK18826.D	Injection Time:	19:51
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.93	4.61

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
MC15773-3	BK18827.D	11/13/12	20:16	4.93	4.61
MC15773-4	BK18828.D	11/13/12	20:40	4.93	4.61
MC15773-6	BK18829.D	11/13/12	21:05	4.93	4.61
OP31006-MB	BK18830.D	11/13/12	21:29	4.93	4.61
OP31006-BS	BK18831.D	11/13/12	21:53	4.93	4.61
OP31006-MS	BK18832.D	11/13/12	22:18	4.93	4.61
OP31006-MSD	BK18833.D	11/13/12	22:42	4.93	4.61
MC15914-9	BK18834.D	11/13/12	23:06	4.93	4.61
ZZZZZZ	BK18835.D	11/13/12	23:31	4.93	4.61
ZZZZZZ	BK18836.D	11/13/12	23:55	4.93	4.61

Surrogate Compounds

S1 = Bromofluorobenzene (S)

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

Roxana Groundwater Quarterly – 4th Quarter 2012 Data Review

Laboratory SDG: MC15840

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 12/5/2012

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Sample Identification	Sample Identification
P93C-ROX-110812	P93D-ROX-110812
MW13-ROX-110812	TB-110812-HCL-W
TB-110812-ST-W	-

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated that VOC and SVOC LCS/LCSD recoveries and SVOC LCS/LCSD RPDs were outside evaluation criteria. Perylene-d_{12} internal standard area recovery for the PAH method blank was outside evaluation criteria. Although not indicated in the laboratory case narrative, diethyl phthalate was detected in the method blank. Additionally, the initial calibration verification for acetone exceeded 50 percent difference (%D) in trip blank TB-110812-HCL-W. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated one of two coolers were received by the laboratory at a temperature of 1.5ºC, which is outside the 4ºC ± 2ºC criteria. Samples were received in good condition; therefore, no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
OP31045-MB	SVOCs	Diethyl phthalate	0.33 ug/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSN2644-BS	VOCs	Acrolein	**60**	NA	70-130
MSN2644-BS	VOCs	Acrylonitrile	**508**	NA	70-130
MSN2646-BS/BSD	VOCs	Acrolein	70/**66**	6	70-130/25
MSN2646-BS/BSD	VOCs	Acrylonitrile	**518/538**	4	70-130/25
OP31045-BS	SVOCs	Aniline	**37**	NA	40-140
OP31045-BS	SVOCs	Pyridine	**26**	NA	40-140

Analytical data that required qualification based on LCS data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. LCS MSN2644-BS was associated with trip blank TB-110812-HCL-W. Trip blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
P93C-ROX-110812	VOCs	Acrolein	**UJ**
P93D-ROX-110812	VOCs	Acrolein	**UJ**
MW13-ROX-110812	VOCs	Acrolein	**UJ**
P93C-ROX-110812	SVOCs	Aniline	**UJ**
P93C-ROX-110812	SVOCs	Pyridine	**UJ**
P93D-ROX-110812	SVOCs	Aniline	**UJ**
P93D-ROX-110812	SVOCs	Pyridine	**UJ**
MW13-ROX-110812	SVOCs	Aniline	**UJ**
MW13-ROX-110812	SVOCs	Pyridine	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

No

Sample ID	Parameter	Analyte	IS Area Recovery	IS Criteria
OP31046-MB	PAHs	Perylene-d_{12}	**568712**	140684-562736

Method blanks are quality control samples and are not qualified. No qualification of data was required.

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; samples analyzed did not require dilution.

12.0 Additional Qualifications

Were additional qualifications applied?

No, although the initial calibration verification recovery for acetone exceeded 50 percent difference (%D) in trip blank TB-110812-HCL-W; trip blanks are quality control samples and are not qualified.

New England ACCUTEST LABORATORIES

12/05/12



Technical Report for

Shell Oil

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana,

Accutest Job Number: MC15840

Sampling Date: 11/08/12

Report to:

URS Corporation

elizabeth.kunkel@URS.com

ATTN: Elizabeth Kunkel

Total number of pages in report: **82**

Reviewed on 12/5/12

Reza Pand
Lab Director

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Test results relate only to samples analyzed.

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Sample Summary

Shell Oil

Job No: MC15840

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC15840-1	11/08/12	10:50	LRCK	11/09/12	AQ	Ground Water	P93C-ROX-110812
MC15840-2	11/08/12	11:50	LRCK	11/09/12	AQ	Ground Water	P93D-ROX-110812
MC15840-3	11/08/12	14:55	LRCK	11/09/12	AQ	Ground Water	MW13-ROX-110812
MC15840-4	11/08/12	00:00	LRCK	11/09/12	AQ	Trip Blank Water	TB-110812-HCL-W
MC15840-5	11/08/12	00:00	LRCK	11/09/12	AQ	Trip Blank Water	TB-110812-ST-W

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	**Job No**	MC15840
Site:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central	**Report Date**	12/5/2012 10:02:37 AM

3 Sample(s), 2 Trip Blank(s) were collected on 11/08/2012 and were received at Accutest on 11/09/2012 properly preserved, at 1.5 Deg. C and intact. These Samples received an Accutest job number of MC15840. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. 1-Chlorohexane, Benzenethiol, Dibenz(a,h)acridine, Indene, and Quinoline were searched in the library search and reported only if detections were found.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** MSN2644

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15829-3MS, MC15829-3MSD 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. Blank Spike meets program technical requirements.
- MS/MSD Recovery(s) for 2,2-Dichloropropane, 2-Hexanone, 4-Methyl-2-pentanone (MIBK), Acrolein are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC15829-3MS/MSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MSN2644-BS for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- Initial calibration verification MSN2591-ICV2591 for acetone exceeds 50% Difference (response bias high). Associated sample is non-detect for this compound.

Matrix AQ **Batch ID:** MSN2646

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15901-1MS, MC15901-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for Benzene, Ethylbenzene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for MSD for Acetone are outside control limits for sample MC15901-1MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- MC15901-1MS/MSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- MC15901-1MS/MSD for Acetone: Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MSN2646-BS/BSD for Acrylonitrile: Outside control limits. Associated samples are non-detect for this compound.
- Blank Spike Recovery(s) for Acrolein are outside control limits. Blank Spike meets program technical requirements.

Extractables by GCMS By Method SW846 8270C

Matrix AQ	Batch ID: OP31045

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15914-18MS, MC15914-18MSD were used as the QC samples indicated.
- BS/MS/MSD Recovery(s) for Aniline, Pyridine are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 3,3'-Dichlorobenzidine, 3-Nitroaniline, 4-Chloroaniline, 4-Nitroaniline, Di-n-octyl phthalate, Hexachlorobenzene, Isophorone, N-Nitrosodiphenylamine, Phenol are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-Chloronaphthalene, Hexachlorobenzene, Isophorone, Nitrobenzene, Benzoic Acid are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- RPD(s) for MSD for 2-Nitroaniline, 3,3'-Dichlorobenzidine, 3-Nitroaniline, 4-Chloroaniline, 4-Nitroaniline, Benzoic Acid, Benzyl Alcohol, bis(2-Chloroethoxy)methane, Di-n-octyl phthalate, N-Nitrosodiphenylamine are outside control limits for sample OP31045-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- RPD of OP31045-MSD for Aniline, Pyridine: Outside control limits. Blank Spike meets program technical requirements.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix AQ	Batch ID: OP31046

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15914-19MS, MC15914-19MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- RPD(s) for MSD for Benzo(a)pyrene are outside control limits for sample OP31046-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.

Volatiles by GC By Method SW846 8011

Matrix AQ	Batch ID: OP31006

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15914-9MS, MC15914-9MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

The Accutest Laboratories of 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 Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC15840).

Summary of Hits

Job Number: MC15840
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 11/08/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC15840-1	P93C-ROX-110812					
Methyl Tert Butyl Ether		5.6	1.0	0.41	ug/l	SW846 8260B
bis(2-Ethylhexyl)phthalate		0.81 J	2.0	0.38	ug/l	SW846 8270C
MC15840-2	P93D-ROX-110812					
Benzene		49.0	0.50	0.24	ug/l	SW846 8260B
Methyl Tert Butyl Ether		2.3	1.0	0.41	ug/l	SW846 8260B
MC15840-3	MW13-ROX-110812					
Benzene		4.8	0.50	0.24	ug/l	SW846 8260B
Methyl Tert Butyl Ether		9.3	1.0	0.41	ug/l	SW846 8260B
Di-n-butyl phthalate		0.54 J	5.0	0.36	ug/l	SW846 8270C
MC15840-4	TB-110812-HCL-W					
No hits reported in this sample.						
MC15840-5	TB-110812-ST-W					
No hits reported in this sample.						

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	P93C-ROX-110812		
Lab Sample ID:	MC15840-1	Date Sampled:	11/08/12
Matrix:	AQ - Ground Water	Date Received:	11/09/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N70339.D	1	11/22/12	JP	n/a	n/a	MSN2646
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	ND	25	10	ug/l	uJ
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:	P93C-ROX-110812		
Lab Sample ID:	MC15840-1	**Date Sampled:**	11/08/12
Matrix:	AQ - Ground Water	**Date Received:**	11/09/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	5.6	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:	P93C-ROX-110812		
Lab Sample ID:	MC15840-1	Date Sampled:	11/08/12
Matrix:	AQ - Ground Water	Date Received:	11/09/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	82%		70-130%
2037-26-5	Toluene-D8	84%		70-130%
460-00-4	4-Bromofluorobenzene	91%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93C-ROX-110812		
Lab Sample ID:	MC15840-1	Date Sampled:	11/08/12
Matrix:	AQ - Ground Water	Date Received:	11/09/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W7071.D	1	11/19/12	KR	11/15/12	OP31045	MSW337
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	5.0	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	UJ
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.25	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
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J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93C-ROX-110812		
Lab Sample ID:	MC15840-1	Date Sampled:	11/08/12
Matrix:	AQ - Ground Water	Date Received:	11/09/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.81	2.0	0.38	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.28	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	1.3	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.46	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	39%		15-110%
4165-62-2	Phenol-d5	27%		15-110%
118-79-6	2,4,6-Tribromophenol	78%		15-110%
4165-60-0	Nitrobenzene-d5	71%		30-130%
321-60-8	2-Fluorobiphenyl	67%		30-130%
1718-51-0	Terphenyl-d14	58%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93C-ROX-110812		
Lab Sample ID:	MC15840-1	**Date Sampled:**	11/08/12
Matrix:	AQ - Ground Water	**Date Received:**	11/09/12
Method:	SW846 8270C BY SIM SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10830.D	1	11/19/12	NS	11/15/12	OP31046	MSU574
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	37%		15-110%
4165-62-2	Phenol-d5	27%		15-110%
118-79-6	2,4,6-Tribromophenol	86%		15-110%
4165-60-0	Nitrobenzene-d5	67%		30-130%
321-60-8	2-Fluorobiphenyl	65%		30-130%
1718-51-0	Terphenyl-d14	51%		30-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93C-ROX-110812		
Lab Sample ID:	MC15840-1	Date Sampled:	11/08/12
Matrix:	AQ - Ground Water	Date Received:	11/09/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18850.D	1	11/14/12	AP	11/12/12	OP31006	GBK686
Run #2							

	Initial Volume	Final Volume
Run #1	36.8 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.014	0.012	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0099	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	80%		36-173%
460-00-4	Bromofluorobenzene (S)	90%		36-173%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93D-ROX-110812		
Lab Sample ID:	MC15840-2	Date Sampled:	11/08/12
Matrix:	AQ - Ground Water	Date Received:	11/09/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N70340.D	1	11/22/12	JP	n/a	n/a	MSN2646
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	ND	25	10	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	49.0	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:	P93D-ROX-110812		
Lab Sample ID:	MC15840-2	Date Sampled:	11/08/12
Matrix:	AQ - Ground Water	Date Received:	11/09/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.3	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	P93D-ROX-110812		
Lab Sample ID:	MC15840-2	Date Sampled:	11/08/12
Matrix:	AQ - Ground Water	Date Received:	11/09/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	81%		70-130%
2037-26-5	Toluene-D8	84%		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	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:	P93D-ROX-110812		
Lab Sample ID:	MC15840-2	Date Sampled:	11/08/12
Matrix:	AQ - Ground Water	Date Received:	11/09/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W7072.D	1	11/19/12	KR	11/15/12	OP31045	MSW337
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.4	ug/l	
95-57-8	2-Chlorophenol	ND	5.5	0.44	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.41	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.41	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	3.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	5.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	2.7	ug/l	
95-48-7	2-Methylphenol	ND	11	0.66	ug/l	
	3&4-Methylphenol	ND	11	0.83	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.52	ug/l	
100-02-7	4-Nitrophenol	ND	22	3.0	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	ND	5.5	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.54	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.39	ug/l	
62-53-3	Aniline	ND	11	2.2	ug/l	UJ
101-55-3	4-Bromophenyl phenyl ether	ND	5.5	0.36	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.5	0.29	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.29	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.5	0.27	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.69	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.5	0.24	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.5	0.41	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.5	0.31	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.5	0.32	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.5	0.27	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.27	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.27	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.5	0.98	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.24	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.5	0.40	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.5	0.26	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93D-ROX-110812		
Lab Sample ID:	MC15840-2	Date Sampled:	11/08/12
Matrix:	AQ - Ground Water	Date Received:	11/09/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.5	0.21	ug/l	
131-11-3	Dimethyl phthalate	ND	5.5	0.24	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.41	ug/l	
118-74-1	Hexachlorobenzene	ND	5.5	0.27	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.5	ug/l	
67-72-1	Hexachloroethane	ND	5.5	0.31	ug/l	
78-59-1	Isophorone	ND	5.5	0.35	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.27	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.28	ug/l	
100-01-6	4-Nitroaniline	ND	11	1.4	ug/l	
98-95-3	Nitrobenzene	ND	5.5	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.5	0.65	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.5	0.30	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.5	0.48	ug/l	
110-86-1	Pyridine	ND	11	0.51	ug/l	U

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	35%		15-110%
4165-62-2	Phenol-d5	26%		15-110%
118-79-6	2,4,6-Tribromophenol	71%		15-110%
4165-60-0	Nitrobenzene-d5	66%		30-130%
321-60-8	2-Fluorobiphenyl	61%		30-130%
1718-51-0	Terphenyl-d14	58%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93D-ROX-110812		
Lab Sample ID:	MC15840-2	Date Sampled:	11/08/12
Matrix:	AQ - Ground Water	Date Received:	11/09/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10831.D	1	11/19/12	NS	11/15/12	OP31046	MSU574
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	ND	0.11	0.015	ug/l	
120-12-7	Anthracene	ND	0.11	0.019	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.055	0.033	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.055	0.026	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.041	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.064	ug/l	
218-01-9	Chrysene	ND	0.11	0.080	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.046	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.036	ug/l	
86-73-7	Fluorene	ND	0.11	0.051	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.051	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.22	0.057	ug/l	
85-01-8	Phenanthrene	ND	0.055	0.014	ug/l	
129-00-0	Pyrene	ND	0.11	0.039	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	34%		15-110%
4165-62-2	Phenol-d5	25%		15-110%
118-79-6	2,4,6-Tribromophenol	79%		15-110%
4165-60-0	Nitrobenzene-d5	62%		30-130%
321-60-8	2-Fluorobiphenyl	57%		30-130%
1718-51-0	Terphenyl-d14	51%		30-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P93D-ROX-110812		
Lab Sample ID:	MC15840-2	**Date Sampled:**	11/08/12
Matrix:	AQ - Ground Water	**Date Received:**	11/09/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18851.D	1	11/14/12	AP	11/12/12	OP31006	GBK686
Run #2							

	Initial Volume	Final Volume
Run #1	37.0 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.014	0.012	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0098	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	72%		36-173%
460-00-4	Bromofluorobenzene (S)	81%		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:	MW13-ROX-110812		
Lab Sample ID:	MC15840-3	Date Sampled:	11/08/12
Matrix:	AQ - Ground Water	Date Received:	11/09/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N70341.D	1	11/22/12	JP	n/a	n/a	MSN2646
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	ND	25	10	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	4.8	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.3	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:	MW13-ROX-110812		
Lab Sample ID:	MC15840-3	**Date Sampled:**	11/08/12
Matrix:	AQ - Ground Water	**Date Received:**	11/09/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	9.3	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	MW13-ROX-110812		
Lab Sample ID:	MC15840-3	**Date Sampled:**	11/08/12
Matrix:	AQ - Ground Water	**Date Received:**	11/09/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, 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	84%		70-130%
460-00-4	4-Bromofluorobenzene	105%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

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:	MW13-ROX-110812		
Lab Sample ID:	MC15840-3	Date Sampled:	11/08/12
Matrix:	AQ - Ground Water	Date Received:	11/09/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W7073.D	1	11/19/12	KR	11/15/12	OP31045	MSW337
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	5.0	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	UJ
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.25	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	0.54	5.0	0.36	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW13-ROX-110812		
Lab Sample ID:	MC15840-3	**Date Sampled:**	11/08/12
Matrix:	AQ - Ground Water	**Date Received:**	11/09/12
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.28	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	1.3	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.46	ug/l	كنك

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	29%		15-110%
4165-62-2	Phenol-d5	23%		15-110%
118-79-6	2,4,6-Tribromophenol	77%		15-110%
4165-60-0	Nitrobenzene-d5	60%		30-130%
321-60-8	2-Fluorobiphenyl	62%		30-130%
1718-51-0	Terphenyl-d14	86%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected MDL - Method Detection Limit
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:	MW13-ROX-110812		
Lab Sample ID:	MC15840-3	Date Sampled:	11/08/12
Matrix:	AQ - Ground Water	Date Received:	11/09/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U10832.D	1	11/19/12	NS	11/15/12	OP31046	MSU574
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	28%		15-110%
4165-62-2	Phenol-d5	23%		15-110%
118-79-6	2,4,6-Tribromophenol	83%		15-110%
4165-60-0	Nitrobenzene-d5	57%		30-130%
321-60-8	2-Fluorobiphenyl	62%		30-130%
1718-51-0	Terphenyl-d14	74%		30-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW13-ROX-110812		
Lab Sample ID:	MC15840-3	**Date Sampled:**	11/08/12
Matrix:	AQ - Ground Water	**Date Received:**	11/09/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18852.D	1	11/14/12	AP	11/12/12	OP31006	GBK686
Run #2							

	Initial Volume	Final Volume
Run #1	36.7 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.014	0.012	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0099	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	104%		36-173%
460-00-4	Bromofluorobenzene (S)	85%		36-173%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-110812-HCL-W		
Lab Sample ID:	MC15840-4	**Date Sampled:**	11/08/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/09/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N70284.D	1	11/21/12	JP	n/a	n/a	MSN2644
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	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:	TB-110812-HCL-W		
Lab Sample ID:	MC15840-4	Date Sampled:	11/08/12
Matrix:	AQ - Trip Blank Water	Date Received:	11/09/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	TB-110812-HCL-W		
Lab Sample ID:	MC15840-4	**Date Sampled:**	11/08/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/09/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, 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	83%		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/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-110812-ST-W		
Lab Sample ID:	MC15840-5	Date Sampled:	11/08/12
Matrix:	AQ - Trip Blank Water	Date Received:	11/09/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18853.D	1	11/14/12	AP	11/12/12	OP31006	GBK686
Run #2							

	Initial Volume	Final Volume
Run #1	35.3 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	80%		36-173%
460-00-4	Bromofluorobenzene (S)	91%		36-173%

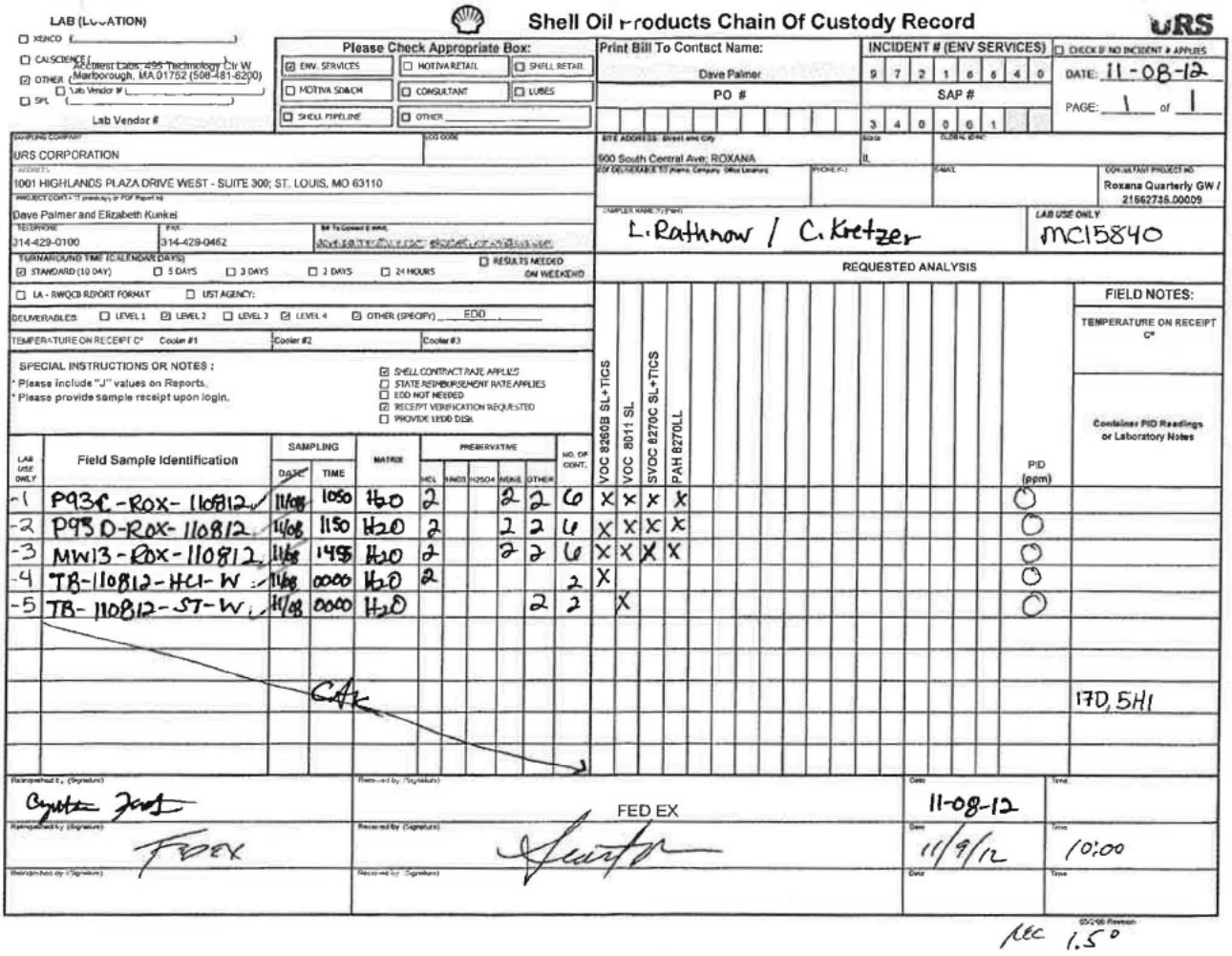
ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

New England ACCUTEST LABORATORIES

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody



LAB (LOCATION)

☐ XENCO ( )
☐ CALSCIENCE ( )
☑ OTHER (Accutest Labs, 495 Technology Ctr W Marlborough, MA 01752 (508-481-6200))
☐ SPL (Lab Vendor #)

Lab Vendor #

Shell Oil Products Chain Of Custody Record

URS

Please Check Appropriate Box:

☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SD&CM ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Dave Palmer

PO #

INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0

SAP #: 3 4 0 0 0 1

☐ CHECK IF NO INCIDENT # APPLIES

DATE: 11-08-12

PAGE: 1 of 1

SAMPLING COMPANY: URS CORPORATION

LOG CODE:

SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA

State: IL

GLOBAL ID NO.:

ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110

EDF DELIVERABLE TO (Name, Company, Office Location):

PHONE (F-):

EMAIL:

CONSULTANT PROJECT NO.: Roxana Quarterly GW / 21562735.00009

PROJECT CONTACT (Hardcopy or PDF Report to): Dave Palmer and Elizabeth Kunkel

TELEPHONE: 314-429-0100

FAX: 314-429-0462

Bill To Contact Email:

SAMPLER NAME(S) (Print): L. Rathnow / C. Kretzer

LAB USE ONLY: MC15840

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (10 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C°: Cooler #1 | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:
* Please include "J" values on Reports.
* Please provide sample receipt upon login.

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

FIELD NOTES: TEMPERATURE ON RECEIPT C°

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	VOC 8260B SL+TICS	VOC 8011 SL	SVOC 8270C SL+TICS	PAH 8270LL	PID (ppm)	Container PID Readings or Laboratory Notes
-1	P93C-ROX-110812	11/08	1050	H2O	2			2	2	6	X	X	X	X	0	
-2	P95D-ROX-110812	11/08	1150	H2O	2			2	2	6	X	X	X	X	0	
-3	MW13-ROX-110812	11/08	1455	H2O	2			2	2	6	X	X	X	X	0	
-4	TB-110812-HCl-W	11/08	0000	H2O	2					2	X				0	
-5	TB-110812-ST-W	11/08	0000	H2O					2	2		X			0	
																17D, 5H1

CAK

Relinquished by (Signature)	Received by (Signature)	Date	Time
[signature]	FED EX	11-08-12	
FEDEX	[signature]	11/9/12	10:00

REC 1.5°

MC15840: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC15840 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 11/9/2012 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900 SO CENTRAL **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

5.1

5

MC15840: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15840

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15840-1 Collected: 08-NOV-12 10:50 By: LRCK Received: 09-NOV-12 By: P93C-ROX-110812						
MC15840-1	SW846 8011	14-NOV-12 05:36	AP	12-NOV-12	CA	V8011SL
MC15840-1	SW846 8270C BY SIM	19-NOV-12 10:10	NS	15-NOV-12	FC	B8270SIMSL
MC15840-1	SW846 8270C	19-NOV-12 20:26	KR	15-NOV-12	FC	AB8270SL+
MC15840-1	SW846 8260B	22-NOV-12 19:24	JP			V8260SL+
MC15840-2 Collected: 08-NOV-12 11:50 By: LRCK Received: 09-NOV-12 By: P93D-ROX-110812						
MC15840-2	SW846 8011	14-NOV-12 06:00	AP	12-NOV-12	CA	V8011SL
MC15840-2	SW846 8270C BY SIM	19-NOV-12 10:33	NS	15-NOV-12	FC	B8270SIMSL
MC15840-2	SW846 8270C	19-NOV-12 20:49	KR	15-NOV-12	FC	AB8270SL+
MC15840-2	SW846 8260B	22-NOV-12 19:52	JP			V8260SL+
MC15840-3 Collected: 08-NOV-12 14:55 By: LRCK Received: 09-NOV-12 By: MW13-ROX-110812						
MC15840-3	SW846 8011	14-NOV-12 06:24	AP	12-NOV-12	CA	V8011SL
MC15840-3	SW846 8270C BY SIM	19-NOV-12 10:56	NS	15-NOV-12	FC	B8270SIMSL
MC15840-3	SW846 8270C	19-NOV-12 21:11	KR	15-NOV-12	FC	AB8270SL+
MC15840-3	SW846 8260B	22-NOV-12 20:20	JP			V8260SL+
MC15840-4 Collected: 08-NOV-12 00:00 By: LRCK Received: 09-NOV-12 By: TB-110812-HCL-W						
MC15840-4	SW846 8260B	21-NOV-12 17:30	JP			V8260SL+
MC15840-5 Collected: 08-NOV-12 00:00 By: LRCK Received: 09-NOV-12 By: TB-110812-ST-W						
MC15840-5	SW846 8011	14-NOV-12 06:48	AP	12-NOV-12	CA	V8011SL

Accutest Internal Chain of Custody

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 11/09/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15840-1.2	Walk In Ref #22	Michael Rolo	11/15/12 07:34	Retrieve from Storage
MC15840-1.2	Michael Rolo		11/19/12 07:12	Depleted
MC15840-1.3	VOC Ref #5	Dana Tyron	11/22/12 12:25	Retrieve from Storage
MC15840-1.3	Dana Tyron	GCMSN	11/22/12 12:25	Load on Instrument
MC15840-1.3	GCMSN	Krysten Dufort	11/27/12 16:17	Unload from Instrument
MC15840-1.3	Krysten Dufort	VOC Ref #5	11/28/12 16:01	Return to Storage
MC15840-1.4	VOC Ref #5	Dana Tyron	11/21/12 11:29	Retrieve from Storage
MC15840-1.4	Dana Tyron	GCMSN	11/21/12 11:29	Load on Instrument
MC15840-1.4	GCMSN	Dana Tyron	11/22/12 10:45	Unload from Instrument
MC15840-1.4	Dana Tyron	VOC Ref #5	11/22/12 10:45	Return to Storage
MC15840-1.6	VOC Ref #5	Nick Krasinski	11/12/12 14:07	Retrieve from Storage
MC15840-1.6	Nick Krasinski		11/12/12 21:17	Depleted
MC15840-2.1	Walk In Ref #22	Michael Rolo	11/15/12 07:34	Retrieve from Storage
MC15840-2.1	Michael Rolo		11/19/12 07:12	Depleted
MC15840-2.3	VOC Ref #5	Dana Tyron	11/21/12 11:29	Retrieve from Storage
MC15840-2.3	Dana Tyron	GCMSN	11/21/12 11:29	Load on Instrument
MC15840-2.3	GCMSN	Dana Tyron	11/22/12 10:45	Unload from Instrument
MC15840-2.3	Dana Tyron	VOC Ref #5	11/22/12 10:45	Return to Storage
MC15840-2.4	VOC Ref #5	Dana Tyron	11/22/12 12:25	Retrieve from Storage
MC15840-2.4	Dana Tyron	GCMSN	11/22/12 12:25	Load on Instrument
MC15840-2.4	GCMSN	Krysten Dufort	11/27/12 16:17	Unload from Instrument
MC15840-2.4	Krysten Dufort	VOC Ref #5	11/28/12 16:01	Return to Storage
MC15840-2.6	VOC Ref #5	Nick Krasinski	11/12/12 14:07	Retrieve from Storage
MC15840-2.6	Nick Krasinski		11/12/12 21:17	Depleted
MC15840-3.2	Walk In Ref #22	Michael Rolo	11/15/12 07:34	Retrieve from Storage
MC15840-3.2	Michael Rolo		11/19/12 07:12	Depleted
MC15840-3.3	VOC Ref #5	Dana Tyron	11/22/12 12:25	Retrieve from Storage
MC15840-3.3	Dana Tyron	GCMSN	11/22/12 12:25	Load on Instrument
MC15840-3.3	GCMSN	Krysten Dufort	11/27/12 16:17	Unload from Instrument
MC15840-3.3	Krysten Dufort	VOC Ref #5	11/28/12 16:01	Return to Storage
MC15840-3.4	VOC Ref #5	Dana Tyron	11/21/12 11:29	Retrieve from Storage
MC15840-3.4	Dana Tyron	GCMSN	11/21/12 11:29	Load on Instrument
MC15840-3.4	GCMSN	Dana Tyron	11/22/12 10:45	Unload from Instrument
MC15840-3.4	Dana Tyron	VOC Ref #5	11/22/12 10:45	Return to Storage

