URS

September 27, 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 – 3rd Quarter 2013**
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 Bob Billman at bob.billman@urs.com (314/743-4108).

Sincerely,

URS Corporation, on behalf of Shell Oil Products US

Wendy Pennington
Environmental Engineer

Robert B. Billman
Senior Project Manager

Enclosures: RCRA Facility Groundwater, Leachate and Gas Reporting Form and report (original plus 2 copies)

Cc: Kevin Dyer, SOPUS
Marty Reynolds, Village of Roxana
Eric Petersen, Phillips 66
Amy Boley, IEPA, Springfield
Gina Search, IEPA, Collinsville
Shannon Haney, Greensfelder, Hemker & Gale P.C.
Repositories – Roxana Public Works, Roxana Public Library, website

1001 Highland Plaza Drive West, Suite 300
St. Louis, MO 63110
Phone: 314.429.0100
Fax: 314.429.0462

Illinois Environmental Protection Agency

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

RCRA FACILITY GROUNDWATER, LEACHATE AND GAS REPORTING FORM

This form must be used as a cover sheet for the notices and reports, identified below as required by: (1) a facility's RCRA interim status closure plan; (2) the RCRA interim status regulations; or (3) a facility's RCRA permit. All reports must be submitted to the Illinois EPA's Bureau of Land Permit Section. This form is for use by Hazardous Waste facilities only. Reporting for Solid Waste facilities should be submitted on a separate form. All reports submitted to the Illinois EPA's Bureau of Land Permit Section must contain an original, plus a minimum of two copies.

Note: This form is not to be used with permit or closure plan modification requests. The facility's approved permit or closure plan will state whether the document you are submitting is required as a report or a modification request.

Facility Name: Equilon Enterprises LLC dba Shell Oil Products US

Facility Address: 900 S. Central Ave; Roxana, IL 62048

Site ID #: 1191150002 Fed ID #: ILD 080 012 305

Check the appropriate heading. Only one heading may be checked for each corresponding submittal. Check the appropriate sub-heading, where applicable. Attach the original and all copies behind this form.

☐ LPC-160 Forms

Groundwater	Leachate
___ Quarterly - Enter: 1, 2, 3, or 4	___ Quarterly - Enter: 1, 2, 3, or 4
☐ Semi-Annual	☐ Semi-Annual
☐ Annual	☐ Annual
☐ Biennial	☐ Biennial

☑ Groundwater Data (without LPC-160 Forms)

3 Quarterly - Enter: 1, 2, 3, or 4 ☐ Annual ☐ Semi-Annual ☐ Biennial

☐ Well Construction Information

- ☐ Well Construction Forms, Boring Logs and/or Abandonment Forms
- ☐ Well Survey Data (e.g., Stick-up Elevation Data)

☐ Notice of Statistically Significant Evidence of Groundwater Contamination (35 Ill. Adm. Code 724.198)

☐ Notice of Exceedence of Groundwater Concentration Limit (35 Ill. Adm. Code 724.199(h))

☐ Notice of Alternate Source or Error in Sampling Analysis or Evaluation of Groundwater (35 Ill. Adm. Code 724.199(i))

☐ Gas Monitoring Reports

☐ Other (identify)

REPORT

INTERIM GROUNDWATER MONITORING PROGRAM – 3RD QUARTER 2013

Roxana, Illinois

Prepared for:

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

September 2013

URS Corporation
1001 Highlands Plaza Drive West, Suite 300
St. Louis, MO 63110
(314) 429-0100
Project 21562850.03003

TABLE OF CONTENTS

SECTION 1 INTRODUCTION 1-1

SECTION 2 GROUNDWATER SAMPLING AND ANALYTICAL PROCEDURES 2-1

2.1 Additional Activities or Modifications 2-1
2.2 Groundwater Monitoring Well Gauging and Sampling 2-1
2.3 Health & Safety, Decontamination, and Investigative Derived Waste 2-3
2.4 Groundwater Sample Handling and Laboratory Testing 2-5
2.5 Data Quality Review and Data Management 2-5

SECTION 3 GROUNDWATER SAMPLING RESULTS 3-1

3.1 Groundwater Monitoring Well Gauging Results 3-1
3.2 Data Quality Review Results 3-1
3.3 Analytical Results and Discussion 3-2

SECTION 4 REFERENCES 4-1

List of Tables

Table 1a	Cumulative Quarterly Groundwater Monitoring Well Gauging Results
Table 1b	3Q13 Weekly/Monthly Groundwater Monitoring Well Gauging ResultsTable 2a Cumulative Summary of Main Aquifer Groundwater Monitoring Well Field Parameters
Table 2b	Cumulative Summary of Perched Groundwater Monitoring Well Field Parameters
Table 3	Cumulative Summary of Groundwater Monitoring Well Analytical Results and Exceedances

List of Figures

Figure 1	Investigation Area Location Map
Figure 2	Groundwater Monitoring Well Sampling Locations
Figure 3a	Groundwater Contours 3Q13
Figure 3b	Groundwater Contours 3Q13-West Fenceline
Figure 4a	3Q13 Thickness of LNAPL-West Fenceline
Figure 4b	3Q13 Thickness of LNAPL
Figure 5	3Q13 Groundwater Monitoring Well Analytical Exceedances
Figure 6	3Q13 Dissolved Phase Benzene Concentrations in Groundwater
Figure 7	Cross-Section of Benzene 3Q13 Groundwater Analytical Results-Chaffer Street
Figure 8	Cross-Section of Benzene 3Q13 Groundwater Analytical Results-Roxana Public Works Yard

TABLE OF CONTENTS

List of Appendices

Appendix A	MW-22 December 2012 Groundwater Data
Appendix B	Decontamination SOP
Appendix C	Groundwater Development Sheets
Appendix D	Groundwater Sampling Data Sheets
Appendix E	Data Review Forms and Laboratory Analytical Reports

URS Corporation (URS) is submitting this report on behalf of Shell Oil Products US (SOPUS) for the 3rd Quarter 2013 (3Q13) 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 groundwater monitoring wells within the WRR were also sampled as part of this event; this was 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, 2010), 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 addressed 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, 2012a), IEPA requested groundwater piezometer ROST-3-PZ and groundwater monitoring well ROST-4-PZ(C) be added to the 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, 2012b), IEPA requested that perched groundwater be evaluated at the following existing groundwater monitoring piezometers: P-60-12S, P-60-13S, ROST-5-PZ, ROST-7-PZ, ROST-10-PZ, and ROST-21-PZ. These perched groundwater monitoring piezometers were incorporated into the program beginning in the 2nd Quarter 2012 (2Q12) and were evaluated through 3Q13. In a letter

[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.

dated August 16, 2013, URS, on behalf of SOPUS, informed the IEPA of the determination that the perched groundwater monitoring piezometers are dry based on the criteria given in their March 14, 2012 letter or not able to be sampled per the groundwater sampling standard operating procedure (SOP).

In the same March 14th letter, IEPA also requested the installation of groundwater monitoring wells in the Village to evaluate potential light non-aqueous phase liquid (LNAPL). These groundwater monitoring wells were installed during the 4th Quarter 2012 (4Q12), with the last well being completed on December 8, 2012. These groundwater monitoring wells were incorporated into the program beginning in 1st Quarter 2013 (1Q13).

On May 31, 2012, IEPA verbally requested the following be incorporated into the 2Q12 report:

- The ROST-4 series of groundwater monitoring wells and piezometers in the groundwater elevation contour maps;
- A groundwater contour map focusing on the West Fenceline area in the Village; and
- A Roxana site and WRR LNAPL map.

In an April 8, 2013, letter from IEPA to SOPUS (IEPA, 2013a), IEPA requested a discussion of irregular potentiometric contours in the ROST-4-PZ area and P-60 area wells. This request has been reviewed, and a response was submitted to the IEPA in a letter dated July 29, 2013.

In a July 18, 2013 letter from IEPA to SOPUS (IEPA, 2013b), IEPA approved a changed in gauging frequencies for wells in the Interim Groundwater Monitoring Program. The list of wells to be gauged on a weekly basis was reduced, but a new list of wells to be gauged on a monthly basis was instituted. This letter also requested that any free phase hydrocarbon (FPH) and photoionization detector (PID) data collected at the well heads be included in the quarterly groundwater monitoring reports. The modified gauging frequencies for wells began the week of July 22, 2013. The additional reporting requirements will begin in this (3Q13) report.

Groundwater samples were collected and analyzed during 3Q13 to meet the requirements of the Interim Groundwater Monitoring Program, as specified in the above guidance. **Figure 2** shows the groundwater monitoring wells that were sampled during 3Q13 as 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 (IEPA, 2010), and modified based on other correspondence as outlined in **Section 1** above.

2.1 ADDITIONAL ACTIVITIES OR MODIFICATIONS

The following additional work activities or modifications were conducted in the 3Q13 sampling event:

- Weekly and monthly groundwater monitoring well gauging of selected WRR and Village wells continues in order to assess the absence or presence of LNAPL.
- Groundwater monitoring well MW-22 was sampled following development in December 2012, prior to inclusion in the quarterly monitoring program. The data can be found in **Appendix A.**
- Due to an initial anomalous result from groundwater monitoring well P-54 during the 2Q13 sampling event, decontamination procedures were reviewed and updated prior to the 3Q13 sampling event. Updated procedures can be found in **Appendix B.**
- Groundwater monitoring well P-93C was resampled for volatile organic compounds (VOCs) on August 8, 2013 due to an anomalous result from the initial sample. Both sets of data are included in this report.
- Six wells within the Interim Groundwater Monitoring Program were redeveloped due to screen occlusion measured during the 1Q13 gauging event. Groundwater development sheets can be found in **Appendix C**.
- The laboratory was requested to perform a library search for butane, isopentane (2-methylbutane), and 2,2,4-trimethylpentane in samples MW10-ROX-070813 and P55-ROX-071613 to assess a potential correlation with soil vapor concentrations observed in nearby vapor monitoring points. The above mentioned constituents are reported at Tentatively Identified Compounds (TICs) and are included, if identified, in the analytical report containing those samples.

2.2 GROUNDWATER MONITORING WELL GAUGING AND SAMPLING

Groundwater Monitoring Well Gauging

The comprehensive groundwater monitoring well gauging event was conducted between July 1 and 5, 2013. The 3Q13 gauging activities were conducted in conjunction with the 3Q13 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 quarterly groundwater monitoring well gauging data can be found in **Table 1a**. Weekly and monthly gauging data is collected to assess the absence or presence of LNAPL. This gauging data can be found in **Table 1b**. The groundwater gauging data tables also include well-head PID results (for gauging performed on or after July 22, 2013).

Low Flow Groundwater Purging and Sampling

Groundwater samples were collected from groundwater monitoring wells from July 8 through July 18, 2013. A groundwater monitoring well confirmation sample was collected from P-93Con August 8, 2013, and is discussed in **Section 3.3**.

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, MW-16, MW-22, MW-24, P-54 through P-59, P-66, P-74, P-93D, ROST-3-MW, 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 dedicated 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.

For both sampling methods, 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

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

monitoring well. During groundwater purging, water quality parameters (pH, temperature, specific conductivity, turbidity, 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 VOC and semivolatile organic compound (SVOC) analysis.

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 Standard Operating Procedure (SOP), due to low volumes of water or lack of water. Groundwater monitoring well P-68, located inside the WRR, contained LNAPL and was not sampled. Groundwater sampling field parameters can be found in **Tables 2a and 2b,** and groundwater field data sheets are included in **Appendix D**.

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 July 2013 (URS, 2013a), 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 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.

There were no PPE upgrades or exceedances of HASP action levels during the 3Q13 sampling event.

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 spraying and/or wiping down with isopropyl alcohol, then washing with LiquiNox® and water, and finishing with 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 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 MW-4, MW-7, and MW-8 were staged in a 55-gallon steel drum at the Public Works Yard and removed by Heritage Environmental Services, LLC (Heritage) the following day. This material is managed as hazardous waste based on prior characterization and was disposed at the Heritage 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 facility in Indianapolis, Indiana.

Decontamination fluid and purge water related to, or generated from, work within the WRR was 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 pre-preserved 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 E**.

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^{o}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. 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) and 10% of the data was subjected to a data validation (Level IV data validation). 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 E**. 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;
- Groundwater development forms;
- Field sample collection data via electronic Toughbook®; and
- Safety documentation

This section presents the results of the 3Q13 groundwater sampling event.

3.1 GROUNDWATER MONITORING WELL GAUGING RESULTS

Comprehensive quarterly groundwater monitoring well gauging for the 3Q13 event was conducted between July 1 and 5, 2013. This groundwater monitoring well gauging was conducted in accordance with the Interim Groundwater Monitoring Program and the data can be found in **Table 1a**. Groundwater levels in most wells have risen approximately 1 to 3 feet since 2Q13; therefore, water levels continue to be above the top of the screens in many of the wells gauged during the 3Q13 event. The potentiometric surface observed during the 3Q13 groundwater monitoring well gauging (**Figures 3a and 3b**) illustrates groundwater flow toward the WRR groundwater depression wells.

Perched groundwater was evaluated in the Village and in the WRR along the West Fenceline during 3Q13. During the 3Q13 comprehensive groundwater gauging, groundwater was encountered in ROST-5-PZ, ROST-7-PZ, and ROST-21-PZ and was not encountered in ROST-10-PZ. The 3Q13 gauging results for perched groundwater monitoring wells and piezometers can be found in **Table 1a**.

During the 3Q13 groundwater monitoring well gauging event, LNAPL was detected in two groundwater monitoring wells (P-60 and P-68) that are located in the WRR and are part of the Roxana Interim Groundwater Monitoring Program **(Table 1a)**. LNAPL thicknesses in these two wells were 0.05 to 0.07 feet respectively. Of the two groundwater monitoring wells, LNAPL was observed above the top of the groundwater monitoring well screen in P-68. LNAPL was observed within the screened intervals of P-60.

LNAPL observed in groundwater monitoring wells located on the WRR property was removed for on-site reprocessing by P66. Removal of LNAPL if observed in the Village and WRR is conducted during quarterly, weekly and monthly gauging events. **Figures 4a and 4b** illustrate the measured LNAPL thickness observed during the 3Q13 gauging event.

3.2 DATA QUALITY REVIEW RESULTS

A total of nine sample delivery groups (SDGs) were prepared and sent to Accutest Laboratories in Marlborough, MA for the 3Q13 event. Forty-four different groundwater sample sets were prepared and analyzed for VOCs and SVOCs (including PAHs). This included 36 different investigative sample sets, 4 field duplicate sets, and 2 matrix spike/matrix spike duplicate (MS/MSD) sets. These SDGs are presented in **Appendix E**.

Trip blanks (TBs), equipment blanks (EBs), and laboratory method blanks were collectively analyzed to evaluate for the existence and magnitude of any contamination resulting from field

and laboratory activities. Four EB sets were collected for this quarter.. A TB set was included in every cooler which contained samples for VOC analysis. A total of nine TB sets were analyzed for groundwater VOCs. Compounds qualified by URS are specified in the data reviews presented in **Appendix E**.

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. SVOC results in sample MW9-ROX-070813 were rejected due to very low surrogate recoveries for 2-fluorophenol, phenol-d5, and 2,4,6-tribromophenol in the initial analysis and re-extraction performed at two times the holding time criteria. Analytical data for 1,4-dioxane was rejected in samples due to initial calibration response factor for 1,4-dioxane (0.003) below acceptance criteria. Additional information is provided in the data reviews and validation reports in **Appendix E**.

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 3Q13 sampling event. Italic font denotes constituent detected for the first time.

VOCs	
Benzene	Naphthalene[4]
n-Butylbenzene	n-Propylbenzene
sec-Butylbenzene	Toluene
tert-Butylbenzene	1,1,2-Trichloroethane
Chlorobenzene	1,2,4-Trimethylbenzene
Chloroethane	1,3,5-Trimethylbenzene
Cymene(p-Isopropyltoluene)	Vinyl Acetate
Ethylbenzene	m,p-Xylene
Isopropylbenzene (Cumene)	o-Xylenes
4-Methyl-2-pentanone(Methyl Isobutyl Ketone)	Xylenes (total)
Methyl tert-Butyl Ether (MTBE)	

SVOCs	
Acenaphthene	2,4-Dimethylphenol
Acenaphthylene	Fluoranthene
Anthracene	Fluorene
Benzo(a)anthracene	Indeno(1,2,3-cd)pyrene
Benzo(a)pyrene	1-Methylnaphthalene
Benzo(b)fluoranthene	2-Methylnaphthalene
Benzo(k)fluoranthene	2-Methylphenol(o-Cresol)
bis(2-Ethylhexyl)phthalate	3&4-Methylphenol(m&p-Cresol)
Chrysene (1,2-Benzphenanthracene)	Phenanthrene
Dibenzo(a,h)anthracene	Phenol
Dibenzofuran	

The constituents (VOC and SVOC) detected during 3Q13 have previously been detected. 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), 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 R08-18, Final Amendments to Groundwater Quality Standards (35 IAC 620). The results of this comparison are presented in **Table 3**. IEPA

[4] Beginning in 4Q12, naphthalene was analyzed via 8260 VOC, and prior historic results were reported by PAH analysis.
[5] IEPA requested that the Interim Groundwater Program be consistent with the RCRA Part B Permit.

published screening values were not available for the following detected VOCs: butane, sec-butylbenzene, tert-butylbenzene, chloroethane, cymene (p-isopropyltoluene), 2-hexanone (methyl n-butyl ketone), isopentane, 4-methyl-2-pentanone (methyl isobutyl ketone), 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, 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, bis(2-ethylhexyl)phthalate, 2-methylnaphthalene, 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 3Q13.

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 3Q13 Roxana Interim Groundwater Monitoring Program and the following conclusions are based on the data and information collected as part of this program.

- During 3Q13, groundwater flow from the Investigation Area moved toward groundwater depression wells at the WRR. Groundwater levels were approximately 1 to 3 feet higher 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 or lack of water prevented sampling per the SOP or the perched groundwater monitoring well was dry.
- The analytical results from 3Q13 are generally similar to the prior quarter. Initial data from groundwater monitoring well P-93C were found to be out of range of historic data, so a confirmation sample was take on August 8, 2012. The analytical results from the confirmation sample were within historic range of groundwater monitoring well P-93C.

35 Illinois Administrative Code 620, Groundwater Quality. Subpart D. *Groundwater Quality Standards*.

35 Illinois Administrative Code 742, Tiered Approach to Corrective Action Objectives. Appendix B. *Table E – Tier 1 Groundwater Remediation Objectives for the Groundwater Component of the Groundwater Ingestion Route*.

Illinois Environmental Protection Agency (IEPA) Toxicity Assessment Unit. *Chemicals Not in TACO, Tier 1 Tables*. http://www.epa.state.il.us/land/taco/chemicals-not-in-taco-tier-1-tables.html.

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 (IEPA), 2011; *Corrective Action Letter for the West Fenceline*. Issued to Shell Oil Products US (SOPUS) and WRB Refining LP (WRB) Wood River Refinery (WRR), dated June 16, 2011.

Illinois Environmental Protection Agency (IEPA), 2011; *RCRA Response to Groundwater for Second Quarter 2011*. Issued to Shell Oil Products US (SOPUS) and WRB Refining LP (WRB) Wood River Refinery (WRR), dated August 31, 2011.

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

Illinois Environmental Protection Agency (IEPA), 2012 (IEPA, 2012b); *Letter (CA-25) in Response to Agency Comments Provided in June 16, 2011 Letter*. Issued to Shell Oil Products US (SOPUS), dated March 14, 2012.

Illinois Environmental Protection Agency (IEPA), 2013; *Hazardous Waste Management RCRA Post-Closure Permit*. Issued to Shell Oil Products US (SOPUS) at the WRB Refining LP (WRB) Wood River Refinery (WRR), issued September 23, 2010; effective October 28, 2010; modified April 2, 2013.

Illinois Environmental Protection Agency (IEPA), 2013 (IEPA, 2013a); *Approval with Conditions for the Roxana 4Q10 and 2Q12 Groundwater Monitoring Program Reports*. Issued to Shell Oil Products US (SOPUS) and WRB Refining LP (WRB) Wood River Refinery (WRR), dated April 8, 2013.

Illinois Environmental Protection Agency (IEPA), 2013 (IEPA, 2013b); *Response to Submittals received February 8, 2012; November 14, 2012; January 25, 2013; and March 14, 2013*.

Issued to Shell Oil Products US (SOPUS) and WRB Refining LP (WRB) Wood River Refinery (WRR), dated July 18, 2013.

R08-18, Final Amendments to Groundwater Quality Standards, 35 Illinois Administrative Code 620 (35 IAC 620).

URS Corporation (URS), 2013 (URS, 2013a); *Route 111/Rand Avenue Vicinity Investigation Health and Safety Plan – Roxana, Illinois*; Prepared for Shell Oil Products US (SOPUS); dated July 2013.

URS Corporation (URS), 2013; *Response to IEPA Letter April 8, 2013 – Groundwater Conditions near East 3rd and Chaffer Streets, Roxana, Illinois*; Prepared for Shell Oil Products US (SOPUS); dated July 29, 2013.

URS Corporation (URS), 2013; *Perched Groundwater Monitoring Locations* letter; Prepared for Shell Oil Products US (SOPUS); dated August 16, 2013.