Accutest Internal Chain of Custody

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 11/09/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15840-3.6	VOC Ref #5	Nick Krasinski	11/12/12 14:07	Retrieve from Storage
MC15840-3.6	Nick Krasinski		11/12/12 21:17	Depleted
MC15840-4.1	VOC Ref #5	Dana Tyron	11/21/12 11:29	Retrieve from Storage
MC15840-4.1	Dana Tyron	GCMSN	11/21/12 11:29	Load on Instrument
MC15840-4.1	GCMSN	Dana Tyron	11/22/12 10:45	Unload from Instrument
MC15840-4.1	Dana Tyron	VOC Ref #5	11/22/12 10:45	Return to Storage
MC15840-5.1	VOC Ref #5	Nick Krasinski	11/12/12 14:07	Retrieve from Storage
MC15840-5.1	Nick Krasinski		11/12/12 21:17	Depleted

New England ACCUTEST LABORATORIES

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: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2644-MB	N70275.D	1	11/21/12	JP	n/a	n/a	MSN2644

The QC reported here applies to the following samples: Method: SW846 8260B

MC15840-4

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.3	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: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2644-MB	N70275.D	1	11/21/12	JP	n/a	n/a	MSN2644

The QC reported here applies to the following samples: Method: SW846 8260B

MC15840-4

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2644-MB	N70275.D	1	11/21/12	JP	n/a	n/a	MSN2644

The QC reported here applies to the following samples: Method: SW846 8260B

MC15840-4

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	83%	70-130%
2037-26-5	Toluene-D8	85%	70-130%
460-00-4	4-Bromofluorobenzene	87%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

6.1.1

6

Method Blank Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2646-MB	N70329.D	1	11/22/12	JP	n/a	n/a	MSN2646

The QC reported here applies to the following samples: Method: SW846 8260B

MC15840-1, MC15840-2, MC15840-3

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: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2646-MB	N70329.D	1	11/22/12	JP	n/a	n/a	MSN2646

The QC reported here applies to the following samples: Method: SW846 8260B

MC15840-1, MC15840-2, MC15840-3

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: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2646-MB	N70329.D	1	11/22/12	JP	n/a	n/a	MSN2646

The QC reported here applies to the following samples: Method: SW846 8260B

MC15840-1, MC15840-2, MC15840-3

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	84%	70-130%
2037-26-5	Toluene-D8	84%	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	ug/l	

Blank Spike Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2644-BS	N70273.D	1	11/21/12	JP	n/a	n/a	MSN2644

The QC reported here applies to the following samples: Method: SW846 8260B

MC15840-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	38.8	78	70-130
107-02-8	Acrolein	250	151	60* a	70-130
107-13-1	Acrylonitrile	50	254	508* b	70-130
71-43-2	Benzene	50	51.5	103	70-130
108-86-1	Bromobenzene	50	50.3	101	70-130
74-97-5	Bromochloromethane	50	54.7	109	70-130
75-27-4	Bromodichloromethane	50	51.0	102	70-130
75-25-2	Bromoform	50	46.1	92	70-130
74-83-9	Bromomethane	50	50.2	100	70-130
78-93-3	2-Butanone (MEK)	50	44.1	88	70-130
104-51-8	n-Butylbenzene	50	55.3	111	70-130
135-98-8	sec-Butylbenzene	50	54.9	110	70-130
98-06-6	tert-Butylbenzene	50	51.2	102	70-130
75-15-0	Carbon disulfide	50	58.7	117	70-130
56-23-5	Carbon tetrachloride	50	38.3	77	70-130
108-90-7	Chlorobenzene	50	55.7	111	70-130
75-00-3	Chloroethane	50	55.0	110	70-130
110-75-8	2-Chloroethyl vinyl ether	50	53.0	106	70-130
67-66-3	Chloroform	50	51.0	102	70-130
74-87-3	Chloromethane	50	48.0	96	70-130
95-49-8	o-Chlorotoluene	50	52.8	106	70-130
106-43-4	p-Chlorotoluene	50	55.3	111	70-130
124-48-1	Dibromochloromethane	50	48.2	96	70-130
95-50-1	1,2-Dichlorobenzene	50	55.4	111	70-130
541-73-1	1,3-Dichlorobenzene	50	54.3	109	70-130
106-46-7	1,4-Dichlorobenzene	50	51.3	103	70-130
75-71-8	Dichlorodifluoromethane	50	43.1	86	70-130
75-34-3	1,1-Dichloroethane	50	53.8	108	70-130
107-06-2	1,2-Dichloroethane	50	46.6	93	70-130
75-35-4	1,1-Dichloroethene	50	57.6	115	70-130
156-59-2	cis-1,2-Dichloroethene	50	52.4	105	70-130
156-60-5	trans-1,2-Dichloroethene	50	52.9	106	70-130
78-87-5	1,2-Dichloropropane	50	53.0	106	70-130
142-28-9	1,3-Dichloropropane	50	50.9	102	70-130
594-20-7	2,2-Dichloropropane	50	35.1	70	70-130
563-58-6	1,1-Dichloropropene	50	50.8	102	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2644-BS	N70273.D	1	11/21/12	JP	n/a	n/a	MSN2644

The QC reported here applies to the following samples: Method: SW846 8260B

MC15840-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	48.0	96	70-130
10061-02-6	trans-1,3-Dichloropropene	50	42.9	86	70-130
123-91-1	1,4-Dioxane	250	215	86	70-130
97-63-2	Ethyl methacrylate	50	47.4	95	77-137
100-41-4	Ethylbenzene	50	51.1	102	70-130
87-68-3	Hexachlorobutadiene	50	52.7	105	70-130
591-78-6	2-Hexanone	50	39.0	78	70-130
98-82-8	Isopropylbenzene	50	53.3	107	70-130
99-87-6	p-Isopropyltoluene	50	53.2	106	70-130
1634-04-4	Methyl Tert Butyl Ether	50	42.1	84	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	38.5	77	70-130
74-95-3	Methylene bromide	50	51.4	103	70-130
75-09-2	Methylene chloride	50	54.6	109	70-130
91-20-3	Naphthalene	50	49.9	100	70-130
103-65-1	n-Propylbenzene	50	54.6	109	70-130
100-42-5	Styrene	50	50.7	101	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	52.3	105	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	48.8	98	70-130
127-18-4	Tetrachloroethene	50	50.5	101	70-130
108-88-3	Toluene	50	52.0	104	70-130
87-61-6	1,2,3-Trichlorobenzene	50	53.9	108	70-130
120-82-1	1,2,4-Trichlorobenzene	50	56.4	113	70-130
71-55-6	1,1,1-Trichloroethane	50	42.7	85	70-130
79-00-5	1,1,2-Trichloroethane	50	53.1	106	70-130
79-01-6	Trichloroethene	50	48.7	97	70-130
75-69-4	Trichlorofluoromethane	50	46.2	92	70-130
96-18-4	1,2,3-Trichloropropane	50	48.3	97	70-130
95-63-6	1,2,4-Trimethylbenzene	50	49.4	99	70-130
108-67-8	1,3,5-Trimethylbenzene	50	48.5	97	70-130
108-05-4	Vinyl Acetate	50	52.1	104	70-130
75-01-4	Vinyl chloride	50	45.0	90	70-130
	m,p-Xylene	100	105	105	70-130
95-47-6	o-Xylene	50	55.2	110	70-130
1330-20-7	Xylene (total)	150	160	107	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2644-BS	N70273.D	1	11/21/12	JP	n/a	n/a	MSN2644

The QC reported here applies to the following samples: Method: SW846 8260B

MC15840-4

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	84%	70-130%
2037-26-5	Toluene-D8	85%	70-130%
460-00-4	4-Bromofluorobenzene	81%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.
(b) Outside control limits. Associated samples are non-detect for this compound.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2646-BS	N70326.D	1	11/22/12	JP	n/a	n/a	MSN2646
MSN2646-BSD	N70327.D	1	11/22/12	JP	n/a	n/a	MSN2646

The QC reported here applies to the following samples: Method: SW846 8260B

MC15840-1, MC15840-2, MC15840-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	61.7	123	62.1	124	1	70-130/25
107-02-8	Acrolein	250	175	70	164	66* a	6	70-130/25
107-13-1	Acrylonitrile	50	259	518* b	269	538* b	4	70-130/25
71-43-2	Benzene	50	51.7	103	52.9	106	2	70-130/25
108-86-1	Bromobenzene	50	50.9	102	51.4	103	1	70-130/25
74-97-5	Bromochloromethane	50	54.3	109	55.3	111	2	70-130/25
75-27-4	Bromodichloromethane	50	50.8	102	52.2	104	3	70-130/25
75-25-2	Bromoform	50	44.9	90	46.2	92	3	70-130/25
74-83-9	Bromomethane	50	56.3	113	57.4	115	2	70-130/25
78-93-3	2-Butanone (MEK)	50	55.3	111	55.4	111	0	70-130/25
104-51-8	n-Butylbenzene	50	57.0	114	56.9	114	0	70-130/25
135-98-8	sec-Butylbenzene	50	57.1	114	57.3	115	0	70-130/25
98-06-6	tert-Butylbenzene	50	52.3	105	52.7	105	1	70-130/25
75-15-0	Carbon disulfide	50	61.1	122	61.4	123	0	70-130/25
56-23-5	Carbon tetrachloride	50	40.2	80	40.9	82	2	70-130/25
108-90-7	Chlorobenzene	50	54.5	109	56.6	113	4	70-130/25
75-00-3	Chloroethane	50	56.4	113	57.1	114	1	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	53.8	108	53.9	108	0	70-130/25
67-66-3	Chloroform	50	51.9	104	52.6	105	1	70-130/25
74-87-3	Chloromethane	50	53.8	108	51.5	103	4	70-130/25
95-49-8	o-Chlorotoluene	50	53.9	108	54.2	108	1	70-130/25
106-43-4	p-Chlorotoluene	50	56.1	112	56.5	113	1	70-130/25
124-48-1	Dibromochloromethane	50	46.8	94	49.2	98	5	70-130/25
95-50-1	1,2-Dichlorobenzene	50	54.8	110	56.1	112	2	70-130/25
541-73-1	1,3-Dichlorobenzene	50	55.1	110	55.7	111	1	70-130/25
106-46-7	1,4-Dichlorobenzene	50	51.3	103	52.6	105	3	70-130/25
75-71-8	Dichlorodifluoromethane	50	43.4	87	44.5	89	3	70-130/25
75-34-3	1,1-Dichloroethane	50	55.2	110	55.3	111	0	70-130/25
107-06-2	1,2-Dichloroethane	50	46.1	92	47.1	94	2	70-130/25
75-35-4	1,1-Dichloroethene	50	61.7	123	61.4	123	0	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	53.1	106	54.5	109	3	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	53.3	107	54.6	109	2	70-130/25
78-87-5	1,2-Dichloropropane	50	53.8	108	53.9	108	0	70-130/25
142-28-9	1,3-Dichloropropane	50	49.5	99	51.2	102	3	70-130/25
594-20-7	2,2-Dichloropropane	50	35.0	70	35.2	70	1	70-130/25
563-58-6	1,1-Dichloropropene	50	53.1	106	53.5	107	1	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2646-BS	N70326.D	1	11/22/12	JP	n/a	n/a	MSN2646
MSN2646-BSD	N70327.D	1	11/22/12	JP	n/a	n/a	MSN2646

The QC reported here applies to the following samples: Method: SW846 8260B

MC15840-1, MC15840-2, MC15840-3

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	47.5	95	48.3	97	2	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	43.1	86	43.6	87	1	70-130/25
123-91-1	1,4-Dioxane	250	240	96	237	95	1	70-130/25
97-63-2	Ethyl methacrylate	50	45.8	92	46.6	93	2	77-137/25
100-41-4	Ethylbenzene	50	50.0	100	52.2	104	4	70-130/25
87-68-3	Hexachlorobutadiene	50	54.2	108	54.6	109	1	70-130/25
591-78-6	2-Hexanone	50	42.9	86	45.3	91	5	70-130/25
98-82-8	Isopropylbenzene	50	55.2	110	55.2	110	0	70-130/25
99-87-6	p-Isopropyltoluene	50	54.6	109	55.3	111	1	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	42.3	85	42.8	86	1	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	38.4	77	40.1	80	4	70-130/25
74-95-3	Methylene bromide	50	50.8	102	51.5	103	1	70-130/25
75-09-2	Methylene chloride	50	55.5	111	55.9	112	1	70-130/25
91-20-3	Naphthalene	50	48.0	96	49.8	100	4	70-130/25
103-65-1	n-Propylbenzene	50	56.0	112	56.1	112	0	70-130/25
100-42-5	Styrene	50	49.9	100	51.9	104	4	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	51.6	103	53.9	108	4	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	49.5	99	50.2	100	1	70-130/25
127-18-4	Tetrachloroethene	50	51.0	102	52.8	106	3	70-130/25
108-88-3	Toluene	50	52.1	104	53.0	106	2	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	53.7	107	54.9	110	2	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	55.6	111	56.8	114	2	70-130/25
71-55-6	1,1,1-Trichloroethane	50	44.1	88	44.7	89	1	70-130/25
79-00-5	1,1,2-Trichloroethane	50	51.7	103	52.6	105	2	70-130/25
79-01-6	Trichloroethene	50	49.9	100	50.4	101	1	70-130/25
75-69-4	Trichlorofluoromethane	50	49.3	99	49.9	100	1	70-130/25
96-18-4	1,2,3-Trichloropropane	50	48.4	97	49.6	99	2	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	49.4	99	49.8	100	1	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	49.4	99	50.0	100	1	70-130/25
108-05-4	Vinyl Acetate	50	54.7	109	55.9	112	2	70-130/25
75-01-4	Vinyl chloride	50	48.6	97	48.5	97	0	70-130/25
	m,p-Xylene	100	104	104	108	108	4	70-130/25
95-47-6	o-Xylene	50	54.6	109	56.1	112	3	70-130/25
1330-20-7	Xylene (total)	150	159	106	164	109	3	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2646-BS	N70326.D	1	11/22/12	JP	n/a	n/a	MSN2646
MSN2646-BSD	N70327.D	1	11/22/12	JP	n/a	n/a	MSN2646

The QC reported here applies to the following samples: Method: SW846 8260B

MC15840-1, MC15840-2, MC15840-3

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	84%	84%	70-130%
2037-26-5	Toluene-D8	84%	85%	70-130%
460-00-4	4-Bromofluorobenzene	82%	81%	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: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15829-3MS	N70288.D	10	11/21/12	JP	n/a	n/a	MSN2644
MC15829-3MSD	N70289.D	10	11/21/12	JP	n/a	n/a	MSN2644
MC15829-3	N70287.D	10	11/21/12	JP	n/a	n/a	MSN2644

The QC reported here applies to the following samples: Method: SW846 8260B

MC15840-4

CAS No.	Compound	MC15829-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		500	377	75	362	72	4	70-130/30
107-02-8	Acrolein	ND		2500	1310	52* a	1270	51* a	3	70-130/30
107-13-1	Acrylonitrile	ND		500	2390	478* b	2300	460* b	4	70-130/30
71-43-2	Benzene	ND		500	481	96	485	97	1	70-130/30
108-86-1	Bromobenzene	ND		500	471	94	478	96	1	70-130/30
74-97-5	Bromochloromethane	ND		500	509	102	507	101	0	70-130/30
75-27-4	Bromodichloromethane	ND		500	471	94	480	96	2	70-130/30
75-25-2	Bromoform	ND		500	432	86	427	85	1	70-130/30
74-83-9	Bromomethane	ND		500	436	87	539	108	21	70-130/30
78-93-3	2-Butanone (MEK)	ND		500	409	82	385	77	6	70-130/30
104-51-8	n-Butylbenzene	ND		500	483	97	485	97	0	70-130/30
135-98-8	sec-Butylbenzene	ND		500	506	101	507	101	0	70-130/30
98-06-6	tert-Butylbenzene	ND		500	473	95	474	95	0	70-130/30
75-15-0	Carbon disulfide	ND		500	552	110	554	111	0	70-130/30
56-23-5	Carbon tetrachloride	ND		500	365	73	373	75	2	70-130/30
108-90-7	Chlorobenzene	ND		500	517	103	520	104	1	70-130/30
75-00-3	Chloroethane	ND		500	520	104	526	105	1	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		500	509	102	521	104	2	70-130/30
67-66-3	Chloroform	ND		500	478	96	477	95	0	70-130/30
74-87-3	Chloromethane	ND		500	443	89	439	88	1	70-130/30
95-49-8	o-Chlorotoluene	ND		500	485	97	490	98	1	70-130/30
106-43-4	p-Chlorotoluene	ND		500	504	101	513	103	2	70-130/30
124-48-1	Dibromochloromethane	ND		500	457	91	453	91	1	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		500	505	101	514	103	2	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		500	500	100	502	100	0	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		500	471	94	477	95	1	70-130/30
75-71-8	Dichlorodifluoromethane	ND		500	400	80	401	80	0	70-130/30
75-34-3	1,1-Dichloroethane	ND		500	510	102	510	102	0	70-130/30
107-06-2	1,2-Dichloroethane	ND		500	430	86	434	87	1	70-130/30
75-35-4	1,1-Dichloroethene	ND		500	542	108	547	109	1	70-130/30
156-59-2	cis-1,2-Dichloroethene	2890		500	3340	90	3330	88	0	70-130/30
156-60-5	trans-1,2-Dichloroethene	45.6		500	538	98	532	97	1	70-130/30
78-87-5	1,2-Dichloropropane	ND		500	509	102	521	104	2	70-130/30
142-28-9	1,3-Dichloropropane	ND		500	469	94	467	93	0	70-130/30
594-20-7	2,2-Dichloropropane	ND		500	282	56* a	287	57* a	2	70-130/30
563-58-6	1,1-Dichloropropene	ND		500	465	93	479	96	3	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15829-3MS	N70288.D	10	11/21/12	JP	n/a	n/a	MSN2644
MC15829-3MSD	N70289.D	10	11/21/12	JP	n/a	n/a	MSN2644
MC15829-3	N70287.D	10	11/21/12	JP	n/a	n/a	MSN2644

The QC reported here applies to the following samples: Method: SW846 8260B

MC15840-4

CAS No.	Compound	MC15829-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		500	428	86	441	88	3	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		500	374	75	383	77	2	70-130/30
123-91-1	1,4-Dioxane	ND		2500	2140	86	2130	85	0	70-130/30
97-63-2	Ethyl methacrylate	ND		500	402	80	408	82	1	72-139/30
100-41-4	Ethylbenzene	ND		500	472	94	467	93	1	70-130/30
87-68-3	Hexachlorobutadiene	ND		500	460	92	468	94	2	70-130/30
591-78-6	2-Hexanone	ND		500	343	69* a	343	69* a	0	70-130/30
98-82-8	Isopropylbenzene	ND		500	493	99	496	99	1	70-130/30
99-87-6	p-Isopropyltoluene	ND		500	482	96	491	98	2	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		500	398	80	390	78	2	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		500	343	69* a	338	68* a	1	70-130/30
74-95-3	Methylene bromide	ND		500	472	94	470	94	0	70-130/30
75-09-2	Methylene chloride	ND		500	518	104	518	104	0	70-130/30
91-20-3	Naphthalene	ND		500	410	82	426	85	4	70-130/30
103-65-1	n-Propylbenzene	ND		500	494	99	503	101	2	70-130/30
100-42-5	Styrene	ND		500	467	93	471	94	1	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		500	499	100	495	99	1	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		500	461	92	451	90	2	70-130/30
127-18-4	Tetrachloroethene	ND		500	467	93	467	93	0	70-130/30
108-88-3	Toluene	ND		500	486	97	492	98	1	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		500	460	92	475	95	3	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		500	476	95	491	98	3	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		500	403	81	403	81	0	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		500	475	95	482	96	1	70-130/30
79-01-6	Trichloroethene	5520	E	500	5920	80	5940	84	0	70-130/30
75-69-4	Trichlorofluoromethane	ND		500	438	88	435	87	1	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		500	424	85	429	86	1	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		500	444	89	453	91	2	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		500	444	89	448	90	1	70-130/30
108-05-4	Vinyl Acetate	ND		500	503	101	487	97	3	70-130/30
75-01-4	Vinyl chloride	31.2		500	459	86	462	86	1	70-130/30
	m,p-Xylene	ND		1000	974	97	986	99	1	70-130/30
95-47-6	o-Xylene	ND		500	512	102	511	102	0	70-130/30
1330-20-7	Xylene (total)	ND		1500	1490	99	1500	100	1	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15829-3MS	N70288.D	10	11/21/12	JP	n/a	n/a	MSN2644
MC15829-3MSD	N70289.D	10	11/21/12	JP	n/a	n/a	MSN2644
MC15829-3	N70287.D	10	11/21/12	JP	n/a	n/a	MSN2644

The QC reported here applies to the following samples: Method: SW846 8260B

MC15840-4

CAS No.	Surrogate Recoveries	MS	MSD	MC15829-3	Limits
1868-53-7	Dibromofluoromethane	84%	84%	84%	70-130%
2037-26-5	Toluene-D8	84%	85%	83%	70-130%
460-00-4	4-Bromofluorobenzene	81%	81%	88%	70-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
(b) Outside control limits. Associated samples are non-detect for this compound.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15901-1MS	N70332.D	5	11/22/12	JP	n/a	n/a	MSN2646
MC15901-1MSD	N70333.D	5	11/22/12	JP	n/a	n/a	MSN2646
MC15901-1	N70331.D	5	11/22/12	JP	n/a	n/a	MSN2646

The QC reported here applies to the following samples: Method: SW846 8260B

MC15840-1, MC15840-2, MC15840-3

CAS No.	Compound	MC15901-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	142	57* [a]	4960	1984* [a]	189* [b]	70-130/30
107-02-8	Acrolein	ND		1250	1200	96	1220	98	2	70-130/30
107-13-1	Acrylonitrile	ND		250	1220	488* [c]	1260	504* [c]	3	70-130/30
71-43-2	Benzene	1090		250	1250	64* [d]	1300	84	4	70-130/30
108-86-1	Bromobenzene	ND		250	230	92	236	94	3	70-130/30
74-97-5	Bromochloromethane	ND		250	241	96	246	98	2	70-130/30
75-27-4	Bromodichloromethane	ND		250	231	92	240	96	4	70-130/30
75-25-2	Bromoform	ND		250	210	84	220	88	5	70-130/30
74-83-9	Bromomethane	ND		250	245	98	271	108	10	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	294	118	305	122	4	70-130/30
104-51-8	n-Butylbenzene	ND		250	265	106	279	112	5	70-130/30
135-98-8	sec-Butylbenzene	ND		250	240	96	252	101	5	70-130/30
98-06-6	tert-Butylbenzene	ND		250	221	88	231	92	4	70-130/30
75-15-0	Carbon disulfide	ND		250	245	98	256	102	4	70-130/30
56-23-5	Carbon tetrachloride	ND		250	188	75	198	79	5	70-130/30
108-90-7	Chlorobenzene	ND		250	228	91	242	97	6	70-130/30
75-00-3	Chloroethane	ND		250	238	95	249	100	5	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	244	98	252	101	3	70-130/30
67-66-3	Chloroform	ND		250	232	93	239	96	3	70-130/30
74-87-3	Chloromethane	ND		250	184	74	198	79	7	70-130/30
95-49-8	o-Chlorotoluene	ND		250	234	94	244	98	4	70-130/30
106-43-4	p-Chlorotoluene	ND		250	233	93	246	98	5	70-130/30
124-48-1	Dibromochloromethane	ND		250	213	85	222	89	4	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	232	93	241	96	4	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	229	92	240	96	5	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	232	93	242	97	4	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	188	75	195	78	4	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	238	95	249	100	5	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	208	83	215	86	3	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	227	91	238	95	5	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	233	93	246	98	5	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	236	94	243	97	3	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	244	98	252	101	3	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	227	91	236	94	4	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	197	79	206	82	4	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	230	92	243	97	5	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15901-1MS	N70332.D	5	11/22/12	JP	n/a	n/a	MSN2646
MC15901-1MSD	N70333.D	5	11/22/12	JP	n/a	n/a	MSN2646
MC15901-1	N70331.D	5	11/22/12	JP	n/a	n/a	MSN2646

The QC reported here applies to the following samples: Method: SW846 8260B

MC15840-1, MC15840-2, MC15840-3

CAS No.	Compound	MC15901-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		250	232	93	241	96	4	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	193	77	201	80	4	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1040	83	1120	90	7	70-130/30
97-63-2	Ethyl methacrylate	ND		250	222	89	230	92	4	72-139/30
100-41-4	Ethylbenzene	799		250	949	60* d	1010	84	6	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	236	94	253	101	7	70-130/30
591-78-6	2-Hexanone	ND		250	191	76	205	82	7	70-130/30
98-82-8	Isopropylbenzene	53.0		250	282	92	294	96	4	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	237	95	249	100	5	70-130/30
1634-04-4	Methyl Tert Butyl Ether	1200		250	1410	84	1450	100	3	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	190	76	197	79	4	70-130/30
74-95-3	Methylene bromide	ND		250	225	90	230	92	2	70-130/30
75-09-2	Methylene chloride	ND		250	235	94	243	97	3	70-130/30
91-20-3	Naphthalene	86.4		250	320	93	340	101	6	70-130/30
103-65-1	n-Propylbenzene	89.9		250	319	92	334	98	5	70-130/30
100-42-5	Styrene	ND		250	225	90	237	95	5	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	231	92	248	99	7	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	229	92	234	94	2	70-130/30
127-18-4	Tetrachloroethene	ND		250	224	90	238	95	6	70-130/30
108-88-3	Toluene	46.1		250	283	95	292	98	3	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	235	94	252	101	7	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	246	98	261	104	6	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	216	86	226	90	5	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	241	96	248	99	3	70-130/30
79-01-6	Trichloroethene	ND		250	222	89	232	93	4	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	210	84	219	88	4	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	223	89	231	92	4	70-130/30
95-63-6	1,2,4-Trimethylbenzene	19.0		250	248	92	259	96	4	70-130/30
108-67-8	1,3,5-Trimethylbenzene	69.1		250	296	91	307	95	4	70-130/30
108-05-4	Vinyl Acetate	ND		250	203	81	207	83	2	70-130/30
75-01-4	Vinyl chloride	ND		250	218	87	227	91	4	70-130/30
	m,p-Xylene	133		500	573	88	605	94	5	70-130/30
95-47-6	o-Xylene	8.5		250	235	91	246	95	5	70-130/30
1330-20-7	Xylene (total)	142		750	807	89	850	94	5	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15901-1MS	N70332.D	5	11/22/12	JP	n/a	n/a	MSN2646
MC15901-1MSD	N70333.D	5	11/22/12	JP	n/a	n/a	MSN2646
MC15901-1	N70331.D	5	11/22/12	JP	n/a	n/a	MSN2646

The QC reported here applies to the following samples: Method: SW846 8260B

MC15840-1, MC15840-2, MC15840-3

CAS No.	Surrogate Recoveries	MS	MSD	MC15901-1	Limits
1868-53-7	Dibromofluoromethane	83%	83%	83%	70-130%
2037-26-5	Toluene-D8	85%	86%	85%	70-130%
460-00-4	4-Bromofluorobenzene	82%	82%	84%	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) Outside control limits. Associated samples are non-detect for this compound.
(d) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2644-CC2591	Injection Date:	11/21/12
Lab File ID:	N70273.D	Injection Time:	12:20
Instrument ID:	GCMSN	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	301929	9.01	400606	9.88	182027	13.14	206420	15.70	92226	6.56
Upper Limit [a]	603858	9.51	801212	10.38	364054	13.64	412840	16.20	184452	7.06
Lower Limit [b]	150965	8.51	200303	9.38	91014	12.64	103210	15.20	46113	6.06
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2644-BS	301929	9.01	400606	9.88	182027	13.14	206420	15.70	92226	6.56
MSN2644-MB	287702	9.01	384616	9.88	170440	13.14	173304	15.70	76975	6.58
ZZZZZZ	302893	9.01	399834	9.88	175014	13.14	182501	15.70	74218	6.57
ZZZZZZ	308091	9.01	402589	9.88	180645	13.14	199780	15.70	72050	6.57
ZZZZZZ	310218	9.01	409629	9.88	178392	13.14	195363	15.70	73486	6.57
ZZZZZZ	303495	9.01	402484	9.88	177005	13.14	184942	15.70	76181	6.57
ZZZZZZ	306402	9.01	403267	9.88	178022	13.14	184334	15.70	76826	6.57
ZZZZZZ	304283	9.01	400889	9.88	178089	13.14	184628	15.70	80954	6.58
ZZZZZZ	301258	9.01	395291	9.88	176856	13.14	179039	15.70	81606	6.58
MC15840-4	298703	9.01	398964	9.88	175340	13.14	177266	15.70	72389	6.58
ZZZZZZ	293541	9.01	387441	9.88	168545	13.14	172970	15.70	63011	6.59
ZZZZZZ	293300	9.01	384401	9.88	168211	13.14	173552	15.70	76504	6.57
MC15829-3	294284	9.01	390464	9.88	170377	13.14	173231	15.70	71801	6.58
MC15829-3MS	289025	9.01	383645	9.88	172779	13.14	195569	15.70	77932	6.56
MC15829-3MSD	292161	9.01	384074	9.88	174856	13.14	196430	15.70	74725	6.56
ZZZZZZ	297324	9.01	390213	9.88	171301	13.14	178815	15.70	76556	6.57
ZZZZZZ	310487	9.01	404873	9.88	183930	13.14	192574	15.70	72493	6.57
ZZZZZZ	301678	9.01	397056	9.88	174911	13.14	193111	15.70	78508	6.57
ZZZZZZ	332456	9.01	433317	9.88	192491	13.14	217056	15.70	85579	6.57
ZZZZZZ	337064	9.01	430603	9.88	189722	13.14	214486	15.69	86106	6.57

IS 1 = Pentafluorobenzene
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5
IS 4 = 1,4-Dichlorobenzene-d4
IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSN2646-CC2591	Injection Date:	11/22/12
Lab File ID:	N70325.D	Injection Time:	12:49
Instrument ID:	GCMSN	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	286327	9.01	384071	9.88	178223	13.14	192412	15.70	80859	6.56
Upper Limit [a]	572654	9.51	768142	10.38	356446	13.64	384824	16.20	161718	7.06
Lower Limit [b]	143164	8.51	192036	9.38	89112	12.64	96206	15.20	40430	6.06
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2646-BS	306895	9.01	410236	9.88	190001	13.14	208592	15.70	90374	6.56
MSN2646-BSD	305895	9.01	406670	9.88	183492	13.14	207867	15.70	88235	6.56
MSN2646-MB	301526	9.01	402898	9.88	177475	13.14	180609	15.70	94271	6.58
ZZZZZZ	288573	9.01	390490	9.88	170691	13.14	171189	15.70	83755	6.57
MC15901-1	304538	9.01	402367	9.88	179907	13.14	190877	15.70	80668	6.57
MC15901-1MS	306794	9.01	405276	9.88	188310	13.14	204273	15.70	88585	6.56
MC15901-1MSD	308456	9.01	408346	9.88	185979	13.14	204170	15.70	90989	6.56
ZZZZZZ	324492	9.01	429520	9.88	191192	13.14	202550	15.70	89156	6.57
ZZZZZZ	317164	9.01	424738	9.88	183784	13.14	187635	15.70	85274	6.58
ZZZZZZ	319566	9.01	424607	9.88	186655	13.14	186959	15.70	93092	6.58
ZZZZZZ	318060	9.01	419582	9.88	183210	13.14	183355	15.70	74976	6.56
ZZZZZZ	309352	9.01	411227	9.88	182824	13.14	182552	15.70	79055	6.56
MC15840-1	278781	9.01	369029	9.88	161380	13.14	156972	15.70	70116	6.58
MC15840-2	303294	9.01	401337	9.88	175381	13.14	174578	15.70	75139	6.57
MC15840-3	300768	9.01	398729	9.88	176613	13.14	181268	15.70	81721	6.56
ZZZZZZ	299997	9.02	404567	9.89	181744	13.14	214532	15.70	127404	6.67
ZZZZZZ	316367	9.01	412851	9.88	183137	13.14	197370	15.70	78024	6.58
ZZZZZZ	329295	9.01	429925	9.88	188113	13.14	199441	15.70	90544	6.58
ZZZZZZ	330395	9.01	433264	9.88	187717	13.14	198281	15.70	87027	6.57
ZZZZZZ	326627	9.01	428634	9.88	184643	13.14	191287	15.70	86273	6.58
ZZZZZZ	324867	9.01	426772	9.88	188152	13.14	194177	15.70	83889	6.58
ZZZZZZ	325331	9.01	428571	9.88	184395	13.14	190924	15.70	83023	6.59
ZZZZZZ	305666	9.01	406682	9.88	175658	13.14	179973	15.70	78360	6.58

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: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8260B Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC15840-1	N70339.D	82.0	84.0	91.0
MC15840-2	N70340.D	81.0	84.0	89.0
MC15840-3	N70341.D	83.0	84.0	105.0
MC15840-4	N70284.D	83.0	83.0	88.0
MC15829-3MS	N70288.D	84.0	84.0	81.0
MC15829-3MSD	N70289.D	84.0	85.0	81.0
MC15901-1MS	N70332.D	83.0	85.0	82.0
MC15901-1MSD	N70333.D	83.0	86.0	82.0
MSN2644-BS	N70273.D	84.0	85.0	81.0
MSN2644-MB	N70275.D	83.0	85.0	87.0
MSN2646-BS	N70326.D	84.0	84.0	82.0
MSN2646-BSD	N70327.D	84.0	85.0	81.0
MSN2646-MB	N70329.D	84.0	84.0	89.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	70-130%
S2 = Toluene-D8	70-130%
S3 = 4-Bromofluorobenzene	70-130%

New England ACCUTEST LABORATORIES

GC/MS Semi-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: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31045-MB	W7065.D	1	11/19/12	KR	11/15/12	OP31045	MSW337

The QC reported here applies to the following samples: Method: SW846 8270C

MC15840-1, MC15840-2, MC15840-3

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	5.0	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.25	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	
84-66-2	Diethyl phthalate	0.33	5.0	0.19	ug/l	J
131-11-3	Dimethyl phthalate	ND	5.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	

Method Blank Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31045-MB	W7065.D	1	11/19/12	KR	11/15/12	OP31045	MSW337

The QC reported here applies to the following samples: Method: SW846 8270C

MC15840-1, MC15840-2, MC15840-3

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.28	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	1.3	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.46	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	33%	15-110%
4165-62-2	Phenol-d5	23%	15-110%
118-79-6	2,4,6-Tribromophenol	60%	15-110%
4165-60-0	Nitrobenzene-d5	69%	30-130%
321-60-8	2-Fluorobiphenyl	61%	30-130%
1718-51-0	Terphenyl-d14	85%	30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

Method Blank Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31046-MB	U10825.D	1	11/19/12	NS	11/15/12	OP31046	MSU574

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC15840-1, MC15840-2, MC15840-3

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	31%	15-110%
4165-62-2	Phenol-d5	22%	15-110%
118-79-6	2,4,6-Tribromophenol	73%	15-110%
4165-60-0	Nitrobenzene-d5	64%	30-130%
321-60-8	2-Fluorobiphenyl	61%	30-130%
1718-51-0	Terphenyl-d14	71%	30-130%

Blank Spike Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31045-BS	W7066.D	1	11/19/12	KR	11/15/12	OP31045	MSW337

The QC reported here applies to the following samples: Method: SW846 8270C

MC15840-1, MC15840-2, MC15840-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	31.0	31	30-130
95-57-8	2-Chlorophenol	100	60.3	60	30-130
59-50-7	4-Chloro-3-methyl phenol	100	67.3	67	30-130
120-83-2	2,4-Dichlorophenol	100	66.3	66	30-130
105-67-9	2,4-Dimethylphenol	100	62.5	63	30-130
51-28-5	2,4-Dinitrophenol	100	67.5	68	30-130
534-52-1	4,6-Dinitro-o-cresol	100	80.1	80	30-130
95-48-7	2-Methylphenol	100	55.2	55	30-130
	3&4-Methylphenol	200	103	52	30-130
88-75-5	2-Nitrophenol	100	70.0	70	30-130
100-02-7	4-Nitrophenol	100	39.0	39	30-130
87-86-5	Pentachlorophenol	100	73.9	74	30-130
108-95-2	Phenol	100	30.9	31	30-130
95-95-4	2,4,5-Trichlorophenol	100	70.2	70	30-130
88-06-2	2,4,6-Trichlorophenol	100	69.7	70	30-130
62-53-3	Aniline	50	18.3	37* a	40-140
101-55-3	4-Bromophenyl phenyl ether	50	36.3	73	40-140
85-68-7	Butyl benzyl phthalate	50	44.0	88	40-140
100-51-6	Benzyl Alcohol	50	30.7	61	40-140
91-58-7	2-Chloronaphthalene	100	67.8	68	40-140
106-47-8	4-Chloroaniline	50	24.8	50	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	32.7	65	40-140
111-44-4	bis(2-Chloroethyl)ether	50	36.1	72	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	42.3	85	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	34.2	68	40-140
122-66-7	1,2-Diphenylhydrazine	50	41.2	82	40-140
121-14-2	2,4-Dinitrotoluene	100	77.5	77	40-140
606-20-2	2,6-Dinitrotoluene	100	78.0	78	40-140
91-94-1	3,3'-Dichlorobenzidine	50	27.2	54	40-140
132-64-9	Dibenzofuran	50	35.5	71	40-140
84-74-2	Di-n-butyl phthalate	50	42.0	84	40-140
117-84-0	Di-n-octyl phthalate	50	45.5	91	40-140
84-66-2	Diethyl phthalate	50	39.9	80	40-140
131-11-3	Dimethyl phthalate	50	37.8	76	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	44.5	89	40-140
118-74-1	Hexachlorobenzene	100	80.8	81	40-140

* = Outside of Control Limits.

7.2.1

7

Blank Spike Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31045-BS	W7066.D	1	11/19/12	KR	11/15/12	OP31045	MSW337

The QC reported here applies to the following samples: Method: SW846 8270C

MC15840-1, MC15840-2, MC15840-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	100	51.6	52	40-140
67-72-1	Hexachloroethane	100	50.0	50	40-140
78-59-1	Isophorone	100	73.8	74	40-140
88-74-4	2-Nitroaniline	50	40.8	82	40-140
99-09-2	3-Nitroaniline	50	31.8	64	40-140
100-01-6	4-Nitroaniline	50	36.9	74	40-140
98-95-3	Nitrobenzene	50	71.3	71	40-140
62-75-9	n-Nitrosodimethylamine	50	24.2	48	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	40.2	80	40-140
86-30-6	N-Nitrosodiphenylamine	50	39.3	79	40-140
110-86-1	Pyridine	50	13.1	26* a	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	41%	15-110%
4165-62-2	Phenol-d5	30%	15-110%
118-79-6	2,4,6-Tribromophenol	76%	15-110%
4165-60-0	Nitrobenzene-d5	71%	30-130%
321-60-8	2-Fluorobiphenyl	64%	30-130%
1718-51-0	Terphenyl-d14	89%	30-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

7.2.1

7

Blank Spike Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31046-BS	U10826.D	1	11/19/12	NS	11/15/12	OP31046	MSU574

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC15840-1, MC15840-2, MC15840-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	33.0	66	40-140
208-96-8	Acenaphthylene	50	25.3	51	40-140
120-12-7	Anthracene	50	35.3	71	40-140
56-55-3	Benzo(a)anthracene	50	53.7	107	40-140
50-32-8	Benzo(a)pyrene	50	35.0	70	40-140
205-99-2	Benzo(b)fluoranthene	50	38.2	76	40-140
191-24-2	Benzo(g,h,i)perylene	50	45.5	91	40-140
207-08-9	Benzo(k)fluoranthene	50	40.3	81	40-140
218-01-9	Chrysene	50	44.1	88	40-140
53-70-3	Dibenzo(a,h)anthracene	50	40.1	80	40-140
206-44-0	Fluoranthene	50	38.3	77	40-140
86-73-7	Fluorene	50	35.6	71	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	39.6	79	40-140
90-12-0	1-Methylnaphthalene	50	29.4	59	40-140
91-57-6	2-Methylnaphthalene	50	28.2	56	40-140
85-01-8	Phenanthrene	50	36.6	73	40-140
129-00-0	Pyrene	50	34.6	69	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	40%	15-110%
4165-62-2	Phenol-d5	30%	15-110%
118-79-6	2,4,6-Tribromophenol	82%	15-110%
4165-60-0	Nitrobenzene-d5	67%	30-130%
321-60-8	2-Fluorobiphenyl	62%	30-130%
1718-51-0	Terphenyl-d14	75%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31045-MS	W7067.D	1	11/19/12	KR	11/15/12	OP31045	MSW337
OP31045-MSD	W7068.D	1	11/19/12	KR	11/15/12	OP31045	MSW337
MC15914-18	W7069.D	1	11/19/12	KR	11/15/12	OP31045	MSW337

The QC reported here applies to the following samples: Method: SW846 8270C

MC15840-1, MC15840-2, MC15840-3

CAS No.	Compound	MC15914-18 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		100	32.5	33	18.4	18* a	55* b	30-130/20
95-57-8	2-Chlorophenol	ND		100	52.5	53	61.4	61	16	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		100	65.7	66	68.5	69	4	30-130/20
120-83-2	2,4-Dichlorophenol	ND		100	59.8	60	66.5	67	11	30-130/20
105-67-9	2,4-Dimethylphenol	ND		100	57.7	58	54.5	55	6	30-130/20
51-28-5	2,4-Dinitrophenol	ND		100	73.5	74	70.4	70	4	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		100	85.6	86	83.4	83	3	30-130/20
95-48-7	2-Methylphenol	ND		100	48.3	48	54.9	55	13	30-130/20
	3&4-Methylphenol	ND		200	90.7	45	105	53	15	30-130/20
88-75-5	2-Nitrophenol	ND		100	62.0	62	70.6	71	13	30-130/20
100-02-7	4-Nitrophenol	ND		100	40.2	40	39.3	39	2	30-130/20
87-86-5	Pentachlorophenol	ND		100	78.5	79	76.1	76	3	30-130/20
108-95-2	Phenol	ND		100	26.5	27* a	30.8	31	15	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		100	70.2	70	73.2	73	4	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		100	68.1	68	71.6	72	5	30-130/20
62-53-3	Aniline	ND		50	ND	0* c	16.7	33* c	200* c	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		50	37.6	75	37.8	76	1	40-140/20
85-68-7	Butyl benzyl phthalate	ND		50	44.4	89	45.5	91	2	40-140/20
100-51-6	Benzyl Alcohol	ND		50	21.4	43	31.0	62	37* b	40-140/20
91-58-7	2-Chloronaphthalene	ND		50	67.4	135	72.5	145* a	7	40-140/20
106-47-8	4-Chloroaniline	ND		50	1.5	3* a	24.7	49	177* b	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		50	24.6	49	33.2	66	30* b	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		50	31.4	63	37.2	74	17	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		50	37.4	75	44.0	88	16	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		50	35.4	71	35.7	71	1	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		50	39.7	79	42.9	86	8	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		50	83.5	167* a	82.8	166* a	1	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		50	82.0	164* a	82.8	166* a	1	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		50	ND	0* a	29.5	59	200* b	40-140/20
132-64-9	Dibenzofuran	ND		50	36.2	72	37.2	74	3	40-140/20
84-74-2	Di-n-butyl phthalate	ND		50	43.8	88	43.5	87	1	40-140/20
117-84-0	Di-n-octyl phthalate	ND		50	112	224* a	46.2	92	83* b	40-140/20
84-66-2	Diethyl phthalate	ND		50	42.3	85	41.6	83	2	40-140/20
131-11-3	Dimethyl phthalate	ND		50	40.2	80	39.6	79	2	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND		50	45.6	91	45.3	91	1	40-140/20
118-74-1	Hexachlorobenzene	ND		50	84.7	169* a	84.5	169* a	0	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31045-MS	W7067.D	1	11/19/12	KR	11/15/12	OP31045	MSW337
OP31045-MSD	W7068.D	1	11/19/12	KR	11/15/12	OP31045	MSW337
MC15914-18	W7069.D	1	11/19/12	KR	11/15/12	OP31045	MSW337

The QC reported here applies to the following samples: Method: SW846 8270C

MC15840-1, MC15840-2, MC15840-3

CAS No.	Compound	MC15914-18 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		50	46.5	93	53.2	106	13	40-140/20
67-72-1	Hexachloroethane	ND		50	44.9	90	53.6	107	18	40-140/20
78-59-1	Isophorone	ND		50	74.5	149* [a]	77.9	156* [a]	4	40-140/20
88-74-4	2-Nitroaniline	ND		50	28.8	58	42.6	85	39* [b]	40-140/20
99-09-2	3-Nitroaniline	ND		50	ND	0* [a]	35.1	70	200* [b]	40-140/20
100-01-6	4-Nitroaniline	ND		50	ND	0* [a]	38.3	77	200* [b]	40-140/20
98-95-3	Nitrobenzene	ND		50	64.1	128	73.3	147* [a]	13	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		50	21.5	43	24.0	48	11	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		50	41.8	84	41.5	83	1	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		50	11.9	24* [a]	41.2	82	110* [b]	40-140/20
110-86-1	Pyridine	ND		50	1.3	3* [c]	14.4	29* [c]	167* [c]	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15914-18	Limits
367-12-4	2-Fluorophenol	35%	41%	35%	15-110%
4165-62-2	Phenol-d5	25%	29%	25%	15-110%
118-79-6	2,4,6-Tribromophenol	78%	76%	68%	15-110%
4165-60-0	Nitrobenzene-d5	63%	72%	68%	30-130%
321-60-8	2-Fluorobiphenyl	61%	67%	61%	30-130%
1718-51-0	Terphenyl-d14	87%	88%	96%	30-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
(b) High RPD due to possible matrix interference and/or sample non-homogeneity.
(c) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31046-MS	U10827.D	1	11/19/12	NS	11/15/12	OP31046	MSU574
OP31046-MSD	U10828.D	1	11/19/12	NS	11/15/12	OP31046	MSU574
MC15914-19	U10829.D	1	11/19/12	NS	11/15/12	OP31046	MSU574

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC15840-1, MC15840-2, MC15840-3

CAS No.	Compound	MC15914-19 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		50	32.3	65	34.1	68	5	40-140/20
208-96-8	Acenaphthylene	ND		50	22.8	46	25.9	52	13	40-140/20
120-12-7	Anthracene	ND		50	35.8	72	36.8	74	3	40-140/20
56-55-3	Benzo(a)anthracene	ND		50	53.1	106	56.7	113	7	40-140/20
50-32-8	Benzo(a)pyrene	ND		50	28.6	57	35.6	71	22* [a]	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		50	36.0	72	37.1	74	3	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND		50	42.1	84	40.4	81	4	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		50	38.5	77	42.3	85	9	40-140/20
218-01-9	Chrysene	ND		50	44.0	88	47.0	94	7	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		50	39.8	80	38.9	78	2	40-140/20
206-44-0	Fluoranthene	ND		50	38.9	78	40.9	82	5	40-140/20
86-73-7	Fluorene	ND		50	35.6	71	36.2	72	2	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		50	36.6	73	38.4	77	5	40-140/20
90-12-0	1-Methylnaphthalene	ND		50	27.3	55	31.6	63	15	40-140/20
91-57-6	2-Methylnaphthalene	ND		50	26.1	52	30.3	61	15	40-140/20
85-01-8	Phenanthrene	ND		50	37.7	75	38.3	77	2	40-140/20
129-00-0	Pyrene	ND		50	34.5	69	37.3	75	8	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15914-19	Limits
367-12-4	2-Fluorophenol	33%	38%	33%	15-110%
4165-62-2	Phenol-d5	24%	28%	24%	15-110%
118-79-6	2,4,6-Tribromophenol	84%	84%	76%	15-110%
4165-60-0	Nitrobenzene-d5	58%	65%	66%	30-130%
321-60-8	2-Fluorobiphenyl	58%	65%	60%	30-130%
1718-51-0	Terphenyl-d14	72%	77%	82%	30-130%

(a) High RPD due to possible matrix interference and/or sample non-homogeneity.

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSU574-CC550	Injection Date:	11/19/12
Lab File ID:	U10824.D	Injection Time:	07:54
Instrument ID:	GCMSU	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	213045	3.60	629745	4.57	324651	5.99	510813	7.28	235018	10.06	281368	11.48
Upper Limit [a]	426090	4.10	1259490	5.07	649302	6.49	1021626	7.78	470036	10.56	562736	11.98
Lower Limit [b]	106523	3.10	314873	4.07	162326	5.49	255407	6.78	117509	9.56	140684	10.98
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP31046-MB	216871	3.60	624047	4.57	303678	5.99	496103	7.28	322777	10.06	568712[c]	11.48
OP31046-BS	219838	3.60	639081	4.57	314177	5.99	495374	7.28	300416	10.06	539902	11.48
OP31046-MS	233149	3.60	668767	4.57	325409	5.99	504477	7.28	300267	10.06	222203	11.48
OP31046-MSD	207698	3.60	606257	4.57	301211	5.99	469992	7.28	296565	10.06	505418	11.48
MC15914-19	189940	3.60	563026	4.57	277633	5.99	434281	7.28	296573	10.06	523993	11.48
MC15840-1	202881	3.60	605373	4.57	293774	5.99	454104	7.28	301686	10.06	530469	11.48
MC15840-2	195482	3.60	574513	4.57	299432	5.99	456547	7.28	290415	10.06	501438	11.48
MC15840-3	213075	3.60	626777	4.57	302547	5.99	469036	7.28	327198	10.06	557376	11.49
ZZZZZZ	202771	3.60	599235	4.57	294499	5.99	462305	7.28	315282	10.06	545532	11.48
ZZZZZZ	203383	3.60	616155	4.57	307630	5.99	463677	7.28	300829	10.06	550359	11.48
ZZZZZZ	184136	3.60	530050	4.57	283377	5.99	470354	7.28	315047	10.06	523809	11.48
ZZZZZZ	161479	3.60	456359	4.59	218391	6.02	371955	7.32	302493	10.07	486597	11.48
ZZZZZZ	160602	3.60	358105	4.59	173845	6.03	326422	7.34	283628	10.08	473206	11.49
ZZZZZZ	147573	3.60	384003	4.59	191558	6.02	344821	7.32	282709	10.07	553475	11.48
ZZZZZZ	165723	3.60	615136	4.57	293370	5.99	502537	7.28	335452	10.06	540993	11.48
ZZZZZZ	193159	3.60	589203	4.57	270061	5.99	483372	7.28	282668	10.06	540440	11.48
ZZZZZZ	169822	3.60	515368	4.57	302923	5.99	473755	7.28	319171	10.06	541453	11.48
ZZZZZZ	203948	3.60	577007	4.57	305425	5.99	453929	7.28	324160	10.06	533996	11.48

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Outside control limits. Target analytes not associated with this internal standard.

7.4.1

7

Semivolatile Internal Standard Area Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW337-CC318	Injection Date:	11/19/12
Lab File ID:	W7060.D	Injection Time:	16:20
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	99160	4.09	402023	5.08	225366	6.51	389296	7.88	426178	10.82	397517	12.40
Upper Limit [a]	198320	4.59	804046	5.58	450732	7.01	778592	8.38	852356	11.32	795034	12.90
Lower Limit [b]	49580	3.59	201012	4.58	112683	6.01	194648	7.38	213089	10.32	198759	11.90
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP31080-MB	128829	4.09	511194	5.08	287314	6.51	489776	7.88	525112	10.82	492783	12.40
OP31080-BS	115484	4.09	466591	5.08	263188	6.51	438498	7.88	477740	10.82	432353	12.40
ZZZZZZ	118474	4.09	468207	5.08	265404	6.51	451596	7.88	488849	10.82	464303	12.40
OP31045-MB	100514	4.09	399390	5.08	227856	6.51	388153	7.88	421576	10.82	401969	12.40
OP31045-BS	108309	4.09	425379	5.08	240109	6.51	402591	7.88	436479	10.82	394937	12.40
OP31057-BS	108309	4.09	425379	5.08	240109	6.51	402591	7.88	436479	10.82	394937	12.40
OP31045-MS	104140	4.09	416009	5.08	233325	6.51	402074	7.88	446986	10.82	170379[c]	12.40
OP31045-MSD	103142	4.09	418225	5.08	233765	6.51	395333	7.88	432036	10.82	395345	12.40
MC15914-18	97590	4.09	391257	5.07	221086	6.51	376801	7.88	410269	10.82	389336	12.40
ZZZZZZ	98652	4.09	395319	5.08	261770	6.52	453909	7.90	456404	10.82	425202	12.40
MC15840-1	105681	4.09	426971	5.08	242383	6.51	413342	7.88	451988	10.82	425104	12.40
MC15840-2	100645	4.09	401105	5.07	227753	6.51	391639	7.88	420058	10.82	403138	12.40
MC15840-3	109440	4.09	436946	5.08	253648	6.51	440292	7.88	474469	10.82	430526	12.40
ZZZZZZ	102194	4.09	400707	5.08	229362	6.51	394121	7.88	425398	10.82	415438	12.40
ZZZZZZ	101522	4.09	405934	5.08	231151	6.51	394749	7.88	435583	10.82	412514	12.40
OP31055-MS	143574	4.09	567537	5.08	322867	6.52	552855	7.89	599468	10.82	406311	12.40
OP31055-MSD	138497	4.09	559133	5.08	316561	6.52	541467	7.89	589143	10.82	415947	12.40
MC15664-1	144048	4.09	581553	5.08	331115	6.51	583771	7.89	629266	10.82	434412	12.40
ZZZZZZ	150191	4.09	591579	5.08	340691	6.51	598187	7.88	646868	10.82	428080	12.40
OP31066-MS	103986	4.09	420791	5.08	241538	6.51	411643	7.88	446072	10.82	425970	12.40
OP31066-MSD	105335	4.09	426279	5.08	244534	6.51	422828	7.88	453874	10.82	434703	12.40
MC15751-1	106405	4.09	430912	5.08	244264	6.51	426277	7.88	459129	10.82	439034	12.40
ZZZZZZ	116163	4.09	476105	5.08	348304	6.53	632723	7.91	531714	10.83	496221	12.40
ZZZZZZ	130331	4.09	546079	5.09	365552	6.54	707934	7.92	562365	10.83	514804	12.40
ZZZZZZ	127582	4.09	522874	5.09	364886	6.54	673328	7.91	539824	10.83	501445	12.40
ZZZZZZ	124962	4.09	500867	5.08	469250*	6.53	710980	7.91	611183	10.83	537738	12.41
ZZZZZZ	132547	4.09	534629	5.09	338344	6.54	515655	7.94	663160	10.84	560862	12.41

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

Semivolatile Internal Standard Area Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW337-CC318	Injection Date:	11/19/12
Lab File ID:	W7060.D	Injection Time:	16:20
Instrument ID:	GCMSW	Method:	SW846 8270C

Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Outside control limits due to possible matrix interference.

Semivolatile Surrogate Recovery Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15840-1	W7071.D	39.0	27.0	78.0	71.0	67.0	58.0
MC15840-2	W7072.D	35.0	26.0	71.0	66.0	61.0	58.0
MC15840-3	W7073.D	29.0	23.0	77.0	60.0	62.0	86.0
OP31045-BS	W7066.D	41.0	30.0	76.0	71.0	64.0	89.0
OP31045-MB	W7065.D	33.0	23.0	60.0	69.0	61.0	85.0
OP31045-MS	W7067.D	35.0	25.0	78.0	63.0	61.0	87.0
OP31045-MSD	W7068.D	41.0	29.0	76.0	72.0	67.0	88.0

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	15-110%
S2 = Phenol-d5	15-110%
S3 = 2,4,6-Tribromophenol	15-110%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

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Semivolatile Surrogate Recovery Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15840-1	U10830.D	37.0	27.0	86.0	67.0	65.0	51.0
MC15840-2	U10831.D	34.0	25.0	79.0	62.0	57.0	51.0
MC15840-3	U10832.D	28.0	23.0	83.0	57.0	62.0	74.0
OP31046-BS	U10826.D	40.0	30.0	82.0	67.0	62.0	75.0
OP31046-MB	U10825.D	31.0	22.0	73.0	64.0	61.0	71.0
OP31046-MS	U10827.D	33.0	24.0	84.0	58.0	58.0	72.0
OP31046-MSD	U10828.D	38.0	28.0	84.0	65.0	65.0	77.0

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	15-110%
S2 = Phenol-d5	15-110%
S3 = 2,4,6-Tribromophenol	15-110%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

New England ACCUTEST LABORATORIES

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: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31006-MB	BK18830.D	1	11/13/12	AP	11/12/12	OP31006	GBK686

The QC reported here applies to the following samples: Method: SW846 8011

MC15840-1, MC15840-2, MC15840-3, MC15840-5

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)	92%	36-173%
460-00-4	Bromofluorobenzene (S)	102%	36-173%

Blank Spike Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31006-BS	BK18831.D	1	11/13/12	AP	11/12/12	OP31006	GBK686

The QC reported here applies to the following samples: **Method:** SW846 8011

MC15840-1, MC15840-2, MC15840-3, MC15840-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.071	100	60-140
106-93-4	1,2-Dibromoethane	0.071	0.076	107	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	98%	36-173%
460-00-4	Bromofluorobenzene (S)	109%	36-173%

8.2.1

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* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31006-MS	BK18832.D	1	11/13/12	AP	11/12/12	OP31006	GBK686
OP31006-MSD	BK18833.D	1	11/13/12	AP	11/12/12	OP31006	GBK686
MC15914-9	BK18834.D	1	11/13/12	AP	11/12/12	OP31006	GBK686

The QC reported here applies to the following samples: Method: SW846 8011

MC15840-1, MC15840-2, MC15840-3, MC15840-5

CAS No.	Compound	MC15914-9 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		0.071	0.071	100	0.069	97	3	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.071	0.075	106	0.073	103	3	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC15914-9	Limits
460-00-4	Bromofluorobenzene (S)	98%	97%	100%	36-173%
460-00-4	Bromofluorobenzene (S)	107%	107%	113%	36-173%

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8011 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC15840-1	BK18850.D	80.0	90.0
MC15840-2	BK18851.D	72.0	81.0
MC15840-3	BK18852.D	104.0	85.0
MC15840-5	BK18853.D	80.0	91.0
OP31006-BS	BK18831.D	98.0	109.0
OP31006-MB	BK18830.D	92.0	102.0
OP31006-MS	BK18832.D	98.0	107.0
OP31006-MSD	BK18833.D	97.0	107.0

Surrogate Compounds	Recovery Limits
S1 = Bromofluorobenzene (S)	36-173%

(a) Recovery from GC signal #1
(b) Recovery from GC signal #2

GC Surrogate Retention Time Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBK686-CC686	Injection Date:	11/13/12
Lab File ID:	BK18826.D	Injection Time:	19:51
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.93	4.61

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK18827.D	11/13/12	20:16	4.93	4.61
ZZZZZZ	BK18828.D	11/13/12	20:40	4.93	4.61
ZZZZZZ	BK18829.D	11/13/12	21:05	4.93	4.61
OP31006-MB	BK18830.D	11/13/12	21:29	4.93	4.61
OP31006-BS	BK18831.D	11/13/12	21:53	4.93	4.61
OP31006-MS	BK18832.D	11/13/12	22:18	4.93	4.61
OP31006-MSD	BK18833.D	11/13/12	22:42	4.93	4.61
MC15914-9	BK18834.D	11/13/12	23:06	4.93	4.61
ZZZZZZ	BK18835.D	11/13/12	23:31	4.93	4.61
ZZZZZZ	BK18836.D	11/13/12	23:55	4.93	4.61

Surrogate Compounds

S1 = Bromofluorobenzene (S)

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: MC15840
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBK686-CC686	Injection Date:	11/14/12
Lab File ID:	BK18848.D	Injection Time:	04:48
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.93	4.61

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK18849.D	11/14/12	05:12	4.93	4.61
MC15840-1	BK18850.D	11/14/12	05:36	4.93	4.61
MC15840-2	BK18851.D	11/14/12	06:00	4.93	4.61
MC15840-3	BK18852.D	11/14/12	06:24	4.93	4.61
MC15840-5	BK18853.D	11/14/12	06:48	4.93	4.61
ZZZZZZ	BK18854.D	11/14/12	07:12	4.93	4.61
ZZZZZZ	BK18855.D	11/14/12	07:36	4.93	4.61
OP31007-MB	BK18856.D	11/14/12	08:00	4.93	4.61
OP31007-BS	BK18857.D	11/14/12	08:24	4.93	4.61
OP31007-MS	BK18858.D	11/14/12	08:48	4.93	4.61

Surrogate Compounds

S1 = Bromofluorobenzene (S)

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

8.5.2

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Roxana Groundwater Quarterly – 4th Quarter 2012 Data Review

Laboratory SDG: MC15892

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 12/13/2012

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Sample Identification	Sample Identification
P114-ROX-110912	TB-110912-HCL-W
TB-110912-ST-W	-

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated that VOC and SVOC LCS recoveries were outside evaluation criteria. VOC surrogate recovery for 4-bromofluorobenzene in Run #1 of sample P114-ROX-110912, and VOC by 8011 surrogate recoveries for bromofluorobenzene were outside evaluation criteria in sample P114-ROX-110912. Professional judgment was used to qualify acetone in sample P114-ROX-110912. Additionally, the initial calibration verification for acetone and 2-butanone exceeded 50 percent difference (%D). These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated samples were received by the laboratory at a temperature of 1.1ºC, which is outside the 4ºC ± 2ºC criteria. Samples were received in good condition; therefore, no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSP2177-BS	VOCs	Acetone	**162**	NA	70-130
MSP2177-BS	VOCs	Acrolein	**55**	NA	70-130
MSP2177-BS	VOCs	2-Butanone (MEK)	**137**	NA	70-130
MSP2177-BS1	VOCs	Acrolein	**45**	NA	70-130
MSP2177-BS1	VOCs	Vinyl acetate	**69**	NA	70-130
OP31057-BS	SVOCs	Aniline	**37**	NA	40-140
OP31057-BS	SVOCs	Pyridine	**26**	NA	40-140

Analytical data that required qualification based on LCS data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. LCS MSP2177-BS was associated with trip blank TB-110912-HCL-W. Trip blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
P114-ROX-110912	VOCs	Acrolein	**UJ**
P114-ROX-110912	VOCs	Vinyl acetate	**UJ**
P114-ROX-110912	SVOCs	Aniline	**UJ**
P114-ROX-110912	SVOCs	Pyridine	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery	Criteria
P114-ROX-110912 Run#1	VOCs	4-Bromofluorobenzene	**142**	70-130
P114-ROX-110912	VOCs by 8011	Bromofluorobenzene (S)	**193**	36-173
P114-ROX-110912	VOCs by 8011	Bromofluorobenzene (S)	**196**	36-173

Analytical data that required qualification based on surrogate data are included in the table below. Analytical data reported as non-detect and associated with surrogate recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
P114-ROX-110912	VOCs	Methyl tert butyl ether	**J**
P114-ROX-110912	VOCs	m,p-Xylene	**J**
P114-ROX-110912	VOCs	Xylene (total)	**J**

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes, professional judgment was used to qualify the common laboratory contaminant acetone reported at concentrations greater than two times (>2X) the reporting limit (RL), since acetone is not representative of site conditions.