US Environmental Protection Agency (USEPA), June 2008 (USEPA, 2008); *Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	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)	NA	*
1Q11		1/13/2011	NE	37.58	NA	NA	NA	405.28		NA	*
2Q11		4/25/2011	NE	38.38	NA	NA	NA	404.48		NA	*
3Q11		7/5/2011	NE	35.77	NA	NA	NA	407.09		NA	*
		9/19/2011	NE	35.15	NA	NA	NA	407.71		NA	*
4Q11		10/5/2011	NE	35.48	NA	NA	NA	407.38		NA	*
1Q12	442.65	1/3/2012	NE	37.65	NA	NA	NA	405.00	392.67 - 382.67 (49.98 - 59.98)	NA	*1" Piezometer replaced with a 2" groundwater monitoring well
2Q12		4/2/2012	NE	38.85	NA	NA	NA	403.80		NA	*
3Q12		7/2/2012	NE	39.12	NA	NA	NA	403.53		NA	*
4Q12		10/1/2012	NE	40.92	NA	NA	NA	401.73		NA	*
1Q13		1/3/2013	NE	41.95	NA	NA	NA	400.70		NA	*
		3/11/2013	NE	42.59	NA	NA	NA	400.06		NA	*
2Q13		4/1/2013	NE	42.63	NA	NA	NA	400.02		NA	*
3Q13		7/1/2013	NE	39.80	NA	NA	NA	402.85		8.7	*
MW-02											
4Q10	443.93	11/12/2010	NE	38.12	NA	NA	NA	405.81	396.74 - 381.74 (47.19 - 62.19)	NA	*
1Q11		1/13/2011	NE	38.67	NA	NA	NA	405.26		NA	*
2Q11		4/25/2011	NE	39.61	NA	NA	NA	404.32		NA	*
3Q11		7/5/2011	NE	37.04	NA	NA	NA	406.89		NA	*
		9/19/2011	NE	36.36	NA	NA	NA	407.57		NA	*
4Q11		10/5/2011	NE	36.65	NA	NA	NA	407.28		NA	*
1Q12	443.77	1/3/2012	NE	38.88	NA	NA	NA	404.89	392.45 - 382.45 (51.32 - 61.32)	NA	*1" Piezometer replaced with a 2" groundwater monitoring well
2Q12		4/2/2012	NE	40.04	NA	NA	NA	403.73		NA	*
3Q12		7/2/2012	NE	40.32	NA	NA	NA	403.45		NA	*
4Q12		10/1/2012	NE	42.10	NA	NA	NA	401.67		NA	*
1Q13		1/3/2013	NE	43.10	NA	NA	NA	400.67		NA	*
2Q13		4/1/2013	NE	43.81	NA	NA	NA	399.96		NA	*
3Q13		7/1/2013	NE	41.15	NA	NA	NA	402.62		208.0	*
MW-03											
4Q10	430.36	11/12/2010	NE	24.05	NA	NA	NA	406.31	399.38 - 384.38 (30.98 - 45.98)	NA	*
1Q11		1/13/2011	NE	24.92	NA	NA	NA	405.44		NA	*
2Q11		4/25/2011	NE	25.42	NA	NA	NA	404.94		NA	*
3Q11		7/5/2011	NE	22.72	NA	NA	NA	407.64		NA	*
		9/19/2011	NE	22.40	NA	NA	NA	407.96		NA	*
4Q11		10/5/2011	NE	22.76	NA	NA	NA	407.60		NA	*
1Q12	430.08	1/3/2012	NE	24.84	NA	NA	NA	405.24	395.41 - 385.41 (34.67 - 44.67)	NA	*1" Piezometer replaced with a 2" groundwater monitoring well
2Q12		4/2/2012	NE	26.04	NA	NA	NA	404.04		NA	*
3Q12		7/2/2012	NE	26.30	NA	NA	NA	403.78		NA	*
4Q12		10/1/2012	NE	28.13	NA	NA	NA	401.95		NA	*
1Q13		1/3/2013	NE	29.22	NA	NA	NA	400.86		NA	*
		3/11/2013	NE	29.88	NA	NA	NA	400.20		NA	*
2Q13		4/1/2013	NE	29.88	NA	NA	NA	400.20		NA	*
3Q13		7/1/2013	NE	26.65	NA	NA	NA	403.43		0.4	*
MW-04											
4Q10	441.58	11/12/2010	NE	35.38	NA	NA	NA	406.20	398.95 - 383.95 (42.63 - 57.63)	NA	*
1Q11		1/13/2011	NE	36.04	NA	NA	NA	405.54		NA	*
2Q11		4/25/2011	NE	36.74	NA	NA	NA	404.84		NA	*
3Q11		7/5/2011	NE	34.15	NA	NA	NA	407.43		NA	*
		9/19/2011	NE	33.65	NA	NA	NA	407.93		NA	*
4Q11		10/5/2011	NE	33.99	NA	NA	NA	407.59		NA	*
1Q12	441.14	1/3/2012	NE	35.97	NA	NA	NA	405.17	395.08 - 385.08 (46.06 - 56.06)	NA	*1" Piezometer replaced with a 2" groundwater monitoring well
2Q12		4/2/2012	NE	37.11	NA	NA	NA	404.03		NA	*
3Q12		7/2/2012	NE	37.43	NA	NA	NA	403.71		NA	*
4Q12		10/1/2012	NE	39.27	NA	NA	NA	401.87		NA	*
1Q13		1/3/2013	NE	40.27	NA	NA	NA	400.87		NA	*
2Q13		4/1/2013	NE	41.00	NA	NA	NA	400.14		NA	*
3Q13		7/1/2013	NE	38.07	NA	NA	NA	403.07		131.6	*
MW-05											
4Q10	429.73	11/12/2010	NE	23.32	NA	NA	NA	406.41	398.60 - 383.60 (31.13 - 46.13)	NA	*
1Q11		1/13/2011	NE	24.15	NA	NA	NA	405.58		NA	*
2Q11		4/25/2011	NE	24.65	NA	NA	NA	405.08		NA	*
3Q11		7/5/2011	NE	22.00	NA	NA	NA	407.73		NA	*
		9/19/2011	NE	21.72	NA	NA	NA	408.01		NA	*
4Q11		10/5/2011	NE	22.06	NA	NA	NA	407.67		NA	*
1Q12	429.80	1/3/2012	NE	24.45	NA	NA	NA	405.35	395.83 - 385.83 (33.97 - 43.97)	NA	*1" Piezometer replaced with a 2" groundwater monitoring well
2Q12		4/2/2012	NE	25.65	NA	NA	NA	404.15		NA	*
3Q12		7/2/2012	NE	25.91	NA	NA	NA	403.89		NA	*
4Q12		10/1/2012	NE	27.80	NA	NA	NA	402.00		NA	*
1Q13		1/3/2013	NE	28.86	NA	NA	NA	400.94		NA	*
2Q13		4/1/2013	NE	29.53	NA	NA	NA	400.27		NA	*
3Q13		7/1/2013	NE	26.37	NA	NA	NA	403.43		1.0	*

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
MW-06A											
4Q10	432.42	11/12/2010	NE	25.62	NA	NA	NA	406.80	400.44 - 385.44 (31.98 - 46.98)	NA	*
1Q11		1/13/2011	NE	26.36	NA	NA	NA	406.06		NA	*
2Q11		4/25/2011	NE	26.78	NA	NA	NA	405.64		NA	*
3Q11		7/5/2011	NE	24.21	NA	NA	NA	408.21		NA	*
		9/19/2011	NE	24.07	NA	NA	NA	408.35		NA	*
4Q11		10/5/2011	NE	24.44	NA	NA	NA	407.98		NA	*
1Q12	432.14	1/3/2012	NE	26.34	NA	NA	NA	405.80	397.31 - 387.31 (34.83 - 44.83)	NA	*1" Piezometer replaced with a 2" groundwater monitoring well
2Q12		4/2/2012	NE	27.57	NA	NA	NA	404.57		NA	*
3Q12		7/2/2012	NE	27.88	NA	NA	NA	404.26		NA	*
4Q12		10/1/2012	NE	28.81	NA	NA	NA	403.33		NA	*
1Q13		1/3/2013	NE	30.80	NA	NA	NA	401.34		NA	*
2Q13		4/1/2013	NE	31.57	NA	NA	NA	400.57		NA	*
3Q13		7/1/2013	NE	28.48	NA	NA	NA	403.66		0.6	*
MW-06B											
4Q10	432.29	11/12/2010	NE	25.47	NA	NA	NA	406.82	368.24 - 363.24 (64.05 - 69.05)	NA	*
1Q11		1/13/2011	NE	26.21	NA	NA	NA	406.08		NA	*
2Q11		4/25/2011	NE	26.65	NA	NA	NA	405.64		NA	*
3Q11		7/5/2011	NE	24.08	NA	NA	NA	408.21		NA	*
4Q11		10/5/2011	NE	24.28	NA	NA	NA	408.01		NA	*
1Q12		1/3/2012	NE	26.40	NA	NA	NA	405.89		NA	*
2Q12		4/2/2012	NE	27.61	NA	NA	NA	404.68		NA	*
3Q12		7/2/2012	NE	27.92	NA	NA	NA	404.37		NA	*
4Q12		10/1/2012	NE	29.86	NA	NA	NA	402.43		NA	*
1Q13		1/3/2013	NE	30.87	NA	NA	NA	401.42		NA	*
2Q13		4/1/2013	NE	31.63	NA	NA	NA	400.66		NA	*
3Q13		7/1/2013	NE	28.53	NA	NA	NA	403.76		0.0	*
MW-06C											
4Q10	432.11	11/12/2010	NE	25.25	NA	NA	NA	406.86	347.16 - 342.16 (84.95 - 89.95)	NA	*
1Q11		1/13/2011	NE	25.97	NA	NA	NA	406.14		NA	*
2Q11		4/25/2011	NE	26.73	NA	NA	NA	405.38		NA	*
3Q11		7/5/2011	NE	23.80	NA	NA	NA	408.31		NA	*
4Q11		10/5/2011	NE	24.03	NA	NA	NA	408.08		NA	*
1Q12		1/3/2012	NE	26.17	NA	NA	NA	405.94		NA	*
2Q12		4/2/2012	NE	27.40	NA	NA	NA	404.71		NA	*
3Q12		7/2/2012	NE	27.71	NA	NA	NA	404.40		NA	*
4Q12		10/1/2012	NE	29.70	NA	NA	NA	402.41		NA	*
1Q13		1/3/2013	NE	30.65	NA	NA	NA	401.46		NA	*
2Q13		4/1/2013	NE	31.40	NA	NA	NA	400.71		NA	*
3Q13		7/1/2013	NE	28.32	NA	NA	NA	403.79		0.2	*
MW-06D											
4Q10	431.99	11/12/2010	NE	25.13	NA	NA	NA	406.86	327.27 - 322.27 (104.72 - 109.72)	NA	*
1Q11		1/13/2011	NE	25.87	NA	NA	NA	406.12		NA	*
2Q11		4/25/2011	NE	26.30	NA	NA	NA	405.69		NA	*
3Q11		7/5/2011	NE	23.67	NA	NA	NA	408.32		NA	*
4Q11		10/5/2011	NE	23.95	NA	NA	NA	408.04		NA	*
1Q12		1/3/2012	NE	26.05	NA	NA	NA	405.94		NA	*
2Q12		4/2/2012	NE	27.46	NA	NA	NA	404.53		NA	*
3Q12		7/2/2012	NE	27.58	NA	NA	NA	404.41		NA	*
4Q12		10/1/2012	NE	29.51	NA	NA	NA	402.48		NA	*
1Q13		1/3/2013	NE	30.51	NA	NA	NA	401.48		NA	*
2Q13		4/1/2013	NE	31.26	NA	NA	NA	400.73		NA	*
3Q13		7/1/2013	NE	28.17	NA	NA	NA	403.82		0.7	*
MW-07											
4Q10	443.10	11/12/2010	NE	36.93	NA	NA	NA	406.17	400.18 - 390.18 (42.92 - 52.92)	NA	*
1Q11		1/13/2011	NE	37.52	NA	NA	NA	405.58		NA	*
2Q11		4/25/2011	NE	38.18	NA	NA	NA	404.92		NA	*
3Q11		7/5/2011	NE	35.65	NA	NA	NA	407.45		NA	*
		9/19/2011	NE	35.22	NA	NA	NA	407.88		NA	*
4Q11		10/5/2011	NE	25.52	NA	NA	NA	417.58		NA	*
1Q12		1/3/2012	NE	37.79	NA	NA	NA	405.31		NA	*
2Q12		4/2/2012	NE	38.91	NA	NA	NA	404.19		NA	*
3Q12		7/2/2012	NE	39.23	NA	NA	NA	403.87		NA	*
4Q12		10/1/2012	NE	41.10	NA	NA	NA	402.00		NA	*
1Q13		1/3/2013	NE	42.10	NA	NA	NA	401.00		NA	*
2Q13		4/1/2013	NE	42.90	NA	NA	NA	400.20		NA	*
3Q13		7/1/2013	NE	40.08	NA	NA	NA	403.02		357.0	*
MW-08											
4Q10	434.11	11/12/2010	NE	27.84	NA	NA	NA	406.27	400.51 - 390.51 (33.60 - 43.60)	NA	*
1Q11		1/13/2011	NE	28.59	NA	NA	NA	405.52		NA	*
2Q11		4/25/2011	NE	29.15	NA	NA	NA	404.96		NA	*
3Q11		7/5/2011	NE	26.55	NA	NA	NA	407.56		NA	*
4Q11		10/5/2011	NE	26.57	NA	NA	NA	407.54		NA	*
1Q12		1/3/2012	NE	28.84	NA	NA	NA	405.27		NA	*
2Q12		4/2/2012	NE	30.01	NA	NA	NA	404.10		NA	*
3Q12		7/2/2012	NE	30.29	NA	NA	NA	403.82		NA	*
4Q12		10/1/2012	NE	32.17	NA	NA	NA	401.94		NA	*
1Q13		1/3/2013	NE	33.21	NA	NA	NA	400.90		NA	*
2Q13		4/1/2013	NE	33.94	NA	NA	NA	400.17		NA	
3Q13		7/1/2013	NE	30.90	NA	NA	NA	403.21		883.0	*

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
MW-09											
4Q10	445.20	11/12/2010	NE	39.00	NA	NA	NA	406.20	398.75 - 388.75 (46.45 - 56.45)	NA	*
1Q11		1/13/2011	NE	39.62	NA	NA	NA	405.58		NA	*
2Q11		4/25/2011	NM	NM	NA	NA	NA	NA		NA	
3Q11		7/5/2011	NE	38.06	NA	NA	NA	407.14		NA	*
		9/19/2011	NE	37.27	NA	NA	NA	407.93		NA	*
4Q11		10/5/2011	NE	37.56	NA	NA	NA	407.64		NA	*
1Q12		1/3/2012	NE	39.50	NA	NA	NA	405.70		NA	*
2Q12		4/2/2012	NE	40.77	NA	NA	NA	404.43		NA	*
3Q12		7/2/2012	NE	40.07	NA	NA	NA	405.13		NA	*
4Q12		10/1/2012	NE	42.75	NA	NA	NA	402.45		NA	*
1Q13		1/2/2013	NE	43.92	NA	NA	NA	401.28		NA	*
		3/11/2013	NE	44.70	NA	NA	NA	400.50		NA	*
2Q13		4/1/2013	NE	44.76	NA	NA	NA	400.44		NA	*
3Q13		7/1/2013	NE	42.35	NA	NA	NA	402.85		0.8	*
MW-10											
4Q10	445.03	11/12/2010	NE	38.97	NA	NA	NA	406.06	400.60 - 390.60 (44.43 - 54.43)	NA	*
1Q11		1/13/2011	NE	39.40	NA	NA	NA	405.63		NA	*
2Q11		4/25/2011	NE	40.26	NA	NA	NA	404.77		NA	*
3Q11		7/5/2011	NE	38.01	NA	NA	NA	407.02		NA	*
		9/19/2011	NE	37.24	NA	NA	NA	407.79		NA	*
4Q11		10/5/2011	NE	37.47	NA	NA	NA	407.56		NA	*
1Q12		1/3/2012	NE	39.39	NA	NA	NA	405.64		NA	*
2Q12		4/2/2012	NE	40.58	NA	NA	NA	404.45		NA	*
3Q12		7/2/2012	NE	40.92	NA	NA	NA	404.11		NA	*
4Q12		10/1/2012	NE	42.69	NA	NA	NA	402.34		NA	*
1Q13		1/2/2013	NE	43.81	NA	NA	NA	401.22		NA	*
		3/11/2013	NE	44.61	NA	NA	NA	400.42		NA	
2Q13		4/1/2013	NE	44.72	NA	NA	NA	400.31		NA	
3Q13		7/1/2013	NE	42.55	NA	NA	NA	402.48		13.4	*
MW-11											
4Q10	442.33	11/12/2010	NE	36.39	NA	NA	NA	405.94	400.67 - 390.67 (41.66 - 51.66)	NA	*
1Q11		1/13/2011	NE	37.15	NA	NA	NA	405.18		NA	*
2Q11		4/25/2011	NE	38.00	NA	NA	NA	404.33		NA	*
3Q11		7/5/2011	NE	35.46	NA	NA	NA	406.87		NA	*
		9/19/2011	NE	34.68	NA	NA	NA	407.65		NA	*
4Q11		10/5/2011	NE	34.07	NA	NA	NA	408.26		NA	*
1Q12		1/3/2012	NE	37.21	NA	NA	NA	405.12		NA	*
2Q12		4/2/2012	NE	38.44	NA	NA	NA	403.89		NA	*
3Q12		7/2/2012	NE	38.68	NA	NA	NA	403.65		NA	*
4Q12		10/1/2012	NE	40.42	NA	NA	NA	401.91		NA	*
1Q13		1/2/2013	NE	41.49	NA	NA	NA	400.84		NA	*
		3/11/2013	NE	42.15	NA	NA	NA	400.18		NA	
2Q13		4/1/2013	NE	42.18	NA	NA	NA	400.15		NA	
3Q13		7/1/2013	NE	39.49	NA	NA	NA	402.84		0.3	*
MW-12											
4Q10	442.60	11/12/2010	NE	36.63	NA	NA	NA	405.97	400.68 - 390.68 (41.92 - 51.92)	NA	*
1Q11		1/13/2011	NE	37.42	NA	NA	NA	405.18		NA	*
2Q11		4/25/2011	NE	38.20	NA	NA	NA	404.40		NA	*
3Q11		7/5/2011	NE	35.55	NA	NA	NA	407.05		NA	*
		9/19/2011	NE	34.88	NA	NA	NA	407.72		NA	*
4Q11		10/5/2011	NE	35.20	NA	NA	NA	407.40		NA	*
1Q12		1/3/2012	NE	37.57	NA	NA	NA	405.03		NA	*
2Q12		4/2/2012	NE	38.75	NA	NA	NA	403.85		NA	*
3Q12		7/2/2012	NE	39.01	NA	NA	NA	403.59		NA	*
4Q12		10/1/2012	NE	40.78	NA	NA	NA	401.82		NA	*
1Q13		1/3/2013	NE	41.86	NA	NA	NA	400.74		NA	*
		3/11/2013	NE	42.46	NA	NA	NA	400.14		NA	
2Q13		4/1/2013	NE	42.46	NA	NA	NA	400.14		NA	
3Q13		7/1/2013	NE	39.57	NA	NA	NA	403.03		1.2	*
MW-13											
1Q11	430.27	1/13/2011	NE	24.28	NA	NA	NA	405.99	404.70 - 394.70 (25.57 - 35.57)	NA	*
2Q11		4/25/2011	NE	24.47	NA	NA	NA	405.80		NA	*
3Q11		7/5/2011	NE	21.67	NA	NA	NA	408.60		NA	*
		9/19/2011	NE	21.88	NA	NA	NA	408.39		NA	*
4Q11		10/6/2011	NE	21.20	NA	NA	NA	409.07		NA	*
1Q12		1/3/2012	NE	24.35	NA	NA	NA	405.92		NA	*
2Q12		4/2/2012	NE	25.48	NA	NA	NA	404.79		NA	*
3Q12		7/3/2012	NE	25.95	NA	NA	NA	404.32		NA	
4Q12		10/1/2012	NE	40.44	NA	NA	NA	389.83		NA	
		10/2/2012	NE	27.99	NA	NA	NA	402.28		NA	
1Q13		1/7/2013	NE	29.07	NA	NA	NA	401.20		NA	
2Q13		4/2/2013	NE	29.62	NA	NA	NA	400.65		NA	
3Q13		7/2/2013	NE	25.97	NA	NA	NA	404.30		2.9	
MW-14											
1Q12	434.44	1/1/2012	NM	NM	NA	NA	NA	NA	401.02 - 391.02 (33.42 - 43.42)	NA	
2Q12		5/10/2012	NM	NM	NA	NA	NA	NA		NA	
3Q12		7/5/2012	NE	29.87	NA	NA	NA	404.57		NA	*
4Q12		10/2/2012	NE	31.86	NA	NA	NA	402.58		NA	*
1Q13		1/7/2013	NE	32.71	NA	NA	NA	401.73		NA	*
2Q13		4/2/2013	NE	33.68	NA	NA	NA	400.76		NA	
3Q13		7/2/2013	NE	30.69	NA	NA	NA	403.75		7.4	*
MW-16											
1Q13	443.39	1/23/2013	NE	43.05	NA	NA	NA	400.34	405.96 - 395.96 (37.43 - 47.43)	NA	Installed during 4Q12
2Q13		4/1/2013	NE	43.55	NA	NA	NA	399.84		NA	
3Q13		7/1/2013	NE	40.86	NA	NA	NA	402.53		0.0	

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
MW-17											
1Q13	441.57	2/11/2013	NE	41.75	NA	NA	NA	399.82	407.02 - 392.02 (34.55 - 49.55)	NA	Installed during 4Q12
2Q13		4/1/2013	NE	41.85	NA	NA	NA	399.72		NA	
3Q13		7/1/2013	NE	39.42	NA	NA	NA	402.15		0.0	
MW-18											
1Q13	442.04	2/11/2013	NE	42.25	NA	NA	NA	399.79	406.79 - 391.79 (35.25 - 50.25)	NA	Installed during 4Q12
2Q13		4/1/2013	NE	42.38	NA	NA	NA	399.66		NA	
3Q13		7/1/2013	NE	39.89	NA	NA	NA	402.15		0.0	
MW-19											
1Q13	442.77	2/11/2013	NE	42.88	NA	NA	NA	399.89	406.07 - 391.07 (36.70 - 51.70)	NA	Installed during 4Q12
2Q13		4/1/2013	NE	43.04	NA	NA	NA	399.73		NA	
3Q13		7/1/2013	NE	40.50	NA	NA	NA	402.27		0.0	
MW-20											
1Q13	443.67	2/11/2013	NE	43.66	NA	NA	NA	400.01	407.44 - 392.44 (36.23 - 51.23)	NA	Installed during 4Q12
2Q13		4/1/2013	NE	43.89	NA	NA	NA	399.78		NA	
3Q13		7/1/2013	NE	41.23	NA	NA	NA	402.44		0.0	
MW-21											
1Q13	443.81	2/11/2013	NE	43.53	NA	NA	NA	400.28	408.51 - 393.51 (35.30 - 50.30)	NA	Installed during 4Q12
2Q13		4/1/2013	NE	43.79	NA	NA	NA	400.02		NA	
3Q13		7/1/2013	NE	41.05	NA	NA	NA	402.76		0.0	
MW-22											
1Q13	442.16	1/23/2013	NE	41.80	NA	NA	NA	400.36	403.95 - 393.95 (38.21 - 48.21)	NA	Installed during 4Q12
2Q13		4/1/2013	NE	42.31	NA	NA	NA	399.85		NA	
3Q13		7/5/2013	NE	39.60	NA	NA	NA	402.56		0.6	
MW-24											
2Q13	443.42	4/1/2013	NE	43.44	NA	NA	NA	399.98	404.53 - 394.53 (38.89 - 48.89)	NA	Installed during 1Q13
3Q13		7/3/2013	NE	40.59	NA	NA	NA	402.83		0.0	
P-01											
4Q10	442.56	10/1/2010	NE	27.86	NA	NA	NA	414.70	380.61 - 375.61 (61.95 - 66.95)	NA	*
1Q11		1/1/2011	NE	28.52	NA	NA	NA	414.04		NA	*
2Q11		4/1/2011	NE	27.30	NA	NA	NA	415.26		NA	*
3Q11		7/5/2011	NE	25.51	NA	NA	NA	417.05		NA	*
		9/19/2011	NE	27.75	NA	NA	NA	414.81		NA	*
4Q11		10/6/2011	NE	28.15	NA	NA	NA	414.41		NA	*
1Q12		1/3/2012	NE	28.93	NA	NA	NA	413.63		NA	*
2Q12		4/2/2012	NE	29.38	NA	NA	NA	413.18		NA	*
3Q12		7/2/2012	NE	30.60	NA	NA	NA	411.96		NA	*
4Q12		10/1/2012	NE	32.35	NA	NA	NA	410.21		NA	*
1Q13		1/3/2013	NE	33.96	NA	NA	NA	408.60		NA	*
2Q13		4/1/2013	NE	33.68	NA	NA	NA	408.88		NA	*
3Q13		7/3/2013	NE	30.60	NA	NA	NA	411.96		0.0	*
P-4U											
4Q10	442.50	10/1/2010	NE	29.68	NA	NA	NA	412.82	361.35 - 359.35 (81.15 - 83.15)	NA	*
1Q11		1/1/2011	NE	29.81	NA	NA	NA	412.69		NA	*
2Q11		4/1/2011	NE	29.10	NA	NA	NA	413.40		NA	*
3Q11		7/5/2011	NE	27.02	NA	NA	NA	415.48		NA	*
		9/19/2011	NE	28.71	NA	NA	NA	413.79		NA	*
4Q11		10/6/2011	NE	29.17	NA	NA	NA	413.33		NA	*
1Q12		1/3/2012	NE	40.32	NA	NA	NA	402.18		NA	*
2Q12		4/2/2012	NE	30.80	NA	NA	NA	411.70		NA	*
3Q12		7/2/2012	NE	31.70	NA	NA	NA	410.80		NA	*
4Q12		10/1/2012	NE	33.65	NA	NA	NA	408.85		NA	*
1Q13		1/3/2013	NE	35.10	NA	NA	NA	407.40		NA	*
2Q13		4/1/2013	NE	35.95	NA	NA	NA	406.55		NA	*
3Q13		7/3/2013	NE	32.80	NA	NA	NA	409.70		0.0	*
P-5L											
4Q10	443.79	10/1/2010	NE	29.21	NA	NA	NA	414.58	301.89 - 299.89 (141.90 - 143.90)	NA	*
1Q11		1/1/2011	NE	29.55	NA	NA	NA	414.24		NA	*
2Q11		4/1/2011	NE	28.10	NA	NA	NA	415.69		NA	*
3Q11		7/5/2011	NE	25.87	NA	NA	NA	417.92		NA	*
		9/19/2011	NE	28.47	NA	NA	NA	415.32		NA	*
4Q11		10/6/2011	NE	29.16	NA	NA	NA	414.63		NA	*
1Q12		1/3/2012	NE	30.42	NA	NA	NA	413.37		NA	*
2Q12		4/2/2012	NE	30.56	NA	NA	NA	413.23		NA	*
3Q12		7/2/2012	NE	31.60	NA	NA	NA	412.19		NA	*
4Q12		10/1/2012	NE	33.60	NA	NA	NA	410.19		NA	*
1Q13		1/3/2013	NE	35.17	NA	NA	NA	408.62		NA	*
2Q13		4/1/2013	NE	35.84	NA	NA	NA	407.95		NA	*
3Q13		7/3/2013	NE	31.51	NA	NA	NA	412.28		0.0	*
P-5U											
4Q10	444.15	10/1/2010	NE	30.82	NA	NA	NA	413.33	313.52 - 311.52 (130.63 - 132.63)	NA	*
1Q11		1/1/2011	NE	30.96	NA	NA	NA	413.19		NA	*
2Q11		4/1/2011	NE	29.91	NA	NA	NA	414.24		NA	*
3Q11		7/5/2011	NE	27.80	NA	NA	NA	416.35		NA	*
		9/19/2011	NE	29.84	NA	NA	NA	414.31		NA	*
4Q11		10/6/2011	NE	30.41	NA	NA	NA	413.74		NA	*
1Q12		1/3/2012	NE	30.42	NA	NA	NA	413.73		NA	*
2Q12		4/2/2012	NE	31.96	NA	NA	NA	412.19		NA	*
3Q12		7/2/2012	NE	32.80	NA	NA	NA	411.35		NA	*
4Q12		10/1/2012	NE	35.00	NA	NA	NA	409.15		NA	*
1Q13		1/3/2013	NE	36.41	NA	NA	NA	407.74		NA	*
2Q13		4/1/2013	NE	37.24	NA	NA	NA	406.91		NA	*
3Q13		7/3/2013	NE	33.53	NA	NA	NA	410.62		0.0	*