Sample ID	Analyte	New RL	Qualification	Comment
P114-ROX-110912	Acetone	14.4 ug/L	**U**	Professional Judgment

Additionally, the initial calibration verification recovery for acetone and 2-butanone exceeded 50 percent difference (%D); analytes in associated samples were qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
P114-ROX-110912	VOCs	Acetone	**UJ**
P114-ROX-110912	VOCs	2-Butanone	**UJ**

New England ACCUTEST LABORATORIES

12/11/12



Technical Report for

Shell Oil

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana,

Accutest Job Number: MC15892

Sampling Date: 11/09/12

Report to:

URS Corporation

elizabeth.kunkel@URS.com

ATTN: Elizabeth Kunkel

Total number of pages in report: **67**

Reviewed on 12/13/12

Reza Tand
Lab Director

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Test results relate only to samples analyzed.

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Sample Summary

Shell Oil

Job No: MC15892

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC15892-1	11/09/12	11:40	LRCK	11/10/12	AQ	Ground Water	P114-ROX-110912
MC15892-2	11/09/12	00:00	LRCK	11/10/12	AQ	Trip Blank Water	TB-110912-HCL-W
MC15892-3	11/09/12	00:00	LRCK	11/10/12	AQ	Trip Blank Water	TB-110912-ST-W

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Shell Oil **Job No** MC15892

Site: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central **Report Date** 12/10/2012 6:41:51 PM

1 Sample(s), 2 Trip Blank(s) were collected on 11/09/2012 and were received at Accutest on 11/10/2012 properly preserved, at 1.1 Deg. C and intact. These Samples received an Accutest job number of MC15892. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. 1-Chlorohexane, Benzenethiol, Dibenz(a,h)acridine, Indene, and Quinoline were searched in the library search and reported only if detections were found.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** MSP2177

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC15896-41MS, MC15896-41MSD were used as the QC samples indicated.
- BS Recovery(s) for 2-Butanone (MEK), Acrolein, Vinyl Acetate are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for 1,4-Dioxane, Acetone, Acrolein, Dichlorodifluoromethane are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for 2-Chloroethyl vinyl ether, Acrolein are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- RPD(s) for MSD for 1,4-Dioxane, Acrolein are outside control limits for sample MC15896-41MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- Initial calibration verification MSP2177-ICV2177 for acetone, 2-butanone exceeds 50% Difference. Acetone, 2-Butanone is within criteria in continuing calibration check standard MSP2177-CC2177, file P66595.
- MC15892-1: Confirmation run for surrogate recoveries.
- MC15892-1 for 4-Bromofluorobenzene: Outside control limits due to possible matrix interference. Confirmed by reanalysis.
- MSP2177-BS for Acetone: Outside control limits. Associated samples are non-detect for this compound.
- BS1 Recovery(s) for Acrolein, Vinyl Acetate are outside control limits. Blank Spike meets program technical requirements.

Extractables by GCMS By Method SW846 8270C

Matrix AQ **Batch ID:** OP31057

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Blank Spike Recovery(s) for Aniline, Pyridine are outside control limits. Blank Spike meets program technical requirements.
- MS for 4-chloroaniline and MS/MSD for 3,3'-Dichlorobenzidine outside control limits due to possible matrix interference. Refer to BS.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix AQ	Batch ID: OP31058

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15873-1FMS, MC15873-1FMSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Volatiles by GC By Method SW846 8011

Matrix AQ	Batch ID: OP31006

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC15914-9MS, MC15914-9MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MC15892-1 for Bromofluorobenzene (S): Outside control limits.Sample is non-detect for target analytes.

The Accutest Laboratories of 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 Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC15892).

Summary of Hits

Job Number: MC15892
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 11/09/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC15892-1	**P114-ROX-110912**					
Acetone		14.4	5.0	3.0	ug/l	SW846 8260B
Methyl Tert Butyl Ether		7.6	1.0	0.41	ug/l	SW846 8260B
m,p-Xylene		1.3	1.0	0.73	ug/l	SW846 8260B
Xylene (total)		1.3	1.0	0.58	ug/l	SW846 8260B
MC15892-2	**TB-110912-HCL-W**					
No hits reported in this sample.						
MC15892-3	**TB-110912-ST-W**					
No hits reported in this sample.						

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	P114-ROX-110912		
Lab Sample ID:	MC15892-1	Date Sampled:	11/09/12
Matrix:	AQ - Ground Water	Date Received:	11/10/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P66619.D	1	11/22/12	TT	n/a	n/a	MSP2177
Run #2 [a]	P66600.D	1000	11/22/12	TT	n/a	n/a	MSP2177

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	~~14.4~~ UJ 44	~~5.0~~	3.0	ug/l	UJ
107-02-8	Acrolein	ND	25	10	ug/l	UJ
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	UJ
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:	P114-ROX-110912		
Lab Sample ID:	MC15892-1	Date Sampled:	11/09/12
Matrix:	AQ - Ground Water	Date Received:	11/10/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	7.6	1.0	0.41	ug/l	J
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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	UJ
75-01-4	Vinyl chloride	ND	1.0	0.63	ug/l	
	m,p-Xylene	1.3	1.0	0.73	ug/l	J
95-47-6	o-Xylene	ND	1.0	0.58	ug/l	
1330-20-7	Xylene (total)	1.3	1.0	0.58	ug/l	J

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J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P114-ROX-110912		
Lab Sample ID:	MC15892-1	**Date Sampled:**	11/09/12
Matrix:	AQ - Ground Water	**Date Received:**	11/10/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%	89%	70-130%
2037-26-5	Toluene-D8	97%	89%	70-130%
460-00-4	4-Bromofluorobenzene	142% [b]	91%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

(a) Confirmation run for surrogate recoveries.
(b) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P114-ROX-110912		
Lab Sample ID:	MC15892-1	Date Sampled:	11/09/12
Matrix:	AQ - Ground Water	Date Received:	11/10/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F59958.D	1	12/05/12	KR	11/16/12	OP31057	MSF2828
Run #2							

	Initial Volume	Final Volume
Run #1	970 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.2	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.39	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.39	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.8	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	5.2	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.6	ug/l	
95-48-7	2-Methylphenol	ND	10	0.62	ug/l	
	3&4-Methylphenol	ND	10	0.78	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.49	ug/l	
100-02-7	4-Nitrophenol	ND	21	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.2	0.96	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.51	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.36	ug/l	
62-53-3	Aniline	ND	10	2.1	ug/l	UJ
101-55-3	4-Bromophenyl phenyl ether	ND	5.2	0.34	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.2	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.27	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.2	0.26	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.65	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.2	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.2	0.39	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.2	0.29	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.2	0.30	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.2	0.26	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.26	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.26	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.2	0.92	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.22	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.2	0.37	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.2	0.24	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P114-ROX-110912		
Lab Sample ID:	MC15892-1	Date Sampled:	11/09/12
Matrix:	AQ - Ground Water	Date Received:	11/10/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.2	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.2	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.1	0.39	ug/l	
118-74-1	Hexachlorobenzene	ND	5.2	0.26	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	5.2	ug/l	
67-72-1	Hexachloroethane	ND	5.2	0.29	ug/l	
78-59-1	Isophorone	ND	5.2	0.33	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.26	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.26	ug/l	
100-01-6	4-Nitroaniline	ND	10	1.3	ug/l	
98-95-3	Nitrobenzene	ND	5.2	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.2	0.61	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.2	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.2	0.45	ug/l	
110-86-1	Pyridine	ND	10	0.48	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	42%		15-110%
4165-62-2	Phenol-d5	29%		15-110%
118-79-6	2,4,6-Tribromophenol	85%		15-110%
4165-60-0	Nitrobenzene-d5	76%		30-130%
321-60-8	2-Fluorobiphenyl	69%		30-130%
1718-51-0	Terphenyl-d14	55%		30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P114-ROX-110912		
Lab Sample ID:	MC15892-1	Date Sampled:	11/09/12
Matrix:	AQ - Ground Water	Date Received:	11/10/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I80105.D	1	11/20/12	NS	11/16/12	OP31058	MSI2984
Run #2							

	Initial Volume	Final Volume
Run #1	970 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.014	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.052	0.031	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.052	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.039	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.060	ug/l	
218-01-9	Chrysene	ND	0.10	0.075	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.043	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.034	ug/l	
86-73-7	Fluorene	ND	0.10	0.048	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.047	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.21	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.21	0.054	ug/l	
85-01-8	Phenanthrene	ND	0.052	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.037	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	41%		15-110%
4165-62-2	Phenol-d5	28%		15-110%
118-79-6	2,4,6-Tribromophenol	84%		15-110%
4165-60-0	Nitrobenzene-d5	72%		30-130%
321-60-8	2-Fluorobiphenyl	75%		30-130%
1718-51-0	Terphenyl-d14	59%		30-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P114-ROX-110912		
Lab Sample ID:	MC15892-1	Date Sampled:	11/09/12
Matrix:	AQ - Ground Water	Date Received:	11/10/12
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18854.D	1	11/14/12	AP	11/12/12	OP31006	GBK686
Run #2							

	Initial Volume	Final Volume
Run #1	35.1 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	193% [a]		36-173%
460-00-4	Bromofluorobenzene (S)	196% [a]		36-173%

(a) Outside control limits.Sample is non-detect for target analytes.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-110912-HCL-W		
Lab Sample ID:	MC15892-2	Date Sampled:	11/09/12
Matrix:	AQ - Trip Blank Water	Date Received:	11/10/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P66588.D	1	11/21/12	TT	n/a	n/a	MSP2177
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	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
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E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-110912-HCL-W		
Lab Sample ID:	MC15892-2	Date Sampled:	11/09/12
Matrix:	AQ - Trip Blank Water	Date Received:	11/10/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	TB-110912-HCL-W		
Lab Sample ID:	MC15892-2	**Date Sampled:**	11/09/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/10/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, 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	97%		70-130%
460-00-4	4-Bromofluorobenzene	100%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-110912-ST-W		
Lab Sample ID:	MC15892-3	**Date Sampled:**	11/09/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	11/10/12
Method:	SW846 8011 SW846 8011	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK18855.D	1	11/14/12	AP	11/12/12	OP31006	GBK686
Run #2							

	Initial Volume	Final Volume
Run #1	35.4 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.013	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	92%		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

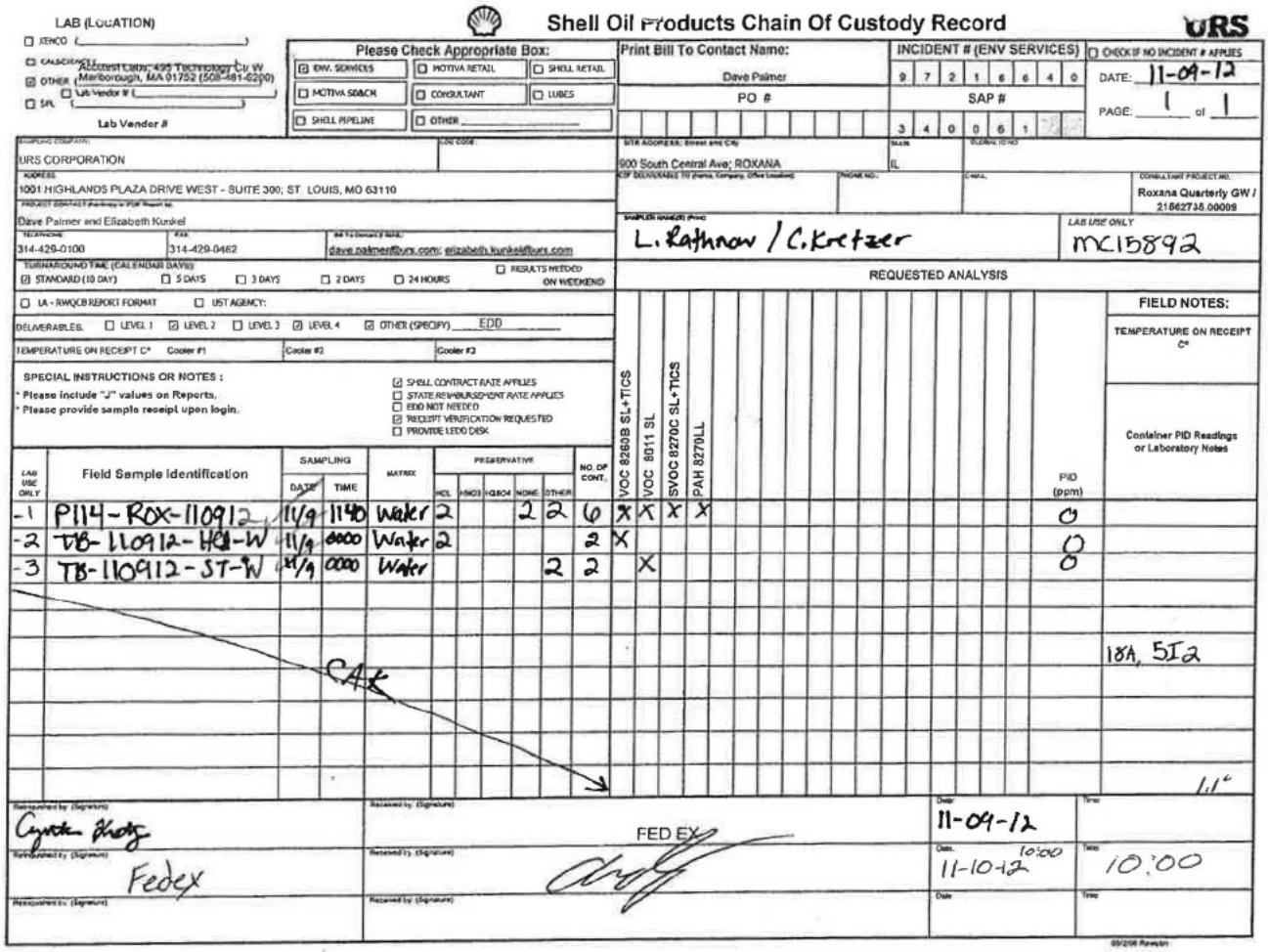
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

New England ACCUTEST LABORATORIES

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody



LAB (LOCATION)

☐ XENCO ( )
☐ CALSCIENCE
☑ OTHER Accutest Labs, 495 Technology Ctr W Marlborough, MA 01752 (508-481-6200)
☐ Lab Vendor # ( )
☐ SPL ( )

Lab Vendor #

Shell Oil Products Chain Of Custody Record

URS

Please Check Appropriate Box:

☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SD&CH ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Dave Palmer

PO #

INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0

SAP #: 3 4 0 0 6 1

☐ CHECK IF NO INCIDENT # APPLIES

DATE: 11-09-12

PAGE: 1 of 1

SAMPLING COMPANY: URS CORPORATION

LOG CODE:

SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA

STATE: IL

GLOBAL ID NO.:

ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110

PROJECT CONTACT (hardcopy or PDF Report to): Dave Palmer and Elizabeth Kunkel

TELEPHONE: 314-429-0100

FAX: 314-429-0462

AIR To Contact E-MAIL: dave.palmer@urs.com; elizabeth.kunkel@urs.com

CONSULTANT PROJECT NO.: Roxana Quarterly GW / 21562735.00009

SAMPLER NAME(S) (Print): L. Rathnow / C. Kretzer

LAB USE ONLY: MC15892

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (10 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C°: Cooler #1 Cooler #2 Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:
* Please include "J" values on Reports.
* Please provide sample receipt upon login.

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	VOC 8260B SL+TICS	VOC 8011 SL	SVOC 8270C SL+TICS	PAH 8270LL	PID (ppm)	Container PID Readings or Laboratory Notes
-1	P114-ROX-110912	11/9	1140	Water	2			2	2	6	X	X	X	X	0	
-2	TB-110912-HCl-W	11/9	0000	Water	2					2	X				0	
-3	TB-110912-ST-W	11/9	0000	Water					2	2		X			0	
																18A, 5I2
																1.1°

CAK

Relinquished by (Signature)	Received by (Signature)	Date	Time
Cynthia Kretzer	FED EX	11-09-12	
Fedex	[signature]	11-10-12 10:00	10:00

05/2/06 Revision

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MC15892: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC15892 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 11/10/2012 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900 SO CENTRAL **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

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MC15892: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC15892

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC15892-1 Collected: 09-NOV-12 11:40 By: LRCK Received: 10-NOV-12 By: P114-ROX-110912						
MC15892-1	SW846 8011	14-NOV-12 07:12	AP	12-NOV-12	CA	V8011SL
MC15892-1	SW846 8270C BY SIM	20-NOV-12 13:39	NS	16-NOV-12	PA	B8270SIMSL
MC15892-1	SW846 8260B	22-NOV-12 08:57	TT			V8260SL+
MC15892-1	SW846 8260B	22-NOV-12 17:48	TT			V8260SL+
MC15892-1	SW846 8270C	05-DEC-12 11:56	KR	16-NOV-12	PA	AB8270SL+
MC15892-2 Collected: 09-NOV-12 00:00 By: LRCK Received: 10-NOV-12 By: TB-110912-HCL-W						
MC15892-2	SW846 8260B	21-NOV-12 15:25	TT			V8260SL+
MC15892-3 Collected: 09-NOV-12 00:00 By: LRCK Received: 10-NOV-12 By: TB-110912-ST-W						
MC15892-3	SW846 8011	14-NOV-12 07:36	AP	12-NOV-12	CA	V8011SL

Accutest Internal Chain of Custody

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 11/10/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC15892-1.2	Walk In Ref #22	Michael Rolo	11/16/12 07:47	Retrieve from Storage
MC15892-1.2	Michael Rolo		11/19/12 07:12	Depleted
MC15892-1.3	VOC Ref #5	Tomasz Torski	11/21/12 14:41	Retrieve from Storage
MC15892-1.3	Tomasz Torski	GCMSP	11/21/12 14:41	Load on Instrument
MC15892-1.3	GCMSP	Tomasz Torski	11/27/12 08:50	Unload from Instrument
MC15892-1.3	Tomasz Torski	VOC Ref #5	11/27/12 08:53	Return to Storage
MC15892-1.6	VOC Ref #5	Nick Krasinski	11/12/12 14:07	Retrieve from Storage
MC15892-1.6	Nick Krasinski		11/12/12 21:17	Depleted
MC15892-2.1	VOC Ref #5	Jugal Patel	11/20/12 12:41	Retrieve from Storage
MC15892-2.1	Jugal Patel	GCMSN	11/20/12 12:42	Load on Instrument
MC15892-2.1	GCMSN	Jugal Patel	11/20/12 13:00	Unload from Instrument
MC15892-2.1	Jugal Patel	VOC Ref #5	11/20/12 13:00	Return to Storage
MC15892-2.1	VOC Ref #5	Tomasz Torski	11/21/12 14:41	Retrieve from Storage
MC15892-2.1	Tomasz Torski	GCMSP	11/21/12 14:41	Load on Instrument
MC15892-2.1	GCMSP	Tomasz Torski	11/27/12 08:50	Unload from Instrument
MC15892-2.1	Tomasz Torski	VOC Ref #5	11/27/12 08:53	Return to Storage
MC15892-3.2	VOC Ref #5	Nick Krasinski	11/12/12 14:07	Retrieve from Storage
MC15892-3.2	Nick Krasinski		11/12/12 21:17	Depleted

New England ACCUTEST LABORATORIES

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: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2177-MB	P66587.D	1	11/21/12	TT	n/a	n/a	MSP2177

The QC reported here applies to the following samples: Method: SW846 8260B

MC15892-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.3	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: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2177-MB	P66587.D	1	11/21/12	TT	n/a	n/a	MSP2177

The QC reported here applies to the following samples: Method: SW846 8260B

MC15892-2

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2177-MB	P66587.D	1	11/21/12	TT	n/a	n/a	MSP2177

The QC reported here applies to the following samples: Method: SW846 8260B

MC15892-2

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	91%	70-130%
2037-26-5	Toluene-D8	93%	70-130%
460-00-4	4-Bromofluorobenzene	95%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2177-MB1	P66599.D	1	11/22/12	TT	n/a	n/a	MSP2177

The QC reported here applies to the following samples: Method: SW846 8260B

MC15892-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.0	ug/l	
107-02-8	Acrolein	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.2	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.62	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.3	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: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2177-MB1	P66599.D	1	11/22/12	TT	n/a	n/a	MSP2177

The QC reported here applies to the following samples: Method: SW846 8260B

MC15892-1

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2177-MB1	P66599.D	1	11/22/12	TT	n/a	n/a	MSP2177

The QC reported here applies to the following samples: Method: SW846 8260B

MC15892-1

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	92%	70-130%
2037-26-5	Toluene-D8	93%	70-130%
460-00-4	4-Bromofluorobenzene	96%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Blank Spike Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2177-BS	P66585.D	1	11/21/12	TT	n/a	n/a	MSP2177

The QC reported here applies to the following samples: Method: SW846 8260B

MC15892-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	80.9	162* a	70-130
107-02-8	Acrolein	250	138	55* b	70-130
107-13-1	Acrylonitrile	50	46.8	94	70-130
71-43-2	Benzene	50	48.9	98	70-130
108-86-1	Bromobenzene	50	47.1	94	70-130
74-97-5	Bromochloromethane	50	48.5	97	70-130
75-27-4	Bromodichloromethane	50	50.5	101	70-130
75-25-2	Bromoform	50	46.7	93	70-130
74-83-9	Bromomethane	50	60.2	120	70-130
78-93-3	2-Butanone (MEK)	50	68.6	137* b	70-130
104-51-8	n-Butylbenzene	50	47.7	95	70-130
135-98-8	sec-Butylbenzene	50	45.0	90	70-130
98-06-6	tert-Butylbenzene	50	44.4	89	70-130
75-15-0	Carbon disulfide	50	50.6	101	70-130
56-23-5	Carbon tetrachloride	50	48.5	97	70-130
108-90-7	Chlorobenzene	50	44.1	88	70-130
75-00-3	Chloroethane	50	46.7	93	70-130
110-75-8	2-Chloroethyl vinyl ether	50	38.8	78	70-130
67-66-3	Chloroform	50	46.7	93	70-130
74-87-3	Chloromethane	50	50.0	100	70-130
95-49-8	o-Chlorotoluene	50	44.0	88	70-130
106-43-4	p-Chlorotoluene	50	45.6	91	70-130
124-48-1	Dibromochloromethane	50	48.3	97	70-130
95-50-1	1,2-Dichlorobenzene	50	44.5	89	70-130
541-73-1	1,3-Dichlorobenzene	50	44.8	90	70-130
106-46-7	1,4-Dichlorobenzene	50	46.9	94	70-130
75-71-8	Dichlorodifluoromethane	50	60.4	121	70-130
75-34-3	1,1-Dichloroethane	50	47.7	95	70-130
107-06-2	1,2-Dichloroethane	50	45.9	92	70-130
75-35-4	1,1-Dichloroethene	50	48.5	97	70-130
156-59-2	cis-1,2-Dichloroethene	50	44.6	89	70-130
156-60-5	trans-1,2-Dichloroethene	50	45.9	92	70-130
78-87-5	1,2-Dichloropropane	50	46.6	93	70-130
142-28-9	1,3-Dichloropropane	50	46.1	92	70-130
594-20-7	2,2-Dichloropropane	50	52.3	105	70-130
563-58-6	1,1-Dichloropropene	50	48.2	96	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2177-BS	P66585.D	1	11/21/12	TT	n/a	n/a	MSP2177

The QC reported here applies to the following samples: Method: SW846 8260B

MC15892-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	46.6	93	70-130
10061-02-6	trans-1,3-Dichloropropene	50	49.4	99	70-130
123-91-1	1,4-Dioxane	250	276	110	70-130
97-63-2	Ethyl methacrylate	50	48.7	97	77-137
100-41-4	Ethylbenzene	50	46.7	93	70-130
87-68-3	Hexachlorobutadiene	50	47.9	96	70-130
591-78-6	2-Hexanone	50	56.9	114	70-130
98-82-8	Isopropylbenzene	50	44.8	90	70-130
99-87-6	p-Isopropyltoluene	50	49.5	99	70-130
1634-04-4	Methyl Tert Butyl Ether	50	49.5	99	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	47.8	96	70-130
74-95-3	Methylene bromide	50	46.8	94	70-130
75-09-2	Methylene chloride	50	46.0	92	70-130
91-20-3	Naphthalene	50	47.6	95	70-130
103-65-1	n-Propylbenzene	50	44.8	90	70-130
100-42-5	Styrene	50	46.1	92	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	48.9	98	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	47.3	95	70-130
127-18-4	Tetrachloroethene	50	48.1	96	70-130
108-88-3	Toluene	50	47.0	94	70-130
87-61-6	1,2,3-Trichlorobenzene	50	46.1	92	70-130
120-82-1	1,2,4-Trichlorobenzene	50	48.4	97	70-130
71-55-6	1,1,1-Trichloroethane	50	49.2	98	70-130
79-00-5	1,1,2-Trichloroethane	50	46.2	92	70-130
79-01-6	Trichloroethene	50	46.7	93	70-130
75-69-4	Trichlorofluoromethane	50	51.7	103	70-130
96-18-4	1,2,3-Trichloropropane	50	49.1	98	70-130
95-63-6	1,2,4-Trimethylbenzene	50	45.8	92	70-130
108-67-8	1,3,5-Trimethylbenzene	50	45.4	91	70-130
108-05-4	Vinyl Acetate	50	48.8	98	70-130
75-01-4	Vinyl chloride	50	49.2	98	70-130
	m,p-Xylene	100	91.2	91	70-130
95-47-6	o-Xylene	50	43.5	87	70-130
1330-20-7	Xylene (total)	150	135	90	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2177-BS	P66585.D	1	11/21/12	TT	n/a	n/a	MSP2177

The QC reported here applies to the following samples: Method: SW846 8260B

MC15892-2

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	90%	70-130%
2037-26-5	Toluene-D8	93%	70-130%
460-00-4	4-Bromofluorobenzene	91%	70-130%

(a) Outside control limits. Associated samples are non-detect for this compound.
(b) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2177-BS1	P66596.D	1	11/22/12	TT	n/a	n/a	MSP2177

The QC reported here applies to the following samples: Method: SW846 8260B

MC15892-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	46.7	93	70-130
107-02-8	Acrolein	250	113	45* a	70-130
107-13-1	Acrylonitrile	50	47.4	95	70-130
71-43-2	Benzene	50	52.4	105	70-130
108-86-1	Bromobenzene	50	50.5	101	70-130
74-97-5	Bromochloromethane	50	52.0	104	70-130
75-27-4	Bromodichloromethane	50	54.1	108	70-130
75-25-2	Bromoform	50	47.5	95	70-130
74-83-9	Bromomethane	50	56.8	114	70-130
78-93-3	2-Butanone (MEK)	50	51.2	102	70-130
104-51-8	n-Butylbenzene	50	47.4	95	70-130
135-98-8	sec-Butylbenzene	50	47.0	94	70-130
98-06-6	tert-Butylbenzene	50	47.2	94	70-130
75-15-0	Carbon disulfide	50	52.3	105	70-130
56-23-5	Carbon tetrachloride	50	47.5	95	70-130
108-90-7	Chlorobenzene	50	46.4	93	70-130
75-00-3	Chloroethane	50	50.2	100	70-130
110-75-8	2-Chloroethyl vinyl ether	50	35.5	71	70-130
67-66-3	Chloroform	50	50.3	101	70-130
74-87-3	Chloromethane	50	56.6	113	70-130
95-49-8	o-Chlorotoluene	50	46.9	94	70-130
106-43-4	p-Chlorotoluene	50	48.5	97	70-130
124-48-1	Dibromochloromethane	50	50.2	100	70-130
95-50-1	1,2-Dichlorobenzene	50	47.2	94	70-130
541-73-1	1,3-Dichlorobenzene	50	47.1	94	70-130
106-46-7	1,4-Dichlorobenzene	50	49.4	99	70-130
75-71-8	Dichlorodifluoromethane	50	61.2	122	70-130
75-34-3	1,1-Dichloroethane	50	51.5	103	70-130
107-06-2	1,2-Dichloroethane	50	49.3	99	70-130
75-35-4	1,1-Dichloroethene	50	50.2	100	70-130
156-59-2	cis-1,2-Dichloroethene	50	47.9	96	70-130
156-60-5	trans-1,2-Dichloroethene	50	48.5	97	70-130
78-87-5	1,2-Dichloropropane	50	49.6	99	70-130
142-28-9	1,3-Dichloropropane	50	49.4	99	70-130
594-20-7	2,2-Dichloropropane	50	36.7	73	70-130
563-58-6	1,1-Dichloropropene	50	49.1	98	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2177-BS1	P66596.D	1	11/22/12	TT	n/a	n/a	MSP2177