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
P-6L											
4Q11	443.20	10/6/2011	NE	28.92	NA	NA	NA	414.28	Unknown	NA	
1Q12		1/3/2012	NE	30.21	NA	NA	NA	412.99		NA	
2Q12		4/2/2012	NE	30.38	NA	NA	NA	412.82		NA	
3Q12		7/2/2012	NE	31.18	NA	NA	NA	412.02		NA	
4Q12		10/1/2012	NE	33.45	NA	NA	NA	409.75		NA	
1Q13		1/3/2013	NE	35.00	NA	NA	NA	408.20		NA	
2Q13		4/1/2013	NE	35.19	NA	NA	NA	408.01		NA	
3Q13		7/3/2013	NE	31.66	NA	NA	NA	411.54		0.0	
P-6U											
4Q10	443.35	10/1/2010	NE	30.33	NA	NA	NA	413.02	362.85 - 360.85 (80.50 - 82.50)	NA	*
1Q11		1/1/2011	NE	30.53	NA	NA	NA	412.82		NA	*
2Q11		4/1/2011	NE	29.57	NA	NA	NA	413.78		NA	*
3Q11		7/5/2011	NE	27.35	NA	NA	NA	416.00		NA	*
		9/19/2011	NE	29.26	NA	NA	NA	414.09		NA	*
4Q11		10/6/2011	NE	29.78	NA	NA	NA	413.57		NA	*
1Q12		1/3/2012	NE	30.97	NA	NA	NA	412.38		NA	*
2Q12		4/2/2012	NE	31.42	NA	NA	NA	411.93		NA	*
3Q12		7/2/2012	NE	32.25	NA	NA	NA	411.10		NA	*
4Q12		10/1/2012	NE	30.40	NA	NA	NA	412.95		NA	*
1Q13		1/3/2013	NE	35.86	NA	NA	NA	407.49		NA	*
2Q13		4/1/2013	NE	36.88	NA	NA	NA	406.47		NA	*
3Q13		7/3/2013	NE	33.17	NA	NA	NA	410.18		0.0	*
P-7L											
4Q11	443.42	10/6/2011	NE	29.57	NA	NA	NA	413.85	Unknown	NA	
1Q12		1/3/2012	NE	30.91	NA	NA	NA	412.51		NA	
2Q12		4/2/2012	NE	31.28	NA	NA	NA	412.14		NA	
3Q12		7/2/2012	NE	32.60	NA	NA	NA	410.82		NA	
4Q12		10/1/2012	NE	33.98	NA	NA	NA	409.44		NA	
1Q13		1/3/2013	NE	35.77	NA	NA	NA	407.65		NA	
2Q13		4/1/2013	NE	36.17	NA	NA	NA	407.25		NA	
3Q13		7/3/2013	NE	32.73	NA	NA	NA	410.69		0.0	
P-7U											
4Q10	443.80	10/1/2010	NE	30.65	NA	NA	NA	413.15	382.72 - 380.72 (61.08 - 63.08)	NA	*
1Q11		1/1/2011	NE	30.70	NA	NA	NA	413.10		NA	*
2Q11		4/1/2011	NE	29.66	NA	NA	NA	414.14		NA	*
3Q11		7/5/2011	NE	27.30	NA	NA	NA	416.50		NA	*
		9/19/2011	NE	29.51	NA	NA	NA	414.29		NA	*
4Q11		10/6/2011	NE	30.02	NA	NA	NA	413.78		NA	*
1Q12		1/3/2012	NE	31.23	NA	NA	NA	412.57		NA	*
2Q12		4/2/2012	NE	31.63	NA	NA	NA	412.17		NA	*
3Q12		7/2/2012	NE	31.86	NA	NA	NA	411.94		NA	*
4Q12		10/1/2012	NE	34.55	NA	NA	NA	409.25		NA	*
1Q13		1/3/2013	NE	36.12	NA	NA	NA	407.68		NA	*
2Q13		4/1/2013	NE	37.12	NA	NA	NA	406.68		NA	*
3Q13		7/3/2013	NE	33.11	NA	NA	NA	410.69		0.0	*
P-8L											
4Q11	443.10	10/6/2011	NE	31.01	NA	NA	NA	412.09	Unknown	NA	
1Q12		1/3/2012	NE	30.92	NA	NA	NA	412.18		NA	
2Q12		4/2/2012	NE	31.22	NA	NA	NA	411.88		NA	
3Q12		7/2/2012	NE	31.81	NA	NA	NA	411.29		NA	
4Q12		10/1/2012	NE	33.74	NA	NA	NA	409.36		NA	
1Q13		1/3/2013	NE	35.49	NA	NA	NA	407.61		NA	
2Q13		4/1/2013	NE	36.23	NA	NA	NA	406.87		NA	
3Q13		7/3/2013	NE	33.89	NA	NA	NA	409.21		0.0	
P-8U											
4Q10	443.70	10/1/2010	NE	31.14	NA	NA	NA	412.56	381.77 - 379.77 (60.10 - 62.10)	NA	*
1Q11		1/1/2011	NE	30.79	NA	NA	NA	411.08		NA	*
2Q11	441.87	4/1/2011	NE	30.50	NA	NA	NA	411.37		NA	*
3Q11		7/5/2011	NE	28.20	NA	NA	NA	413.67		NA	*
		9/19/2011	NE	29.46	NA	NA	NA	412.41		NA	*
4Q11		10/6/2011	NE	29.86	NA	NA	NA	412.01		NA	*
1Q12		1/3/2012	NE	30.99	NA	NA	NA	410.88		NA	*
2Q12		4/2/2012	NE	31.73	NA	NA	NA	410.14		NA	*
3Q12		7/1/2012	NE	32.51	NA	NA	NA	409.36		NA	*
4Q12		10/1/2012	NE	34.77	NA	NA	NA	407.10		NA	*
1Q13		1/3/2013	NE	35.97	NA	NA	NA	405.90		NA	*
2Q13		4/1/2013	NE	37.30	NA	NA	NA	404.57		NA	*
3Q13		7/3/2013	NE	34.48	NA	NA	NA	407.39		0.0	*
P-9L											
4Q11	444.41	10/6/2011	NE	33.58	NA	NA	NA	410.83	Unknown	NA	
1Q12		1/3/2012	NE	34.82	NA	NA	NA	409.59		NA	
2Q12		4/2/2012	NE	35.95	NA	NA	NA	408.46		NA	
3Q12		7/2/2012	NE	36.48	NA	NA	NA	407.93		NA	
4Q12		10/1/2012	NE	38.22	NA	NA	NA	406.19		NA	
1Q13		1/3/2013	NE	39.98	NA	NA	NA	404.43		NA	
2Q13		4/1/2013	NE	40.80	NA	NA	NA	403.61		NA	
3Q13		7/3/2013	NE	39.16	NA	NA	NA	405.25		4.9	

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
P-9U											
4Q10	444.91	10/1/2010	NE	38.71	NA	NA	NA	406.20	344.32 - 342.32 (100.59 - 102.59)	NA	*
1Q11		1/13/2011	NE	36.87	NA	NA	NA	408.04		NA	*
2Q11		4/1/2011	NE	35.71	NA	NA	NA	409.20		NA	*
3Q11		7/5/2011	NE	34.92	NA	NA	NA	409.99		NA	*
		9/19/2011	NE	34.52	NA	NA	NA	410.39		NA	*
4Q11		10/6/2011	NE	34.56	NA	NA	NA	410.35		NA	*
1Q12		1/3/2012	NE	34.52	NA	NA	NA	410.39		NA	*
2Q12		4/2/2012	NE	36.34	NA	NA	NA	408.57		NA	*
3Q12		7/2/2012	NE	36.81	NA	NA	NA	408.10		NA	*
4Q12		10/1/2012	NE	38.59	NA	NA	NA	406.32		NA	*
1Q13		1/3/2013	NE	40.11	NA	NA	NA	404.80		NA	*
2Q13		4/1/2013	NE	41.20	NA	NA	NA	403.71		NA	*
3Q13		7/3/2013	NE	39.74	NA	NA	NA	405.17		0.5	*
P-11L											
4Q10	442.80	10/1/2010	NE	31.80	NA	NA	NA	411.00	332.59 - 330.59 (110.21 - 112.21)	NA	*
1Q11		1/1/2011	NE	31.62	NA	NA	NA	411.18		NA	*
2Q11		4/1/2011	NE	31.28	NA	NA	NA	411.52		NA	*
3Q11		7/5/2011	NE	29.34	NA	NA	NA	413.46		NA	*
		9/19/2011	NE	30.37	NA	NA	NA	412.43		NA	*
4Q11		10/6/2011	NE	30.67	NA	NA	NA	412.13		NA	*
1Q12		1/3/2012	NE	31.77	NA	NA	NA	411.03		NA	*
2Q12		4/2/2012	NE	32.68	NA	NA	NA	410.12		NA	*
3Q12		7/2/2012	NE	33.52	NA	NA	NA	409.28		NA	*
4Q12		10/1/2012	NE	35.56	NA	NA	NA	407.24		NA	*
1Q13		1/3/2013	NE	37.20	NA	NA	NA	405.60		NA	*
2Q13		4/1/2013	NE	37.97	NA	NA	NA	404.83		NA	*
3Q13		7/3/2013	NE	37.85	NA	NA	NA	404.95		0.0	*
P-11U											
4Q10	443.09	10/1/2010	NE	32.45	NA	NA	NA	410.64	343.17 - 341.17 (99.92 - 101.92)	NA	*
1Q11		1/1/2011	NE	32.21	NA	NA	NA	410.88		NA	*
2Q11		4/1/2011	NE	31.92	NA	NA	NA	411.17		NA	*
3Q11		7/5/2011	NE	29.95	NA	NA	NA	413.14		NA	*
		9/19/2011	NE	31.03	NA	NA	NA	412.06		NA	*
4Q11		10/6/2011	NE	31.12	NA	NA	NA	411.97		NA	*
1Q12		1/3/2012	NE	32.35	NA	NA	NA	410.74		NA	*
2Q12		4/2/2012	NE	33.34	NA	NA	NA	409.75		NA	*
3Q12		7/2/2012	NE	34.15	NA	NA	NA	408.94		NA	*
4Q12		10/1/2012	NE	36.19	NA	NA	NA	406.90		NA	*
1Q13		1/3/2013	NE	37.80	NA	NA	NA	405.29		NA	*
2Q13		4/1/2013	NE	38.62	NA	NA	NA	404.47		NA	*
3Q13		7/3/2013	NE	36.40	NA	NA	NA	406.69		0.0	*
P-14											
4Q10	442.65	10/1/2010	NE	27.94	NA	NA	NA	414.71	395.32 - 385.32 (47.33 - 57.33)	NA	*
1Q11		1/1/2011	NE	28.57	NA	NA	NA	414.08		NA	*
2Q11		4/1/2011	NE	27.38	NA	NA	NA	415.27		NA	*
3Q11		7/5/2011	NE	25.57	NA	NA	NA	417.08		NA	*
		9/19/2011	NE	27.77	NA	NA	NA	414.88		NA	*
4Q11		10/6/2011	NE	28.20	NA	NA	NA	414.45		NA	*
1Q12		1/3/2012	NE	28.98	NA	NA	NA	413.67		NA	*
2Q12		4/2/2012	NE	29.42	NA	NA	NA	413.23		NA	*
3Q12		7/2/2012	NE	30.55	NA	NA	NA	412.10		NA	*
4Q12		10/1/2012	NE	32.39	NA	NA	NA	410.26		NA	*
1Q13		1/3/2013	NE	34.01	NA	NA	NA	408.64		NA	*
2Q13		4/1/2013	NE	33.74	NA	NA	NA	408.91		NA	*
3Q13		7/3/2013	NE	30.67	NA	NA	NA	411.98		0.0	*
P-15											
4Q10	443.35	10/1/2010	NE	30.43	NA	NA	NA	412.92	397.90 - 387.90 (45.45 - 55.45)	NA	*
1Q11		1/1/2011	NE	30.55	NA	NA	NA	412.80		NA	*
2Q11		4/1/2011	NE	29.80	NA	NA	NA	413.55		NA	*
3Q11		7/5/2011	NE	27.75	NA	NA	NA	415.60		NA	*
		9/19/2011	NE	29.45	NA	NA	NA	413.90		NA	*
4Q11		10/6/2011	NE	29.93	NA	NA	NA	413.42		NA	*
1Q12		1/3/2012	31.05	31.06	412.29	412.30	0.01	412.30		NA	*
2Q12		4/2/2012	NE	31.55	NA	NA	NA	411.80		NA	*
3Q12		7/2/2012	NE	32.40	NA	NA	NA	410.95		NA	*
4Q12		10/1/2012	NE	34.35	NA	NA	NA	409.00		NA	*
1Q13		1/3/2013	NE	35.81	NA	NA	NA	407.54		NA	*
2Q13		4/1/2013	NE	36.46	NA	NA	NA	406.89		NA	*
3Q13		7/3/2013	NE	33.48	NA	NA	NA	409.87		0.0	*
P-16											
4Q10	442.31	10/1/2010	NE	29.21	NA	NA	NA	413.10	396.57 - 386.57 (45.74 - 55.74)	NA	*
1Q11		1/1/2011	NE	29.40	NA	NA	NA	412.91		NA	*
2Q11		4/1/2011	NE	28.54	NA	NA	NA	413.77		NA	*
3Q11		7/5/2011	NE	26.34	NA	NA	NA	415.97		NA	*
		9/19/2011	NE	28.26	NA	NA	NA	414.05		NA	*
4Q11		10/6/2011	NE	28.77	NA	NA	NA	413.54		NA	*
1Q12		1/3/2012	NE	30.00	NA	NA	NA	412.31		NA	*
2Q12		4/1/2012	NM	NM	NA	NA	NA	NA		NA	
3Q12		7/6/2012	NE	31.16	NA	NA	NA	411.15		NA	*
4Q12		10/4/2012	NE	33.35	NA	NA	NA	408.96		NA	*
1Q13		1/3/2013	NE	34.80	NA	NA	NA	407.51		NA	*
2Q13		4/1/2013	NE	35.55	NA	NA	NA	406.76		NA	*
3Q13		7/3/2013	NE	32.10	NA	NA	NA	410.21		0.0	*

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
P-43											
4Q10	444.07	10/1/2010	NE	33.29	NA	NA	NA	410.78	380.51 - 370.51 (63.56 - 73.56)	NA	*
1Q11		1/1/2011	NE	33.09	NA	NA	NA	410.98		NA	*
2Q11		4/1/2011	NE	32.75	NA	NA	NA	411.32		NA	*
3Q11		7/5/2011	NE	30.78	NA	NA	NA	413.29		NA	*
		9/19/2011	NE	31.87	NA	NA	NA	412.20		NA	*
4Q11		10/6/2011	NE	32.18	NA	NA	NA	411.89		NA	*
1Q12		1/3/2012	NE	33.24	NA	NA	NA	410.83		NA	*
2Q12		4/2/2012	NE	34.17	NA	NA	NA	409.90		NA	*
3Q12		7/2/2012	NE	34.95	NA	NA	NA	409.12		NA	*
4Q12		10/1/2012	NE	36.80	NA	NA	NA	407.27		NA	*
1Q13		1/3/2013	NE	38.21	NA	NA	NA	405.86		NA	*
2Q13		4/1/2013	NE	39.10	NA	NA	NA	404.97		NA	*
3Q13		7/3/2013	NE	37.04	NA	NA	NA	407.03		0.0	*
P-53											
4Q10	446.23	10/1/2010	NE	39.33	NA	NA	NA	406.90	407.73 - 382.73 (38.50 - 63.50)	NA	
1Q11		1/13/2011	NE	39.46	NA	NA	NA	406.77		NA	
2Q11		4/1/2011	NE	39.99	NA	NA	NA	406.24		NA	
3Q11		7/5/2011	NE	38.28	NA	NA	NA	407.95		NA	*
		9/19/2011	NE	37.39	NA	NA	NA	408.84		NA	*
4Q11		10/5/2011	NE	37.58	NA	NA	NA	408.65		NA	*
1Q12		1/3/2012	NE	38.73	NA	NA	NA	407.50		NA	
2Q12		4/2/2012	NM	NM	NA	NA	NA	NA		NA	
3Q12		7/2/2012	NE	40.46	NA	NA	NA	405.77		NA	
4Q12		10/1/2012	NE	41.88	NA	NA	NA	404.35		NA	
1Q13		1/2/2013	NE	43.06	NA	NA	NA	403.17		NA	
2Q13		4/1/2013	NE	44.29	NA	NA	NA	401.94		NA	
3Q13		7/2/2013	NE	42.84	NA	NA	NA	403.39		0.4	
P-54											
4Q10	442.18	11/12/2010	NE	36.43	NA	NA	NA	405.75	404.18 - 379.18 (38.00 - 63.00)	NA	*
1Q11		1/13/2011	NE	37.24	NA	NA	NA	404.94		NA	*
2Q11		4/25/2011	NE	38.00	NA	NA	NA	404.18		NA	
3Q11		7/5/2011	NE	35.38	NA	NA	NA	406.80		NA	*
		9/19/2011	NE	34.78	NA	NA	NA	407.40		NA	*
4Q11		10/5/2011	NE	35.01	NA	NA	NA	407.17		NA	*
1Q12		1/3/2012	NE	37.17	NA	NA	NA	405.01		NA	*
2Q12		4/2/2012	NE	38.48	NA	NA	NA	403.70		NA	
3Q12		7/2/2012	NE	38.73	NA	NA	NA	403.45		NA	
4Q12		10/1/2012	NE	40.44	NA	NA	NA	401.74		NA	
1Q13		1/3/2013	NE	41.62	NA	NA	NA	400.56		NA	
2Q13		4/1/2013	NE	42.26	NA	NA	NA	399.92		NA	
3Q13		7/1/2013	NE	39.40	NA	NA	NA	402.78		0.8	
P-55											
4Q10	445.95	11/12/2010	NE	40.50	NA	NA	NA	405.45	406.13 - 381.13 (39.82 - 64.82)	NA	
1Q11		1/13/2011	NE	40.56	NA	NA	NA	405.39		NA	
2Q11		4/25/2011	41.52	41.54	404.41	404.43	0.02	404.43		NA	
3Q11		7/5/2011	39.41	39.42	406.53	406.54	0.01	406.54		NA	*
		9/19/2011	NE	38.57	NA	NA	NA	407.38		NA	*
4Q11		10/6/2011	NE	38.61	NA	NA	NA	407.34		NA	*
1Q12		1/4/2012	NE	40.71	NA	NA	NA	405.24		NA	
2Q12		4/2/2012	NE	42.04	NA	NA	NA	403.91		NA	
3Q12		7/2/2012	NE	42.33	NA	NA	NA	403.62		NA	
4Q12		10/1/2012	NE	44.17	NA	NA	NA	401.78		NA	
1Q13		1/8/2013	NE	45.24	NA	NA	NA	400.71		NA	Replaced P-55 during 4Q12
2Q13	443.78	4/2/2013	NE	43.87	NA	NA	NA	399.91	402.93 - 392.93 (40.85 - 50.85)	NA	
3Q13		7/5/2013	NE	41.43	NA	NA	NA	402.35		136.4	
P-56											
4Q10	446.02	11/11/2010	NE	40.94	NA	NA	NA	405.08	405.20 - 380.20 (40.82 - 65.82)	NA	
1Q11		1/13/2011	NE	41.03	NA	NA	NA	404.99		NA	
2Q11		4/25/2011	NE	42.16	NA	NA	NA	403.86		NA	
3Q11		7/5/2011	NE	39.63	NA	NA	NA	406.39		NA	*
		9/19/2011	NE	38.88	NA	NA	NA	407.14		NA	*
4Q11		10/6/2011	NE	39.10	NA	NA	NA	406.92		NA	*
1Q12		1/4/2012	NE	41.51	NA	NA	NA	404.51		NA	
2Q12		4/3/2012	NE	42.88	NA	NA	NA	403.14		NA	
3Q12		7/5/2012	NE	43.01	NA	NA	NA	403.01		NA	
4Q12		10/2/2012	NE	44.76	NA	NA	NA	401.26		NA	
1Q13		1/4/2013	NE	45.65	NA	NA	NA	400.37		NA	
2Q13		4/2/2013	NE	46.40	NA	NA	NA	399.62		NA	
3Q13		7/5/2013	NE	43.60	NA	NA	NA	402.42		0.0	
P-57											
4Q10	446.53	11/12/2010	NE	40.64	NA	NA	NA	405.89	406.07 - 381.07 (40.46 - 65.46)	NA	
1Q11		1/13/2011	NE	41.04	NA	NA	NA	405.49		NA	
2Q11		4/25/2011	NE	41.88	NA	NA	NA	404.65		NA	
3Q11		7/5/2011	NE	39.48	NA	NA	NA	407.05		NA	*
		9/19/2011	NE	39.92	NA	NA	NA	406.61		NA	*
4Q11		10/6/2011	NE	39.20	NA	NA	NA	407.33		NA	*
1Q12		2/13/2012	NE	42.13	NA	NA	NA	404.40		NA	
2Q12		4/4/2012	NE	42.61	NA	NA	NA	403.92		NA	
3Q12		7/5/2012	NE	43.00	NA	NA	NA	403.53		NA	
4Q12		10/1/2012	NE	44.78	NA	NA	NA	401.75		NA	
1Q13		1/4/2013	NE	45.82	NA	NA	NA	400.71		NA	
2Q13		4/2/2013	NE	46.63	NA	NA	NA	399.90		NA	
3Q13		7/5/2013	NE	43.70	NA	NA	NA	402.83		0.0	