The QC reported here applies to the following samples: Method: SW846 8260B

MC15892-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	44.2	88	70-130
10061-02-6	trans-1,3-Dichloropropene	50	44.7	89	70-130
123-91-1	1,4-Dioxane	250	205	82	70-130
97-63-2	Ethyl methacrylate	50	45.5	91	77-137
100-41-4	Ethylbenzene	50	48.8	98	70-130
87-68-3	Hexachlorobutadiene	50	46.3	93	70-130
591-78-6	2-Hexanone	50	48.1	96	70-130
98-82-8	Isopropylbenzene	50	47.6	95	70-130
99-87-6	p-Isopropyltoluene	50	50.8	102	70-130
1634-04-4	Methyl Tert Butyl Ether	50	45.6	91	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	47.8	96	70-130
74-95-3	Methylene bromide	50	49.5	99	70-130
75-09-2	Methylene chloride	50	50.1	100	70-130
91-20-3	Naphthalene	50	45.4	91	70-130
103-65-1	n-Propylbenzene	50	47.1	94	70-130
100-42-5	Styrene	50	47.6	95	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	50.7	101	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	50.0	100	70-130
127-18-4	Tetrachloroethene	50	48.2	96	70-130
108-88-3	Toluene	50	49.3	99	70-130
87-61-6	1,2,3-Trichlorobenzene	50	45.6	91	70-130
120-82-1	1,2,4-Trichlorobenzene	50	48.5	97	70-130
71-55-6	1,1,1-Trichloroethane	50	48.9	98	70-130
79-00-5	1,1,2-Trichloroethane	50	48.7	97	70-130
79-01-6	Trichloroethene	50	48.7	97	70-130
75-69-4	Trichlorofluoromethane	50	53.0	106	70-130
96-18-4	1,2,3-Trichloropropane	50	48.8	98	70-130
95-63-6	1,2,4-Trimethylbenzene	50	48.5	97	70-130
108-67-8	1,3,5-Trimethylbenzene	50	47.9	96	70-130
108-05-4	Vinyl Acetate	50	34.5	69* a	70-130
75-01-4	Vinyl chloride	50	57.4	115	70-130
	m,p-Xylene	100	95.2	95	70-130
95-47-6	o-Xylene	50	46.3	93	70-130
1330-20-7	Xylene (total)	150	142	95	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSP2177-BS1	P66596.D	1	11/22/12	TT	n/a	n/a	MSP2177

The QC reported here applies to the following samples: Method: SW846 8260B

MC15892-1

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	91%	70-130%
2037-26-5	Toluene-D8	93%	70-130%
460-00-4	4-Bromofluorobenzene	94%	70-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

6.2.2

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* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15896-41MS	P66614.D	1	11/22/12	TT	n/a	n/a	MSP2177
MC15896-41MSD	P66615.D	1	11/22/12	TT	n/a	n/a	MSP2177
MC15896-41	P66608.D	1	11/22/12	TT	n/a	n/a	MSP2177

The QC reported here applies to the following samples: Method: SW846 8260B

MC15892-1, MC15892-2

CAS No.	Compound	MC15896-41 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		50	66.6	133* [a]	58.2	116	13	70-130/30
107-02-8	Acrolein	ND		250	123	49* [a]	87.0	35* [a]	34* [b]	70-130/30
107-13-1	Acrylonitrile	ND		50	54.7	109	52.1	104	5	70-130/30
71-43-2	Benzene	ND		50	61.9	124	56.9	114	8	70-130/30
108-86-1	Bromobenzene	ND		50	50.8	102	50.6	101	0	70-130/30
74-97-5	Bromochloromethane	ND		50	56.2	112	49.7	99	12	70-130/30
75-27-4	Bromodichloromethane	ND		50	59.4	119	57.5	115	3	70-130/30
75-25-2	Bromoform	ND		50	53.1	106	53.0	106	0	70-130/30
74-83-9	Bromomethane	ND		50	60.7	121	53.5	107	13	70-130/30
78-93-3	2-Butanone (MEK)	ND		50	57.9	116	56.6	113	2	70-130/30
104-51-8	n-Butylbenzene	ND		50	44.5	89	45.5	91	2	70-130/30
135-98-8	sec-Butylbenzene	ND		50	45.5	91	45.4	91	0	70-130/30
98-06-6	tert-Butylbenzene	ND		50	46.1	92	45.6	91	1	70-130/30
75-15-0	Carbon disulfide	0.99	J	50	59.3	117	57.8	114	3	70-130/30
56-23-5	Carbon tetrachloride	ND		50	54.0	108	54.4	109	1	70-130/30
108-90-7	Chlorobenzene	ND		50	48.6	97	47.7	95	2	70-130/30
75-00-3	Chloroethane	ND		50	55.4	111	53.5	107	3	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		50	37.0	74	34.4	69* [a]	7	70-130/30
67-66-3	Chloroform	ND		50	55.7	111	52.6	105	6	70-130/30
74-87-3	Chloromethane	ND		50	55.7	111	54.0	108	3	70-130/30
95-49-8	o-Chlorotoluene	ND		50	46.7	93	46.1	92	1	70-130/30
106-43-4	p-Chlorotoluene	ND		50	48.1	96	47.8	96	1	70-130/30
124-48-1	Dibromochloromethane	ND		50	54.0	108	53.6	107	1	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		50	47.2	94	47.9	96	1	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		50	46.8	94	47.2	94	1	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		50	48.8	98	49.5	99	1	70-130/30
75-71-8	Dichlorodifluoromethane	ND		50	66.6	133* [a]	63.2	126	5	70-130/30
75-34-3	1,1-Dichloroethane	2.6		50	60.5	116	58.2	111	4	70-130/30
107-06-2	1,2-Dichloroethane	ND		50	54.1	108	51.4	103	5	70-130/30
75-35-4	1,1-Dichloroethene	2.8		50	59.4	113	57.7	110	3	70-130/30
156-59-2	cis-1,2-Dichloroethene	4.0		50	56.2	104	54.1	100	4	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		50	54.2	108	53.2	106	2	70-130/30
78-87-5	1,2-Dichloropropane	ND		50	53.9	108	51.8	104	4	70-130/30
142-28-9	1,3-Dichloropropane	ND		50	51.3	103	50.4	101	2	70-130/30
594-20-7	2,2-Dichloropropane	ND		50	42.6	85	40.7	81	5	70-130/30
563-58-6	1,1-Dichloropropene	ND		50	53.4	107	52.3	105	2	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15896-41MS	P66614.D	1	11/22/12	TT	n/a	n/a	MSP2177
MC15896-41MSD	P66615.D	1	11/22/12	TT	n/a	n/a	MSP2177
MC15896-41	P66608.D	1	11/22/12	TT	n/a	n/a	MSP2177

The QC reported here applies to the following samples: Method: SW846 8260B

MC15892-1, MC15892-2

CAS No.	Compound	MC15896-41 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		50	49.2	98	47.5	95	4	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		50	51.3	103	50.2	100	2	70-130/30
123-91-1	1,4-Dioxane	ND		250	361	144* [a]	240	96	40* [b]	70-130/30
97-63-2	Ethyl methacrylate	ND		50	56.1	112	56.8	114	1	72-139/30
100-41-4	Ethylbenzene	ND		50	55.1	110	52.6	105	5	70-130/30
87-68-3	Hexachlorobutadiene	ND		50	44.5	89	43.5	87	2	70-130/30
591-78-6	2-Hexanone	ND		50	49.7	99	51.9	104	4	70-130/30
98-82-8	Isopropylbenzene	ND		50	47.5	95	46.7	93	2	70-130/30
99-87-6	p-Isopropyltoluene	ND		50	49.1	98	49.7	99	1	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		50	41.5	83	37.4	75	10	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		50	54.1	108	53.8	108	1	70-130/30
74-95-3	Methylene bromide	ND		50	54.4	109	52.3	105	4	70-130/30
75-09-2	Methylene chloride	ND		50	54.9	110	52.5	105	4	70-130/30
91-20-3	Naphthalene	ND		50	48.3	97	53.3	107	10	70-130/30
103-65-1	n-Propylbenzene	ND		50	46.6	93	46.3	93	1	70-130/30
100-42-5	Styrene	ND		50	49.4	99	49.1	98	1	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		50	55.4	111	54.3	109	2	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		50	52.4	105	51.4	103	2	70-130/30
127-18-4	Tetrachloroethene	ND		50	52.8	106	51.6	103	2	70-130/30
108-88-3	Toluene	ND		50	53.9	108	52.2	104	3	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		50	44.0	88	48.8	98	10	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		50	45.2	90	50.2	100	10	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		50	56.2	112	55.0	110	2	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		50	53.4	107	51.7	103	3	70-130/30
79-01-6	Trichloroethene	2.7		50	56.6	108	55.0	105	3	70-130/30
75-69-4	Trichlorofluoromethane	ND		50	58.9	118	56.7	113	4	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		50	53.3	107	53.4	107	0	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		50	51.3	103	49.0	98	5	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		50	47.6	95	47.0	94	1	70-130/30
108-05-4	Vinyl Acetate	ND		50	47.2	94	46.6	93	1	70-130/30
75-01-4	Vinyl chloride	ND		50	55.8	112	55.2	110	1	70-130/30
	m,p-Xylene	ND		100	106	106	103	103	3	70-130/30
95-47-6	o-Xylene	ND		50	48.1	96	47.5	95	1	70-130/30
1330-20-7	Xylene (total)	ND		150	154	103	150	100	3	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC15896-41MS	P66614.D	1	11/22/12	TT	n/a	n/a	MSP2177
MC15896-41MSD	P66615.D	1	11/22/12	TT	n/a	n/a	MSP2177
MC15896-41	P66608.D	1	11/22/12	TT	n/a	n/a	MSP2177

The QC reported here applies to the following samples: Method: SW846 8260B

MC15892-1, MC15892-2

CAS No.	Surrogate Recoveries	MS	MSD	MC15896-41	Limits
1868-53-7	Dibromofluoromethane	100%	96%	88%	70-130%
2037-26-5	Toluene-D8	100%	97%	88%	70-130%
460-00-4	4-Bromofluorobenzene	96%	93%	88%	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: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSP2177-CC2177	Injection Date:	11/21/12
Lab File ID:	P66585.D	Injection Time:	14:02
Instrument ID:	GCMSP	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	1301042	8.51	1706299	9.36	752430	12.60	958701	15.16	218337	6.12
Upper Limit [a]	2602084	9.01	3412598	9.86	1504860	13.10	1917402	15.66	436674	6.62
Lower Limit [b]	650521	8.01	853150	8.86	376215	12.10	479351	14.66	109169	5.62
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSP2177-BS	1301042	8.51	1706299	9.36	752430	12.60	958701	15.16	218337	6.12
MSP2177-MB	1250402	8.51	1639991	9.37	706988	12.60	869582	15.16	193705	6.14
MC15892-2	1186815	8.51	1554013	9.37	673321	12.60	832195	15.16	177706	6.13
ZZZZZZ	1260685	8.51	1650569	9.37	714980	12.60	866327	15.16	156213	6.13
ZZZZZZ	1448173	8.51	1908131	9.37	838550	12.60	1033955	15.16	202693	6.13
ZZZZZZ	1252613	8.51	1667510	9.37	733423	12.60	894133	15.16	171940	6.13
ZZZZZZ	1266880	8.51	1680037	9.37	730742	12.61	898515	15.16	157912	6.14

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: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSP2177-CC2177	Injection Date:	11/22/12
Lab File ID:	P66595.D	Injection Time:	06:39
Instrument ID:	GCMSP	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	1231578	8.51	1623191	9.37	713313	12.60	901324	15.16	116577	6.15
Upper Limit [a]	2463156	9.01	3246382	9.87	1426626	13.10	1802648	15.66	233154	6.65
Lower Limit [b]	615789	8.01	811596	8.87	356657	12.10	450662	14.66	58289	5.65
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSP2177-BS1	1214013	8.51	1603061	9.37	703802	12.60	877594	15.16	150730	6.14
MSP2170-BS1	1214013	8.51	1603061	9.37	703802	12.60	877594	15.16	150730	6.14
MSP2177-MB1	1175547	8.51	1562274	9.37	676149	12.60	812200	15.16	146352	6.13
MSP2170-MB1	1175547	8.51	1562274	9.37	676149	12.60	812200	15.16	146352	6.13
MC15892-1 [c]	1219190	8.51	1627482	9.37	708865	12.60	859339	15.16	164011	6.13
ZZZZZZ	1291032	8.51	1716933	9.37	747563	12.60	912107	15.16	158301	6.13
ZZZZZZ	1109709	8.51	1483657	9.37	649446	12.61	797967	15.16	126201	6.16
ZZZZZZ	1064373	8.51	1406328	9.37	615931	12.61	761875	15.16	126985	6.15
ZZZZZZ	1190256	8.51	1587586	9.37	697337	12.60	847878	15.16	146548	6.15
ZZZZZZ	1266236	8.51	1691358	9.37	741746	12.60	896271	15.16	175102	6.15
ZZZZZZ	1152048	8.51	1544757	9.37	673113	12.61	833029	15.16	105771	6.16
ZZZZZZ	1294285	8.51	1727638	9.37	752904	12.61	935177	15.16	84553	6.16
MC15896-41	1193930	8.51	1596669	9.37	700604	12.61	862884	15.16	90625	6.16
ZZZZZZ	1198190	8.51	1591070	9.37	704037	12.60	869418	15.16	179079	6.14
ZZZZZZ	1242801	8.51	1657963	9.37	729739	12.60	913763	15.16	170859	6.15
ZZZZZZ	1166095	8.51	1561606	9.37	686338	12.60	851306	15.16	162795	6.13
ZZZZZZ	1172896	8.51	1559838	9.36	674660	12.60	865744	15.16	249976[d]	6.13
ZZZZZZ	1411657	8.51	1856064	9.37	791614	12.60	1011663	15.16	291146[d]	6.12
MC15896-41MS	1076137	8.51	1434244	9.37	652272	12.60	842023	15.16	162680	6.12
MC15896-41MSD	1127339	8.51	1493365	9.37	671430	12.60	876163	15.16	153906	6.13
MC15898-2MS	1050669	8.51	1399349	9.37	626698	12.60	802379	15.16	148680	6.13
MC15898-2MSD	1026648	8.51	1363794	9.37	610124	12.60	779874	15.16	141622	6.14
MC15898-2	1102562	8.51	1472448	9.37	631194	12.61	778348	15.16	136506	6.15
MC15892-1	1106458	8.51	1460348	9.37	638163	12.61	788489	15.16	153837	6.14

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) Confirmation run for surrogate recoveries.
(d) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

Volatile Surrogate Recovery Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8260B Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC15892-1	P66600.D	89.0	89.0	91.0
MC15892-1	P66619.D	97.0	97.0	142.0* [a]
MC15892-2	P66588.D	95.0	97.0	100.0
MC15896-41MS	P66614.D	100.0	100.0	96.0
MC15896-41MSD	P66615.D	96.0	97.0	93.0
MSP2177-BS	P66585.D	90.0	93.0	91.0
MSP2177-BS1	P66596.D	91.0	93.0	94.0
MSP2177-MB	P66587.D	91.0	93.0	95.0
MSP2177-MB1	P66599.D	92.0	93.0	96.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	70-130%
S2 = Toluene-D8	70-130%
S3 = 4-Bromofluorobenzene	70-130%

(a) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

New England ACCUTEST LABORATORIES

GC/MS Semi-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: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31057-MB	F59465.D	1	11/20/12	KR	11/16/12	OP31057	MSF2804

The QC reported here applies to the following samples: Method: SW846 8270C

MC15892-1

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	5.0	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.25	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	

Method Blank Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31057-MB	F59465.D	1	11/20/12	KR	11/16/12	OP31057	MSF2804

The QC reported here applies to the following samples: Method: SW846 8270C

MC15892-1

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.28	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	1.3	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.46	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	36%	15-110%
4165-62-2	Phenol-d5	25%	15-110%
118-79-6	2,4,6-Tribromophenol	67%	15-110%
4165-60-0	Nitrobenzene-d5	67%	30-130%
321-60-8	2-Fluorobiphenyl	61%	30-130%
1718-51-0	Terphenyl-d14	77%	30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

Method Blank Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31058-MB	I80098.D	1	11/20/12	NS	11/16/12	OP31058	MSI2984

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC15892-1

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	35%	15-110%
4165-62-2	Phenol-d5	25%	15-110%
118-79-6	2,4,6-Tribromophenol	64%	15-110%
4165-60-0	Nitrobenzene-d5	65%	30-130%
321-60-8	2-Fluorobiphenyl	67%	30-130%
1718-51-0	Terphenyl-d14	83%	30-130%

Blank Spike Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31057-BS	W7066.D	1	11/19/12	KR	11/16/12	OP31057	MSW337

The QC reported here applies to the following samples: Method: SW846 8270C

MC15892-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	31.0	31	30-130
95-57-8	2-Chlorophenol	100	60.3	60	30-130
59-50-7	4-Chloro-3-methyl phenol	100	67.3	67	30-130
120-83-2	2,4-Dichlorophenol	100	66.3	66	30-130
105-67-9	2,4-Dimethylphenol	100	62.5	63	30-130
51-28-5	2,4-Dinitrophenol	100	67.5	68	30-130
534-52-1	4,6-Dinitro-o-cresol	100	80.1	80	30-130
95-48-7	2-Methylphenol	100	55.2	55	30-130
	3&4-Methylphenol	200	103	52	30-130
88-75-5	2-Nitrophenol	100	70.0	70	30-130
100-02-7	4-Nitrophenol	100	39.0	39	30-130
87-86-5	Pentachlorophenol	100	73.9	74	30-130
108-95-2	Phenol	100	30.9	31	30-130
95-95-4	2,4,5-Trichlorophenol	100	70.2	70	30-130
88-06-2	2,4,6-Trichlorophenol	100	69.7	70	30-130
62-53-3	Aniline	50	18.3	37* a	40-140
101-55-3	4-Bromophenyl phenyl ether	50	36.3	73	40-140
85-68-7	Butyl benzyl phthalate	50	44.0	88	40-140
100-51-6	Benzyl Alcohol	50	30.7	61	40-140
91-58-7	2-Chloronaphthalene	50	67.8	136	40-140
106-47-8	4-Chloroaniline	50	24.8	50	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	32.7	65	40-140
111-44-4	bis(2-Chloroethyl)ether	50	36.1	72	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	42.3	85	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	34.2	68	40-140
122-66-7	1,2-Diphenylhydrazine	50	41.2	82	40-140
121-14-2	2,4-Dinitrotoluene	100	77.5	78	40-140
606-20-2	2,6-Dinitrotoluene	100	78.0	78	40-140
91-94-1	3,3'-Dichlorobenzidine	50	27.2	54	40-140
132-64-9	Dibenzofuran	50	35.5	71	40-140
84-74-2	Di-n-butyl phthalate	50	42.0	84	40-140
117-84-0	Di-n-octyl phthalate	50	45.5	91	40-140
84-66-2	Diethyl phthalate	50	39.9	80	40-140
131-11-3	Dimethyl phthalate	50	37.8	76	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	44.5	89	40-140
118-74-1	Hexachlorobenzene	100	80.8	81	40-140

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31057-BS	W7066.D	1	11/19/12	KR	11/16/12	OP31057	MSW337

The QC reported here applies to the following samples: Method: SW846 8270C

MC15892-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	51.6	103	40-140
67-72-1	Hexachloroethane	100	50.0	50	40-140
78-59-1	Isophorone	100	73.8	74	40-140
88-74-4	2-Nitroaniline	50	40.8	82	40-140
99-09-2	3-Nitroaniline	50	31.8	64	40-140
100-01-6	4-Nitroaniline	50	36.9	74	40-140
98-95-3	Nitrobenzene	100	71.3	71	40-140
62-75-9	n-Nitrosodimethylamine	50	24.2	48	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	40.2	80	40-140
86-30-6	N-Nitrosodiphenylamine	50	39.3	79	40-140
110-86-1	Pyridine	50	13.1	26* a	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	41%	15-110%
4165-62-2	Phenol-d5	30%	15-110%
118-79-6	2,4,6-Tribromophenol	76%	15-110%
4165-60-0	Nitrobenzene-d5	71%	30-130%
321-60-8	2-Fluorobiphenyl	64%	30-130%
1718-51-0	Terphenyl-d14	89%	30-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

7.2.1

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Blank Spike/Blank Spike Duplicate Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31058-BS	I80099.D	1	11/20/12	NS	11/16/12	OP31058	MSI2984
OP31058-BSD	I80102.D	1	11/20/12	NS	11/16/12	OP31058	MSI2984

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC15892-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	50	35.9	72	41.8	84	15	40-140/30
208-96-8	Acenaphthylene	50	27.3	55	32.3	65	17	40-140/30
120-12-7	Anthracene	50	36.1	72	42.3	85	16	40-140/30
56-55-3	Benzo(a)anthracene	50	40.0	80	47.3	95	17	40-140/30
50-32-8	Benzo(a)pyrene	50	30.9	62	39.0	78	23	40-140/30
205-99-2	Benzo(b)fluoranthene	50	34.7	69	39.8	80	14	40-140/30
191-24-2	Benzo(g,h,i)perylene	50	32.4	65	40.9	82	23	40-140/30
207-08-9	Benzo(k)fluoranthene	50	37.8	76	47.5	95	23	40-140/30
218-01-9	Chrysene	50	35.5	71	42.3	85	17	40-140/30
53-70-3	Dibenzo(a,h)anthracene	50	36.1	72	43.5	87	19	40-140/30
206-44-0	Fluoranthene	50	37.1	74	43.5	87	16	40-140/30
86-73-7	Fluorene	50	37.2	74	42.7	85	14	40-140/30
193-39-5	Indeno(1,2,3-cd)pyrene	50	34.3	69	42.2	84	21	40-140/30
90-12-0	1-Methylnaphthalene	50	35.1	70	41.9	84	18	40-140/30
91-57-6	2-Methylnaphthalene	50	35.1	70	41.6	83	17	40-140/30
85-01-8	Phenanthrene	50	37.3	75	43.5	87	15	40-140/30
129-00-0	Pyrene	50	35.5	71	42.1	84	17	40-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	39%		15-110%
4165-62-2	Phenol-d5	31%		15-110%
118-79-6	2,4,6-Tribromophenol	70%		15-110%
4165-60-0	Nitrobenzene-d5	67%	77%	30-130%
321-60-8	2-Fluorobiphenyl	67%	81%	30-130%
1718-51-0	Terphenyl-d14	80%	99%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31057-MS	F59467.D	1	11/20/12	KR	11/16/12	OP31057	MSF2804
OP31057-MSD	F59468.D	1	11/20/12	KR	11/16/12	OP31057	MSF2804
MC16698-11	F59469.D	1	11/20/12	KR	11/16/12	OP31057	MSF2804

The QC reported here applies to the following samples: Method: SW846 8270C

MC15892-1

CAS No.	Compound	MC16698-11 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		120	43.0	36	44.0	40	2	30-130/20
95-57-8	2-Chlorophenol	ND		120	79.2	66	72.0	65	10	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		120	83.2	69	78.3	70	6	30-130/20
120-83-2	2,4-Dichlorophenol	ND		120	83.7	69	77.0	69	8	30-130/20
105-67-9	2,4-Dimethylphenol	ND		120	75.8	63	69.8	63	8	30-130/20
51-28-5	2,4-Dinitrophenol	ND		120	86.0	71	82.0	74	5	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		120	85.8	71	80.3	72	7	30-130/20
95-48-7	2-Methylphenol	ND		120	71.1	59	65.8	59	8	30-130/20
	3&4-Methylphenol	ND		241	135	56	124	56	8	30-130/20
88-75-5	2-Nitrophenol	ND		120	87.6	73	81.8	74	7	30-130/20
100-02-7	4-Nitrophenol	ND		120	45.9	38	43.0	39	7	30-130/20
87-86-5	Pentachlorophenol	ND		120	91.1	76	86.3	78	5	30-130/20
108-95-2	Phenol	ND		120	40.5	34	37.4	34	8	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		120	89.6	74	83.7	75	7	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		120	85.9	71	81.9	74	5	30-130/20
62-53-3	Aniline	ND		60.2	29.1	48	27.7	50	5	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		60.2	43.2	72	41.1	74	5	40-140/20
85-68-7	Butyl benzyl phthalate	ND		60.2	46.3	77	43.2	78	7	40-140/20
100-51-6	Benzyl Alcohol	ND		60.2	39.7	66	36.4	66	9	40-140/20
91-58-7	2-Chloronaphthalene	ND		60.2	43.4	72	39.9	72	8	40-140/20
106-47-8	4-Chloroaniline	ND		60.2	23.7	39* [a]	22.1	40	7	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		60.2	38.9	65	35.2	63	10	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		60.2	43.8	73	39.6	71	10	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		60.2	49.9	83	45.3	82	10	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		60.2	41.9	70	39.2	71	7	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		60.2	43.9	73	41.2	74	6	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		60.2	45.9	76	41.3	74	11	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		60.2	44.2	73	42.0	76	5	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		60.2	21.9	36* [a]	18.0	32* [a]	20	40-140/20
132-64-9	Dibenzofuran	ND		60.2	41.6	69	38.9	70	7	40-140/20
84-74-2	Di-n-butyl phthalate	ND		60.2	44.0	73	41.3	74	6	40-140/20
117-84-0	Di-n-octyl phthalate	ND		60.2	42.8	71	40.4	73	6	40-140/20
84-66-2	Diethyl phthalate	ND		60.2	44.1	73	40.5	73	9	40-140/20
131-11-3	Dimethyl phthalate	ND		60.2	43.5	72	40.1	72	8	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND		60.2	44.0	73	41.4	75	6	40-140/20
118-74-1	Hexachlorobenzene	ND		60.2	42.7	71	40.0	72	7	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31057-MS	F59467.D	1	11/20/12	KR	11/16/12	OP31057	MSF2804
OP31057-MSD	F59468.D	1	11/20/12	KR	11/16/12	OP31057	MSF2804
MC16698-11	F59469.D	1	11/20/12	KR	11/16/12	OP31057	MSF2804

The QC reported here applies to the following samples: Method: SW846 8270C

MC15892-1

CAS No.	Compound	MC16698-11 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		60.2	34.2	57	30.9	56	10	40-140/20
67-72-1	Hexachloroethane	ND		60.2	39.4	65	34.0	61	15	40-140/20
78-59-1	Isophorone	ND		60.2	45.0	75	41.2	74	9	40-140/20
88-74-4	2-Nitroaniline	ND		60.2	46.1	77	42.7	77	8	40-140/20
99-09-2	3-Nitroaniline	ND		60.2	27.2	45	24.8	45	9	40-140/20
100-01-6	4-Nitroaniline	ND		60.2	38.8	64	34.6	62	11	40-140/20
98-95-3	Nitrobenzene	ND		60.2	45.1	75	41.2	74	9	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		60.2	33.4	55	30.4	55	9	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		60.2	49.5	82	44.0	79	12	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		60.2	44.3	74	41.7	75	6	40-140/20
110-86-1	Pyridine	ND		60.2	28.0	46	26.6	48	5	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC16698-11	Limits
367-12-4	2-Fluorophenol	45%	46%	40%	15-110%
4165-62-2	Phenol-d5	33%	33%	27%	15-110%
118-79-6	2,4,6-Tribromophenol	76%	77%	73%	15-110%
4165-60-0	Nitrobenzene-d5	73%	73%	71%	30-130%
321-60-8	2-Fluorobiphenyl	66%	66%	64%	30-130%
1718-51-0	Terphenyl-d14	55%	58%	81%	30-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31058-MS	I80100.D	1	11/20/12	NS	11/16/12	OP31058	MSI2984
OP31058-MSD	I80101.D	1	11/20/12	NS	11/16/12	OP31058	MSI2984
MC15873-1F	I80103.D	1	11/20/12	NS	11/16/12	OP31058	MSI2984

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC15892-1

CAS No.	Compound	MC15873-1F ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		60.2	46.4	77	43.7	79	6	40-140/20
208-96-8	Acenaphthylene	ND		60.2	35.9	60	34.0	61	5	40-140/20
120-12-7	Anthracene	ND		60.2	47.0	78	42.9	77	9	40-140/20
56-55-3	Benzo(a)anthracene	ND		60.2	48.1	80	44.8	80	7	40-140/20
50-32-8	Benzo(a)pyrene	ND		60.2	37.1	62	34.8	63	6	40-140/20
205-99-2	Benzo(b)fluoranthene	0.051		60.2	40.8	68	38.5	69	6	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND		60.2	39.4	65	36.5	66	8	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		60.2	43.5	72	40.6	73	7	40-140/20
218-01-9	Chrysene	ND		60.2	41.7	69	39.3	71	6	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		60.2	41.9	70	39.0	70	7	40-140/20
206-44-0	Fluoranthene	0.094		60.2	46.5	77	43.9	79	6	40-140/20
86-73-7	Fluorene	ND		60.2	47.6	79	44.4	80	7	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		60.2	40.6	67	37.6	68	8	40-140/20
90-12-0	1-Methylnaphthalene	ND		60.2	47.1	78	42.5	77	10	40-140/20
91-57-6	2-Methylnaphthalene	ND		60.2	47.3	79	42.7	77	10	40-140/20
85-01-8	Phenanthrene	ND		60.2	47.7	79	44.1	79	8	40-140/20
129-00-0	Pyrene	0.064		60.2	44.6	74	41.6	75	7	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC15873-1F	Limits
367-12-4	2-Fluorophenol	43%	44%		15-110%
4165-62-2	Phenol-d5	34%	35%		15-110%
118-79-6	2,4,6-Tribromophenol	75%	78%		15-110%
4165-60-0	Nitrobenzene-d5	73%	72%	68%	30-130%
321-60-8	2-Fluorobiphenyl	72%	73%	68%	30-130%
1718-51-0	Terphenyl-d14	57%	59%	86%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSF2804-CC2795	Injection Date:	11/20/12
Lab File ID:	F59463.D	Injection Time:	08:17
Instrument ID:	GCMSF	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	152631	4.21	533227	5.20	357468	6.63	701702	8.00	774104	10.76	787592	12.23
Upper Limit [a]	305262	4.71	1066454	5.70	714936	7.13	1403404	8.50	1548208	11.26	1575184	12.73
Lower Limit [b]	76316	3.71	266614	4.70	178734	6.13	350851	7.50	387052	10.26	393796	11.73