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
P-58											
4Q10	444.92	11/12/2010	NE	38.51	NA	NA	NA	406.41	404.70 - 379.70 (40.21 - 65.21)	NA	*
1Q11		1/13/2011	NE	39.10	NA	NA	NA	405.82		NA	*
2Q11		4/25/2011	NE	39.78	NA	NA	NA	405.14		NA	*
3Q11		7/5/2011	NE	37.42	NA	NA	NA	407.50		NA	*
		9/19/2011	NE	37.02	NA	NA	NA	407.90		NA	*
4Q11		10/6/2011	NE	37.31	NA	NA	NA	407.61		NA	*
1Q12		1/4/2012	NE	39.41	NA	NA	NA	405.51		NA	*
2Q12		4/3/2012	NE	40.81	NA	NA	NA	404.11		NA	
3Q12		7/5/2012	NE	41.04	NA	NA	NA	403.88		NA	
4Q12		10/2/2012	NE	42.90	NA	NA	NA	402.02		NA	
1Q13		1/4/2013	NE	43.80	NA	NA	NA	401.12		NA	
2Q13		4/2/2013	NE	44.75	NA	NA	NA	400.17		NA	
3Q13		7/5/2013	NE	41.85	NA	NA	NA	403.07		0.0	
P-59											
4Q10	446.78	11/12/2010	NE	42.13	NA	NA	NA	404.65	398.87 - 373.87 (47.91 - 72.91)	NA	*
1Q11		1/13/2011	NE	42.16	NA	NA	NA	404.62		NA	*
2Q11		4/25/2011	43.25	43.26	403.52	403.53	0.01	403.53		NA	*
3Q11		7/5/2011	NE	41.44	NA	NA	NA	405.34		NA	*
		9/19/2011	NE	40.56	NA	NA	NA	406.22		NA	*
4Q11		10/6/2011	NE	40.77	NA	NA	NA	406.01		NA	*
1Q12		1/4/2012	NE	42.61	NA	NA	NA	404.17		NA	*
2Q12		4/4/2012	NE	43.82	NA	NA	NA	402.96		NA	*
3Q12		7/5/2012	NE	44.00	NA	NA	NA	402.78		NA	*
4Q12		10/2/2012	NE	45.83	NA	NA	NA	400.95		NA	*
1Q13		1/4/2013	NE	46.54	NA	NA	NA	400.24		NA	*
2Q13		4/2/2013	NE	47.20	NA	NA	NA	399.58		NA	*
3Q13		7/5/2013	NE	44.47	NA	NA	NA	402.31		186.4	*
P-60											
4Q10	446.57	11/11/2010	41.40	41.44	405.13	405.17	0.04	405.16	403.12 - 383.12 (43.45 - 63.45)	NA	*
1Q11		1/14/2011	41.68	41.72	404.85	404.89	0.04	404.88		NA	*
2Q11		4/25/2011	42.72	43.18	403.39	403.85	0.46	403.76		NA	*
3Q11		7/5/2011	40.41	40.77	405.80	406.16	0.36	406.09		NA	*
		9/19/2011	39.54	39.89	406.68	407.03	0.35	406.96		NA	*
4Q11		10/6/2011	39.72	40.06	406.51	406.85	0.34	406.79		NA	*
1Q12		1/4/2012	NE	41.98	NA	NA	NA	404.59		NA	*
2Q12		4/3/2012	43.46	43.48	403.09	403.11	0.02	403.11		NA	
3Q12		7/5/2012	43.51	43.55	403.02	403.06	0.04	403.05		NA	
4Q12		10/2/2012	45.33	45.44	401.13	401.24	0.11	401.22		NA	
1Q13		1/4/2013	NE	46.19	NA	NA	NA	400.38		NA	
2Q13		4/2/2013	46.96	47.04	399.53	399.61	0.08	399.60		NA	
3Q13		7/5/2013	44.41	44.46	402.11	402.16	0.05	402.15		42.7	
P-60-11											
4Q10	443.39	11/11/2010	NE	40.91	NA	NA	NA	402.48	393.08 - 378.08 (50.31 - 65.31)	NA	*
1Q11		1/14/2011	NE	41.14	NA	NA	NA	402.25		NA	*
2Q11		4/25/2011	NE	42.22	NA	NA	NA	401.17		NA	*
3Q11	446.18	7/5/2011	NE	39.97	NA	NA	NA	406.21	413.03 - 383.03 (33.15 - 63.15)	NA	
		9/19/2011	NE	39.07	NA	NA	NA	407.11		NA	
4Q11		10/6/2011	NE	39.25	NA	NA	NA	406.93		NA	
1Q12		1/4/2012	NE	41.22	NA	NA	NA	404.96		NA	
2Q12		4/3/2012	NE	42.65	NA	NA	NA	403.53		NA	
3Q12		7/5/2012	NE	42.64	NA	NA	NA	403.54		NA	
4Q12		10/2/2012	44.32	44.41	401.77	401.86	0.09	401.84		NA	
1Q13		1/4/2013	NE	45.06	NA	NA	NA	401.12		NA	
2Q13		4/2/2013	NE	45.72	NA	NA	NA	400.46		NA	
3Q13		7/5/2013	NE	43.81	NA	NA	NA	402.37		0.0	
P-60-12											
4Q10	443.31	11/11/2010	NE	38.19	NA	NA	NA	405.12	383.31 - 373.31 (60.00 - 70.00)	NA	*
1Q11		1/14/2011	NE	38.51	NA	NA	NA	404.80		NA	*
2Q11		4/25/2011	NE	39.63	NA	NA	NA	403.68		NA	*
3Q11		7/5/2011	NE	37.27	NA	NA	NA	406.04		NA	*
		9/19/2011	NE	36.41	NA	NA	NA	406.90		NA	*
4Q11		10/6/2011	NE	36.53	NA	NA	NA	406.78		NA	*
1Q12		1/4/2012	NE	38.76	NA	NA	NA	404.55		NA	*
2Q12		4/3/2012	NE	40.25	NA	NA	NA	403.06		NA	*
3Q12		7/5/2012	NE	40.23	NA	NA	NA	403.08		NA	*
4Q12		10/2/2012	NE	44.15	NA	NA	NA	399.16		NA	*
1Q13		1/4/2013	NE	42.97	NA	NA	NA	400.34		NA	*
2Q13		4/2/2013	NE	43.77	NA	NA	NA	399.54		NA	*
3Q13		7/5/2013	NE	41.20	NA	NA	NA	402.11		0.0	*
P-60-12S											
4Q10	443.33	11/11/2010	NE	23.36	NA	NA	NA	419.97	429.49 - 419.49 (13.84 - 23.84)	NA	
1Q11		1/14/2011	NE	NE	NA	NA	NA	NA		NA	
2Q11		4/25/2011	NE	21.84	NA	NA	NA	421.49		NA	
3Q11		7/5/2011	21.10	21.11	422.22	422.23	0.01	422.23		NA	
4Q11		10/6/2011	NE	23.36	NA	NA	NA	419.97		NA	
1Q12		1/4/2012	NE	22.81	NA	NA	NA	420.52		NA	
2Q12		4/3/2012	NE	20.21	NA	NA	NA	423.12		NA	
3Q12		7/5/2012	NE	19.48	NA	NA	NA	423.85		NA	
4Q12		10/2/2012	NE	19.04	NA	NA	NA	424.29		NA	
1Q13		1/4/2013	NE	19.35	NA	NA	NA	423.98		NA	
2Q13		4/2/2013	NM	NM	NA	NA	NA	NA		NA	
3Q13		7/5/2013	NE	17.73	NA	NA	NA	425.60		0.0	

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
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 (40.00 - 60.00)	NA	*
1Q11		1/14/2011	37.73	37.74	404.69	404.70	0.01	404.70		NA	*
2Q11		4/25/2011	38.80	39.10	403.33	403.63	0.30	403.57		NA	*
3Q11		7/5/2011	36.85	36.99	405.44	405.58	0.14	405.55		NA	*
		9/19/2011	NE	35.72	NA	NA	NA	406.71		NA	*
4Q11		10/6/2011	NE	35.86	NA	NA	NA	406.57		NA	*
1Q12		1/4/2012	NE	37.82	NA	NA	NA	404.61		NA	*
2Q12		4/3/2012	NE	39.21	NA	NA	NA	403.22		NA	*
3Q12		7/5/2012	NE	39.37	NA	NA	NA	403.06		NA	*
4Q12		10/2/2012	NE	40.61	NA	NA	NA	401.82		NA	
1Q13		1/4/2013	NE	41.55	NA	NA	NA	400.88		NA	
2Q13		4/2/2013	NM	NM	NA	NA	NA	NA		NA	
3Q13		7/5/2013	NE	40.53	NA	NA	NA	401.90		0.0	
P-60-13S											
4Q10	442.39	11/11/2010	NE	13.36	NA	NA	NA	429.03	432.39 - 422.39 (10.00 - 20.00)	NA	
1Q11		1/14/2011	NE	NE	NA	NA	NA	NA		NA	
2Q11		4/25/2011	NE	17.45	NA	NA	NA	424.94		NA	
3Q11		7/5/2011	NE	17.08	NA	NA	NA	425.31		NA	
4Q11		10/6/2011	NE	18.44	NA	NA	NA	423.95		NA	
1Q12		1/4/2012	NE	17.66	NA	NA	NA	424.73		NA	
2Q12		4/3/2012	NE	17.58	NA	NA	NA	424.81		NA	
3Q12		7/5/2012	NE	17.87	NA	NA	NA	424.52		NA	
4Q12		10/2/2012	NE	17.97	NA	NA	NA	424.42		NA	
1Q13		1/4/2013	NE	NE	NA	NA	NA	NA		NA	Well Dry
2Q13		4/2/2013	NM	NM	NA	NA	NA	NA		NA	
3Q13		7/5/2013	NE	15.66	NA	NA	NA	426.73		8.2	
P-60-S											
3Q11	446.98	7/5/2011	NE	40.81	NA	NA	NA	406.17	410.50 - 395.50 (36.48 - 51.48)	NA	
		9/19/2011	39.40	39.61	407.37	407.58	0.21	407.54		NA	
4Q11		10/1/2011	NM	NM	NA	NA	NA	NA		NA	
1Q12		1/4/2012	41.39	41.90	405.08	405.59	0.51	405.49		NA	
2Q12		4/3/2012	42.85	43.28	403.70	404.13	0.43	404.04		NA	
3Q12		7/5/2012	43.12	43.26	403.72	403.86	0.14	403.83		NA	
4Q12		10/4/2012	43.94	45.84	401.14	403.04	1.90	402.66		NA	
1Q13		1/4/2013	45.34	45.95	401.03	401.64	0.61	401.52		NA	
2Q13		4/2/2013	46.33	46.39	400.59	400.65	0.06	400.64		NA	
3Q13		7/5/2013	NE	44.45	NA	NA	NA	402.53		0.0	
P-61											
4Q10	444.27	11/11/2010	39.91	40.03	404.24	404.36	0.12	404.33	398.59 - 373.59 (45.68 - 70.68)	NA	*
1Q11		1/13/2011	38.81	38.94	405.33	405.46	0.13	405.43		NA	*
2Q11		4/25/2011	NE	40.93	NA	NA	NA	403.34		NA	*
3Q11		7/5/2011	37.58	37.59	406.68	406.69	0.01	406.69		NA	*
		9/19/2011	NE	37.36	NA	NA	NA	406.91		NA	*
4Q11		10/6/2011	NE	37.63	NA	NA	NA	406.64		NA	*
1Q12		1/3/2012	NE	40.34	NA	NA	NA	403.93		NA	*
2Q12		4/3/2012	NE	41.50	NA	NA	NA	402.77		NA	*
3Q12		7/3/2012	NE	41.53	NA	NA	NA	402.74		NA	*
4Q12		10/2/2012	NE	43.36	NA	NA	NA	400.91		NA	*
1Q13		1/4/2013	43.82	45.95	398.32	400.45	2.13	400.02		NA	*
2Q13		4/2/2013	44.78	46.64	397.63	399.49	1.86	399.12		NA	*
3Q13		7/5/2013	42.52	42.56	401.71	401.75	0.04	401.74		186.4	*
P-62											
4Q10	442.32	11/11/2010	37.14	38.57	403.75	405.18	1.43	404.90	400.85 - 375.85 (41.47 - 66.47)	NA	*
1Q11		1/13/2011	36.39	37.81	404.51	405.93	1.42	405.65		NA	*
2Q11		4/25/2011	NE	38.18	NA	NA	NA	404.14		NA	*
3Q11		7/5/2011	35.62	35.63	406.69	406.70	0.01	406.70		NA	*
		9/19/2011	35.39	35.41	406.91	406.93	0.02	406.93		NA	*
4Q11		10/6/2011	NE	35.64	NA	NA	NA	406.68		NA	*
1Q12		1/3/2012	37.68	37.71	404.61	404.64	0.03	404.64		NA	*
2Q12		4/3/2012	NE	30.94	NA	NA	NA	411.38		NA	*
3Q12		7/3/2012	39.13	39.15	403.17	403.19	0.02	403.19		NA	*
4Q12		10/1/2012	40.61	42.35	399.97	401.71	1.74	401.37		NA	*
1Q13		1/8/2013	NE	30.39	NA	NA	NA	411.93		NA	*
2Q13		4/2/2013	42.81	44.32	398.00	399.51	1.51	399.21		NA	
3Q13		7/1/2013	40.77	41.88	400.44	401.55	1.11	401.33		32.6	*
P-63											
4Q10	445.75	10/1/2010	40.58	40.79	404.96	405.17	0.21	405.13	398.46 - 373.46 (47.29 - 72.29)	NA	*
1Q11		1/13/2011	39.48	39.68	406.07	406.27	0.20	406.23		NA	*
2Q11		4/1/2011	NE	41.11	NA	NA	NA	404.64		NA	*
3Q11		7/5/2011	NE	38.56	NA	NA	NA	407.19		NA	*
		9/19/2011	NE	39.12	NA	NA	NA	406.63		NA	*
4Q11		10/6/2011	NE	39.20	NA	NA	NA	406.55		NA	*
1Q12		1/3/2012	NE	40.65	NA	NA	NA	405.10		NA	*
2Q12		4/3/2012	NE	42.09	NA	NA	NA	403.66		NA	*
3Q12		7/3/2012	NE	42.94	NA	NA	NA	402.81		NA	*
4Q12		10/1/2012	NE	44.55	NA	NA	NA	401.20		NA	*
1Q13		1/4/2013	NE	46.03	NA	NA	NA	399.72		NA	*
2Q13		4/1/2013	NE	46.98	NA	NA	NA	398.77		NA	*
3Q13		7/5/2013	NE	45.41	NA	NA	NA	400.34		142.0	*

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
P-64											
4Q10	446.52	10/1/2010	41.45	41.56	404.96	405.07	0.11	405.05	399.29 - 374.29 (47.23 - 72.23)	NA	*
1Q11		1/13/2011	40.14	40.46	406.06	406.38	0.32	406.32		NA	*
2Q11		4/1/2011	41.77	41.86	404.66	404.75	0.09	404.73		NA	*
3Q11		7/5/2011	39.25	39.42	407.10	407.27	0.17	407.24		NA	*
		9/19/2011	40.10	41.10	405.42	406.42	1.00	406.22		NA	*
4Q11		10/6/2011	40.35	40.53	405.99	406.17	0.18	406.13		NA	*
1Q12		1/3/2012	41.68	41.75	404.77	404.84	0.07	404.83		NA	*
2Q12		4/3/2012	43.18	43.19	403.33	403.34	0.01	403.34		NA	*
3Q12		7/3/2012	44.40	44.41	402.11	402.12	0.01	402.12		NA	*
4Q12		10/1/2012	45.62	45.68	400.84	400.90	0.06	400.89		NA	*
1Q13		1/4/2013	NE	47.84	NA	NA	NA	398.68		NA	
2Q13		4/1/2013	NE	48.23	NA	NA	NA	398.29		NA	
3Q13		7/5/2013	46.95	46.97	399.55	399.57	0.02	399.57		96.5	*
P-65											
4Q10	444.53	10/1/2010	38.61	38.63	405.90	405.92	0.02	405.92	396.91 - 371.91 (47.62 - 72.62)	NA	*
1Q11		1/13/2011	37.73	37.74	406.79	406.80	0.01	406.80		NA	*
2Q11		4/1/2011	NE	39.20	NA	NA	NA	405.33		NA	*
3Q11		7/5/2011	NE	36.87	NA	NA	NA	407.66		NA	*
		9/19/2011	NE	37.54	NA	NA	NA	406.99		NA	*
4Q11		10/6/2011	NE	37.67	NA	NA	NA	406.86		NA	*
1Q12		1/3/2012	NE	39.15	NA	NA	NA	405.38		NA	*
2Q12		4/3/2012	NE	40.76	NA	NA	NA	403.77		NA	*
3Q12		7/3/2012	NE	41.76	NA	NA	NA	402.77		NA	*
4Q12		10/1/2012	NE	43.00	NA	NA	NA	401.53		NA	*
1Q13		1/4/2013	NE	44.61	NA	NA	NA	399.92		NA	*
2Q13		4/1/2013	NM	NM	NA	NA	NA	NA		NA	Well Damaged
3Q13		7/3/2013	NM	NM	NA	NA	NA	NA		NA	Well Damaged
P-66											
4Q10	436.70	11/12/2010	NE	30.02	NA	NA	NA	406.68	401.98 - 376.98 (34.72 - 59.72)	NA	*
1Q11		1/13/2011	NE	30.70	NA	NA	NA	406.00		NA	*
2Q11		4/25/2011	NE	31.26	NA	NA	NA	405.44		NA	*
3Q11		7/5/2011	NE	28.87	NA	NA	NA	407.83		NA	*
		9/19/2011	NE	28.64	NA	NA	NA	408.06		NA	*
4Q11		10/5/2011	NE	28.92	NA	NA	NA	407.78		NA	*
1Q12		1/1/2012	NM	NM	NA	NA	NA	NA		NA	
2Q12		4/1/2012	NM	NM	NA	NA	NA	NA		NA	
3Q12		7/5/2012	32.60	32.61	404.09	404.10	0.01	404.10		NA	*
4Q12		10/2/2012	NE	34.55	NA	NA	NA	402.15		NA	*
1Q13		1/2/2013	NE	35.40	NA	NA	NA	401.30		NA	
2Q13		4/2/2013	NE	36.41	NA	NA	NA	400.29		NA	
3Q13		7/2/2013	NE	33.55	NA	NA	NA	403.15		3.5	*
P-67											
4Q10	444.13	10/1/2010	36.27	36.31	407.82	407.86	0.04	407.85	402.16 - 377.16 (41.98 - 66.98)	NA	*
1Q11		1/13/2011	36.75	36.78	407.35	407.38	0.03	407.37		NA	*
2Q11		4/1/2011	NE	37.24	NA	NA	NA	406.89		NA	*
3Q11		7/5/2011	NE	35.17	NA	NA	NA	408.96		NA	*
		9/19/2011	NE	35.16	NA	NA	NA	408.97		NA	*
4Q11		10/5/2011	NE	35.38	NA	NA	NA	408.75		NA	*
1Q12		1/4/2012	NE	37.08	NA	NA	NA	407.05		NA	*
2Q12		4/3/2012	NE	38.50	NA	NA	NA	405.63		NA	*
3Q12		7/2/2012	NE	38.90	NA	NA	NA	405.23		NA	*
4Q12		10/2/2012	NE	40.81	NA	NA	NA	403.32		NA	*
1Q13		1/2/2013	NE	41.69	NA	NA	NA	402.44		NA	*
2Q13		4/2/2013	42.79	42.80	401.33	401.34	0.01	401.34		NA	
3Q13		7/2/2013	NE	40.29	NA	NA	NA	403.84		0.0	*
P-68											
4Q10	445.07	11/12/2010	39.32	43.42	401.65	405.75	4.10	404.93	399.81 - 374.81 (45.26 - 70.26)	NA	*
1Q11		1/13/2011	39.15	43.18	401.89	405.92	4.03	405.12		NA	*
2Q11		4/25/2011	41.42	41.51	403.56	403.65	0.09	403.63		NA	*
3Q11		7/5/2011	39.06	39.13	405.94	406.01	0.07	406.00		NA	*
		9/19/2011	39.01	39.03	406.04	406.06	0.02	406.06		NA	*
4Q11		10/6/2011	38.53	38.58	406.49	406.54	0.05	406.53		NA	*
1Q12		1/4/2012	40.53	40.61	404.46	404.54	0.08	404.52		NA	*
2Q12		4/3/2012	NE	42.08	NA	NA	NA	402.99		NA	*
3Q12		7/5/2012	42.08	42.12	402.95	402.99	0.04	402.98		NA	*
4Q12		10/2/2012	43.85	44.04	401.03	401.22	0.19	401.18		NA	*
1Q13		1/4/2013	NM	NM	NA	NA	NA	NA		NA	
2Q13		4/2/2013	45.40	45.54	399.53	399.67	0.14	399.64		NA	
3Q13		7/5/2013	43.05	43.12	401.95	402.02	0.07	402.01		197.0	*
P-69											
4Q10	443.18	11/11/2010	38.99	39.02	404.16	404.19	0.03	404.19	402.36 - 377.36 (40.82 - 65.82)	NA	*
1Q11		1/13/2011	38.62	38.63	404.55	404.56	0.01	404.56		NA	*
2Q11		4/25/2011	NE	39.98	NA	NA	NA	403.20		NA	*
3Q11		7/5/2011	NE	37.41	NA	NA	NA	405.77		NA	*
		9/19/2011	NE	36.62	NA	NA	NA	406.56		NA	*
4Q11		10/6/2011	NE	36.77	NA	NA	NA	406.41		NA	*
1Q12		1/4/2012	NE	39.18	NA	NA	NA	404.00		NA	*
2Q12		4/3/2012	NE	40.59	NA	NA	NA	402.59		NA	*
3Q12		7/5/2012	NE	40.61	NA	NA	NA	402.57		NA	*
4Q12		10/2/2012	NE	42.46	NA	NA	NA	400.72		NA	
1Q13		1/4/2013	NE	43.85	NA	NA	NA	399.33		NA	
2Q13		4/2/2013	NE	43.94	NA	NA	NA	399.24		NA	
3Q13		7/5/2013	NE	41.36	NA	NA	NA	401.82		0.0	