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP31057-MB	183902	4.21	658225	5.20	442242	6.63	864424	8.01	969307	10.76	982006	12.23
OP31057-MS	181481	4.22	649522	5.20	433914	6.63	839415	8.01	916760	10.76	891193	12.24
OP31057-MSD	202819	4.21	716507	5.20	476233	6.63	910158	8.01	982069	10.76	964815	12.23
MC16698-11	182867	4.21	666513	5.20	449796	6.63	851636	8.00	949599	10.76	971697	12.23
ZZZZZZ	205617	4.21	751851	5.20	495256	6.63	937026	8.01	1013613	10.76	1025984	12.24
ZZZZZZ	184644	4.21	651500	5.20	440946	6.63	853798	8.01	938607	10.76	960613	12.23
OP31039-MB	169413	4.21	620162	5.20	409373	6.63	790000	8.00	866620	10.76	874081	12.23
OP31039-MB	168714	4.21	618363	5.20	409506	6.63	790000	8.00	866353	10.76	874081	12.23
OP31039-BS	196286	4.22	684047	5.20	456372	6.63	891343	8.01	953586	10.76	919308	12.24
OP31039-BS	196286	4.22	684047	5.20	455775	6.63	891463	8.01	953414	10.76	919308	12.24
OP31039-BSD	178279	4.21	628187	5.20	411119	6.63	795340	8.01	852897	10.76	831790	12.23
OP31039-BSD	178279	4.21	628316	5.20	410298	6.63	795340	8.01	852897	10.76	830957	12.23
OP31039-MS	157883	4.21	560150	5.20	369731	6.63	712352	8.01	774495	10.76	775687	12.23
OP31039-MS	157697	4.21	560833	5.20	369419	6.63	712352	8.01	774334	10.76	775487	12.23
OP31039-MSD	149526	4.21	533117	5.20	355648	6.63	688576	8.01	746390	10.76	759142	12.23
OP31039-MSD	149526	4.21	532711	5.20	354609	6.63	688576	8.01	747016	10.76	757258	12.23
MC15722-2	147824	4.21	525107	5.20	346857	6.63	665931	8.00	729074	10.76	772866	12.23
MC15722-2	147824	4.21	524174	5.20	345106	6.63	665840	8.00	730476	10.76	772866	12.23

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Internal Standard Area Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSF2828-CC2795	Injection Date:	12/05/12
Lab File ID:	F59957.D	Injection Time:	11:34
Instrument ID:	GCMSF	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	167119	4.14	582379	5.13	395226	6.56	770842	7.92	840162	10.69	846317	12.15
Upper Limit [a]	334238	4.64	1164758	5.63	790452	7.06	1541684	8.42	1680324	11.19	1692634	12.65
Lower Limit [b]	83560	3.64	291190	4.63	197613	6.06	385421	7.42	420081	10.19	423159	11.65

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
MC15892-1	148241	4.14	529602	5.13	348177	6.55	657093	7.92	719004	10.68	766552	12.16
ZZZZZZ	134889	4.14	481220	5.13	323721	6.55	636289	7.92	722079	10.68	731128	12.15
ZZZZZZ	281241	4.14	996017	5.13	692851	6.55	1336443	7.92	1503952	10.69	1553746	12.16
OP31267-MB	132114	4.14	471327	5.13	314198	6.55	608014	7.92	689504	10.68	709601	12.15
OP31267-BS	144300	4.14	515935	5.13	345002	6.55	653053	7.92	711820	10.69	718170	12.16
OP31267-BSD	146237	4.14	518874	5.13	340811	6.56	668892	7.92	736169	10.69	756920	12.16
OP31267-MS	137592	4.14	491475	5.13	327235	6.56	641456	7.93	729158	10.69	751232	12.16
OP31267-MSD	152298	4.14	536852	5.13	353167	6.56	669916	7.92	737736	10.69	736639	12.16
OP31174-BS	144836	4.14	517341	5.13	338500	6.56	639148	7.92	678761	10.68	666311	12.16
MC16400-7	140174	4.14	494027	5.12	336829	6.56	641653	7.92	704847	10.68	739657	12.16
OP31290-MB	177176	4.14	644865	5.13	420781	6.55	802774	7.92	828596	10.68	812413	12.16
OP31290-BS	161088	4.14	572771	5.13	378549	6.55	732528	7.92	786723	10.69	762946	12.16
ZZZZZZ	150167	4.14	534576	5.12	353966	6.56	668056	7.92	719855	10.68	750569	12.16
ZZZZZZ	147384	4.14	512974	5.13	332965	6.55	637048	7.92	703180	10.68	739808	12.15
ZZZZZZ	154581	4.14	554522	5.12	363454	6.56	685535	7.92	730981	10.69	751825	12.15
OP31290-MS	168647	4.14	597804	5.12	392379	6.56	748770	7.93	782368	10.69	760906	12.16
OP31290-MSD	173435	4.14	607490	5.13	407463	6.56	766202	7.92	807921	10.69	790694	12.16
MC16395-2	157445	4.14	559252	5.13	369100	6.56	690812	7.92	740843	10.69	744650	12.15
ZZZZZZ	180366	4.14	626452	5.13	407716	6.56	714848	7.93	748166	10.69	756672	12.16
ZZZZZZ	167961	4.14	615526	5.12	397915	6.56	745053	7.92	762995	10.68	771522	12.16
ZZZZZZ	178890	4.14	649604	5.12	425046	6.56	788301	7.93	786724	10.68	794518	12.16
ZZZZZZ	152576	4.14	551072	5.12	354385	6.56	653333	7.93	723461	10.68	791147	12.16
ZZZZZZ	158547	4.14	571872	5.13	383421	6.55	716843	7.92	789412	10.68	829507	12.16
ZZZZZZ	139345	4.14	517959	5.13	349121	6.55	672193	7.92	767234	10.68	817215	12.16
ZZZZZZ	152174	4.14	556073	5.13	369456	6.55	712969	7.92	811067	10.69	868285	12.16
ZZZZZZ	153186	4.14	547644	5.13	371132	6.55	747476	7.92	849324	10.68	900855	12.16
ZZZZZZ	139144	4.14	506094	5.13	342513	6.56	646360	7.92	781903	10.69	838018	12.16
ZZZZZZ	149248	4.15	536681	5.14	358878	6.56	685786	7.92	794252	10.68	852835	12.16
ZZZZZZ	149276	4.14	530313	5.13	366160	6.55	723833	7.92	839805	10.68	888244	12.16
ZZZZZZ	150310	4.14	542453	5.12	366761	6.56	705768	7.92	817313	10.69	881854	12.15
MC16500-3	136234	4.14	502132	5.12	342491	6.55	660090	7.92	764881	10.68	826140	12.16

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10

Semivolatile Internal Standard Area Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSF2828-CC2795	Injection Date:	12/05/12
Lab File ID:	F59957.D	Injection Time:	11:34
Instrument ID:	GCMSF	Method:	SW846 8270C

Lab Sample ID	IS 1 AREA	IS 1 RT	IS 2 AREA	IS 2 RT	IS 3 AREA	IS 3 RT	IS 4 AREA	IS 4 RT	IS 5 AREA	IS 5 RT	IS 6 AREA	IS 6 RT

IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

7.5.2

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Semivolatile Internal Standard Area Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSI2984-CC2981	Injection Date:	11/20/12
Lab File ID:	I80093.D	Injection Time:	09:04
Instrument ID:	GCMSI	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	423489	3.85	1180485	4.82	595299	6.23	997472	7.54	786764	10.28	1569630	11.71
Upper Limit [a]	846978	4.35	2360970	5.32	1190598	6.73	1994944	8.04	1573528	10.78	3139260	12.21
Lower Limit [b]	211745	3.35	590243	4.32	297650	5.73	498736	7.04	393382	9.78	784815	11.21
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
ZZZZZZ	642974	3.85	1733202	4.82	893889	6.23	1472483	7.54	1155574	10.28	2291809	11.71
OP31058-MB	497702	3.85	1366201	4.82	709163	6.23	1176195	7.54	947015	10.28	1908588	11.71
OP31059-MB	497702	3.85	1366201	4.82	709163	6.23	1176195	7.54	947015	10.28	1908588	11.71
OP31058-BS	536852	3.85	1485278	4.82	748138	6.23	1252228	7.54	957525	10.28	1492337	11.71
OP31059-BS	536852	3.85	1485278	4.82	748138	6.23	1252228	7.54	957525	10.28	1492337	11.71
OP31058-MS	504904	3.85	1372470	4.82	697287	6.23	1157101	7.54	879783	10.28	1693945	11.71
OP31058-MSD	524479	3.85	1435572	4.82	723123	6.23	1202216	7.54	916595	10.28	1751583	11.71
OP31058-BSD	443260	3.85	1216521	4.82	618233	6.23	1023823	7.54	790761	10.28	1560800	11.71
MC15873-1F	469175	3.85	1288313	4.82	671504	6.23	1121363	7.54	871797	10.28	1745753	11.71
ZZZZZZ	503680	3.85	1395770	4.82	727961	6.23	1205090	7.54	944991	10.28	1891481	11.71
MC15892-1	434554	3.85	1198519	4.82	613327	6.23	1016209	7.54	794024	10.28	1607751	11.71
ZZZZZZ	408954	3.85	1122894	4.82	579328	6.23	966306	7.54	745024	10.28	1505602	11.71
ZZZZZZ	464368	3.85	1257337	4.82	649375	6.23	1072319	7.54	830544	10.28	1691403	11.71

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Internal Standard Area Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW337-CC318	Injection Date:	11/19/12
Lab File ID:	W7060.D	Injection Time:	16:20
Instrument ID:	GCMSW	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	99160	4.09	402023	5.08	225366	6.51	389296	7.88	426178	10.82	397517	12.40
Upper Limit [a]	198320	4.59	804046	5.58	450732	7.01	778592	8.38	852356	11.32	795034	12.90
Lower Limit [b]	49580	3.59	201012	4.58	112683	6.01	194648	7.38	213089	10.32	198759	11.90
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP31080-MB	128829	4.09	511194	5.08	287314	6.51	489776	7.88	525112	10.82	492783	12.40
OP31080-BS	115484	4.09	466591	5.08	263188	6.51	438498	7.88	477740	10.82	432353	12.40
ZZZZZZ	118474	4.09	468207	5.08	265404	6.51	451596	7.88	488849	10.82	464303	12.40
OP31045-MB	100514	4.09	399390	5.08	227856	6.51	388153	7.88	421576	10.82	401969	12.40
OP31045-BS	108309	4.09	425379	5.08	240109	6.51	402591	7.88	436479	10.82	394937	12.40
OP31057-BS	108309	4.09	425379	5.08	240109	6.51	402591	7.88	436479	10.82	394937	12.40
OP31045-MS	104140	4.09	416009	5.08	233325	6.51	402074	7.88	446986	10.82	170379[c]	12.40
OP31045-MSD	103142	4.09	418225	5.08	233765	6.51	395333	7.88	432036	10.82	395345	12.40
MC15914-18	97590	4.09	391257	5.07	221086	6.51	376801	7.88	410269	10.82	389336	12.40
ZZZZZZ	98652	4.09	395319	5.08	261770	6.52	453909	7.90	456404	10.82	425202	12.40
ZZZZZZ	105681	4.09	426971	5.08	242383	6.51	413342	7.88	451988	10.82	425104	12.40
ZZZZZZ	100645	4.09	401105	5.07	227753	6.51	391639	7.88	420058	10.82	403138	12.40
ZZZZZZ	109440	4.09	436946	5.08	253648	6.51	440292	7.88	474469	10.82	430526	12.40
ZZZZZZ	102194	4.09	400707	5.08	229362	6.51	394121	7.88	425398	10.82	415438	12.40
ZZZZZZ	101522	4.09	405934	5.08	231151	6.51	394749	7.88	435583	10.82	412514	12.40
OP31055-MS	143574	4.09	567537	5.08	322867	6.52	552855	7.89	599468	10.82	406311	12.40
OP31055-MSD	138497	4.09	559133	5.08	316561	6.52	541467	7.89	589143	10.82	415947	12.40
MC15664-1	144048	4.09	581553	5.08	331115	6.51	583771	7.89	629266	10.82	434412	12.40
ZZZZZZ	150191	4.09	591579	5.08	340691	6.51	598187	7.88	646868	10.82	428080	12.40
OP31066-MS	103986	4.09	420791	5.08	241538	6.51	411643	7.88	446072	10.82	425970	12.40
OP31066-MSD	105335	4.09	426279	5.08	244534	6.51	422828	7.88	453874	10.82	434703	12.40
MC15751-1	106405	4.09	430912	5.08	244264	6.51	426277	7.88	459129	10.82	439034	12.40
ZZZZZZ	116163	4.09	476105	5.08	348304	6.53	632723	7.91	531714	10.83	496221	12.40
ZZZZZZ	130331	4.09	546079	5.09	365552	6.54	707934	7.92	562365	10.83	514804	12.40
ZZZZZZ	127582	4.09	522874	5.09	364886	6.54	673328	7.91	539824	10.83	501445	12.40
ZZZZZZ	124962	4.09	500867	5.08	469250*	6.53	710980	7.91	611183	10.83	537738	12.41
ZZZZZZ	132547	4.09	534629	5.09	338344	6.54	515655	7.94	663160	10.84	560862	12.41

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

Semivolatile Internal Standard Area Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSW337-CC318	Injection Date:	11/19/12
Lab File ID:	W7060.D	Injection Time:	16:20
Instrument ID:	GCMSW	Method:	SW846 8270C

Lab	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Outside control limits due to possible matrix interference.

Semivolatile Surrogate Recovery Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15892-1	F59958.D	42.0	29.0	85.0	76.0	69.0	55.0
OP31057-BS	W7066.D	41.0	30.0	76.0	71.0	64.0	89.0
OP31057-MB	F59465.D	36.0	25.0	67.0	67.0	61.0	77.0
OP31057-MS	F59467.D	45.0	33.0	76.0	73.0	66.0	55.0
OP31057-MSD	F59468.D	46.0	33.0	77.0	73.0	66.0	58.0

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	15-110%
S2 = Phenol-d5	15-110%
S3 = 2,4,6-Tribromophenol	15-110%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

Semivolatile Surrogate Recovery Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC15892-1	I80105.D	41.0	28.0	84.0	72.0	75.0	59.0
OP31058-BS	I80099.D	39.0	31.0	70.0	67.0	67.0	80.0
OP31058-BSD	I80102.D				77.0	81.0	99.0
OP31058-MB	I80098.D	35.0	25.0	64.0	65.0	67.0	83.0
OP31058-MS	I80100.D	43.0	34.0	75.0	73.0	72.0	57.0
OP31058-MSD	I80101.D	44.0	35.0	78.0	72.0	73.0	59.0

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	15-110%
S2 = Phenol-d5	15-110%
S3 = 2,4,6-Tribromophenol	15-110%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

7.6.2

7

New England ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

8

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: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31006-MB	BK18830.D	1	11/13/12	AP	11/12/12	OP31006	GBK686

The QC reported here applies to the following samples: Method: SW846 8011

MC15892-1, MC15892-3

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)	92%	36-173%
460-00-4	Bromofluorobenzene (S)	102%	36-173%

Blank Spike Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31006-BS	BK18831.D	1	11/13/12	AP	11/12/12	OP31006	GBK686

The QC reported here applies to the following samples: Method: SW846 8011

MC15892-1, MC15892-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.071	100	60-140
106-93-4	1,2-Dibromoethane	0.071	0.076	107	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	98%	36-173%
460-00-4	Bromofluorobenzene (S)	109%	36-173%

8.2.1

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* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31006-MS	BK18832.D	1	11/13/12	AP	11/12/12	OP31006	GBK686
OP31006-MSD	BK18833.D	1	11/13/12	AP	11/12/12	OP31006	GBK686
MC15914-9	BK18834.D	1	11/13/12	AP	11/12/12	OP31006	GBK686

The QC reported here applies to the following samples: Method: SW846 8011

MC15892-1, MC15892-3

CAS No.	Compound	MC15914-9 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dibromo-3-chloropropane	ND		0.071	0.071	100	0.069	97	3	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.071	0.075	106	0.073	103	3	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC15914-9	Limits
460-00-4	Bromofluorobenzene (S)	98%	97%	100%	36-173%
460-00-4	Bromofluorobenzene (S)	107%	107%	113%	36-173%

8.3.1

8

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8011 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
MC15892-1	BK18854.D	193.0* [c]	196.0* [c]
MC15892-3	BK18855.D	92.0	105.0
OP31006-BS	BK18831.D	98.0	109.0
OP31006-MB	BK18830.D	92.0	102.0
OP31006-MS	BK18832.D	98.0	107.0
OP31006-MSD	BK18833.D	97.0	107.0

Surrogate Compounds	Recovery Limits
S1 = Bromofluorobenzene (S)	36-173%

(a) Recovery from GC signal #1
(b) Recovery from GC signal #2
(c) Outside control limits.Sample is non-detect for target analytes.

8.4.1

8

GC Surrogate Retention Time Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBK686-CC686	Injection Date:	11/13/12
Lab File ID:	BK18826.D	Injection Time:	19:51
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.93	4.61

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK18827.D	11/13/12	20:16	4.93	4.61
ZZZZZZ	BK18828.D	11/13/12	20:40	4.93	4.61
ZZZZZZ	BK18829.D	11/13/12	21:05	4.93	4.61
OP31006-MB	BK18830.D	11/13/12	21:29	4.93	4.61
OP31006-BS	BK18831.D	11/13/12	21:53	4.93	4.61
OP31006-MS	BK18832.D	11/13/12	22:18	4.93	4.61
OP31006-MSD	BK18833.D	11/13/12	22:42	4.93	4.61
MC15914-9	BK18834.D	11/13/12	23:06	4.93	4.61
ZZZZZZ	BK18835.D	11/13/12	23:31	4.93	4.61
ZZZZZZ	BK18836.D	11/13/12	23:55	4.93	4.61

Surrogate Compounds

S1 = Bromofluorobenzene (S)

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: MC15892
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	GBK686-CC686	Injection Date:	11/14/12
Lab File ID:	BK18848.D	Injection Time:	04:48
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.93	4.61

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK18849.D	11/14/12	05:12	4.93	4.61
ZZZZZZ	BK18850.D	11/14/12	05:36	4.93	4.61
ZZZZZZ	BK18851.D	11/14/12	06:00	4.93	4.61
ZZZZZZ	BK18852.D	11/14/12	06:24	4.93	4.61
ZZZZZZ	BK18853.D	11/14/12	06:48	4.93	4.61
MC15892-1	BK18854.D	11/14/12	07:12	4.93	4.61
MC15892-3	BK18855.D	11/14/12	07:36	4.93	4.61
OP31007-MB	BK18856.D	11/14/12	08:00	4.93	4.61
OP31007-BS	BK18857.D	11/14/12	08:24	4.93	4.61
OP31007-MS	BK18858.D	11/14/12	08:48	4.93	4.61

Surrogate Compounds

S1 = Bromofluorobenzene (S)

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

Roxana Groundwater Quarterly – 4th Quarter 2012 Data Review

Laboratory SDG: MC16746

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 12/17/2012

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Sample Identification	Sample Identification
P58-ROX-121012	-

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes, well P-58 was resampled on December 10, 2012 and is reported in this SDG; this data replaces SVOC and PAH data collected on November 6, 2012 in SDG MC15702.

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated that SVOC LCS recoveries were outside evaluation criteria. Sample P58-ROX-121012 was diluted due to high levels of SVOC target analytes.

The cooler receipt form indicated the sample was received by the laboratory at a temperature of 1.3ºC, which is outside the 4ºC ± 2ºC criteria. The sample was received in good condition; therefore, no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
OP31379-BS	SVOCs	Dimethyl phthalate	**25**	NA	40-140
OP31379-BS	SVOCs	Hexachlorocyclopentadiene	**29**	NA	40-140

Analytical data that required qualification based on LCS data are included in the table below.

Sample ID	Parameter	Analyte	Qualification
P58-ROX-121012	SVOCs	Dimethyl phthalate	**UJ**
P58-ROX-121012	SVOCs	Hexachlorocyclopentadiene	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

New England ACCUTEST LABORATORIES

12/17/12



Technical Report for

Shell Oil

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana,

Accutest Job Number: MC16746

Sampling Date: 12/10/12

Report to:

URS Corporation

elizabeth.kunkel@URS.com

ATTN: Elizabeth Kunkel

Total number of pages in report: **28**

Reviewed on 12/17/12

Reza Tand
Lab Director

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Test results relate only to samples analyzed.

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Accutest LabLink@131887 12:17 17-Dec-2012

Sample Summary

Shell Oil

Job No: MC16746

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC16746-1	12/10/12	13:30	MCJS	12/11/12	AQ	Ground Water	P58-ROX-121012

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	**Job No**	MC16746
Site:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central	**Report Date**	12/17/2012 9:06:28 AM

1 Sample was collected on 12/10/2012 and were received at Accutest on 12/11/2012 properly preserved, at 1.3 Deg. C and intact. These Samples received an Accutest job number of MC16746. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. 1-Chlorohexane, Benzenethiol, Dibenz(a,h)acridine, Indene, and Quinoline were searched in the library search and reported only if detections were found.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GCMS By Method SW846 8270C

Matrix AQ **Batch ID:** OP31379

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC16600-4MS, MC16600-4MSD were used as the QC samples indicated.
- Blank Spike Recovery(s) for Dimethyl phthalate, Hexachlorocyclopentadiene are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for 4-Nitrophenol, Phenol are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for 4-Nitrophenol are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- RPD(s) for MSD for Benzyl Alcohol are outside control limits for sample OP31379-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- OP31379-MS/MSD for Dimethyl phthalate, Hexachlorocyclopentadiene: Outside control limits. Blank Spike meets program technical requirements.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix AQ **Batch ID:** OP31380

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC16600-3MS, MC16600-3MSD were used as the QC samples indicated.

The Accutest Laboratories of 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 Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC16746).

Summary of Hits

Job Number: MC16746
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 12/10/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC16746-1	P58-ROX-121012					
3&4-Methylphenol		12.4	11	0.81	ug/l	SW846 8270C
Phenol		178	54	10	ug/l	SW846 8270C
Dibenzofuran		2.0 J	2.2	0.23	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		10.3	2.2	0.40	ug/l	SW846 8270C
Acenaphthene		0.93	0.11	0.015	ug/l	SW846 8270C BY SIM
Acenaphthylene		0.24	0.11	0.014	ug/l	SW846 8270C BY SIM
Anthracene		0.83	0.11	0.019	ug/l	SW846 8270C BY SIM
Fluorene		1.4	0.11	0.050	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		61.6	0.22	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		80.7	0.22	0.056	ug/l	SW846 8270C BY SIM
Phenanthrene		0.85	0.054	0.014	ug/l	SW846 8270C BY SIM
Pyrene		0.12	0.11	0.038	ug/l	SW846 8270C BY SIM

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	P58-ROX-121012		
Lab Sample ID:	MC16746-1	Date Sampled:	12/10/12
Matrix:	AQ - Ground Water	Date Received:	12/11/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F60200.D	1	12/12/12	KR	12/11/12	OP31379	MSF2835
Run #2	F60204.D	10	12/12/12	KR	12/11/12	OP31379	MSF2835

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2	930 ml	1.0 ml

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.4	0.43	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.40	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.40	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	2.9	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	5.4	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	2.7	ug/l	
95-48-7	2-Methylphenol	ND	11	0.65	ug/l	
	3&4-Methylphenol	12.4	11	0.81	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.51	ug/l	
100-02-7	4-Nitrophenol	ND	22	3.0	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.3	ug/l	
108-95-2	Phenol	178 [a]	54	10	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.53	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.38	ug/l	
62-53-3	Aniline	ND	11	2.2	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.35	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	0.28	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.28	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	0.27	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.68	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.4	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.4	0.40	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.31	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.31	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.27	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.27	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.27	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.96	ug/l	
132-64-9	Dibenzofuran	2.0	2.2	0.23	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.4	0.39	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	0.25	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P58-ROX-121012		
Lab Sample ID:	MC16746-1	Date Sampled:	12/10/12
Matrix:	AQ - Ground Water	Date Received:	12/11/12
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.4	0.20	ug/l	
131-11-3	Dimethyl phthalate	ND	5.4	0.24	ug/l	UJ
117-81-7	bis(2-Ethylhexyl)phthalate	10.3	2.2	0.40	ug/l	
118-74-1	Hexachlorobenzene	ND	5.4	0.27	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	5.4	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.4	0.30	ug/l	
78-59-1	Isophorone	ND	5.4	0.34	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.27	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.27	ug/l	
100-01-6	4-Nitroaniline	ND	11	1.3	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.64	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.30	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.47	ug/l	
110-86-1	Pyridine	ND	11	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	53%	49%	15-110%
4165-62-2	Phenol-d5	40%	40%	15-110%
118-79-6	2,4,6-Tribromophenol	100%	90%	15-110%
4165-60-0	Nitrobenzene-d5	94%	91%	30-130%
321-60-8	2-Fluorobiphenyl	77%	76%	30-130%
1718-51-0	Terphenyl-d14	81%	78%	30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P58-ROX-121012		
Lab Sample ID:	MC16746-1	Date Sampled:	12/10/12
Matrix:	AQ - Ground Water	Date Received:	12/11/12
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I80667.D	1	12/12/12	NS	12/11/12	OP31380	MSI3002
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.93	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	0.24	0.11	0.014	ug/l	
120-12-7	Anthracene	0.83	0.11	0.019	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.054	0.032	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.054	0.025	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.041	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.063	ug/l	
218-01-9	Chrysene	ND	0.11	0.078	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.045	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.035	ug/l	
86-73-7	Fluorene	1.4	0.11	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.049	ug/l	
90-12-0	1-Methylnaphthalene	61.6	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	80.7	0.22	0.056	ug/l	
85-01-8	Phenanthrene	0.85	0.054	0.014	ug/l	
129-00-0	Pyrene	0.12	0.11	0.038	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	46%		15-110%
4165-62-2	Phenol-d5	42%		15-110%
118-79-6	2,4,6-Tribromophenol	88%		15-110%
4165-60-0	Nitrobenzene-d5	87%		30-130%
321-60-8	2-Fluorobiphenyl	86%		30-130%
1718-51-0	Terphenyl-d14	89%		30-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

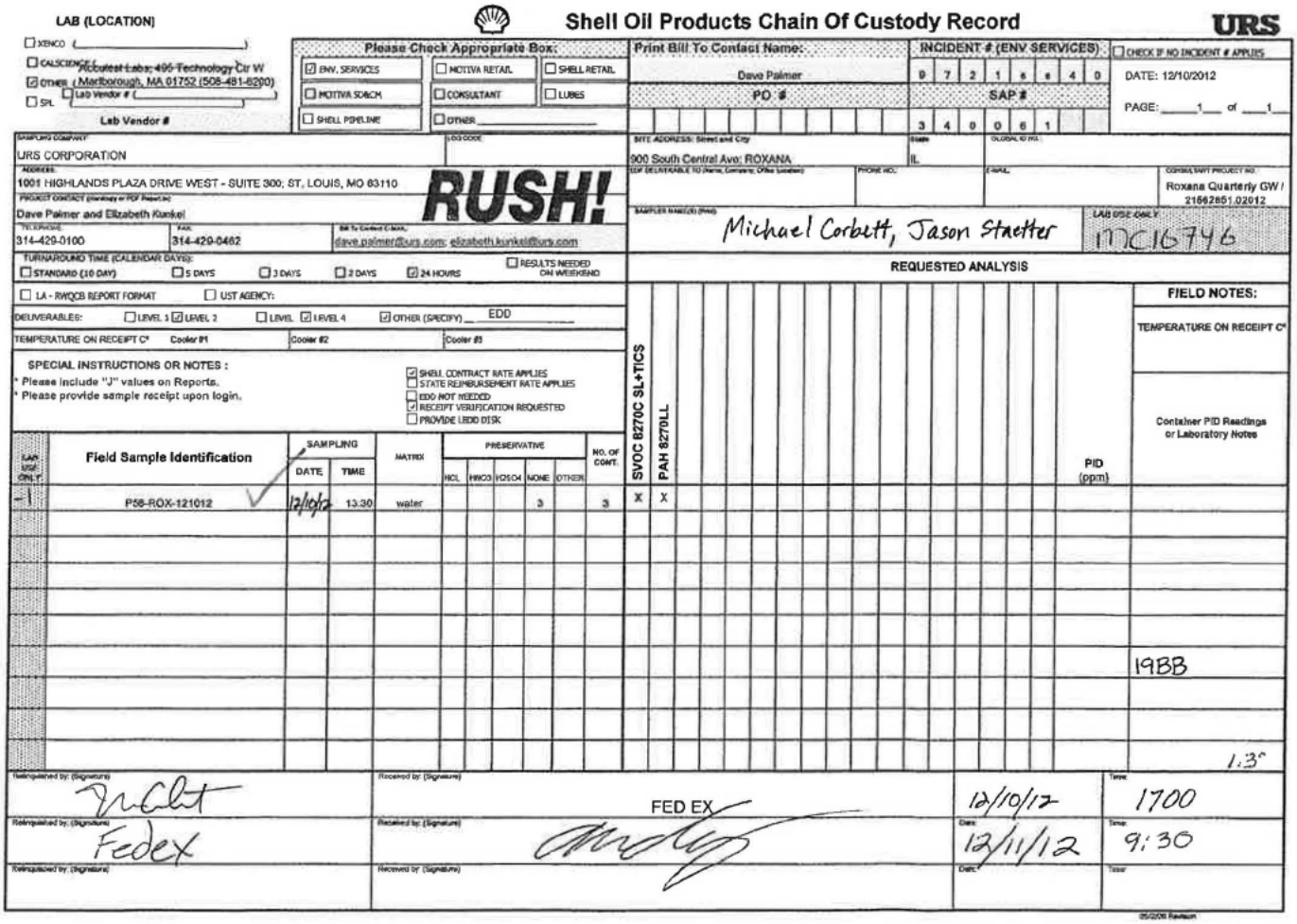
New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody



LAB (LOCATION)

☐ XENCO ( )
☐ CALSCIENCE ( )
☑ OTHER (Accutest Labs; 495 Technology Ctr W Marlborough, MA 01752 (508-481-6200))
☐ SPL (Lab Vendor # ( ))
Lab Vendor #

Shell Oil Products Chain Of Custody Record

URS

Please Check Appropriate Box:
☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SD&CM ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Dave Palmer
PO #

INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0
SAP #: 3 4 0 0 6 1

☐ CHECK IF NO INCIDENT # APPLIES
DATE: 12/10/2012
PAGE: 1 of 1

SAMPLING COMPANY: URS CORPORATION
LOG CODE:
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
PROJECT CONTACT (Hardcopy or PDF Report to): Dave Palmer and Elizabeth Kunkel
TELEPHONE: 314-429-0100
FAX: 314-429-0462
Bill To Contact E-Mail: dave.palmer@urs.com; elizabeth.kunkel@urs.com

RUSH!

SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA
State: IL
GLOBAL ID NO.:
EDF DELIVERABLE TO (Name, Company, Office Location):
PHONE NO.:
E-MAIL:
CONSULTANT PROJECT NO.: Roxana Quarterly GW / 21562851.02012
SAMPLER NAME(S) (PRINT): Michael Corbett, Jason Staetter
LAB USE ONLY: MC16746

TURNAROUND TIME (CALENDAR DAYS):
☐ STANDARD (10 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☑ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 Cooler #2 Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
* Please include "J" values on Reports.
* Please provide sample receipt upon login.

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

FIELD NOTES:
TEMPERATURE ON RECEIPT C°

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	SVOC 8270C SL+TICS	PAH 8270LL	PID (ppm)	Container PID Readings or Laboratory Notes
-1	P58-ROX-121012	12/10/12	13:30	water				3		3	X	X		
														19BB
														1.3°

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
[signature]	FED EX	12/10/12	1700
Fedex	[signature]	12/11/12	9:30

05/2006 Revision

5.1

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MC16746: Chain of Custody
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Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC16746 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 12/11/2012 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900 SO CENTRAL AVENUE **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

5.1
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MC16746: Chain of Custody
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Internal Sample Tracking Chronicle

Shell Oil

Job No: MC16746

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC16746-1 Collected: 10-DEC-12 13:30 By: MCJS Received: 11-DEC-12 By: P58-ROX-121012						
MC16746-1	SW846 8270C	12-DEC-12 13:00	KR	11-DEC-12	FC	AB8270SL+
MC16746-1	SW846 8270C	12-DEC-12 14:30	KR	11-DEC-12	FC	AB8270SL+
MC16746-1	SW846 8270C BY SIM	12-DEC-12 14:34	NS	11-DEC-12	FC	B8270SIMSL

Accutest Internal Chain of Custody

Job Number: MC16746
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 12/11/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC16746-1.1	Walk In Ref #22	Nick Krasinski	12/11/12 22:25	Retrieve from Storage
MC16746-1.1	Nick Krasinski		12/14/12 20:29	Depleted

5.3
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New England ACCUTEST LABORATORIES

GC/MS Semi-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: MC16746
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31379-MB	F60198.D	1	12/12/12	KR	12/11/12	OP31379	MSF2835

The QC reported here applies to the following samples: Method: SW846 8270C

MC16746-1

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	10	1.3	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.38	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	2.7	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	5.0	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	2.5	ug/l	
95-48-7	2-Methylphenol	ND	10	0.60	ug/l	
	3&4-Methylphenol	ND	10	0.75	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.47	ug/l	
100-02-7	4-Nitrophenol	ND	20	2.8	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.0	0.93	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.49	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.35	ug/l	
62-53-3	Aniline	ND	10	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.33	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.27	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.26	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.25	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.63	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.38	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.28	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.29	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.25	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.25	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.25	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.89	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.21	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.36	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.24	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.19	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.22	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.38	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.25	ug/l	

Method Blank Summary

Job Number: MC16746
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31379-MB	F60198.D	1	12/12/12	KR	12/11/12	OP31379	MSF2835

The QC reported here applies to the following samples: Method: SW846 8270C

MC16746-1

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	5.0	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.28	ug/l	
78-59-1	Isophorone	ND	5.0	0.32	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.25	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.25	ug/l	
100-01-6	4-Nitroaniline	ND	10	1.3	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.59	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.28	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.44	ug/l	
110-86-1	Pyridine	ND	10	0.46	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	45%	15-110%
4165-62-2	Phenol-d5	31%	15-110%
118-79-6	2,4,6-Tribromophenol	89%	15-110%
4165-60-0	Nitrobenzene-d5	79%	30-130%
321-60-8	2-Fluorobiphenyl	61%	30-130%
1718-51-0	Terphenyl-d14	101%	30-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

Method Blank Summary

Job Number: MC16746
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31380-MB	I80662.D	1	12/12/12	NS	12/11/12	OP31380	MSI3002

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC16746-1

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.013	ug/l	
120-12-7	Anthracene	ND	0.10	0.018	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	0.030	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.017	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	0.024	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.038	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	ND	0.10	0.073	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.042	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.033	ug/l	
86-73-7	Fluorene	ND	0.10	0.046	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.046	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	0.14	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	0.052	ug/l	
85-01-8	Phenanthrene	ND	0.050	0.013	ug/l	
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	44%	15-110%
4165-62-2	Phenol-d5	34%	15-110%
118-79-6	2,4,6-Tribromophenol	70%	15-110%
4165-60-0	Nitrobenzene-d5	72%	30-130%
321-60-8	2-Fluorobiphenyl	69%	30-130%
1718-51-0	Terphenyl-d14	102%	30-130%

Blank Spike Summary

Job Number: MC16746
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31379-BS	F60199.D	1	12/12/12	KR	12/11/12	OP31379	MSF2835

The QC reported here applies to the following samples: Method: SW846 8270C

MC16746-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	30.0	30	30-130
95-57-8	2-Chlorophenol	100	58.6	59	30-130
59-50-7	4-Chloro-3-methyl phenol	100	63.2	63	30-130
120-83-2	2,4-Dichlorophenol	100	64.0	64	30-130
105-67-9	2,4-Dimethylphenol	100	56.1	56	30-130
51-28-5	2,4-Dinitrophenol	100	32.5	33	30-130
534-52-1	4,6-Dinitro-o-cresol	100	43.7	44	30-130
95-48-7	2-Methylphenol	100	55.4	55	30-130
	3&4-Methylphenol	200	99.1	50	30-130
88-75-5	2-Nitrophenol	100	67.4	67	30-130
100-02-7	4-Nitrophenol	100	35.0	35	30-130
87-86-5	Pentachlorophenol	100	61.5	62	30-130
108-95-2	Phenol	100	29.7	30	30-130
95-95-4	2,4,5-Trichlorophenol	100	68.1	68	30-130
88-06-2	2,4,6-Trichlorophenol	100	66.0	66	30-130
62-53-3	Aniline	50	26.6	53	40-140
101-55-3	4-Bromophenyl phenyl ether	50	39.9	80	40-140
85-68-7	Butyl benzyl phthalate	50	31.0	62	40-140
100-51-6	Benzyl Alcohol	50	29.9	60	40-140
91-58-7	2-Chloronaphthalene	50	36.3	73	40-140
106-47-8	4-Chloroaniline	50	34.9	70	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	36.8	74	40-140
111-44-4	bis(2-Chloroethyl)ether	50	41.3	83	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	46.0	92	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	37.2	74	40-140
122-66-7	1,2-Diphenylhydrazine	50	41.7	83	40-140
121-14-2	2,4-Dinitrotoluene	50	43.0	86	40-140
606-20-2	2,6-Dinitrotoluene	50	43.5	87	40-140
91-94-1	3,3'-Dichlorobenzidine	50	43.7	87	40-140
132-64-9	Dibenzofuran	50	38.1	76	40-140
84-74-2	Di-n-butyl phthalate	50	40.0	80	40-140
117-84-0	Di-n-octyl phthalate	50	44.3	89	40-140
84-66-2	Diethyl phthalate	50	30.3	61	40-140
131-11-3	Dimethyl phthalate	50	12.7	25* a	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	48.5	97	40-140
118-74-1	Hexachlorobenzene	50	43.7	87	40-140

* = Outside of Control Limits.

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Blank Spike Summary

Job Number: MC16746
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31379-BS	F60199.D	1	12/12/12	KR	12/11/12	OP31379	MSF2835

The QC reported here applies to the following samples: Method: SW846 8270C

MC16746-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	14.4	29* [a]	40-140
67-72-1	Hexachloroethane	50	32.1	64	40-140
78-59-1	Isophorone	50	44.1	88	40-140
88-74-4	2-Nitroaniline	50	47.9	96	40-140
99-09-2	3-Nitroaniline	50	38.1	76	40-140
100-01-6	4-Nitroaniline	50	43.7	87	40-140
98-95-3	Nitrobenzene	50	42.2	84	40-140
62-75-9	n-Nitrosodimethylamine	50	26.7	53	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	47.3	95	40-140
86-30-6	N-Nitrosodiphenylamine	50	43.3	87	40-140
110-86-1	Pyridine	50	24.8	50	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	51%	15-110%
4165-62-2	Phenol-d5	36%	15-110%
118-79-6	2,4,6-Tribromophenol	95%	15-110%
4165-60-0	Nitrobenzene-d5	84%	30-130%
321-60-8	2-Fluorobiphenyl	73%	30-130%
1718-51-0	Terphenyl-d14	98%	30-130%

(a) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC16746
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31380-BS	I80663.D	1	12/12/12	NS	12/11/12	OP31380	MSI3002

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC16746-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	39.3	79	40-140
208-96-8	Acenaphthylene	50	29.8	60	40-140
120-12-7	Anthracene	50	44.6	89	40-140
56-55-3	Benzo(a)anthracene	50	54.2	108	40-140
50-32-8	Benzo(a)pyrene	50	43.0	86	40-140
205-99-2	Benzo(b)fluoranthene	50	44.1	88	40-140
191-24-2	Benzo(g,h,i)perylene	50	45.0	90	40-140
207-08-9	Benzo(k)fluoranthene	50	53.4	107	40-140
218-01-9	Chrysene	50	49.1	98	40-140
53-70-3	Dibenzo(a,h)anthracene	50	48.3	97	40-140
206-44-0	Fluoranthene	50	48.7	97	40-140
86-73-7	Fluorene	50	42.8	86	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	45.8	92	40-140
90-12-0	1-Methylnaphthalene	50	39.5	79	40-140
91-57-6	2-Methylnaphthalene	50	39.4	79	40-140
85-01-8	Phenanthrene	50	44.6	89	40-140
129-00-0	Pyrene	50	46.4	93	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	50%	15-110%
4165-62-2	Phenol-d5	37%	15-110%
118-79-6	2,4,6-Tribromophenol	80%	15-110%
4165-60-0	Nitrobenzene-d5	81%	30-130%
321-60-8	2-Fluorobiphenyl	77%	30-130%
1718-51-0	Terphenyl-d14	106%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC16746
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31379-MS	F60201.D	1	12/12/12	KR	12/11/12	OP31379	MSF2835
OP31379-MSD	F60202.D	1	12/12/12	KR	12/11/12	OP31379	MSF2835
MC16600-4	F60203.D	1	12/12/12	KR	12/11/12	OP31379	MSF2835

The QC reported here applies to the following samples: Method: SW846 8270C

MC16746-1

CAS No.	Compound	MC16600-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		100	31.5	32	34.2	34	8	30-130/20
95-57-8	2-Chlorophenol	ND		100	53.4	53	59.4	59	11	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		100	60.6	61	64.0	64	5	30-130/20
120-83-2	2,4-Dichlorophenol	ND		100	59.9	60	62.9	63	5	30-130/20
105-67-9	2,4-Dimethylphenol	ND		100	54.0	54	58.6	59	8	30-130/20
51-28-5	2,4-Dinitrophenol	ND		100	40.1	40	43.8	44	9	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		100	49.1	49	53.1	53	8	30-130/20
95-48-7	2-Methylphenol	ND		100	55.6	56	57.2	57	3	30-130/20
	3&4-Methylphenol	ND		200	97.4	49	99.7	50	2	30-130/20
88-75-5	2-Nitrophenol	ND		100	62.3	62	68.3	68	9	30-130/20
100-02-7	4-Nitrophenol	ND		100	26.7	27* [a]	25.8	26* [a]	3	30-130/20
87-86-5	Pentachlorophenol	ND		100	62.1	62	64.7	65	4	30-130/20
108-95-2	Phenol	ND		100	28.5	29* [a]	30.1	30	5	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		100	65.5	66	67.8	68	3	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		100	61.3	61	65.7	66	7	30-130/20
62-53-3	Aniline	ND		50	27.5	55	28.8	58	5	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		50	40.6	81	41.5	83	2	40-140/20
85-68-7	Butyl benzyl phthalate	ND		50	32.9	66	33.3	67	1	40-140/20
100-51-6	Benzyl Alcohol	ND		50	22.4	45	28.0	56	22* [b]	40-140/20
91-58-7	2-Chloronaphthalene	ND		50	35.3	71	36.5	73	3	40-140/20
106-47-8	4-Chloroaniline	ND		50	33.9	68	33.4	67	1	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		50	35.4	71	38.5	77	8	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		50	38.8	78	43.3	87	11	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		50	44.1	88	47.3	95	7	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		50	37.6	75	38.0	76	1	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		50	41.6	83	42.7	85	3	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		50	42.4	85	44.2	88	4	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		50	44.1	88	44.2	88	0	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		50	39.3	79	40.1	80	2	40-140/20
132-64-9	Dibenzofuran	ND		50	37.5	75	38.7	77	3	40-140/20
84-74-2	Di-n-butyl phthalate	ND		50	40.1	80	40.5	81	1	40-140/20
117-84-0	Di-n-octyl phthalate	ND		50	43.6	87	44.9	90	3	40-140/20
84-66-2	Diethyl phthalate	ND		50	32.3	65	31.4	63	3	40-140/20
131-11-3	Dimethyl phthalate	ND		50	17.4	35* [c]	14.2	28* [c]	20	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND		50	48.4	97	49.6	99	2	40-140/20
118-74-1	Hexachlorobenzene	ND		50	42.6	85	44.6	89	5	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC16746
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31379-MS	F60201.D	1	12/12/12	KR	12/11/12	OP31379	MSF2835
OP31379-MSD	F60202.D	1	12/12/12	KR	12/11/12	OP31379	MSF2835
MC16600-4	F60203.D	1	12/12/12	KR	12/11/12	OP31379	MSF2835

The QC reported here applies to the following samples: Method: SW846 8270C

MC16746-1

CAS No.	Compound	MC16600-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		50	15.6	31* c	15.2	30* c	3	40-140/20
67-72-1	Hexachloroethane	ND		50	30.6	61	32.0	64	4	40-140/20
78-59-1	Isophorone	ND		50	43.4	87	44.5	89	3	40-140/20
88-74-4	2-Nitroaniline	ND		50	48.0	96	49.2	98	2	40-140/20
99-09-2	3-Nitroaniline	ND		50	36.8	74	37.0	74	1	40-140/20
100-01-6	4-Nitroaniline	ND		50	43.2	86	43.8	88	1	40-140/20
98-95-3	Nitrobenzene	ND		50	41.5	83	43.3	87	4	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		50	25.0	50	27.2	54	8	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		50	47.8	96	48.8	98	2	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		50	43.0	86	43.4	87	1	40-140/20
110-86-1	Pyridine	ND		50	22.8	46	24.0	48	5	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC16600-4	Limits
367-12-4	2-Fluorophenol	47%	53%		15-110%
4165-62-2	Phenol-d5	35%	37%		15-110%
118-79-6	2,4,6-Tribromophenol	90%	98%		15-110%
4165-60-0	Nitrobenzene-d5	82%	89%	81%	30-130%
321-60-8	2-Fluorobiphenyl	70%	75%	66%	30-130%
1718-51-0	Terphenyl-d14	97%	104%	97%	30-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
(b) High RPD due to possible matrix interference and/or sample non-homogeneity.
(c) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC16746
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP31380-MS	I80664.D	1	12/12/12	NS	12/11/12	OP31380	MSI3002
OP31380-MSD	I80665.D	1	12/12/12	NS	12/11/12	OP31380	MSI3002
MC16600-3	I80666.D	1	12/12/12	NS	12/11/12	OP31380	MSI3002

The QC reported here applies to the following samples: Method: SW846 8270C BY SIM

MC16746-1

CAS No.	Compound	MC16600-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		50	39.9	80	40.8	82	2	40-140/20
208-96-8	Acenaphthylene	ND		50	29.9	60	30.7	61	3	40-140/20
120-12-7	Anthracene	ND		50	44.0	88	45.5	91	3	40-140/20
56-55-3	Benzo(a)anthracene	ND		50	52.8	106	55.1	110	4	40-140/20
50-32-8	Benzo(a)pyrene	ND		50	42.5	85	44.1	88	4	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		50	43.9	88	44.9	90	2	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND		50	44.4	89	45.7	91	3	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		50	52.6	105	54.6	109	4	40-140/20
218-01-9	Chrysene	ND		50	48.2	96	49.7	99	3	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		50	47.8	96	49.3	99	3	40-140/20
206-44-0	Fluoranthene	ND		50	47.7	95	49.6	99	4	40-140/20
86-73-7	Fluorene	ND		50	43.1	86	44.5	89	3	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		50	45.4	91	46.6	93	3	40-140/20
90-12-0	1-Methylnaphthalene	ND		50	38.8	78	40.7	81	5	40-140/20
91-57-6	2-Methylnaphthalene	ND		50	38.2	76	40.6	81	6	40-140/20
85-01-8	Phenanthrene	ND		50	43.9	88	45.5	91	4	40-140/20
129-00-0	Pyrene	ND		50	46.4	93	47.3	95	2	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC16600-3	Limits
367-12-4	2-Fluorophenol	45%	51%		15-110%
4165-62-2	Phenol-d5	34%	38%		15-110%
118-79-6	2,4,6-Tribromophenol	76%	83%		15-110%
4165-60-0	Nitrobenzene-d5	77%	85%	77%	30-130%
321-60-8	2-Fluorobiphenyl	76%	82%	73%	30-130%
1718-51-0	Terphenyl-d14	103%	109%	104%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC16746
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSF2835-CC2795	Injection Date:	12/12/12
Lab File ID:	F60189.D	Injection Time:	08:53
Instrument ID:	GCMSF	Method:	SW846 8270C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	124244	4.09	439938	5.07	291318	6.50	571888	7.86	644360	10.62	653971	12.08
Upper Limit [a]	248488	4.59	879876	5.57	582636	7.00	1143776	8.36	1288720	11.12	1307942	12.58
Lower Limit [b]	62122	3.59	219969	4.57	145659	6.00	285944	7.36	322180	10.12	326986	11.58
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP31326-MB	151618	4.08	540882	5.07	353109	6.50	672723	7.85	723028	10.62	739477	12.08
OP31326-BS	144112	4.09	516183	5.07	345238	6.49	669408	7.86	724570	10.62	735661	12.08
OP31326-MS	144648	4.08	512827	5.07	345528	6.50	667848	7.86	889586	10.64	972361	12.14
OP31326-MSD	141895	4.09	509232	5.07	337431	6.50	645758	7.86	910758	10.64	1000427	12.13
MC16384-1	132745	4.08	496788	5.07	334451	6.50	655714	7.86	929988	10.65	953476	12.14
ZZZZZZ	110985	4.09	400518	5.07	269529	6.50	476748	7.86	562398	10.62	656337	12.08
ZZZZZZ	117226	4.09	422017	5.07	289487	6.49	549323	7.86	638252	10.62	726882	12.09
ZZZZZZ	113620	4.08	413669	5.07	276640	6.50	523618	7.85	614759	10.61	655175	12.08
OP31379-MB	121432	4.09	442368	5.07	304901	6.49	582334	7.85	645309	10.61	702749	12.08
OP31379-BS	114107	4.08	411622	5.07	273931	6.49	531293	7.86	641337	10.62	680827	12.08
MC16746-1	123816	4.09	443099	5.07	299732	6.50	569681	7.85	661365	10.62	731160	12.08
OP31379-MS	120654	4.08	437379	5.07	295611	6.49	575278	7.86	669526	10.62	716739	12.08
OP31379-MSD	106331	4.08	382981	5.07	260373	6.50	505226	7.85	593207	10.62	626717	12.08
MC16600-4	128450	4.09	466856	5.07	317135	6.49	614753	7.85	706679	10.61	770787	12.08
MC16746-1	121803	4.08	441079	5.07	305101	6.50	582880	7.85	692936	10.61	761519	12.08

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Internal Standard Area Summary

Job Number: MC16746
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSI3002-CC2981	Injection Date:	12/12/12
Lab File ID:	I80661.D	Injection Time:	12:01
Instrument ID:	GCMSI	Method:	SW846 8270C BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	508700	3.73	1406068	4.70	719500	6.10	1265206	7.39	1064586	10.13	1642232	11.55
Upper Limit [a]	1017400	4.23	2812136	5.20	1439000	6.60	2530412	7.89	2129172	10.63	3284464	12.05
Lower Limit [b]	254350	3.23	703034	4.20	359750	5.60	632603	6.89	532293	9.63	821116	11.05
Lab Sample ID	**IS 1 AREA**	**RT**	**IS 2 AREA**	**RT**	**IS 3 AREA**	**RT**	**IS 4 AREA**	**RT**	**IS 5 AREA**	**RT**	**IS 6 AREA**	**RT**
OP31380-MB	665142	3.73	1801127	4.70	928453	6.10	1604389	7.39	1257613	10.13	2481358	11.55
OP31380-BS	558393	3.73	1521465	4.70	796982	6.10	1359165	7.39	1087880	10.13	2124624	11.55
OP31380-MS	517518	3.73	1391155	4.70	719490	6.10	1242720	7.39	997436	10.13	1953364	11.55
OP31380-MSD	502723	3.73	1344968	4.70	699268	6.10	1194823	7.39	962476	10.13	1875693	11.55
MC16600-3	604106	3.73	1604758	4.70	833066	6.10	1420451	7.39	1155021	10.13	2270262	11.55
MC16746-1	564936	3.73	1493765	4.70	777899	6.10	1361613	7.39	1127821	10.13	2228433	11.55
ZZZZZZ	619869	3.73	1642791	4.70	872383	6.10	1505766	7.39	1266102	10.13	2463403	11.55
ZZZZZZ	536835	3.73	1446541	4.70	766702	6.10	1330195	7.39	1120183	10.13	2143508	11.55

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Surrogate Recovery Summary

Job Number: MC16746
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC16746-1	F60204.D	49.0	40.0	90.0	91.0	76.0	78.0
MC16746-1	F60200.D	53.0	40.0	100.0	94.0	77.0	81.0
OP31379-BS	F60199.D	51.0	36.0	95.0	84.0	73.0	98.0
OP31379-MB	F60198.D	45.0	31.0	89.0	79.0	61.0	101.0
OP31379-MS	F60201.D	47.0	35.0	90.0	82.0	70.0	97.0
OP31379-MSD	F60202.D	53.0	37.0	98.0	89.0	75.0	104.0

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	15-110%
S2 = Phenol-d5	15-110%
S3 = 2,4,6-Tribromophenol	15-110%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

Semivolatile Surrogate Recovery Summary

Job Number: MC16746
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8270C BY SIM Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC16746-1	I80667.D	46.0	42.0	88.0	87.0	86.0	89.0
OP31380-BS	I80663.D	50.0	37.0	80.0	81.0	77.0	106.0
OP31380-MB	I80662.D	44.0	34.0	70.0	72.0	69.0	102.0
OP31380-MS	I80664.D	45.0	34.0	76.0	77.0	76.0	103.0
OP31380-MSD	I80665.D	51.0	38.0	83.0	85.0	82.0	109.0

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	15-110%
S2 = Phenol-d5	15-110%
S3 = 2,4,6-Tribromophenol	15-110%
S4 = Nitrobenzene-d5	30-130%
S5 = 2-Fluorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

Roxana Groundwater Quarterly – 4th Quarter 2012 Data Review

Laboratory SDG: MC16960

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 12/20/2012

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008

Sample Identification	Sample Identification
TB-ROX-121712-HCL	MW10-ROX-121712
MW1-ROX-121712	-

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes, wells MW-10 and MW-1 were resampled on December 17, 2012 and are reported in this SDG; this data replaces VOC data collected on October 26, 2012 in SDG MC15334.

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated that VOC LCS recoveries were outside evaluation criteria. VOC MS/MSD recoveries were outside evaluation criteria. Additionally, the initial calibration verification for acetone exceeded 50 percent difference (%D). These issues are addressed further in the appropriate sections below.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSG4890-BS	VOCs	Acetone	**184**	NA	70-130
MSG4890-BS	VOCs	Acrolein	**45**	NA	70-130
MSG4890-BS	VOCs	2-Butanone (MEK)	**139**	NA	70-130

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSG4890-BS	VOCs	Chloromethane	**141**	NA	70-130
MSG4890-BS	VOCs	Dichlorodifluoromethane	**159**	NA	70-130
MSG4890-BS	VOCs	2,2-Dichloropropane	**131**	NA	70-130
MSG4890-BS	VOCs	2-Hexanone	**138**	NA	70-130

Analytical data that required qualification based on LCS data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. LCS MSG4890-BS was associated with trip blank TB-ROX-121712. Trip blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
MW10-ROX-121712	VOCs	Acrolein	**UJ**
MW1-ROX-121712	VOCs	Acrolein	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, sample MW10-ROX-121712 was spiked and analyzed for VOCs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
MW10-ROX-121712	VOCs	Acetone	**446/356**	22	70-130/30
MW10-ROX-121712	VOCs	2-Chloroethyl vinyl ether	**0/0**	NA	70-130/30
MW10-ROX-121712	VOCs	Chloromethane	**157/151**	4	70-130/30
MW10-ROX-121712	VOCs	Dichlorodifluoromethane	**159/155**	**3**	70-130/30
MW10-ROX-121712	VOCs	2,2-Dichloropropane	**134/138**	3	70-130/30
MW10-ROX-121712	VOCs	4-Methyl-2-pentanone (MIBK)	**65/63**	2	70-130/30
MW10-ROX-121712	VOCs	Styrene	**44/41**	6	70-130/30

Analytical results reported as non-detect and associated with MS/MSD recoveries above evaluation criteria, indicating a high bias, did not require qualification. USEPA National

Functional Guidelines for Organic Data Review indicates that organic data does not require qualification based on MS/MSD data alone. LCS/LCSD recoveries were within evaluation criteria with the exception of compounds listed and qualified as appropriate in Section 5.0 of this data review. No further qualification of data was required.

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; samples analyzed did not require dilution.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes, the initial calibration verification recovery for acetone exceeded 50 percent difference (%D) in samples MW14-ROX-10312 and P56-ROX-103112; analytes in associated samples were qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW10-ROX-121712	VOCs	Acetone	**UJ**
MW1-ROX-121712	VOCs	Acetone	**UJ**

New England ACCUTEST LABORATORIES

12/20/12





Technical Report for

Shell Oil

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana,

Accutest Job Number: MC16960

Sampling Date: 12/17/12

Report to:

URS Corporation

elizabeth.kunkel@URS.com

ATTN: Elizabeth Kunkel

Total number of pages in report: **32**

Reviewed on 12/20/12

Reza Pand
Lab Director

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) ISO 17025:2005 (L2235)

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Sample Summary

Shell Oil

Job No: MC16960

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC16960-1	12/17/12	00:00	DMSS	12/18/12	AQ	Trip Blank Water	TB-ROX-121712-HCL
MC16960-2	12/17/12	12:00	DMSS	12/18/12	AQ	Ground Water	MW10-ROX-121712
MC16960-2D	12/17/12	12:00	DMSS	12/18/12	AQ	Water Dup/MSD	MW10-ROX-121712
MC16960-2S	12/17/12	12:00	DMSS	12/18/12	AQ	Water Matrix Spike	MW10-ROX-121712
MC16960-3	12/17/12	15:10	DMSS	12/18/12	AQ	Ground Water	MW1-ROX-121712

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	**Job No**	MC16960
Site:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central	**Report Date**	12/20/2012 12:33:03 PM

2 Sample(s), 1 Trip Blank(s) were collected on 12/17/2012 and were received at Accutest on 12/18/2012 properly preserved, at 2.9 Deg. C and intact. These Samples received an Accutest job number of MC16960. 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:** MSG4890

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC16960-2MS, MC16960-2MSD were used as the QC samples indicated.
- Blank Spike Recovery(s) for 2,2-Dichloropropane, 2-Butanone (MEK), 2-Hexanone, Acrolein, Chloromethane are outside control limits. Blank Spike meets program technical requirements.
- MS/MSD Recovery(s) for 2-Chloroethyl vinyl ether, 4-Methyl-2-pentanone (MIBK), Styrene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC16960-2MS/MSD for Chloromethane, 2,2-Dichloropropane: Outside control limits. Blank Spike meets program technical requirements.
- Initial calibration verification MSG4862-ICV4862 for acrolein exceeds 50% Difference. Acrolein is within criteria in continuing calibration check standard MSG4890-CC4862.
- BS/MS/MSD Recovery(s) for Acetone, Dichlorodifluoromethane. Associated samples are non-detect for this compound.

The Accutest Laboratories of 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 Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC16960).