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
P-70											
4Q10	442.83	11/11/2010	38.20	38.69	404.14	404.63	0.49	404.53	398.16 - 373.16 (44.67 - 69.67)	NA	*
1Q11		1/13/2011	37.48	37.90	404.93	405.35	0.42	405.27		NA	*
2Q11		4/25/2011	39.20	39.22	403.61	403.63	0.02	403.62		NA	*
3Q11		7/5/2011	36.42	36.43	406.40	406.41	0.01	406.41		NA	*
		9/19/2011	NE	35.98	NA	NA	NA	406.85		NA	*
4Q11		10/6/2011	NE	36.25	NA	NA	NA	406.58		NA	*
1Q12		1/3/2012	NE	38.62	NA	NA	NA	404.21		NA	*
2Q12		4/3/2012	NE	39.80	NA	NA	NA	403.03		NA	*
3Q12		7/3/2012	NE	39.83	NA	NA	NA	403.00		NA	*
4Q12		10/1/2012	NE	41.67	NA	NA	NA	401.16		NA	*
1Q13		1/4/2013	NE	42.72	NA	NA	NA	400.11		NA	*
2Q13		4/2/2013	NE	43.59	NA	NA	NA	399.24		NA	*
3Q13		7/5/2013	NE	41.06	NA	NA	NA	401.77		134.2	*
P-71											
4Q10	444.83	11/11/2010	NE	38.92	NA	NA	NA	405.91	402.22 - 377.22 (42.61 - 67.61)	NA	*
1Q11		1/13/2011	NE	38.32	NA	NA	NA	406.51		NA	*
2Q11		4/25/2011	NE	39.52	NA	NA	NA	405.31		NA	*
3Q11		7/5/2011	NE	37.91	NA	NA	NA	406.92		NA	*
		9/19/2011	NE	37.71	NA	NA	NA	407.12		NA	*
4Q11		10/6/2011	NE	47.31	NA	NA	NA	397.52		NA	
1Q12		1/3/2012	NE	38.91	NA	NA	NA	405.92		NA	*
2Q12		4/3/2012	NE	40.34	NA	NA	NA	404.49		NA	*
3Q12		7/3/2012	NE	40.90	NA	NA	NA	403.93		NA	*
4Q12		10/2/2012	42.69	42.75	402.08	402.14	0.06	402.13		NA	
1Q13		1/4/2013	NE	43.83	NA	NA	NA	401.00		NA	
2Q13		4/2/2013	NE	44.54	NA	NA	NA	400.29		NA	
3Q13		7/5/2013	NE	42.65	NA	NA	NA	402.18		82.5	
P-72											
4Q10	444.43	11/11/2010	38.01	38.06	406.37	406.42	0.05	406.41	398.66 - 373.66 (45.77 - 70.77)	NA	*
1Q11		1/13/2011	37.65	37.66	406.77	406.78	0.01	406.78		NA	*
2Q11		4/25/2011	38.78	38.80	405.63	405.65	0.02	405.65		NA	*
3Q11		7/5/2011	37.02	37.03	407.40	407.41	0.01	407.41		NA	*
		9/19/2011	NE	36.60	NA	NA	NA	407.83		NA	*
4Q11		10/6/2011	NE	36.82	NA	NA	NA	407.61		NA	*
1Q12		1/3/2012	NE	38.43	NA	NA	NA	406.00		NA	*
2Q12		4/3/2012	NE	39.58	NA	NA	NA	404.85		NA	*
3Q12		7/3/2012	NE	40.30	NA	NA	NA	404.13		NA	*
4Q12		10/1/2012	NE	41.88	NA	NA	NA	402.55		NA	*
1Q13		1/4/2013	NE	43.27	NA	NA	NA	401.16		NA	*
2Q13		4/1/2013	NE	44.23	NA	NA	NA	400.20		NA	*
3Q13		7/5/2013	NE	42.36	NA	NA	NA	402.07		2.0	*
P-73											
4Q10	443.76	11/11/2010	NE	38.10	NA	NA	NA	405.66	402.17 - 377.17 (41.60 - 66.60)	NA	*
1Q11		1/13/2011	NE	38.10	NA	NA	NA	405.66		NA	*
2Q11		4/25/2011	NE	39.13	NA	NA	NA	404.63		NA	*
3Q11		7/5/2011	NE	36.88	NA	NA	NA	406.88		NA	*
		9/19/2011	NE	36.38	NA	NA	NA	407.38		NA	*
4Q11		10/6/2011	NE	36.68	NA	NA	NA	407.08		NA	*
1Q12		1/4/2012	NE	38.68	NA	NA	NA	405.08		NA	*
2Q12		4/3/2012	NE	40.03	NA	NA	NA	403.73		NA	*
3Q12		7/5/2012	NE	40.28	NA	NA	NA	403.48		NA	*
4Q12		10/2/2012	NE	42.02	NA	NA	NA	401.74		NA	
1Q13		1/4/2013	NE	43.04	NA	NA	NA	400.72		NA	
2Q13		4/1/2013	NE	43.93	NA	NA	NA	399.83		NA	
3Q13		7/5/2013	NE	41.48	NA	NA	NA	402.28		18.3	*
P-74											
4Q10	442.63	11/12/2010	NE	38.29	NA	NA	NA	404.34	398.20 - 373.20 (44.43 - 69.43)	NA	*
1Q11		1/13/2011	NE	37.94	NA	NA	NA	404.69		NA	*
2Q11		4/25/2011	NE	39.18	NA	NA	NA	403.45		NA	*
3Q11		7/5/2011	NE	36.51	NA	NA	NA	406.12		NA	*
		9/19/2011	NE	35.86	NA	NA	NA	406.77		NA	*
4Q11		10/6/2011	NE	36.26	NA	NA	NA	406.37		NA	*
1Q12		1/4/2012	NE	38.56	NA	NA	NA	404.07		NA	*
2Q12		4/3/2012	NE	39.94	NA	NA	NA	402.69		NA	*
3Q12		7/5/2012	NE	42.14	NA	NA	NA	400.49		NA	*
4Q12		10/2/2012	NE	41.78	NA	NA	NA	400.85		NA	*
1Q13		1/4/2013	NE	42.55	NA	NA	NA	400.08		NA	*
2Q13		4/2/2013	NE	43.23	NA	NA	NA	399.40		NA	*
3Q13		7/5/2013	NE	40.55	NA	NA	NA	402.08		0.0	*
P-75											
4Q10	446.32	11/11/2010	39.72	40.00	406.32	406.60	0.28	406.55	403.19 - 378.19 (43.13 - 68.13)	NA	*
1Q11		1/13/2011	40.04	40.43	405.89	406.28	0.39	406.21		NA	*
2Q11		4/25/2011	40.81	40.83	405.49	405.51	0.02	405.51		NA	*
3Q11		7/5/2011	38.57	38.59	407.73	407.75	0.02	407.75		NA	*
		9/19/2011	NE	38.31	NA	NA	NA	408.01		NA	*
4Q11		10/5/2011	38.52	38.53	407.79	407.80	0.01	407.80		NA	*
1Q12		1/4/2012	NE	40.48	NA	NA	NA	405.84		NA	*
2Q12		4/4/2012	NE	41.62	NA	NA	NA	404.70		NA	*
3Q12		7/2/2012	42.14	42.14	404.18	404.18	0.00	404.18		NA	*
4Q12		10/2/2012	44.10	44.20	402.12	402.22	0.10	402.20		NA	
1Q13		1/2/2013	NE	44.87	NA	NA	NA	401.45		NA	
2Q13		4/2/2013	NE	46.03	NA	NA	NA	400.29		NA	
3Q13		7/2/2013	NE	43.43	NA	NA	NA	402.89		0.0	

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
P-82A											
4Q10		10/1/2010	NE	24.07	NA	NA	NA	410.62		NA	*
1Q11		1/13/2011	NE	25.29	NA	NA	NA	409.40		NA	*
2Q11		4/1/2011	NE	25.12	NA	NA	NA	409.57		NA	*
3Q11		7/5/2011	NE	23.01	NA	NA	NA	411.68		NA	*
		9/19/2011	NE	23.62	NA	NA	NA	411.07		NA	*
4Q11		10/5/2011	NE	24.00	NA	NA	NA	410.69		NA	*
1Q12	434.69	1/3/2012	NE	25.50	NA	NA	NA	409.19	401.48 - 386.48 (33.21 - 48.21)	NA	*
2Q12		4/2/2012	NE	26.82	NA	NA	NA	407.87		NA	*
3Q12		7/2/2012	NE	27.34	NA	NA	NA	407.35		NA	*
4Q12		10/2/2012	NE	29.07	NA	NA	NA	405.62		NA	*
1Q13		1/3/2013	NE	30.09	NA	NA	NA	404.60		NA	*
2Q13		4/2/2013	NE	30.77	NA	NA	NA	403.92		NA	*
3Q13		7/2/2013	NE	27.75	NA	NA	NA	406.94		0.0	*
P-82B											
4Q10		10/1/2010	NE	23.78	NA	NA	NA	410.66		NA	*
1Q11		1/13/2011	NE	25.01	NA	NA	NA	409.43		NA	*
2Q11		4/1/2011	NE	24.85	NA	NA	NA	409.59		NA	*
3Q11		7/5/2011	NE	22.71	NA	NA	NA	411.73		NA	*
		9/19/2011	NE	23.36	NA	NA	NA	411.08		NA	*
4Q11		10/5/2011	NE	23.73	NA	NA	NA	410.71		NA	*
1Q12	434.44	1/3/2012	NE	25.21	NA	NA	NA	409.23	370.84 - 368.84 (63.60 - 65.60)	NA	*
2Q12		4/2/2012	NE	26.55	NA	NA	NA	407.89		NA	*
3Q12		7/2/2012	NE	27.07	NA	NA	NA	407.37		NA	*
4Q12		10/2/2012	NE	28.81	NA	NA	NA	405.63		NA	*
1Q13		1/3/2013	NE	29.82	NA	NA	NA	404.62		NA	*
2Q13		4/2/2013	NE	30.50	NA	NA	NA	403.94		NA	*
3Q13		7/2/2013	NE	27.49	NA	NA	NA	406.95		0.0	*
P-82C											
4Q10		10/1/2010	NE	23.49	NA	NA	NA	410.67		NA	*
1Q11		1/13/2011	NE	24.73	NA	NA	NA	409.43		NA	*
2Q11		4/1/2011	NE	24.87	NA	NA	NA	409.29		NA	*
3Q11		7/5/2011	NE	22.75	NA	NA	NA	411.41		NA	*
		9/19/2011	NE	23.40	NA	NA	NA	410.76		NA	*
4Q11		10/5/2011	NE	23.81	NA	NA	NA	410.35		NA	*
1Q12	434.16	1/3/2012	NE	25.26	NA	NA	NA	408.90	351.39 - 349.39 (82.77 - 84.77)	NA	*
2Q12		4/2/2012	NE	26.61	NA	NA	NA	407.55		NA	*
3Q12		7/2/2012	NE	27.11	NA	NA	NA	407.05		NA	*
4Q12		10/2/2012	NE	28.85	NA	NA	NA	405.31		NA	*
1Q13		1/3/2013	NE	29.86	NA	NA	NA	404.30		NA	*
2Q13		4/2/2013	NE	30.54	NA	NA	NA	403.62		NA	*
3Q13		7/2/2013	NE	27.51	NA	NA	NA	406.65		0.0	*
P-82D											
4Q10		10/1/2010	NE	24.26	NA	NA	NA	410.59		NA	*
1Q11		1/13/2011	NE	25.48	NA	NA	NA	409.37		NA	*
2Q11		4/1/2011	NE	25.63	NA	NA	NA	409.22		NA	*
3Q11		7/5/2011	NE	23.54	NA	NA	NA	411.31		NA	*
		9/19/2011	NE	24.16	NA	NA	NA	410.69		NA	*
4Q11		10/5/2011	NE	24.56	NA	NA	NA	410.29		NA	*
1Q12	434.85	1/3/2012	NE	26.06	NA	NA	NA	408.79	323.43 - 321.43 (111.42 - 113.42)	NA	*
2Q12		4/2/2012	NE	27.37	NA	NA	NA	407.48		NA	*
3Q12		7/2/2012	NE	27.91	NA	NA	NA	406.94		NA	*
4Q12		10/2/2012	NE	29.62	NA	NA	NA	405.23		NA	*
1Q13		1/3/2013	NE	30.65	NA	NA	NA	404.20		NA	*
2Q13		4/2/2013	NE	31.31	NA	NA	NA	403.54		NA	*
3Q13		7/2/2013	NE	28.24	NA	NA	NA	406.61		0.0	*
P-83A											
4Q10		10/1/2010	NE	38.82	NA	NA	NA	406.41		NA	*
1Q11		1/13/2011	NE	37.93	NA	NA	NA	407.30		NA	*
2Q11		4/1/2011	NE	38.42	NA	NA	NA	406.81		NA	*
3Q11		7/5/2011	NE	36.25	NA	NA	NA	408.98		NA	*
		9/19/2011	NE	37.21	NA	NA	NA	408.02		NA	*
4Q11		10/6/2011	NE	37.41	NA	NA	NA	407.82		NA	*
1Q12	445.23	1/3/2012	NE	38.31	NA	NA	NA	406.92	398.58 - 383.58 (46.65 - 61.65)	NA	*
2Q12		4/2/2012	NE	39.85	NA	NA	NA	405.38		NA	*
3Q12		7/2/2012	NE	40.50	NA	NA	NA	404.73		NA	*
4Q12		10/1/2012	NE	42.29	NA	NA	NA	402.94		NA	*
1Q13		1/3/2013	NE	43.85	NA	NA	NA	401.38		NA	*
2Q13		4/2/2013	NE	44.75	NA	NA	NA	400.48		NA	*
3Q13		7/3/2013	NE	43.44	NA	NA	NA	401.79		0.0	*
P-83B											
4Q10		10/1/2010	NE	39.08	NA	NA	NA	406.39		NA	*
1Q11		1/13/2011	NE	38.20	NA	NA	NA	407.27		NA	*
2Q11		4/1/2011	NE	38.69	NA	NA	NA	406.78		NA	*
3Q11		7/5/2011	NE	36.57	NA	NA	NA	408.90		NA	*
		9/19/2011	NE	37.48	NA	NA	NA	407.99		NA	*
4Q11		10/6/2011	NE	37.68	NA	NA	NA	407.79		NA	*
1Q12	445.47	1/3/2012	NE	38.58	NA	NA	NA	406.89	375.82 - 373.82 (69.65 - 71.65)	NA	*
2Q12		4/2/2012	NE	40.13	NA	NA	NA	405.34		NA	*
3Q12		7/2/2012	NE	40.85	NA	NA	NA	404.62		NA	*
4Q12		10/1/2012	NE	42.57	NA	NA	NA	402.90		NA	*
1Q13		1/3/2013	NE	44.13	NA	NA	NA	401.34		NA	*
2Q13		4/2/2013	NE	44.99	NA	NA	NA	400.48		NA	*
3Q13		7/3/2013	NE	43.71	NA	NA	NA	401.76		0.0	*

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
P-83C											
4Q10	445.64	10/1/2010	NE	39.24	NA	NA	NA	406.40	353.25 - 351.25 (92.39 - 94.39)	NA	*
1Q11		1/13/2011	NE	38.68	NA	NA	NA	406.96		NA	*
2Q11		4/1/2011	NE	38.85	NA	NA	NA	406.79		NA	*
3Q11		7/5/2011	NE	37.02	NA	NA	NA	408.62		NA	*
		9/19/2011	NE	37.94	NA	NA	NA	407.70		NA	*
4Q11		10/6/2011	NE	38.15	NA	NA	NA	407.49		NA	*
1Q12		1/3/2012	NE	39.05	NA	NA	NA	406.59		NA	*
2Q12		4/2/2012	NE	40.61	NA	NA	NA	405.03		NA	*
3Q12		7/2/2012	NE	40.96	NA	NA	NA	404.68		NA	*
4Q12		10/1/2012	NE	43.04	NA	NA	NA	402.60		NA	*
1Q13		1/3/2013	NE	44.59	NA	NA	NA	401.05		NA	*
2Q13		4/2/2013	NE	45.41	NA	NA	NA	400.23		NA	*
3Q13		7/3/2013	NE	44.17	NA	NA	NA	401.47		0.0	*
P-83D											
4Q10	445.55	10/1/2010	NE	39.11	NA	NA	NA	406.44	311.84 - 309.84 (133.71 - 135.71)	NA	*
1Q11		1/13/2011	NE	38.59	NA	NA	NA	406.96		NA	*
2Q11		4/1/2011	NE	38.31	NA	NA	NA	407.24		NA	*
3Q11		7/5/2011	NE	36.98	NA	NA	NA	408.57		NA	*
		9/19/2011	NE	37.87	NA	NA	NA	407.68		NA	*
4Q11		10/6/2011	NE	38.07	NA	NA	NA	407.48		NA	*
1Q12		1/3/2012	NE	39.01	NA	NA	NA	406.54		NA	*
2Q12		4/2/2012	NE	40.53	NA	NA	NA	405.02		NA	*
3Q12		7/2/2012	NE	40.12	NA	NA	NA	405.43		NA	*
4Q12		10/1/2012	NE	42.98	NA	NA	NA	402.57		NA	*
1Q13		1/3/2013	NE	44.54	NA	NA	NA	401.01		NA	*
2Q13		4/2/2013	NE	45.38	NA	NA	NA	400.17		NA	*
3Q13		7/3/2013	NE	44.12	NA	NA	NA	401.43		0.0	*
P-84A											
4Q10	446.39	11/11/2010	NE	39.95	NA	NA	NA	406.44	392.57 - 377.57 (53.82 - 68.82)	NA	*
1Q11		1/13/2011	NE	39.55	NA	NA	NA	406.84		NA	*
2Q11		4/25/2011	NE	40.11	NA	NA	NA	406.28		NA	*
3Q11		7/5/2011	NE	38.58	NA	NA	NA	407.81		NA	*
4Q11		10/6/2011	NE	34.36	NA	NA	NA	412.03		NA	*
1Q12		1/5/2012	NE	39.49	NA	NA	NA	406.90		NA	*
2Q12		4/3/2012	NE	40.70	NA	NA	NA	405.69		NA	*
3Q12		7/5/2012	NE	41.40	NA	NA	NA	404.99		NA	*
4Q12		10/2/2012	NE	43.10	NA	NA	NA	403.29		NA	*
1Q13		1/4/2013	NE	44.20	NA	NA	NA	402.19		NA	*
2Q13		4/3/2013	NE	45.51	NA	NA	NA	400.88		NA	*
3Q13		7/5/2013	NE	43.85	NA	NA	NA	402.54		0.0	*
P-84B											
4Q10	446.10	11/11/2010	NE	39.67	NA	NA	NA	406.43	372.60 - 370.60 (73.50 - 75.50)	NA	*
1Q11		1/13/2011	NE	39.27	NA	NA	NA	406.83		NA	*
2Q11		4/25/2011	NE	39.85	NA	NA	NA	406.25		NA	*
3Q11		7/5/2011	NE	38.32	NA	NA	NA	407.78		NA	*
4Q11		10/6/2011	NE	38.09	NA	NA	NA	408.01		NA	*
1Q12		1/5/2012	NE	39.23	NA	NA	NA	406.87		NA	*
2Q12		4/3/2012	NE	40.43	NA	NA	NA	405.67		NA	*
3Q12		7/5/2012	NE	41.43	NA	NA	NA	404.67		NA	*
4Q12		10/2/2012	NE	42.84	NA	NA	NA	403.26		NA	*
1Q13		1/4/2013	NE	43.92	NA	NA	NA	402.18		NA	*
2Q13		4/3/2013	NE	45.24	NA	NA	NA	400.86		NA	*
3Q13		7/5/2013	NE	43.59	NA	NA	NA	402.51		0.0	*
P-84C											
4Q10	446.13	11/11/2010	NE	39.68	NA	NA	NA	406.45	352.08 - 350.08 (94.05 - 96.05)	NA	*
1Q11		1/13/2011	NE	39.29	NA	NA	NA	406.84		NA	*
2Q11		4/25/2011	NE	39.86	NA	NA	NA	406.27		NA	*
3Q11		7/5/2011	NE	38.64	NA	NA	NA	407.49		NA	*
4Q11		10/6/2011	NE	38.41	NA	NA	NA	407.72		NA	*
1Q12		1/5/2012	NE	39.53	NA	NA	NA	406.60		NA	*
2Q12		4/3/2012	NE	40.75	NA	NA	NA	405.38		NA	*
3Q12		7/5/2012	NE	41.45	NA	NA	NA	404.68		NA	*
4Q12		10/2/2012	NE	43.15	NA	NA	NA	402.98		NA	*
1Q13		1/4/2013	NE	44.39	NA	NA	NA	401.74		NA	*
2Q13		4/3/2013	NE	45.52	NA	NA	NA	400.61		NA	*
3Q13		7/5/2013	NE	43.85	NA	NA	NA	402.28		0.0	*
P-84D											
4Q10	446.14	11/11/2010	NE	39.69	NA	NA	NA	406.45	324.99 - 322.99 (121.15 - 123.15)	NA	*
1Q11		1/13/2011	NE	39.31	NA	NA	NA	406.83		NA	*
2Q11		4/25/2011	NE	39.87	NA	NA	NA	406.27		NA	*
3Q11		7/5/2011	NE	38.68	NA	NA	NA	407.46		NA	*
4Q11		10/6/2011	NE	38.43	NA	NA	NA	407.71		NA	*
1Q12		1/5/2012	NE	39.55	NA	NA	NA	406.59		NA	*
2Q12		4/3/2012	NE	40.77	NA	NA	NA	405.37		NA	*
3Q12		7/5/2012	NE	41.46	NA	NA	NA	404.68		NA	*
4Q12		10/2/2012	NE	43.18	NA	NA	NA	402.96		NA	*
1Q13		1/4/2013	NE	44.41	NA	NA	NA	401.73		NA	*
2Q13		4/3/2013	NE	45.52	NA	NA	NA	400.62		NA	*
3Q13		7/5/2013	NE	44.00	NA	NA	NA	402.14		0.0	*

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
P-88A											
4Q10	443.12	10/1/2010	NE	30.65	NA	NA	NA	412.47	404.72 - 389.72 (38.40 - 53.40)	NA	*
1Q11		1/14/2011	NE	31.16	NA	NA	NA	411.96		NA	*
2Q11		4/1/2011	NE	31.36	NA	NA	NA	411.76		NA	*
3Q11		7/5/2011	NE	29.78	NA	NA	NA	413.34		NA	*
		9/19/2011	NE	29.72	NA	NA	NA	413.40		NA	*
4Q11		10/5/2011	NE	29.92	NA	NA	NA	413.20		NA	*
1Q12		1/4/2012	NE	31.18	NA	NA	NA	411.94		NA	*
2Q12		4/3/2012	NE	32.55	NA	NA	NA	410.57		NA	*
3Q12		7/2/2012	NE	32.97	NA	NA	NA	410.15		NA	*
4Q12		10/2/2012	NE	34.58	NA	NA	NA	408.54		NA	*
1Q13		1/2/2013	NE	35.80	NA	NA	NA	407.32		NA	*
2Q13		4/2/2013	NE	36.74	NA	NA	NA	406.38		NA	*
3Q13		7/2/2013	NE	35.05	NA	NA	NA	408.07		0.0	*
P-88B											
4Q10	443.17	10/1/2010	NE	30.87	NA	NA	NA	412.30	370.62 - 368.62 (72.55 - 74.55)	NA	*
1Q11		1/14/2011	NE	31.37	NA	NA	NA	411.80		NA	*
2Q11		4/1/2011	NE	31.42	NA	NA	NA	411.75		NA	*
3Q11		7/5/2011	NE	29.71	NA	NA	NA	413.46		NA	*
		9/19/2011	NE	29.64	NA	NA	NA	413.53		NA	*
4Q11		10/5/2011	NE	29.86	NA	NA	NA	413.31		NA	*
1Q12		1/4/2012	NE	31.16	NA	NA	NA	412.01		NA	*
2Q12		4/3/2012	NE	32.50	NA	NA	NA	410.67		NA	*
3Q12		7/2/2012	NE	33.01	NA	NA	NA	410.16		NA	*
4Q12		10/2/2012	NE	34.56	NA	NA	NA	408.61		NA	*
1Q13		1/2/2013	NE	35.82	NA	NA	NA	407.35		NA	*
2Q13		4/2/2013	NE	36.79	NA	NA	NA	406.38		NA	*
3Q13		7/2/2013	NE	35.15	NA	NA	NA	408.02		0.0	*
P-88C											
4Q10	443.16	10/1/2010	NE	30.67	NA	NA	NA	412.49	350.86 - 348.86 (92.30 - 94.30)	NA	*
1Q11		1/14/2011	NE	31.17	NA	NA	NA	411.99		NA	*
2Q11		4/1/2011	NE	31.38	NA	NA	NA	411.78		NA	*
3Q11		7/5/2011	NE	30.02	NA	NA	NA	413.14		NA	*
		9/19/2011	NE	29.95	NA	NA	NA	413.21		NA	*
4Q11		10/5/2011	NE	30.14	NA	NA	NA	413.02		NA	*
1Q12		1/4/2012	NE	31.44	NA	NA	NA	411.72		NA	*
2Q12		4/3/2012	NE	32.78	NA	NA	NA	410.38		NA	*
3Q12		7/2/2012	NE	33.15	NA	NA	NA	410.01		NA	*
4Q12		10/2/2012	NE	34.83	NA	NA	NA	408.33		NA	*
1Q13		1/2/2013	NE	36.10	NA	NA	NA	407.06		NA	*
2Q13		4/2/2013	NE	37.07	NA	NA	NA	406.09		NA	*
3Q13		7/2/2013	NE	35.44	NA	NA	NA	407.72		0.0	*
P-88D											
4Q10	443.23	10/1/2010	NE	30.73	NA	NA	NA	412.50	329.53 - 327.53 (113.70 - 115.70)	NA	*
1Q11		1/14/2011	NE	31.35	NA	NA	NA	411.88		NA	*
2Q11		4/1/2011	NE	31.81	NA	NA	NA	411.42		NA	*
3Q11		7/5/2011	NE	30.08	NA	NA	NA	413.15		NA	*
		9/19/2011	NE	30.03	NA	NA	NA	413.20		NA	*
4Q11		10/5/2011	NE	30.25	NA	NA	NA	412.98		NA	*
1Q12		1/4/2012	NE	31.57	NA	NA	NA	411.66		NA	*
2Q12		4/3/2012	NE	32.91	NA	NA	NA	410.32		NA	*
3Q12		7/2/2012	NE	33.41	NA	NA	NA	409.82		NA	*
4Q12		10/2/2012	NE	34.99	NA	NA	NA	408.24		NA	*
1Q13		1/2/2013	NE	36.23	NA	NA	NA	407.00		NA	*
2Q13		4/2/2013	NE	37.21	NA	NA	NA	406.02		NA	*
3Q13		7/2/2013	NE	35.51	NA	NA	NA	407.72		0.0	*
T-37											
4Q10	447.15	10/1/2010	NE	38.12	NA	NA	NA	409.03	398.30 - 378.30 (48.86 - 68.86)	NA	*
1Q11		1/13/2011	NE	37.61	NA	NA	NA	409.54		NA	*
2Q11		4/1/2011	NE	37.63	NA	NA	NA	409.52		NA	*
3Q11		7/5/2011	NE	35.84	NA	NA	NA	411.31		NA	*
4Q11		10/6/2011	NE	36.90	NA	NA	NA	410.25		NA	*
1Q12		1/3/2012	NE	37.95	NA	NA	NA	409.20		NA	*
2Q12		4/2/2012	NE	39.12	NA	NA	NA	408.03		NA	*
3Q12		7/2/2012	NE	39.91	NA	NA	NA	407.24		NA	*
4Q12		10/1/2012	NE	41.44	NA	NA	NA	405.71		NA	*
1Q13		1/3/2013	NE	43.07	NA	NA	NA	404.08		NA	*
2Q13		4/1/2013	NE	43.79	NA	NA	NA	403.36		NA	*
3Q13		7/3/2013	NE	42.66	NA	NA	NA	404.49		0.0	*
P-89B											
4Q10	447.35	10/1/2010	NE	38.29	NA	NA	NA	409.06	369.99 - 367.99 (77.36 - 79.36)	NA	*
1Q11		1/14/2011	NE	37.78	NA	NA	NA	409.57		NA	*
2Q11		4/1/2011	NE	37.80	NA	NA	NA	409.55		NA	*
3Q11		7/5/2011	NE	35.99	NA	NA	NA	411.36		NA	*
		9/19/2011	NE	36.81	NA	NA	NA	410.54		NA	*
4Q11		10/6/2011	NE	37.05	NA	NA	NA	410.30		NA	*
1Q12		1/3/2012	NE	38.10	NA	NA	NA	409.25		NA	*
2Q12		4/2/2012	NE	39.30	NA	NA	NA	408.05		NA	*
3Q12		7/2/2012	NE	40.09	NA	NA	NA	407.26		NA	*
4Q12		10/1/2012	NE	41.62	NA	NA	NA	405.73		NA	*
1Q13		1/3/2013	NE	43.23	NA	NA	NA	404.12		NA	*
2Q13		4/1/2013	NE	43.96	NA	NA	NA	403.39		NA	*
3Q13		7/3/2013	NE	42.83	NA	NA	NA	404.52		0.0	*

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
P-89C											
4Q10	447.68	10/1/2010	NE	38.64	NA	NA	NA	409.04	350.05 - 348.05 (97.63 - 99.63)	NA	*
1Q11		1/14/2011	NE	38.10	NA	NA	NA	409.58		NA	*
2Q11		4/1/2011	NE	38.14	NA	NA	NA	409.54		NA	*
3Q11		7/5/2011	NE	36.33	NA	NA	NA	411.35		NA	*
		9/19/2011	NE	37.13	NA	NA	NA	410.55		NA	*
4Q11		10/6/2011	NE	37.39	NA	NA	NA	410.29		NA	*
1Q12		1/3/2012	NE	38.42	NA	NA	NA	409.26		NA	*
2Q12		4/2/2012	NE	39.63	NA	NA	NA	408.05		NA	*
3Q12		7/2/2012	NE	40.42	NA	NA	NA	407.26		NA	*
4Q12		10/1/2012	NE	41.94	NA	NA	NA	405.74		NA	*
1Q13		1/3/2013	NE	43.58	NA	NA	NA	404.10		NA	*
2Q13		4/2/2013	NE	44.28	NA	NA	NA	403.40		NA	*
3Q13		7/3/2013	NE	43.20	NA	NA	NA	404.48		2.3	*
P-89D											
4Q10	447.54	10/1/2010	NE	38.61	NA	NA	NA	408.93	307.20 - 305.20 (140.34 - 142.34)	NA	*
1Q11		1/14/2011	NE	38.11	NA	NA	NA	409.43		NA	*
2Q11		4/1/2011	NE	38.12	NA	NA	NA	409.42		NA	*
3Q11		7/5/2011	NE	36.23	NA	NA	NA	411.31		NA	*
		9/19/2011	NE	37.04	NA	NA	NA	410.50		NA	*
4Q11		10/6/2011	NE	37.35	NA	NA	NA	410.19		NA	*
1Q12		1/3/2012	NE	38.47	NA	NA	NA	409.07		NA	*
2Q12		4/2/2012	NE	39.56	NA	NA	NA	407.98		NA	*
3Q12		7/2/2012	NE	40.36	NA	NA	NA	407.18		NA	*
4Q12		10/1/2012	NE	41.94	NA	NA	NA	405.60		NA	*
1Q13		1/3/2013	NE	43.52	NA	NA	NA	404.02		NA	*
2Q13		4/1/2013	NE	44.20	NA	NA	NA	403.34		NA	*
3Q13		7/3/2013	NE	43.20	NA	NA	NA	404.34		0.0	*
P-91A											
4Q10	447.19	10/1/2010	42.70	43.19	404.00	404.49	0.49	404.39	395.68 - 380.68 (51.52 - 66.52)	NA	*
1Q11		1/14/2011	41.19	41.64	405.55	406.00	0.45	405.91		NA	*
2Q11		4/1/2011	NE	43.10	NA	NA	NA	404.09		NA	*
3Q11		7/5/2011	NE	40.42	NA	NA	NA	406.77		NA	*
		9/19/2011	NE	41.69	NA	NA	NA	405.50		NA	*
4Q11		10/6/2011	NE	41.63	NA	NA	NA	405.56		NA	*
1Q12		1/3/2012	NE	42.91	NA	NA	NA	404.28		NA	*
2Q12		4/3/2012	NE	44.31	NA	NA	NA	402.88		NA	*
3Q12		7/2/2012	NE	45.76	NA	NA	NA	401.43		NA	*
4Q12		10/1/2012	NE	46.72	NA	NA	NA	400.47		NA	*
1Q13		1/4/2013	NE	48.92	NA	NA	NA	398.27		NA	*
2Q13		4/1/2013	NE	49.58	NA	NA	NA	397.61		NA	*
3Q13		7/3/2013	NE	48.64	NA	NA	NA	398.55		182.3	*
P-91B											
4Q10	447.26	10/1/2010	NE	42.87	NA	NA	NA	404.39	372.57 - 370.57 (74.69 - 76.69)	NA	*
1Q11		1/14/2011	NE	41.41	NA	NA	NA	405.85		NA	*
2Q11		4/1/2011	NE	43.28	NA	NA	NA	403.98		NA	*
3Q11		7/5/2011	NE	40.62	NA	NA	NA	406.64		NA	*
		9/19/2011	NE	41.78	NA	NA	NA	405.48		NA	*
4Q11		10/6/2011	NE	41.53	NA	NA	NA	405.73		NA	*
1Q12		1/3/2012	NE	43.00	NA	NA	NA	404.26		NA	*
2Q12		4/3/2012	NE	44.11	NA	NA	NA	403.15		NA	*
3Q12		7/2/2012	NE	45.74	NA	NA	NA	401.52		NA	*
4Q12		10/1/2012	NE	46.79	NA	NA	NA	400.47		NA	*
1Q13		1/4/2013	NE	49.10	NA	NA	NA	398.16		NA	*
2Q13		4/1/2013	NE	49.70	NA	NA	NA	397.56		NA	*
3Q13		7/3/2013	NE	48.72	NA	NA	NA	398.54		2.5	*
P-91C											
4Q10	447.02	10/1/2010	NE	42.57	NA	NA	NA	404.45	352.29 - 350.29 (94.73 - 96.73)	NA	*
1Q11		1/14/2011	NE	41.18	NA	NA	NA	405.84		NA	*
2Q11		4/1/2011	NE	43.00	NA	NA	NA	404.02		NA	*
3Q11		7/5/2011	NE	40.35	NA	NA	NA	406.67		NA	*
		9/19/2011	NE	41.51	NA	NA	NA	405.51		NA	*
4Q11		10/6/2011	NE	41.47	NA	NA	NA	405.55		NA	*
1Q12		1/3/2012	NE	42.74	NA	NA	NA	404.28		NA	*
2Q12		4/3/2012	NE	44.11	NA	NA	NA	402.91		NA	*
3Q12		7/2/2012	NE	45.53	NA	NA	NA	401.49		NA	*
4Q12		10/1/2012	NE	46.54	NA	NA	NA	400.48		NA	*
1Q13		1/4/2013	NE	48.84	NA	NA	NA	398.18		NA	*
2Q13		4/2/2013	NE	49.40	NA	NA	NA	397.62		NA	*
3Q13		7/3/2013	NE	48.46	NA	NA	NA	398.56		0.0	*
P-91D											
4Q10	447.02	10/1/2010	NE	42.52	NA	NA	NA	404.50	278.70 - 276.70 (168.32 - 170.32)	NA	*
1Q11		1/14/2011	NE	41.14	NA	NA	NA	405.88		NA	*
2Q11		4/1/2011	NE	42.97	NA	NA	NA	404.05		NA	*
3Q11		7/5/2011	NE	40.27	NA	NA	NA	406.75		NA	*
		9/19/2011	NE	41.49	NA	NA	NA	405.53		NA	*
4Q11		10/6/2011	NE	41.44	NA	NA	NA	405.58		NA	*
1Q12		1/3/2012	NE	42.73	NA	NA	NA	404.29		NA	*
2Q12		4/3/2012	NE	44.35	NA	NA	NA	402.67		NA	*
3Q12		7/2/2012	NE	45.55	NA	NA	NA	401.47		NA	*
4Q12		10/1/2012	NE	46.53	NA	NA	NA	400.49		NA	*
1Q13		1/4/2013	NE	48.82	NA	NA	NA	398.20		NA	*
2Q13		4/1/2013	NE	49.42	NA	NA	NA	397.60		NA	*
3Q13		7/3/2013	NE	48.46	NA	NA	NA	398.56		6.6	*

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
P-92A											
4Q10	446.12	10/1/2010	40.50	40.70	405.42	405.62	0.20	405.58	398.55 - 383.55 (47.57 - 62.57)	NA	*
1Q11		1/14/2011	39.43	39.57	406.55	406.69	0.14	406.66		NA	*
2Q11		4/1/2011	NE	41.02	NA	NA	NA	405.10		NA	*
3Q11		7/5/2011	38.55	38.59	407.53	407.57	0.04	407.56		NA	*
		9/19/2011	39.62	39.67	406.45	406.50	0.05	406.49		NA	*
4Q11		10/6/2011	39.70	39.76	406.36	406.42	0.06	406.41		NA	*
1Q12		1/4/2012	41.05	41.07	405.05	405.07	0.02	405.07		NA	*
2Q12		4/3/2012	NE	42.77	NA	NA	NA	403.35		NA	*
3Q12		7/3/2012	44.06	44.08	402.04	402.06	0.02	402.06		NA	*
4Q12		10/1/2012	NE	45.04	NA	NA	NA	401.08		NA	*
1Q13		1/4/2013	46.83	46.84	399.28	399.29	0.01	399.29		NA	*
2Q13		4/1/2013	47.59	47.71	398.41	398.53	0.12	398.51		NA	
3Q13		7/5/2013	46.31	46.40	399.72	399.81	0.09	399.79		17.0	*
P-92B											
4Q10	446.07	10/1/2010	NE	40.51	NA	NA	NA	405.56	372.42 - 370.42 (73.65- 75.65)	NA	*
1Q11		1/14/2011	NE	39.41	NA	NA	NA	406.66		NA	*
2Q11		4/1/2011	NE	40.92	NA	NA	NA	405.15		NA	*
3Q11		7/5/2011	NE	38.51	NA	NA	NA	407.56		NA	*
		9/19/2011	NE	39.61	NA	NA	NA	406.46		NA	*
4Q11		10/6/2011	NE	39.68	NA	NA	NA	406.39		NA	*
1Q12		1/4/2012	NE	41.02	NA	NA	NA	405.05		NA	*
2Q12		4/3/2012	NE	42.74	NA	NA	NA	403.33		NA	*
3Q12		7/3/2012	NE	44.02	NA	NA	NA	402.05		NA	*
4Q12		10/1/2012	NE	44.97	NA	NA	NA	401.10		NA	*
1Q13		1/4/2013	NE	46.80	NA	NA	NA	399.27		NA	*
2Q13		4/1/2013	NE	47.57	NA	NA	NA	398.50		NA	*
3Q13		7/5/2013	NE	46.29	NA	NA	NA	399.78		0.0	*
P-92C											
4Q10	445.98	10/1/2010	NE	40.38	NA	NA	NA	405.60	352.54 - 350.54 (93.44 - 95.44)	NA	*
1Q11		1/14/2011	NE	39.32	NA	NA	NA	406.66		NA	*
2Q11		4/1/2011	NE	40.77	NA	NA	NA	405.21		NA	*
3Q11		7/5/2011	NE	38.33	NA	NA	NA	407.65		NA	*
		9/19/2011	NE	39.50	NA	NA	NA	406.48		NA	*
4Q11		10/6/2011	NE	39.63	NA	NA	NA	406.35		NA	*
1Q12		1/4/2012	NE	39.95	NA	NA	NA	406.03		NA	*
2Q12		4/3/2012	NE	42.61	NA	NA	NA	403.37		NA	*
3Q12		7/3/2012	NE	44.07	NA	NA	NA	401.91		NA	*
4Q12		10/1/2012	NE	45.04	NA	NA	NA	400.94		NA	*
1Q13		1/4/2013	NE	46.83	NA	NA	NA	399.15		NA	*
2Q13		4/1/2013	NE	47.47	NA	NA	NA	398.51		NA	*
3Q13		7/5/2013	NE	46.31	NA	NA	NA	399.67		0.4	*
P-92D											
4Q10	445.90	10/1/2010	NE	40.37	NA	NA	NA	405.53	304.90 - 302.90 (141.00 - 143.00)	NA	*
1Q11		1/14/2011	NE	39.24	NA	NA	NA	406.66		NA	*
2Q11		4/1/2011	NE	40.73	NA	NA	NA	405.17		NA	*
3Q11		7/5/2011	NE	38.33	NA	NA	NA	407.57		NA	*
		9/19/2011	NE	39.46	NA	NA	NA	406.44		NA	*
4Q11		10/6/2011	NE	39.57	NA	NA	NA	406.33		NA	*
1Q12		1/4/2012	NE	39.89	NA	NA	NA	406.01		NA	*
2Q12		4/3/2012	NE	42.67	NA	NA	NA	403.23		NA	*
3Q12		7/3/2012	NE	43.96	NA	NA	NA	401.94		NA	*
4Q12		10/1/2012	NE	44.82	NA	NA	NA	401.08		NA	*
1Q13		1/4/2013	NE	46.72	NA	NA	NA	399.18		NA	*
2Q13		4/1/2013	NE	47.47	NA	NA	NA	398.43		NA	*
3Q13		7/5/2013	NE	46.22	NA	NA	NA	399.68		0.0	*
P-93A											
4Q10	446.58	11/11/2010	NE	40.75	NA	NA	NA	405.83	398.41 - 383.41 (48.17 - 63.17)	NA	*
1Q11		1/14/2011	NE	40.97	NA	NA	NA	405.61		NA	*
2Q11		4/25/2011	NE	41.80	NA	NA	NA	404.78		NA	*
3Q11		7/5/2011	NE	39.40	NA	NA	NA	407.18		NA	*
		9/19/2011	NE	38.86	NA	NA	NA	407.72		NA	*
4Q11		10/6/2011	NE	39.16	NA	NA	NA	407.42		NA	*
1Q12		1/4/2012	NE	41.32	NA	NA	NA	405.26		NA	*
2Q12		4/3/2012	NE	42.72	NA	NA	NA	403.86		NA	*
3Q12		7/5/2012	NE	42.95	NA	NA	NA	403.63		NA	*
4Q12		10/2/2012	NE	44.72	NA	NA	NA	401.86		NA	*
1Q13		1/8/2013	NE	45.73	NA	NA	NA	400.85		NA	*
2Q13		4/2/2013	NE	46.58	NA	NA	NA	400.00		NA	*
3Q13		7/5/2013	NE	43.68	NA	NA	NA	402.90		0.0	*
P-93B											
4Q10	446.46	11/11/2010	NE	40.73	NA	NA	NA	405.73	371.86 - 369.86 (74.60 - 76.60)	NA	*
1Q11		1/14/2011	NE	41.03	NA	NA	NA	405.43		NA	*
2Q11		4/25/2011	NE	41.69	NA	NA	NA	404.77		NA	*
3Q11		7/5/2011	NE	39.44	NA	NA	NA	407.02		NA	*
		9/19/2011	NE	38.91	NA	NA	NA	407.55		NA	*
4Q11		10/6/2011	NE	39.19	NA	NA	NA	407.27		NA	*
1Q12		1/4/2012	NE	41.38	NA	NA	NA	405.08		NA	*
2Q12		4/3/2012	NE	42.80	NA	NA	NA	403.66		NA	*
3Q12		7/5/2012	NE	42.86	NA	NA	NA	403.60		NA	*
4Q12		10/2/2012	NE	44.80	NA	NA	NA	401.66		NA	*
1Q13		1/8/2013	NE	45.77	NA	NA	NA	400.69		NA	*
2Q13		4/2/2013	NE	46.70	NA	NA	NA	399.76		NA	*
3Q13		7/5/2013	NE	43.71	NA	NA	NA	402.75		0.0	*

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
P-93C											
4Q10	446.51	11/11/2010	NE	40.69	NA	NA	NA	405.82	352.26 - 350.26 (94.26 - 96.26)	NA	*
1Q11		1/14/2011	NE	40.91	NA	NA	NA	405.60		NA	*
2Q11		4/25/2011	NE	41.70	NA	NA	NA	404.81		NA	*
3Q11		7/5/2011	NE	39.32	NA	NA	NA	407.19		NA	*
		9/19/2011	NE	38.79	NA	NA	NA	407.72		NA	*
4Q11		10/6/2011	NE	39.15	NA	NA	NA	407.36		NA	*
1Q12		1/4/2012	NE	41.27	NA	NA	NA	405.24		NA	*
2Q12		4/3/2012	NE	42.62	NA	NA	NA	403.89		NA	*
3Q12		7/5/2012	NE	42.98	NA	NA	NA	403.53		NA	*
4Q12		10/2/2012	NE	44.68	NA	NA	NA	401.83		NA	*
1Q13		1/8/2013	NE	45.66	NA	NA	NA	400.85		NA	*
2Q13		4/2/2013	NE	46.51	NA	NA	NA	400.00		NA	*
3Q13		7/5/2013	NE	43.59	NA	NA	NA	402.92		0.0	*
P-93D											
4Q10	446.36	11/11/2010	NE	40.59	NA	NA	NA	405.77	320.92 - 318.92 (125.44 - 127.44)	NA	*
1Q11		1/14/2011	NE	40.81	NA	NA	NA	405.55		NA	*
2Q11	446.89	4/25/2011	NE	41.84	NA	NA	NA	405.05	321.14 - 319.14 (125.75 - 127.75)	NA	*
3Q11		7/5/2011	NE	39.46	NA	NA	NA	407.43		NA	*
		9/19/2011	NE	38.94	NA	NA	NA	407.95		NA	*
4Q11		10/6/2011	NE	39.22	NA	NA	NA	407.67		NA	*
1Q12		1/4/2012	NE	41.41	NA	NA	NA	405.48		NA	*
2Q12		4/3/2012	NE	42.81	NA	NA	NA	404.08		NA	*
3Q12		7/5/2012	NE	43.02	NA	NA	NA	403.87		NA	*
4Q12		10/2/2012	NE	44.43	NA	NA	NA	402.46		NA	*
1Q13		1/8/2013	NE	45.84	NA	NA	NA	401.05		NA	*
2Q13		4/2/2013	NE	46.67	NA	NA	NA	400.22		NA	*
3Q13		7/5/2013	NE	43.75	NA	NA	NA	403.14		0.0	*
P-94											
4Q10	444.65	10/1/2010	NE	35.13	NA	NA	NA	409.52	398.80 - 383.80 (45.85 - 60.85)	NA	*
1Q11		1/13/2011	NE	34.66	NA	NA	NA	409.99		NA	*
2Q11		4/1/2011	NE	34.27	NA	NA	NA	410.38		NA	*
3Q11		7/5/2011	NE	32.14	NA	NA	NA	412.51		NA	*
		9/19/2011	NE	33.17	NA	NA	NA	411.48		NA	*
4Q11		10/6/2011	NE	33.53	NA	NA	NA	411.12		NA	*
1Q12		1/3/2012	NE	34.75	NA	NA	NA	409.90		NA	*
2Q12		4/2/2012	NE	35.68	NA	NA	NA	408.97		NA	*
3Q12		7/2/2012	NE	36.20	NA	NA	NA	408.45		NA	*
4Q12		10/1/2012	NE	38.02	NA	NA	NA	406.63		NA	*
1Q13		1/3/2013	NE	39.75	NA	NA	NA	404.90		NA	*
2Q13		4/2/2013	NE	40.64	NA	NA	NA	404.01		NA	*
3Q13		7/3/2013	NE	38.49	NA	NA	NA	406.16		0.0	*
P-95											
4Q10	443.44	10/1/2010	NE	29.31	NA	NA	NA	414.13	406.92 - 391.92 (36.52 - 51.52)	NA	*
1Q11		1/13/2011	NE	29.68	NA	NA	NA	413.76		NA	*
2Q11		4/1/2011	NE	29.75	NA	NA	NA	413.69		NA	*
3Q11		7/5/2011	NE	28.12	NA	NA	NA	415.32		NA	*
4Q11		10/5/2011	NE	28.24	NA	NA	NA	415.20		NA	*
1Q12		1/5/2012	NE	29.50	NA	NA	NA	413.94		NA	*
2Q12		4/3/2012	NE	30.58	NA	NA	NA	412.86		NA	*
3Q12		7/3/2012	NE	31.04	NA	NA	NA	412.40		NA	*
4Q12		10/2/2012	NE	32.52	NA	NA	NA	410.92		NA	*
1Q13		1/2/2013	NE	33.87	NA	NA	NA	409.57		NA	*
2Q13		4/2/2013	NE	34.91	NA	NA	NA	408.53		NA	*
3Q13		7/2/2013	NE	33.31	NA	NA	NA	410.13		0.0	*
P-102											
4Q10	444.91	10/1/2010	NE	33.62	NA	NA	NA	411.29	402.16 - 382.16 (42.75 - 62.75)	NA	*
1Q11		1/3/2011	NE	32.61	NA	NA	NA	412.30		NA	*
2Q11		4/1/2011	NE	32.41	NA	NA	NA	412.50		NA	*
3Q11		7/5/2011	NE	30.91	NA	NA	NA	414.00		NA	*
		9/19/2011	NE	31.18	NA	NA	NA	413.73		NA	*
4Q11		10/6/2011	NE	31.47	NA	NA	NA	413.44		NA	*
1Q12		1/4/2012	NE	32.45	NA	NA	NA	412.46		NA	*
2Q12		4/3/2012	NE	33.41	NA	NA	NA	411.50		NA	*
3Q12		7/2/2012	NE	34.10	NA	NA	NA	410.81		NA	*
4Q12		10/2/2012	NE	35.69	NA	NA	NA	409.22		NA	*
1Q13		1/2/2013	NE	36.98	NA	NA	NA	407.93		NA	*
2Q13		4/2/2013	NE	37.95	NA	NA	NA	406.96		NA	*
3Q13		7/2/2013	NE	36.53	NA	NA	NA	408.38		0.0	*
P-114											
4Q10	432.41	11/12/2010	NE	24.66	NA	NA	NA	407.75	399.73 - 379.73 (32.67 - 52.67)	NA	*
1Q11		1/13/2011	NE	26.84	NA	NA	NA	405.57		NA	*
2Q11		4/25/2011	NE	26.61	NA	NA	NA	405.80		NA	*
3Q11		7/5/2011	NE	23.48	NA	NA	NA	408.93		NA	*
		9/19/2011	NE	24.20	NA	NA	NA	408.21		NA	*
4Q11		10/5/2011	NE	24.59	NA	NA	NA	407.82		NA	*
1Q12		1/3/2012	NE	26.88	NA	NA	NA	405.53		NA	*
2Q12		4/2/2012	NE	28.33	NA	NA	NA	404.08		NA	*
3Q12		7/3/2012	NE	28.39	NA	NA	NA	404.02		NA	*
4Q12		10/2/2012	NE	30.51	NA	NA	NA	401.90		NA	*
1Q13		1/7/2013	NE	30.22	NA	NA	NA	402.19		NA	*
2Q13		4/2/2013	NE	31.99	NA	NA	NA	400.42		NA	*
3Q13		7/2/2013	NE	27.65	NA	NA	NA	404.76		0.3	*