Summary of Hits

Job Number: MC16960
Account: Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Collected: 12/17/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC16960-1	TB-ROX-121712-HCL					
No hits reported in this sample.						
MC16960-2	MW10-ROX-121712					
Chloroform		0.95 J	1.0	0.50	ug/l	SW846 8260B
Xylene (total)		0.58 J	1.0	0.58	ug/l	SW846 8260B
MC16960-3	MW1-ROX-121712					
Methyl Tert Butyl Ether		2.2	1.0	0.41	ug/l	SW846 8260B

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	TB-ROX-121712-HCL		
Lab Sample ID:	MC16960-1	**Date Sampled:**	12/17/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	12/18/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G123043.D	1	12/19/12	JM	n/a	n/a	MSG4890
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	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:	TB-ROX-121712-HCL		
Lab Sample ID:	MC16960-1	**Date Sampled:**	12/17/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	12/18/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	TB-ROX-121712-HCL		
Lab Sample ID:	MC16960-1	**Date Sampled:**	12/17/12
Matrix:	AQ - Trip Blank Water	**Date Received:**	12/18/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	80%		70-130%
2037-26-5	Toluene-D8	84%		70-130%
460-00-4	4-Bromofluorobenzene	91%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW10-ROX-121712		
Lab Sample ID:	MC16960-2	Date Sampled:	12/17/12
Matrix:	AQ - Ground Water	Date Received:	12/18/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G123046.D	1	12/19/12	JM	n/a	n/a	MSG4890
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	UJ
107-02-8	Acrolein	ND	25	10	ug/l	UJ
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	0.95	1.0	0.50	ug/l	J
74-87-3	Chloromethane	ND	2.0	0.73	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.65	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.53	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.93	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.45	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.64	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.7	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.62	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.63	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.41	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.64	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.95	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW10-ROX-121712		
Lab Sample ID:	MC16960-2	Date Sampled:	12/17/12
Matrix:	AQ - Ground Water	Date Received:	12/18/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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)	0.58	1.0	0.58	ug/l	J

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW10-ROX-121712		
Lab Sample ID:	MC16960-2	**Date Sampled:**	12/17/12
Matrix:	AQ - Ground Water	**Date Received:**	12/18/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	81%		70-130%
2037-26-5	Toluene-D8	84%		70-130%
460-00-4	4-Bromofluorobenzene	91%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

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:	MW1-ROX-121712		
Lab Sample ID:	MC16960-3	**Date Sampled:**	12/17/12
Matrix:	AQ - Ground Water	**Date Received:**	12/18/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G123049.D	1	12/19/12	JM	n/a	n/a	MSG4890
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	UJ
107-02-8	Acrolein	ND	25	10	ug/l	UJ
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:	MW1-ROX-121712		
Lab Sample ID:	MC16960-3	Date Sampled:	12/17/12
Matrix:	AQ - Ground Water	Date Received:	12/18/12
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.72	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.64	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.6	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.91	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.20	ug/l	
123-91-1	1,4-Dioxane	ND	25	15	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.51	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.1	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.57	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.2	1.0	0.41	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.9	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.83	ug/l	
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:	MW1-ROX-121712		
Lab Sample ID:	MC16960-3	**Date Sampled:**	12/17/12
Matrix:	AQ - Ground Water	**Date Received:**	12/18/12
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	80%		70-130%
2037-26-5	Toluene-D8	83%		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/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

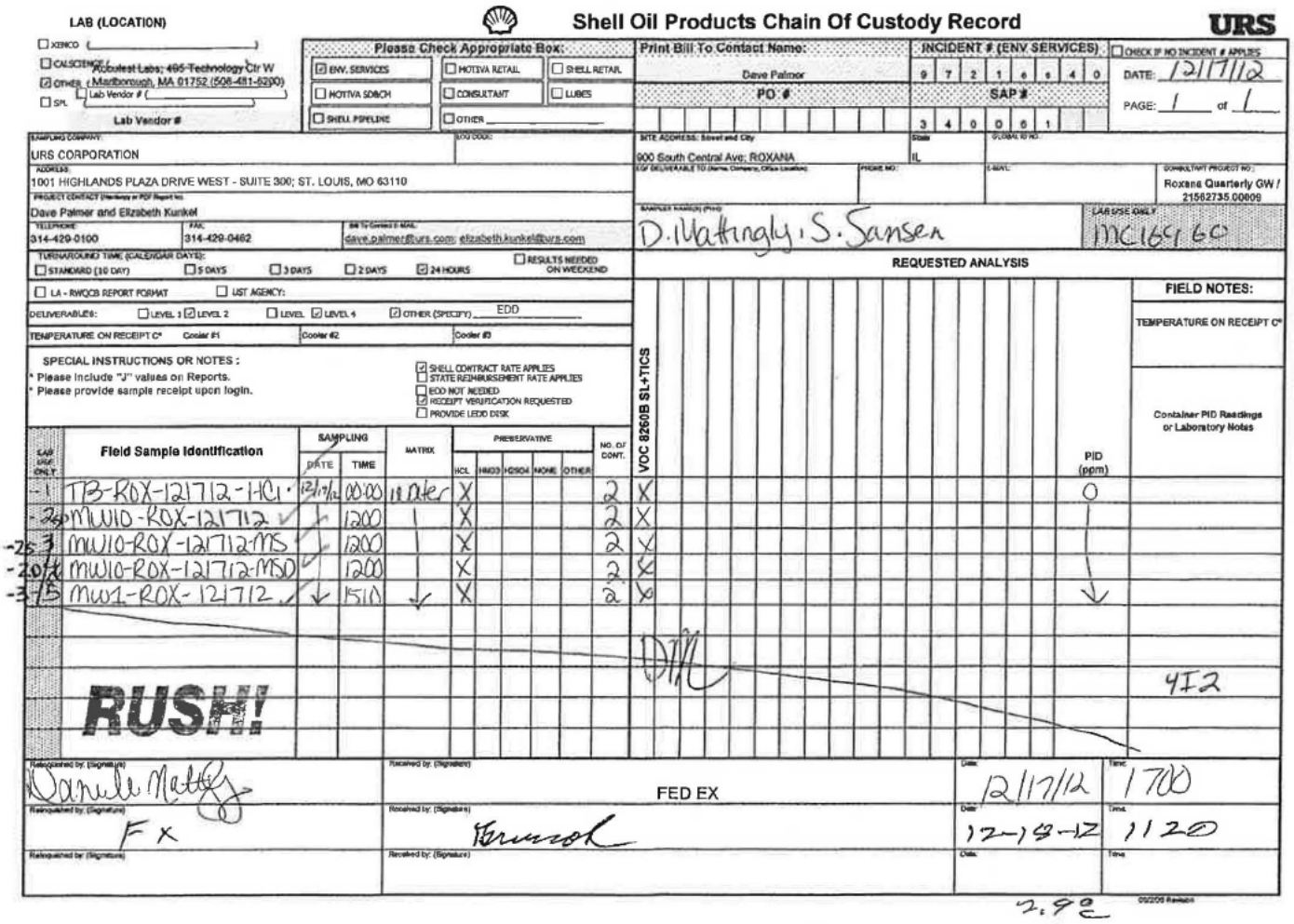
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

New England ACCUTEST LABORATORIES

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody



LAB (LOCATION)

☐ XENCO (_____)
☐ CALSCIENCE (_____)
☑ OTHER (Accutest Labs; 495 Technology Ctr W Marlborough, MA 01752 (508-481-6200))
☐ SPL (Lab Vendor # _____)
Lab Vendor #

Shell Oil Products Chain Of Custody Record

URS

Please Check Appropriate Box:
☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SOACH ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER _____

Print Bill To Contact Name: Dave Palmer
INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0
☐ CHECK IF NO INCIDENT # APPLIES
DATE: 12/17/12
PAGE: 1 of 1
PO #
SAP #: 3 4 0 0 0 6 1

SAMPLING COMPANY: URS CORPORATION
LOG CODE:
SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA
State: IL
GLOBAL ID NO.:
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
EDF DELIVERABLE TO (Name, Company, Office Location):
PHONE NO.:
E-MAIL:
CONSULTANT PROJECT NO.: Roxana Quarterly GW / 21562735.00009
PROJECT CONTACT (Hardcopy or PDF Report to): Dave Palmer and Elizabeth Kunkel
TELEPHONE: 314-429-0100
FAX: 314-429-0462
Bill To Contact E-MAIL: dave.palmer@urs.com; elizabeth.kunkel@urs.com
SAMPLER NAME(S) (Print): D. Mattingly, S. Sansen
LAB USE ONLY: MC16960

TURNAROUND TIME (CALENDAR DAYS):
☐ STANDARD (10 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☑ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:

DELIVERABLE#: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL ☑ LEVEL 4 ☑ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C°: Cooler #1: Cooler #2: Cooler #3:

SPECIAL INSTRUCTIONS OR NOTES:
* Please include "J" values on Reports.
* Please provide sample receipt upon login.

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

FIELD NOTES:
TEMPERATURE ON RECEIPT C°

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	VOC 8260B SL+TICS	PID (ppm)	Container PID Readings or Laboratory Notes
-1	TB-ROX-121712-HCl	12/17/12	0000	Water	X					2	X	0	
-2	MW10-ROX-121712		1200		X					2	X		
-2S	MW10-ROX-121712-MS		1200		X					2	X		
-2D	MW10-ROX-121712-MSD		1200		X					2	X		
-3	MW1-ROX-121712		1510		X					2	X		
													412

RUSH!

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Daniel Mattingly	FED EX	12/17/12	1700
FX		12-18-12	1120

2.9°C

05/2010 Revision

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MC16960: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC16960 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 12/18/2012 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900 SO CENTRAL **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

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MC16960: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC16960

URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC16960-1 Collected: 17-DEC-12 00:00 By: DMSS Received: 18-DEC-12 By: TB-ROX-121712-HCL						
MC16960-1	SW846 8260B	19-DEC-12 14:37	JM			V8260SL+
MC16960-2 Collected: 17-DEC-12 12:00 By: DMSS Received: 18-DEC-12 By: MW10-ROX-121712						
MC16960-2	SW846 8260B	19-DEC-12 16:04	JM			V8260SL+
MC16960-3 Collected: 17-DEC-12 15:10 By: DMSS Received: 18-DEC-12 By: MW1-ROX-121712						
MC16960-3	SW846 8260B	19-DEC-12 17:31	JM			V8260SL+

Accutest Internal Chain of Custody

Job Number: MC16960
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL
Received: 12/18/12

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC16960-1.2	VOC Ref #4	Tomasz Torski	12/19/12 13:01	Retrieve from Storage
MC16960-1.2	Tomasz Torski	GCMSG	12/19/12 13:01	Load on Instrument
MC16960-1.2	GCMSG	Jaime Maslowski	12/19/12 14:26	Unload from Instrument
MC16960-1.2	Jaime Maslowski	VOC Ref #4	12/19/12 14:27	Return to Storage
MC16960-1.2	VOC Ref #4	Jaime Maslowski	12/19/12 14:29	Retrieve from Storage
MC16960-1.2	Jaime Maslowski	GCMSG	12/19/12 14:29	Load on Instrument
MC16960-1.2	GCMSG	Jaime Maslowski	12/20/12 14:33	Unload from Instrument
MC16960-1.2	Jaime Maslowski	VOC Ref #4	12/20/12 14:33	Return to Storage
MC16960-2.1	VOC Ref #4	Tomasz Torski	12/19/12 13:01	Retrieve from Storage
MC16960-2.1	Tomasz Torski	GCMSG	12/19/12 13:01	Load on Instrument
MC16960-2.1	GCMSG	Jaime Maslowski	12/19/12 14:26	Unload from Instrument
MC16960-2.1	Jaime Maslowski	VOC Ref #4	12/19/12 14:27	Return to Storage
MC16960-2.5	VOC Ref #4	Tomasz Torski	12/19/12 13:01	Retrieve from Storage
MC16960-2.5	Tomasz Torski	GCMSG	12/19/12 13:01	Load on Instrument
MC16960-2.5	GCMSG	Jaime Maslowski	12/19/12 14:26	Unload from Instrument
MC16960-2.5	Jaime Maslowski	VOC Ref #4	12/19/12 14:27	Return to Storage
MC16960-2.5	VOC Ref #4	Jaime Maslowski	12/19/12 14:29	Retrieve from Storage
MC16960-2.5	Jaime Maslowski	GCMSG	12/19/12 14:29	Load on Instrument
MC16960-2.5	GCMSG	Jaime Maslowski	12/20/12 14:33	Unload from Instrument
MC16960-2.5	Jaime Maslowski	VOC Ref #4	12/20/12 14:33	Return to Storage
MC16960-2.6	VOC Ref #4	Tomasz Torski	12/19/12 13:01	Retrieve from Storage
MC16960-2.6	Tomasz Torski	GCMSG	12/19/12 13:01	Load on Instrument
MC16960-2.6	GCMSG	Jaime Maslowski	12/19/12 14:26	Unload from Instrument
MC16960-2.6	Jaime Maslowski	VOC Ref #4	12/19/12 14:27	Return to Storage
MC16960-3.2	VOC Ref #4	Tomasz Torski	12/19/12 13:01	Retrieve from Storage
MC16960-3.2	Tomasz Torski	GCMSG	12/19/12 13:01	Load on Instrument
MC16960-3.2	GCMSG	Jaime Maslowski	12/19/12 14:26	Unload from Instrument
MC16960-3.2	Jaime Maslowski	VOC Ref #4	12/19/12 14:27	Return to Storage
MC16960-3.2	VOC Ref #4	Jaime Maslowski	12/19/12 14:29	Retrieve from Storage
MC16960-3.2	Jaime Maslowski	GCMSG	12/19/12 14:29	Load on Instrument
MC16960-3.2	GCMSG	Jaime Maslowski	12/20/12 14:33	Unload from Instrument
MC16960-3.2	Jaime Maslowski	VOC Ref #4	12/20/12 14:33	Return to Storage

New England ACCUTEST LABORATORIES

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: MC16960
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4890-MB	G123042.D	1	12/19/12	JM	n/a	n/a	MSG4890

The QC reported here applies to the following samples: Method: SW846 8260B

MC16960-1, MC16960-2, MC16960-3

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: MC16960
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4890-MB	G123042.D	1	12/19/12	JM	n/a	n/a	MSG4890

The QC reported here applies to the following samples: Method: SW846 8260B

MC16960-1, MC16960-2, MC16960-3

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: MC16960
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4890-MB	G123042.D	1	12/19/12	JM	n/a	n/a	MSG4890

The QC reported here applies to the following samples: Method: SW846 8260B

MC16960-1, MC16960-2, MC16960-3

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	79%	70-130%
2037-26-5	Toluene-D8	83%	70-130%
460-00-4	4-Bromofluorobenzene	91%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

6.1.1

6

Blank Spike Summary

Job Number: MC16960
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4890-BS	G123040.D	1	12/19/12	JM	n/a	n/a	MSG4890

The QC reported here applies to the following samples: Method: SW846 8260B

MC16960-1, MC16960-2, MC16960-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	91.9	184* a	70-130
107-02-8	Acrolein	250	113	45* b	70-130
107-13-1	Acrylonitrile	50	50.5	101	70-130
71-43-2	Benzene	50	56.9	114	70-130
108-86-1	Bromobenzene	50	53.2	106	70-130
74-97-5	Bromochloromethane	50	49.2	98	70-130
75-27-4	Bromodichloromethane	50	52.7	105	70-130
75-25-2	Bromoform	50	43.8	88	70-130
74-83-9	Bromomethane	50	53.5	107	70-130
78-93-3	2-Butanone (MEK)	50	69.6	139* b	70-130
104-51-8	n-Butylbenzene	50	58.3	117	70-130
135-98-8	sec-Butylbenzene	50	55.3	111	70-130
98-06-6	tert-Butylbenzene	50	62.9	126	70-130
75-15-0	Carbon disulfide	50	59.1	118	70-130
56-23-5	Carbon tetrachloride	50	52.2	104	70-130
108-90-7	Chlorobenzene	50	49.3	99	70-130
75-00-3	Chloroethane	50	58.7	117	70-130
110-75-8	2-Chloroethyl vinyl ether	50	38.1	76	70-130
67-66-3	Chloroform	50	54.8	110	70-130
74-87-3	Chloromethane	50	70.4	141* b	70-130
95-49-8	o-Chlorotoluene	50	54.7	109	70-130
106-43-4	p-Chlorotoluene	50	58.0	116	70-130
124-48-1	Dibromochloromethane	50	49.0	98	70-130
95-50-1	1,2-Dichlorobenzene	50	52.1	104	70-130
541-73-1	1,3-Dichlorobenzene	50	52.7	105	70-130
106-46-7	1,4-Dichlorobenzene	50	55.1	110	70-130
75-71-8	Dichlorodifluoromethane	50	79.5	159* a	70-130
75-34-3	1,1-Dichloroethane	50	59.6	119	70-130
107-06-2	1,2-Dichloroethane	50	50.8	102	70-130
75-35-4	1,1-Dichloroethene	50	58.0	116	70-130
156-59-2	cis-1,2-Dichloroethene	50	54.8	110	70-130
156-60-5	trans-1,2-Dichloroethene	50	56.5	113	70-130
78-87-5	1,2-Dichloropropane	50	56.1	112	70-130
142-28-9	1,3-Dichloropropane	50	50.1	100	70-130
594-20-7	2,2-Dichloropropane	50	65.6	131* b	70-130
563-58-6	1,1-Dichloropropene	50	55.1	110	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC16960
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4890-BS	G123040.D	1	12/19/12	JM	n/a	n/a	MSG4890

The QC reported here applies to the following samples: Method: SW846 8260B

MC16960-1, MC16960-2, MC16960-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	54.2	108	70-130
10061-02-6	trans-1,3-Dichloropropene	50	56.5	113	70-130
123-91-1	1,4-Dioxane	250	219	88	70-130
97-63-2	Ethyl methacrylate	50	49.6	99	77-137
100-41-4	Ethylbenzene	50	54.3	109	70-130
87-68-3	Hexachlorobutadiene	50	54.0	108	70-130
591-78-6	2-Hexanone	50	68.8	138* b	70-130
98-82-8	Isopropylbenzene	50	54.8	110	70-130
99-87-6	p-Isopropyltoluene	50	59.0	118	70-130
1634-04-4	Methyl Tert Butyl Ether	50	54.5	109	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	46.4	93	70-130
74-95-3	Methylene bromide	50	47.5	95	70-130
75-09-2	Methylene chloride	50	55.0	110	70-130
91-20-3	Naphthalene	50	49.1	98	70-130
103-65-1	n-Propylbenzene	50	55.6	111	70-130
100-42-5	Styrene	50	49.6	99	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	48.9	98	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	58.2	116	70-130
127-18-4	Tetrachloroethene	50	49.5	99	70-130
108-88-3	Toluene	50	54.6	109	70-130
87-61-6	1,2,3-Trichlorobenzene	50	50.8	102	70-130
120-82-1	1,2,4-Trichlorobenzene	50	51.7	103	70-130
71-55-6	1,1,1-Trichloroethane	50	57.2	114	70-130
79-00-5	1,1,2-Trichloroethane	50	51.9	104	70-130
79-01-6	Trichloroethene	50	52.2	104	70-130
75-69-4	Trichlorofluoromethane	50	53.7	107	70-130
96-18-4	1,2,3-Trichloropropane	50	54.6	109	70-130
95-63-6	1,2,4-Trimethylbenzene	50	59.0	118	70-130
108-67-8	1,3,5-Trimethylbenzene	50	58.5	117	70-130
108-05-4	Vinyl Acetate	50	51.8	104	70-130
75-01-4	Vinyl chloride	50	60.8	122	70-130
	m,p-Xylene	100	107	107	70-130
95-47-6	o-Xylene	50	52.3	105	70-130
1330-20-7	Xylene (total)	150	159	106	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC16960
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG4890-BS	G123040.D	1	12/19/12	JM	n/a	n/a	MSG4890

The QC reported here applies to the following samples: Method: SW846 8260B

MC16960-1, MC16960-2, MC16960-3

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	81%	70-130%
2037-26-5	Toluene-D8	84%	70-130%
460-00-4	4-Bromofluorobenzene	89%	70-130%

(a) Outside control limits. Associated samples are non-detect for this compound.
(b) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC16960
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC16960-2MS	G123047.D	1	12/19/12	JM	n/a	n/a	MSG4890
MC16960-2MSD	G123048.D	1	12/19/12	JM	n/a	n/a	MSG4890
MC16960-2	G123046.D	1	12/19/12	JM	n/a	n/a	MSG4890

The QC reported here applies to the following samples: Method: SW846 8260B

MC16960-1, MC16960-2, MC16960-3

CAS No.	Compound	MC16960-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		50	223	446* a	178	356* a	22	70-130/30
107-02-8	Acrolein	ND		250	201	80	209	84	4	70-130/30
107-13-1	Acrylonitrile	ND		50	61.2	122	59.6	119	3	70-130/30
71-43-2	Benzene	ND		50	59.3	119	58.5	117	1	70-130/30
108-86-1	Bromobenzene	ND		50	54.3	109	53.9	108	1	70-130/30
74-97-5	Bromochloromethane	ND		50	49.9	100	48.5	97	3	70-130/30
75-27-4	Bromodichloromethane	ND		50	52.5	105	51.4	103	2	70-130/30
75-25-2	Bromoform	ND		50	35.6	71	35.0	70	2	70-130/30
74-83-9	Bromomethane	ND		50	54.7	109	53.1	106	3	70-130/30
78-93-3	2-Butanone (MEK)	ND		50	50.5	101	48.1	96	5	70-130/30
104-51-8	n-Butylbenzene	ND		50	56.3	113	55.2	110	2	70-130/30
135-98-8	sec-Butylbenzene	ND		50	54.2	108	53.7	107	1	70-130/30
98-06-6	tert-Butylbenzene	ND		50	61.9	124	60.9	122	2	70-130/30
75-15-0	Carbon disulfide	ND		50	53.1	106	52.0	104	2	70-130/30
56-23-5	Carbon tetrachloride	ND		50	53.5	107	52.9	106	1	70-130/30
108-90-7	Chlorobenzene	ND		50	48.6	97	48.3	97	1	70-130/30
75-00-3	Chloroethane	ND		50	62.5	125	61.0	122	2	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		50	ND	0* b	ND	0* b	nc	70-130/30
67-66-3	Chloroform	0.95	J	50	57.4	113	55.4	109	4	70-130/30
74-87-3	Chloromethane	ND		50	78.4	157* c	75.7	151* c	4	70-130/30
95-49-8	o-Chlorotoluene	ND		50	53.2	106	53.7	107	1	70-130/30
106-43-4	p-Chlorotoluene	ND		50	57.5	115	55.9	112	3	70-130/30
124-48-1	Dibromochloromethane	ND		50	43.0	86	43.4	87	1	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		50	51.9	104	50.9	102	2	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		50	53.9	108	53.5	107	1	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		50	56.1	112	55.4	111	1	70-130/30
75-71-8	Dichlorodifluoromethane	ND		50	79.5	159* a	77.5	155* a	3	70-130/30
75-34-3	1,1-Dichloroethane	ND		50	62.5	125	60.5	121	3	70-130/30
107-06-2	1,2-Dichloroethane	ND		50	51.4	103	50.2	100	2	70-130/30
75-35-4	1,1-Dichloroethene	ND		50	59.3	119	57.2	114	4	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		50	57.1	114	56.2	112	2	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		50	57.7	115	56.3	113	2	70-130/30
78-87-5	1,2-Dichloropropane	ND		50	57.9	116	56.7	113	2	70-130/30
142-28-9	1,3-Dichloropropane	ND		50	47.3	95	47.5	95	0	70-130/30
594-20-7	2,2-Dichloropropane	ND		50	66.9	134* c	68.8	138* c	3	70-130/30
563-58-6	1,1-Dichloropropene	ND		50	56.1	112	54.2	108	3	70-130/30

* = Outside of Control Limits.

6.3.1

6

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC16960
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC16960-2MS	G123047.D	1	12/19/12	JM	n/a	n/a	MSG4890
MC16960-2MSD	G123048.D	1	12/19/12	JM	n/a	n/a	MSG4890
MC16960-2	G123046.D	1	12/19/12	JM	n/a	n/a	MSG4890

The QC reported here applies to the following samples: Method: SW846 8260B

MC16960-1, MC16960-2, MC16960-3

CAS No.	Compound	MC16960-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	ND		50	53.3	107	53.2	106	0	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		50	54.4	109	53.3	107	2	70-130/30
123-91-1	1,4-Dioxane	ND		250	241	96	201	80	18	70-130/30
97-63-2	Ethyl methacrylate	ND		50	43.7	87	42.8	86	2	72-139/30
100-41-4	Ethylbenzene	ND		50	49.9	100	49.0	98	2	70-130/30
87-68-3	Hexachlorobutadiene	ND		50	55.9	112	55.5	111	1	70-130/30
591-78-6	2-Hexanone	ND		50	44.8	90	44.2	88	1	70-130/30
98-82-8	Isopropylbenzene	ND		50	54.3	109	53.5	107	1	70-130/30
99-87-6	p-Isopropyltoluene	ND		50	53.9	108	52.7	105	2	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		50	53.4	107	52.0	104	3	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		50	32.3	65* b	31.7	63* b	2	70-130/30
74-95-3	Methylene bromide	ND		50	47.9	96	46.9	94	2	70-130/30
75-09-2	Methylene chloride	ND		50	57.6	115	56.4	113	2	70-130/30
91-20-3	Naphthalene	ND		50	42.6	85	43.4	87	2	70-130/30
103-65-1	n-Propylbenzene	ND		50	54.1	108	53.2	106	2	70-130/30
100-42-5	Styrene	ND		50	21.9	44* b	20.7	41* b	6	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		50	47.7	95	47.3	95	1	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		50	56.6	113	56.6	113	0	70-130/30
127-18-4	Tetrachloroethene	ND		50	49.2	98	48.9	98	1	70-130/30
108-88-3	Toluene	ND		50	52.7	105	52.0	104	1	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		50	45.6	91	46.0	92	1	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		50	48.6	97	48.8	98	0	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		50	59.2	118	57.8	116	2	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		50	51.5	103	50.7	101	2	70-130/30
79-01-6	Trichloroethene	ND		50	54.4	109	53.9	108	1	70-130/30
75-69-4	Trichlorofluoromethane	ND		50	56.3	113	54.4	109	3	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		50	53.6	107	53.0	106	1	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		50	42.7	85	41.3	83	3	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		50	36.6	73	35.0	70	4	70-130/30
108-05-4	Vinyl Acetate	ND		50	54.3	109	52.6	105	3	70-130/30
75-01-4	Vinyl chloride	ND		50	63.4	127	61.5	123	3	70-130/30
	m,p-Xylene	ND		100	86.0	86	84.2	84	2	70-130/30
95-47-6	o-Xylene	ND		50	42.7	85	42.2	84	1	70-130/30
1330-20-7	Xylene (total)	0.58	J	150	129	86	126	84	2	70-130/30

* = Outside of Control Limits.

6.3.1

6

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC16960
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC16960-2MS	G123047.D	1	12/19/12	JM	n/a	n/a	MSG4890
MC16960-2MSD	G123048.D	1	12/19/12	JM	n/a	n/a	MSG4890
MC16960-2	G123046.D	1	12/19/12	JM	n/a	n/a	MSG4890

The QC reported here applies to the following samples: Method: SW846 8260B

MC16960-1, MC16960-2, MC16960-3

CAS No.	Surrogate Recoveries	MS	MSD	MC16960-2	Limits
1868-53-7	Dibromofluoromethane	80%	79%	81%	70-130%
2037-26-5	Toluene-D8	81%	81%	84%	70-130%
460-00-4	4-Bromofluorobenzene	91%	91%	91%	70-130%

(a) Outside control limits. Associated samples are non-detect for this compound.
(b) Outside control limits due to possible matrix interference. Refer to Blank Spike.
(c) Outside control limits. Blank Spike meets program technical requirements.

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC16960
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Check Std:	MSG4890-CC4862	Injection Date:	12/19/12
Lab File ID:	G123039.D	Injection Time:	12:40
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	286410	5.13	370395	6.27	164021	9.62	187308	12.25	45547	3.09
Upper Limit [a]	572820	5.63	740790	6.77	328042	10.12	374616	12.75	91094	3.59
Lower Limit [b]	143205	4.63	185198	5.77	82011	9.12	93654	11.75	22774	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**
MSG4890-BS	282985	5.13	371357	6.27	167405	9.62	189625	12.25	47396	3.09
MSG4890-MB	282433	5.13	369645	6.27	164038	9.62	178729	12.25	43634	3.09
MC16960-1	282574	5.13	369232	6.27	164730	9.62	180182	12.25	42360	3.09
MC16960-2	285016	5.13	372337	6.27	168741	9.62	183085	12.25	45498	3.09
MC16960-2MS	284764	5.13	369454	6.27	174599	9.63	185091	12.25	42533	3.09
MC16960-2MSD	287096	5.13	371721	6.27	172767	9.63	184026	12.25	42179	3.09
MC16960-3	276590	5.13	366139	6.27	161751	9.62	174637	12.25	38551	3.09
ZZZZZZ	290119	5.13	371540	6.27	165488	9.62	175079	12.25	40695	3.09
ZZZZZZ	283362	5.13	372502	6.27	163190	9.62	177153	12.25	38650	3.09
ZZZZZZ	287106	5.13	369129	6.27	166201	9.62	176271	12.25	38366	3.09
ZZZZZZ	286933	5.13	371889	6.27	164732	9.62	176912	12.25	39782	3.09
ZZZZZZ	283093	5.13	372612	6.27	164628	9.62	177186	12.25	38592	3.09
ZZZZZZ	283130	5.13	372011	6.27	162957	9.62	174193	12.25	37654	3.09
ZZZZZZ	284003	5.13	369948	6.27	165251	9.62	177110	12.25	41528	3.09
ZZZZZZ	285640	5.13	373240	6.27	168448	9.62	181996	12.25	40470	3.09
ZZZZZZ	285804	5.13	373852	6.27	167182	9.62	180355	12.25	38449	3.09
ZZZZZZ	280394	5.13	367968	6.27	164834	9.62	179901	12.25	36344	3.09
ZZZZZZ	287582	5.13	372105	6.27	167387	9.62	178260	12.25	34258	3.09
ZZZZZZ	290644	5.13	378797	6.27	168911	9.62	177307	12.25	37047	3.09
ZZZZZZ	289243	5.13	376920	6.27	165400	9.62	177541	12.25	37140	3.09
ZZZZZZ	286890	5.13	375802	6.27	167129	9.62	182021	12.25	38728	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 Surrogate Recovery Summary

Job Number: MC16960
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 4Q12 GW/ 21562735.00009 900 South Central Avenue, Roxana, IL

Method: SW846 8260B Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC16960-1	G123043.D	80.0	84.0	91.0
MC16960-2	G123046.D	81.0	84.0	91.0
MC16960-3	G123049.D	80.0	83.0	92.0
MC16960-2MS	G123047.D	80.0	81.0	91.0
MC16960-2MSD	G123048.D	79.0	81.0	91.0
MSG4890-BS	G123040.D	81.0	84.0	89.0
MSG4890-MB	G123042.D	79.0	83.0	91.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	70-130%
S2 = Toluene-D8	70-130%
S3 = 4-Bromofluorobenzene	70-130%