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
P-115											
4Q10	433.31	11/11/2010	NE	25.41	NA	NA	NA	407.90	401.01 - 381.01 (32.30 - 52.30)	NA	*
1Q11		1/13/2011	NE	27.88	NA	NA	NA	405.43		NA	*
2Q11		4/25/2011	NE	27.38	NA	NA	NA	405.93		NA	*
3Q11		7/5/2011	NM	NM	NA	NA	NA	NA		NA	
		9/19/2011	NE	25.10	NA	NA	NA	408.21		NA	*
4Q11		10/6/2011	NE	25.67	NA	NA	NA	407.64		NA	*
1Q12		1/3/2012	NE	27.86	NA	NA	NA	405.45		NA	*
2Q12		4/2/2012	NE	29.30	NA	NA	NA	404.01		NA	*
3Q12		7/3/2012	NE	29.35	NA	NA	NA	403.96		NA	*
4Q12		10/2/2012	NE	31.51	NA	NA	NA	401.80		NA	*
1Q13		1/7/2013	NE	32.60	NA	NA	NA	400.71		NA	
2Q13		4/2/2013	NE	32.92	NA	NA	NA	400.39		NA	
3Q13		7/2/2013	NE	28.30	NA	NA	NA	405.01		0.5	*
P-116											
4Q10	436.45	11/11/2010	NE	28.76	NA	NA	NA	407.69	399.01 - 379.01 (37.44 - 57.44)	NA	*
1Q11		1/13/2011	NE	31.35	NA	NA	NA	405.10		NA	*
2Q11		4/25/2011	NE	30.76	NA	NA	NA	405.69		NA	*
3Q11		7/5/2011	NE	27.41	NA	NA	NA	409.04		NA	*
		9/19/2011	NE	28.52	NA	NA	NA	407.93		NA	*
4Q11		10/5/2011	NE	28.96	NA	NA	NA	407.49		NA	*
1Q12		1/3/2012	NE	31.35	NA	NA	NA	405.10		NA	*
2Q12		4/2/2012	NE	32.72	NA	NA	NA	403.73		NA	*
3Q12		7/3/2012	NE	32.80	NA	NA	NA	403.65		NA	*
4Q12		10/2/2012	NE	34.97	NA	NA	NA	401.48		NA	*
1Q13		1/7/2013	NE	36.10	NA	NA	NA	400.35		NA	*
2Q13		4/2/2013	NE	36.32	NA	NA	NA	400.13		NA	*
3Q13		7/2/2013	NE	31.49	NA	NA	NA	404.96		0.0	*
P-117											
4Q10	432.67	11/11/2010	NE	24.11	NA	NA	NA	408.56	399.74 - 379.74 (32.93 - 52.93)	NA	*
1Q11		1/13/2011	NE	27.62	NA	NA	NA	405.05		NA	*
2Q11		4/25/2011	NE	26.96	NA	NA	NA	405.71		NA	*
3Q11		7/5/2011	NE	23.54	NA	NA	NA	409.13		NA	*
		9/19/2011	NE	24.71	NA	NA	NA	407.96		NA	*
4Q11		10/5/2011	NE	25.16	NA	NA	NA	407.51		NA	*
1Q12		1/3/2012	NE	27.56	NA	NA	NA	405.11		NA	*
2Q12		4/2/2012	NE	29.00	NA	NA	NA	403.67		NA	*
3Q12		7/3/2012	NE	29.00	NA	NA	NA	403.67		NA	*
4Q12		10/2/2012	NE	31.19	NA	NA	NA	401.48		NA	*
1Q13		1/7/2013	NE	32.45	NA	NA	NA	400.22		NA	*
2Q13		4/2/2013	NE	32.51	NA	NA	NA	400.16		NA	*
3Q13		7/2/2013	NE	27.61	NA	NA	NA	405.06		0.0	*
P-118											
4Q10	431.32	10/1/2010	NE	23.80	NA	NA	NA	407.52	400.20 - 384.27 (31.12 - 47.05)	NA	*
1Q11		1/13/2011	NE	26.95	NA	NA	NA	404.37		NA	*
2Q11		4/1/2011	NE	25.75	NA	NA	NA	405.57		NA	*
3Q11		7/5/2011	NE	22.11	NA	NA	NA	409.21		NA	*
		9/19/2011	NE	23.78	NA	NA	NA	407.54		NA	*
4Q11		10/5/2011	NE	34.28	NA	NA	NA	397.04		NA	
1Q12		1/3/2012	NE	26.78	NA	NA	NA	404.54		NA	*
2Q12		4/2/2012	NE	28.13	NA	NA	NA	403.19		NA	*
3Q12		7/3/2012	NE	28.12	NA	NA	NA	403.20		NA	*
4Q12		10/2/2012	NE	30.40	NA	NA	NA	400.92		NA	*
1Q13		1/7/2013	NE	31.60	NA	NA	NA	399.72		NA	
2Q13		4/2/2013	NE	31.53	NA	NA	NA	399.79		NA	
3Q13		7/2/2013	NE	26.10	NA	NA	NA	405.22		0.0	*
P-119											
4Q10	431.92	11/11/2010	NE	24.93	NA	NA	NA	406.99	401.25 - 385.32 (30.67 - 46.60)	NA	*
1Q11		1/13/2011	NE	25.64	NA	NA	NA	406.28		NA	*
2Q11		4/25/2011	NE	25.77	NA	NA	NA	406.15		NA	*
3Q11		7/5/2011	NE	23.06	NA	NA	NA	408.86		NA	*
		9/19/2011	NE	23.40	NA	NA	NA	408.52		NA	*
4Q11		10/5/2011	NE	23.70	NA	NA	NA	408.22		NA	*
1Q12		1/3/2012	NE	29.80	NA	NA	NA	402.12		NA	*
2Q12		4/2/2012	NE	27.21	NA	NA	NA	404.71		NA	*
3Q12		7/3/2012	NE	27.40	NA	NA	NA	404.52		NA	*
4Q12		10/2/2012	NE	29.45	NA	NA	NA	402.47		NA	*
1Q13		1/7/2013	NE	30.46	NA	NA	NA	401.46		NA	*
2Q13		4/2/2013	NE	31.10	NA	NA	NA	400.82		NA	
3Q13		7/2/2013	NE	27.48	NA	NA	NA	404.44		0.0	*
P-120											
4Q10	432.78	10/1/2010	NE	24.13	NA	NA	NA	408.65	401.40 - 385.47 (31.38 - 47.31)	NA	*
1Q11		1/13/2011	NE	26.14	NA	NA	NA	406.64		NA	*
2Q11		4/1/2011	NE	25.82	NA	NA	NA	406.96		NA	*
3Q11		7/5/2011	NE	22.85	NA	NA	NA	409.93		NA	*
		9/19/2011	NE	23.82	NA	NA	NA	408.96		NA	*
4Q11		10/5/2011	NE	24.15	NA	NA	NA	408.63		NA	*
1Q12		1/3/2012	NE	26.22	NA	NA	NA	406.56		NA	*
2Q12		4/4/2012	NE	27.58	NA	NA	NA	405.20		NA	*
3Q12		7/3/2012	NE	27.84	NA	NA	NA	404.94		NA	*
4Q12		10/2/2012	NE	29.90	NA	NA	NA	402.88		NA	*
1Q13		1/7/2013	NE	31.00	NA	NA	NA	401.78		NA	*
2Q13		4/2/2013	NE	31.42	NA	NA	NA	401.36		NA	
3Q13		7/2/2013	NE	27.26	NA	NA	NA	405.52		0.0	*

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
P-129											
4Q10	432.46	10/1/2010	NE	25.46	NA	NA	NA	407.00	400.49 - 384.56 (31.97 - 47.90)	NA	*
1Q11		1/1/2011	NE	29.82	NA	NA	NA	402.64		NA	*
2Q11		4/1/2011	NE	26.85	NA	NA	NA	405.61		NA	*
3Q11		7/5/2011	NE	22.74	NA	NA	NA	409.72		NA	*
4Q11		10/5/2011	NE	26.57	NA	NA	NA	405.89		NA	*
1Q12		1/5/2012	NE	29.31	NA	NA	NA	403.15		NA	*
2Q12		4/2/2012	NE	30.31	NA	NA	NA	402.15		NA	*
3Q12		7/3/2012	NE	30.33	NA	NA	NA	402.13		NA	*
4Q12		10/2/2012	NE	32.84	NA	NA	NA	399.62		NA	
1Q13		1/7/2013	NE	34.12	NA	NA	NA	398.34		NA	
2Q13		4/2/2013	NE	33.30	NA	NA	NA	399.16		NA	
3Q13		7/2/2013	NE	26.81	NA	NA	NA	405.65		0.0	*
GP-9-PZ											
4Q10	442.41	11/11/2010	NE	37.38	NA	NA	NA	405.03	404.81 - 394.81 (37.60 - 47.60)	NA	*
1Q11		1/14/2011	NE	37.53	NA	NA	NA	404.88		NA	*
2Q11		4/25/2011	NE	38.85	NA	NA	NA	403.56		NA	
3Q11		7/5/2011	NM	NM	NA	NA	NA	NA		NA	
		9/19/2011	NE	35.44	NA	NA	NA	406.97		NA	*
4Q11		10/6/2011	NE	36.65	NA	NA	NA	405.76		NA	*
1Q12		1/4/2012	NE	38.13	NA	NA	NA	404.28		NA	
2Q12		4/3/2012	NE	39.51	NA	NA	NA	402.90		NA	
3Q12		7/5/2012	NE	39.62	NA	NA	NA	402.79		NA	
4Q12		10/2/2012	NE	41.32	NA	NA	NA	401.09		NA	
1Q13		1/4/2013	NE	42.21	NA	NA	NA	400.20		NA	
2Q13		4/2/2013	NE	42.90	NA	NA	NA	399.51		NA	
3Q13		7/5/2013	NE	40.22	NA	NA	NA	402.19		0.0	
ROST-3-MW (ROST-3-PZ)											
4Q10	442.29	11/12/2010	NE	36.60	NA	NA	NA	405.69	402.29 - 392.29 (40.00 - 50.00)	NA	*
1Q11		1/13/2011	NE	37.29	NA	NA	NA	405.00		NA	*
2Q11		4/25/2011	NE	38.21	NA	NA	NA	404.08		NA	*
3Q11		7/5/2011	NE	35.83	NA	NA	NA	406.46		NA	*
		9/19/2011	NE	34.89	NA	NA	NA	407.40		NA	*
4Q11		10/5/2011	NE	35.18	NA	NA	NA	407.11		NA	*
1Q12		1/3/2012	NE	37.33	NA	NA	NA	404.96		NA	*
2Q12		4/2/2012	NE	38.57	NA	NA	NA	403.72		NA	*
3Q12		7/2/2012	NE	38.84	NA	NA	NA	403.45		NA	*
4Q12		10/1/2012	NE	40.55	NA	NA	NA	401.74		NA	
1Q13	442.29	1/2/2013	NE	41.50	NA	NA	NA	400.79	404.11 - 394.11 (38.18 - 48.18)	NA	2" Well Installed
2Q13		4/1/2013	NE	42.26	NA	NA	NA	400.03		NA	
3Q13		7/1/2013	NE	39.83	NA	NA	NA	402.46		147.0	
ROST-4-PZ											
4Q10	442.27	11/12/2010	NE	36.48	NA	NA	NA	405.79	404.27 - 394.27 (38.00 - 48.00)	NA	*3/4" Piezometer
1Q11		1/13/2011	NE	36.97	NA	NA	NA	405.30		NA	*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)	NA	2" Well Installed
3Q11		7/5/2011	NE	35.85	NA	NA	NA	406.28		NA	
4Q11		10/1/2011	NM	NM	NA	NA	NA	NA		NA	
1Q12		1/3/2012	NE	36.62	NA	NA	NA	405.51		NA	
2Q12		4/2/2012	37.81	37.84	404.29	404.32	0.03	404.31		NA	
3Q12		7/2/2012	NE	38.24	NA	NA	NA	403.89		NA	
4Q12		10/1/2012	NE	39.52	NA	NA	NA	402.61		NA	
1Q13		1/2/2013	NE	40.52	NA	NA	NA	401.61		NA	
2Q13		4/1/2013	41.38	41.46	400.67	400.75	0.08	400.73		NA	
3Q13		7/1/2013	NE	39.60	NA	NA	NA	402.53		0.0	
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)	NA	
3Q11		7/5/2011	NE	35.21	NA	NA	NA	406.90		NA	
4Q11		10/1/2011	NM	NM	NA	NA	NA	NA		NA	
1Q12		1/3/2012	NE	35.92	NA	NA	NA	406.19		NA	
2Q12		4/2/2012	NE	37.17	NA	NA	NA	404.94		NA	
3Q12		7/2/2012	NE	38.64	NA	NA	NA	403.47		NA	
4Q12		10/1/2012	NE	38.95	NA	NA	NA	403.16		NA	
1Q13		1/2/2013	NE	40.60	NA	NA	NA	401.51		NA	
2Q13		4/1/2013	NE	41.86	NA	NA	NA	400.25		NA	
3Q13		7/1/2013	NE	39.66	NA	NA	NA	402.45		0.2	
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)	NA	
3Q11		7/5/2011	NE	35.93	NA	NA	NA	406.45		NA	
4Q11		10/1/2011	NM	NM	NA	NA	NA	NA		NA	
1Q12		1/3/2012	NE	36.65	NA	NA	NA	405.73		NA	
2Q12		4/2/2012	NE	37.87	NA	NA	NA	404.51		NA	
3Q12		7/2/2012	NE	38.28	NA	NA	NA	404.10		NA	
4Q12		10/1/2012	NE	39.62	NA	NA	NA	402.76		NA	
1Q13		1/2/2013	NE	40.61	NA	NA	NA	401.77		NA	
2Q13		4/1/2013	NE	41.55	NA	NA	NA	400.83		NA	
3Q13		7/1/2013	NE	39.52	NA	NA	NA	402.86		0.0	

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
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)	NA	
3Q11		7/5/2011	NE	36.62	NA	NA	NA	406.04		NA	
4Q11		10/1/2011	NM	NM	NA	NA	NA	NA		NA	
1Q12		1/3/2012	NE	37.40	NA	NA	NA	405.26		NA	
2Q12		4/2/2012	NE	38.62	NA	NA	NA	404.04		NA	
3Q12		7/2/2012	NE	39.09	NA	NA	NA	403.57		NA	
4Q12		10/1/2012	NE	40.43	NA	NA	NA	402.23		NA	
1Q13		1/2/2013	NE	41.42	NA	NA	NA	401.24		NA	
2Q13		4/1/2013	NE	42.34	NA	NA	NA	400.32		NA	
3Q13		7/1/2013	NE	40.57	NA	NA	NA	402.09		0.2	
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)	NA	
3Q11		7/5/2011	NE	36.58	NA	NA	NA	406.40		NA	
4Q11		10/1/2011	NM	NM	NA	NA	NA	NA		NA	
1Q12		1/3/2012	37.23	37.68	405.30	405.75	0.45	405.66		NA	
2Q12		4/2/2012	38.57	38.59	404.39	404.41	0.02	404.41		NA	
3Q12		7/2/2012	NE	39.99	NA	NA	NA	402.99		NA	
4Q12		10/1/2012	NE	NE	NA	NA	NA	NA		NA	Well Dry
1Q13		1/2/2013	NE	NE	NA	NA	NA	NA		NA	Well Dry
2Q13		4/1/2013	NE	NE	NA	NA	NA	NA		NA	Well Dry
3Q13		7/1/2013	NE	NE	NA	NA	NA	NA		0.0	Well Dry
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)	NA	
3Q11		7/5/2011	NE	35.81	NA	NA	NA	406.15		NA	
4Q11		10/1/2011	NM	NM	NA	NA	NA	NA		NA	
1Q12		1/3/2012	36.48	36.92	405.04	405.48	0.44	405.39		NA	
2Q12		4/2/2012	37.72	38.11	403.85	404.24	0.39	404.16		NA	
3Q12		7/2/2012	38.13	38.19	403.77	403.83	0.06	403.82		NA	
4Q12		10/1/2012	39.28	39.31	402.65	402.68	0.03	402.67		NA	
1Q13		1/2/2013	NE	40.02	NA	NA	NA	401.94		NA	
2Q13		4/1/2013	NE	40.80	NA	NA	NA	401.16		NA	
3Q13		7/1/2013	NE	39.58	NA	NA	NA	402.38		0.0	
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)	NA	
3Q11		7/5/2011	NE	35.99	NA	NA	NA	406.13		NA	
4Q11		10/1/2011	NM	NM	NA	NA	NA	NA		NA	
1Q12		1/3/2012	NE	36.83	NA	NA	NA	405.29		NA	
2Q12		4/2/2012	NE	37.96	NA	NA	NA	404.16		NA	
3Q12		7/2/2012	NE	38.29	NA	NA	NA	403.83		NA	
4Q12		10/1/2012	NE	39.46	NA	NA	NA	402.66		NA	
1Q13		1/2/2013	NE	40.30	NA	NA	NA	401.82		NA	
2Q13		4/1/2013	NE	41.12	NA	NA	NA	401.00		NA	
3Q13		7/1/2013	NE	39.67	NA	NA	NA	402.45		0.0	
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)	NA	
3Q11		7/5/2011	NE	35.76	NA	NA	NA	406.37		NA	
4Q11		10/1/2011	NM	NM	NA	NA	NA	NA		NA	
1Q12		1/3/2012	NE	37.44	NA	NA	NA	404.69		NA	
2Q12		4/2/2012	NE	38.61	NA	NA	NA	403.52		NA	
3Q12		7/2/2012	NE	38.79	NA	NA	NA	403.34		NA	
4Q12		10/1/2012	NE	40.54	NA	NA	NA	401.59		NA	
1Q13		1/2/2013	NE	41.49	NA	NA	NA	400.64		NA	
2Q13		4/1/2013	NE	42.14	NA	NA	NA	399.99		NA	
3Q13		7/1/2013	NE	39.68	NA	NA	NA	402.45		49.3	
ROST-5-PZ											
4Q10	442.22	11/12/2010	NE	NE	NA	NA	NA	NA	429.02 - 419.02 (13.20 - 23.20)	NA	Well Dry
1Q11		1/13/2011	NE	NE	NA	NA	NA	NA		NA	Well Dry
2Q11		4/25/2011	NE	NE	NA	NA	NA	NA		NA	Well Dry
3Q11		7/5/2011	NE	NE	NA	NA	NA	NA		NA	Well Dry
		9/19/2011	NE	NE	NA	NA	NA	NA		NA	Well Dry
4Q11		10/5/2011	NE	NE	NA	NA	NA	NA		NA	Well Dry
1Q12		1/3/2012	NE	NE	NA	NA	NA	NA		NA	Well Dry
2Q12		4/2/2012	NE	NE	NA	NA	NA	NA		NA	Well Dry
3Q12		7/2/2012	NE	NE	NA	NA	NA	NA		NA	Well Dry
4Q12		10/1/2012	NE	NE	NA	NA	NA	NA		NA	Well Dry
1Q13		1/2/2013	NE	NE	NA	NA	NA	NA		NA	Well Dry
2Q13		4/1/2013	NE	NE	NA	NA	NA	NA		NA	Well Dry
3Q13		7/1/2013	NE	22.98	NA	NA	NA	419.24		0.6	
ROST-7-PZ											
4Q10	442.19	11/12/2010	NE	22.93	NA	NA	NA	419.26	422.19 - 412.19 (20.00 - 30.00)	NA	
1Q11		1/13/2011	NE	23.74	NA	NA	NA	418.45		NA	
2Q11		4/25/2011	NE	23.72	NA	NA	NA	418.47		NA	
3Q11		7/5/2011	NE	22.05	NA	NA	NA	420.14		NA	
		9/19/2011	NE	22.63	NA	NA	NA	419.56		NA	
4Q11		10/5/2011	NE	22.52	NA	NA	NA	419.67		NA	
1Q12		1/3/2012	NE	23.64	NA	NA	NA	418.55		NA	
2Q12		4/2/2012	NE	24.08	NA	NA	NA	418.11		NA	
3Q12		7/2/2012	NE	23.33	NA	NA	NA	418.86		NA	
4Q12		10/1/2012	NE	23.86	NA	NA	NA	418.33		NA	
1Q13		1/3/2013	NM	NM	NA	NA	NA	NA		NA	
2Q13		4/1/2013	NE	25.51	NA	NA	NA	416.68		NA	
3Q13		7/5/2013	NE	22.28	NA	NA	NA	419.91		12.5	

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
ROST-10-PZ											
4Q10	444.51	11/12/2010	NE	NE	NA	NA	NA	NA	434.51 - 424.51 (10.00 - 20.00)	NA	Well Dry
1Q11		1/13/2011	NE	NE	NA	NA	NA	NA		NA	Well Dry
2Q11		4/25/2011	NE	NE	NA	NA	NA	NA		NA	Well Dry
3Q11		7/5/2011	NE	19.67	NA	NA	NA	424.84		NA	
		9/19/2011	NE	19.88	NA	NA	NA	424.63		NA	
4Q11		10/5/2011	NE	NE	NA	NA	NA	NA		NA	Well Dry
1Q12		1/3/2012	NE	NE	NA	NA	NA	NA		NA	Well Dry
2Q12		4/2/2012	NE	NE	NA	NA	NA	NA		NA	Well Dry
3Q12		7/2/2012	NE	NE	NA	NA	NA	NA		NA	Well Dry
4Q12		10/1/2012	NE	NE	NA	NA	NA	NA		NA	Well Dry
1Q13		1/3/2013	NE	NE	NA	NA	NA	NA		NA	Well Dry
2Q13		4/1/2013	NE	NE	NA	NA	NA	NA		NA	Well Dry
3Q13		7/1/2013	NE	NE	NA	NA	NA	NA		0.5	Well Dry
ROST-21-PZ											
4Q10	443.72	11/12/2010	NE	19.30	NA	NA	NA	424.42	433.72 - 423.72 (10.00 - 20.00)	NA	
1Q11		1/13/2011	NE	19.59	NA	NA	NA	424.13		NA	
2Q11		4/25/2011	NE	19.04	NA	NA	NA	424.68		NA	
3Q11		7/5/2011	NE	18.37	NA	NA	NA	425.35		NA	
		9/19/2011	NE	19.26	NA	NA	NA	424.46		NA	
4Q11		10/5/2011	NE	NE	NA	NA	NA	NA		NA	Well Dry
1Q12		1/3/2012	NE	19.81	NA	NA	NA	423.91		NA	
2Q12		4/2/2012	NE	NE	NA	NA	NA	NA		NA	Well Dry
3Q12		7/2/2012	NE	19.34	NA	NA	NA	424.38		NA	
4Q12		10/1/2012	NE	NE	NA	NA	NA	NA		NA	Well Dry
1Q13		1/3/2013	NE	NE	NA	NA	NA	NA		NA	Well Dry
2Q13		4/1/2013	NE	NE	NA	NA	NA	NA		NA	Well Dry
3Q13		7/1/2013	NE	18.42	NA	NA	NA	425.30		0.2	
S-1											
4Q10	443.79	11/11/2010	36.96	41.91	401.88	406.83	4.95	405.84	Unknown	NA	
1Q11		1/13/2011	36.41	41.33	402.46	407.38	4.92	406.40		NA	
2Q11		4/25/2011	38.70	38.73	405.06	405.09	0.03	405.08		NA	
3Q11		7/5/2011	36.50	36.54	407.25	407.29	0.04	407.28		NA	
		9/19/2011	NE	36.42	NA	NA	NA	407.37		NA	
4Q11		10/6/2011	NE	36.68	NA	NA	NA	407.11		NA	
1Q12		1/3/2012	NE	38.36	NA	NA	NA	405.43		NA	
2Q12		4/3/2012	NE	39.83	NA	NA	NA	403.96		NA	
3Q12		7/3/2012	NE	40.38	NA	NA	NA	403.41		NA	
4Q12		10/1/2012	NE	41.93	NA	NA	NA	401.86		NA	
1Q13		1/4/2013	NE	43.35	NA	NA	NA	400.44		NA	
2Q13		4/1/2013	NE	44.20	NA	NA	NA	399.59		NA	
3Q13		7/5/2013	NE	42.12	NA	NA	NA	401.67		126.0	
T-1											
4Q10	445.40	11/11/2010	NE	39.08	NA	NA	NA	406.32	398.40 - 388.40 (43.91 - 53.91)	NA	*
1Q11		1/13/2011	NE	41.02	NA	NA	NA	403.53		NA	*
2Q11	444.55	4/25/2011	NE	46.65	NA	NA	NA	397.90		NA	
3Q11		7/5/2011	NE	35.99	NA	NA	NA	408.56		NA	*
		9/19/2011	NE	51.50	NA	NA	NA	393.05		NA	
4Q11		10/6/2011	NE	50.83	NA	NA	NA	393.72		NA	
1Q12	445.40	1/3/2012	NM	NM	NA	NA	NA	NA	398.40 - 388.40 (47.00 - 57.00)	NA	
2Q12		4/2/2012	NE	40.09	NA	NA	NA	405.31		NA	*
3Q12		7/2/2012	NE	41.19	NA	NA	NA	404.21		NA	*
4Q12		10/1/2012	NE	42.90	NA	NA	NA	402.50		NA	*
1Q13		1/3/2013	NE	44.17	NA	NA	NA	401.23		NA	*
2Q13		4/2/2013	NE	44.94	NA	NA	NA	400.46		NA	*
3Q13		7/3/2013	NE	42.85	NA	NA	NA	402.55		4.2	*
T-2											
4Q10	443.13	11/11/2010	NE	37.51	NA	NA	NA	405.62	392.63 - 372.48 (50.50 - 70.65)	NA	*
1Q11		1/13/2011	NE	36.97	NA	NA	NA	406.16		NA	*
2Q11		4/25/2011	NE	38.03	NA	NA	NA	405.10		NA	*
3Q11		7/5/2011	NE	35.89	NA	NA	NA	407.24		NA	*
		9/19/2011	NE	35.80	NA	NA	NA	407.33		NA	*
4Q11		10/6/2011	NE	35.97	NA	NA	NA	407.16		NA	*
1Q12		1/3/2012	NE	34.44	NA	NA	NA	408.69		NA	*
2Q12		4/2/2012	NE	38.68	NA	NA	NA	404.45		NA	*
3Q12		7/2/2012	NE	39.15	NA	NA	NA	403.98		NA	*
4Q12		10/1/2012	NE	41.11	NA	NA	NA	402.02		NA	*
1Q13		1/3/2013	NE	43.39	NA	NA	NA	399.74		NA	*
2Q13		4/2/2013	NE	43.35	NA	NA	NA	399.78		NA	*
3Q13		7/3/2013	NE	41.48	NA	NA	NA	401.65		0.0	*
T-3											
4Q10	450.91	10/1/2010	NE	45.66	NA	NA	NA	405.25	403.65 - 388.65 (47.26 - 62.26)	NA	*
1Q11		1/13/2011	NE	44.64	NA	NA	NA	406.27		NA	*
2Q11		4/1/2011	NE	46.50	NA	NA	NA	404.41		NA	*
3Q11		7/5/2011	NE	43.85	NA	NA	NA	407.06		NA	*
		9/19/2011	NE	44.60	NA	NA	NA	406.31		NA	*
4Q11		10/6/2011	NE	45.68	NA	NA	NA	405.23		NA	*
1Q12		1/4/2012	NE	45.83	NA	NA	NA	405.08		NA	*
2Q12		4/2/2012	NE	47.09	NA	NA	NA	403.82		NA	*
3Q12		7/2/2012	NE	48.00	NA	NA	NA	402.91		NA	
4Q12		10/1/2012	NE	50.04	NA	NA	NA	400.87		NA	
1Q13		1/4/2013	NE	51.55	NA	NA	NA	399.36		NA	
2Q13		4/1/2013	NE	52.35	NA	NA	NA	398.56		NA	
3Q13		7/3/2013	NE	50.95	NA	NA	NA	399.96		4.8	

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
T-4											
4Q10	447.95	10/1/2010	NE	42.99	NA	NA	NA	404.96	398.24 - 383.24 (49.71 - 64.71)	NA	*
1Q11		1/13/2011	NE	41.38	NA	NA	NA	406.57		NA	*
2Q11		4/1/2011	NE	42.23	NA	NA	NA	405.72		NA	*
3Q11		7/5/2011	NE	39.83	NA	NA	NA	408.12		NA	*
		9/19/2011	NE	41.97	NA	NA	NA	405.98		NA	*
4Q11		10/6/2011	NE	42.04	NA	NA	NA	405.91		NA	*
1Q12		1/3/2012	NE	43.35	NA	NA	NA	404.60		NA	*
2Q12		4/3/2012	NE	45.47	NA	NA	NA	402.48		NA	*
3Q12		7/3/2012	NE	46.57	NA	NA	NA	401.38		NA	*
4Q12		10/1/2012	NE	46.78	NA	NA	NA	401.17		NA	*
1Q13		1/4/2013	NE	48.60	NA	NA	NA	399.35		NA	*
2Q13		4/1/2013	NE	49.26	NA	NA	NA	398.69		NA	*
3Q13		7/3/2013	NE	49.33	NA	NA	NA	398.62		1.1	*
T-5											
4Q10	443.46	10/1/2010	NE	36.59	NA	NA	NA	406.87	395.13 - 378.58 (48.33 - 64.88)	NA	*
1Q11		1/1/2011	NE	36.09	NA	NA	NA	407.37		NA	*
2Q11		4/1/2011	NE	37.30	NA	NA	NA	406.16		NA	*
3Q11		7/5/2011	NE	35.28	NA	NA	NA	408.18		NA	*
4Q11		10/6/2011	NE	35.84	NA	NA	NA	407.62		NA	*
1Q12		1/3/2012	NE	37.31	NA	NA	NA	406.15		NA	*
2Q12		4/3/2012	NE	38.87	NA	NA	NA	404.59		NA	*
3Q12		7/6/2012	NE	39.81	NA	NA	NA	403.65		NA	*
4Q12		10/1/2012	NE	41.08	NA	NA	NA	402.38		NA	*
1Q13		1/4/2013	NE	42.57	NA	NA	NA	400.89		NA	*
2Q13		4/1/2013	NE	43.42	NA	NA	NA	400.04		NA	*
3Q13		7/5/2013	NE	41.67	NA	NA	NA	401.79		0.0	*
T-6											
4Q10	446.55	11/12/2010	NE	40.77	NA	NA	NA	405.78	394.79 - 380.54 (51.76 - 66.01)	NA	*
1Q11		1/13/2011	NE	41.07	NA	NA	NA	405.48		NA	*
2Q11		4/25/2011	NE	42.01	NA	NA	NA	404.54		NA	*
3Q11		7/5/2011	NE	39.58	NA	NA	NA	406.97		NA	*
		9/19/2011	NE	38.95	NA	NA	NA	407.60		NA	*
4Q11		10/6/2011	NE	39.26	NA	NA	NA	407.29		NA	*
1Q12		1/4/2012	NE	41.46	NA	NA	NA	405.09		NA	*
2Q12		4/3/2012	NE	42.88	NA	NA	NA	403.67		NA	*
3Q12		7/5/2012	NE	43.06	NA	NA	NA	403.49		NA	*
4Q12		10/2/2012	NE	44.86	NA	NA	NA	401.69		NA	*
1Q13		1/4/2013	NE	45.84	NA	NA	NA	400.71		NA	*
2Q13		4/2/2013	NE	46.69	NA	NA	NA	399.86		NA	*
3Q13		7/5/2013	NE	43.81	NA	NA	NA	402.74		0.0	*
T-7											
4Q10	444.01	10/1/2010	36.24	36.40	407.61	407.77	0.16	407.74	395.29 - 380.29 (48.72 - 63.72)	NA	*
1Q11		1/13/2011	36.74	36.87	407.14	407.27	0.13	407.24		NA	*
2Q11		4/1/2011	37.20	37.25	406.76	406.81	0.05	406.80		NA	*
3Q11		7/5/2011	35.08	35.16	408.85	408.93	0.08	408.91		NA	*
		9/19/2011	35.14	35.19	408.82	408.87	0.05	408.86		NA	*
4Q11		10/5/2011	35.36	35.43	408.58	408.65	0.07	408.64		NA	*
1Q12		1/4/2012	37.05	37.08	406.93	406.96	0.03	406.95		NA	*
2Q12		4/3/2012	38.45	38.45	405.56	405.56	0.00	405.56		NA	*
3Q12		7/2/2012	38.90	38.96	405.05	405.11	0.06	405.10		NA	*
4Q12		10/2/2012	40.80	40.83	403.18	403.21	0.03	403.20		NA	*
1Q13		1/2/2013	41.66	41.67	402.34	402.35	0.01	402.35		NA	*
2Q13		4/2/2013	NE	42.78	NA	NA	NA	401.23		NA	*
3Q13		7/2/2013	NE	40.21	NA	NA	NA	403.80		0.0	*
T-12											
4Q10	444.69	11/12/2010	NE	40.35	NA	NA	NA	404.34	398.23 - 372.23 (46.46 - 72.46)	NA	*
1Q11		1/13/2011	NE	40.30	NA	NA	NA	404.39		NA	*
2Q11		4/25/2011	NE	41.40	NA	NA	NA	403.29		NA	*
3Q11		7/5/2011	NE	39.07	NA	NA	NA	405.62		NA	*
		9/19/2011	NE	38.06	NA	NA	NA	406.63		NA	*
4Q11		10/6/2011	NE	38.23	NA	NA	NA	406.46		NA	*
1Q12		1/4/2012	NE	40.64	NA	NA	NA	404.05		NA	*
2Q12		4/3/2012	NE	42.06	NA	NA	NA	402.63		NA	*
3Q12		7/5/2012	NE	42.05	NA	NA	NA	402.64		NA	*
4Q12		10/2/2012	NE	43.86	NA	NA	NA	400.83		NA	*
1Q13		1/4/2013	NE	44.65	NA	NA	NA	400.04		NA	*
2Q13		4/2/2013	NE	45.19	NA	NA	NA	399.50		NA	*
3Q13		7/5/2013	NE	43.59	NA	NA	NA	401.10		1.4	*
T-13											
4Q10	443.46	11/11/2010	NE	37.37	NA	NA	NA	406.09	396.46 - 370.46 (47.00 - 73.00)	NA	*
1Q11		1/13/2011	NE	37.57	NA	NA	NA	405.89		NA	*
2Q11		4/25/2011	NE	38.25	NA	NA	NA	405.21		NA	*
3Q11		7/5/2011	NM	NM	NA	NA	NA	NA		NA	
		9/19/2011	NE	37.54	NA	NA	NA	405.92		NA	*
4Q11		10/5/2011	NE	35.78	NA	NA	NA	407.68		NA	*
1Q12		1/3/2012	NE	37.42	NA	NA	NA	406.04		NA	*
2Q12		4/2/2012	NE	38.69	NA	NA	NA	404.77		NA	*
3Q12		7/2/2012	NE	39.09	NA	NA	NA	404.37		NA	*
4Q12		10/2/2012	NE	40.81	NA	NA	NA	402.65		NA	*
1Q13		1/2/2013	NE	41.96	NA	NA	NA	401.50		NA	*
2Q13		4/3/2013	NE	42.96	NA	NA	NA	400.50		NA	*
3Q13		7/5/2013	NE	40.79	NA	NA	NA	402.67		0.0	*

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
T-15											
4Q10	445.03	10/1/2010	NE	39.31	NA	NA	NA	405.72	396.99 - 370.99 (48.04 - 74.04)	NA	*
1Q11		1/13/2011	NE	38.39	NA	NA	NA	406.64		NA	*
2Q11		4/1/2011	NE	39.55	NA	NA	NA	405.48		NA	*
3Q11		7/5/2011	NE	37.35	NA	NA	NA	407.68		NA	*
		9/19/2011	NE	37.59	NA	NA	NA	407.44		NA	*
4Q11		10/6/2011	NE	37.79	NA	NA	NA	407.24		NA	*
1Q12		1/3/2012	NE	38.97	NA	NA	NA	406.06		NA	*
2Q12		4/2/2012	NE	40.28	NA	NA	NA	404.75		NA	*
3Q12		7/2/2012	NE	40.90	NA	NA	NA	404.13		NA	*
4Q12		10/1/2012	NE	42.81	NA	NA	NA	402.22		NA	*
1Q13		1/3/2013	NE	44.24	NA	NA	NA	400.79		NA	*
2Q13		4/2/2013	NE	45.11	NA	NA	NA	399.92		NA	*
3Q13		7/3/2013	NE	43.58	NA	NA	NA	401.45		0.2	*
T-17											
4Q10	445.90	10/1/2010	NE	38.11	NA	NA	NA	407.79	401.80 - 375.80 (44.10 - 70.10)	NA	*
1Q11		1/13/2011	NE	37.11	NA	NA	NA	408.79		NA	*
2Q11		4/1/2011	NE	37.30	NA	NA	NA	408.60		NA	*
3Q11		7/5/2011	NE	35.17	NA	NA	NA	410.73		NA	*
		9/19/2011	NE	35.90	NA	NA	NA	410.00		NA	*
4Q11		10/6/2011	NE	36.23	NA	NA	NA	409.67		NA	*
1Q12		1/3/2012	NE	37.37	NA	NA	NA	408.53		NA	*
2Q12		4/2/2012	NE	38.79	NA	NA	NA	407.11		NA	*
3Q12		7/2/2012	NE	39.29	NA	NA	NA	406.61		NA	*
4Q12		10/1/2012	NE	40.92	NA	NA	NA	404.98		NA	*
1Q13		1/3/2013	NE	42.70	NA	NA	NA	403.20		NA	*
2Q13		4/2/2013	NE	43.61	NA	NA	NA	402.29		NA	*
3Q13		7/3/2013	NE	42.34	NA	NA	NA	403.56		1.3	*
T-19											
4Q10	446.71	10/1/2010	41.39	42.73	403.98	405.32	1.34	405.05	395.94 - 369.94 (50.77 - 76.77)	NA	*
1Q11		1/13/2011	39.78	41.15	405.56	406.93	1.37	406.66		NA	*
2Q11		4/1/2011	40.88	40.90	405.81	405.83	0.02	405.83		NA	*
3Q11		7/5/2011	38.47	38.50	408.21	408.24	0.03	408.23		NA	*
		9/19/2011	40.60	40.64	406.07	406.11	0.04	406.10		NA	*
4Q11		10/6/2011	40.65	40.69	406.02	406.06	0.04	406.05		NA	*
1Q12		1/3/2012	41.97	41.98	404.73	404.74	0.01	404.74		NA	*
2Q12		4/3/2012	NE	44.09	NA	NA	NA	402.62		NA	*
3Q12		7/3/2012	NE	45.36	NA	NA	NA	401.35		NA	*
4Q12		10/1/2012	NE	45.41	NA	NA	NA	401.30		NA	*
1Q13		1/4/2013	NE	47.44	NA	NA	NA	399.27		NA	*
2Q13		4/1/2013	NE	48.09	NA	NA	NA	398.62		NA	*
3Q13		7/3/2013	NE	48.04	NA	NA	NA	398.67		37.2	*
T-21											
4Q10	444.00	10/1/2010	NE	29.65	NA	NA	NA	414.35	412.04 - 386.04 (31.96 - 57.96)	NA	*
1Q11		1/13/2011	NE	29.96	NA	NA	NA	414.04		NA	*
2Q11		4/1/2011	NE	29.83	NA	NA	NA	414.17		NA	*
3Q11		7/5/2011	NE	28.17	NA	NA	NA	415.83		NA	*
		9/19/2011	NE	28.24	NA	NA	NA	415.76		NA	*
4Q11		10/5/2011	NE	28.41	NA	NA	NA	415.59		NA	*
1Q12		1/4/2012	NE	29.56	NA	NA	NA	414.44		NA	*
2Q12		4/3/2012	NE	30.65	NA	NA	NA	413.35		NA	*
3Q12		7/2/2012	NE	31.14	NA	NA	NA	412.86		NA	*
4Q12		10/2/2012	NE	32.62	NA	NA	NA	411.38		NA	
1Q13		1/2/2013	NE	33.96	NA	NA	NA	410.04		NA	
2Q13		4/2/2013	NE	34.98	NA	NA	NA	409.02		NA	
3Q13		7/2/2013	NE	33.45	NA	NA	NA	410.55		0.0	
T-22											
4Q10	442.21	10/1/2010	NE	30.12	NA	NA	NA	412.09	410.66 - 384.96 (31.55 - 57.25)	NA	*
1Q11		1/13/2011	NE	31.04	NA	NA	NA	411.17		NA	*
2Q11		4/1/2011	NE	30.96	NA	NA	NA	411.25		NA	*
3Q11		7/5/2011	NE	29.00	NA	NA	NA	413.21		NA	*
		9/19/2011	NE	29.26	NA	NA	NA	412.95		NA	*
4Q11		10/5/2011	NE	29.51	NA	NA	NA	412.70		NA	*
1Q12		1/4/2012	NE	30.91	NA	NA	NA	411.30		NA	*
2Q12		4/3/2012	NE	32.34	NA	NA	NA	409.87		NA	
3Q12		7/2/2012	NE	32.81	NA	NA	NA	409.40		NA	
4Q12		10/2/2012	NE	34.45	NA	NA	NA	407.76		NA	
1Q13		1/2/2013	NE	35.62	NA	NA	NA	406.59		NA	
2Q13		4/2/2013	NE	36.44	NA	NA	NA	405.77		NA	
3Q13		7/2/2013	NE	34.04	NA	NA	NA	408.17		0.0	
T-23											
4Q10	432.64	10/1/2010	NE	22.41	NA	NA	NA	410.23	405.41 - 379.41 (27.23 - 53.23)	NA	*
1Q11		1/13/2011	NE	23.83	NA	NA	NA	408.81		NA	*
2Q11		4/1/2011	NE	23.40	NA	NA	NA	409.24		NA	*
3Q11		7/5/2011	NE	21.22	NA	NA	NA	411.42		NA	*
		9/19/2011	NE	27.83	NA	NA	NA	404.81		NA	
4Q11		10/5/2011	NE	22.21	NA	NA	NA	410.43		NA	*
1Q12		1/3/2012	NE	23.75	NA	NA	NA	408.89		NA	*
2Q12		4/2/2012	NE	25.10	NA	NA	NA	407.54		NA	*
3Q12		7/2/2012	NE	25.60	NA	NA	NA	407.04		NA	*
4Q12		10/2/2012	NE	27.37	NA	NA	NA	405.27		NA	
1Q13		1/3/2013	NE	28.35	NA	NA	NA	404.29		NA	
2Q13		4/2/2013	NE	29.04	NA	NA	NA	403.60		NA	
3Q13		7/2/2013	NE	26.95	NA	NA	NA	405.69		0.0	*

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
T-24											
4Q10	443.72	11/11/2010	39.07	39.38	404.34	404.65	0.31	404.59	402.22 - 376.57 (41.50 - 67.15)	NA	*
1Q11		1/13/2011	38.60	38.92	404.80	405.12	0.32	405.05		NA	*
2Q11		4/25/2011	NE	39.98	NA	NA	NA	403.74		NA	*
3Q11		7/5/2011	NE	37.53	NA	NA	NA	406.19		NA	*
		9/19/2011	NE	35.08	NA	NA	NA	408.64		NA	*
4Q11		10/6/2011	NE	37.29	NA	NA	NA	406.43		NA	*
1Q12		1/3/2012	NE	38.36	NA	NA	NA	405.36		NA	*
2Q12		4/3/2012	NE	40.56	NA	NA	NA	403.16		NA	*
3Q12		7/3/2012	NE	40.45	NA	NA	NA	403.27		NA	*
4Q12		10/1/2012	42.02	44.87	398.85	401.70	2.85	401.13		NA	
1Q13		1/4/2013	NE	43.20	NA	NA	NA	400.52		NA	
2Q13		4/2/2013	44.58	44.64	399.08	399.14	0.06	399.13		NA	
3Q13		7/2/2013	42.16	42.55	401.17	401.56	0.39	401.48		10.0	
T-28											
4Q10	444.22	10/1/2010	NE	37.65	NA	NA	NA	406.57	Unknown	NA	
1Q11		1/13/2011	NE	36.53	NA	NA	NA	407.69		NA	
2Q11		4/1/2011	NE	37.18	NA	NA	NA	407.04		NA	
3Q11		7/5/2011	NE	34.89	NA	NA	NA	409.33		NA	
		9/19/2011	NE	35.75	NA	NA	NA	408.47		NA	
4Q11		10/6/2011	NE	35.98	NA	NA	NA	408.24		NA	
1Q12		1/3/2012	NE	36.98	NA	NA	NA	407.24		NA	
2Q12		4/2/2012	NE	38.68	NA	NA	NA	405.54		NA	
3Q12		7/2/2012	NE	39.28	NA	NA	NA	404.94		NA	
4Q12		10/1/2012	NE	40.88	NA	NA	NA	403.34		NA	
1Q13		1/3/2013	NE	42.56	NA	NA	NA	401.66		NA	
2Q13		4/2/2013	NE	43.42	NA	NA	NA	400.80		NA	
3Q13		7/3/2013	NE	42.40	NA	NA	NA	401.82		0.0	
T-38											
4Q10	445.62	10/1/2010	NE	35.45	NA	NA	NA	410.17	396.48 - 376.48 (49.14 - 69.14)	NA	*
1Q11		1/1/2011	NE	35.38	NA	NA	NA	410.24		NA	*
2Q11		4/1/2011	NM	NM	NA	NA	NA	NA		NA	
3Q11		7/5/2011	NM	NM	NA	NA	NA	NA		NA	
4Q11		10/6/2011	NE	34.38	NA	NA	NA	411.24		NA	*
1Q12		1/3/2012	NE	35.40	NA	NA	NA	410.22		NA	*
2Q12		4/2/2012	NE	36.25	NA	NA	NA	409.37		NA	*
3Q12		7/3/2012	NE	37.00	NA	NA	NA	408.62		NA	*
4Q12		10/1/2012	NE	38.61	NA	NA	NA	407.01		NA	*
1Q13		1/3/2013	NE	40.06	NA	NA	NA	405.56		NA	*
2Q13		4/1/2013	NM	NM	NA	NA	NA	NA		NA	Unsafe to access well
3Q13		7/3/2013	NM	NM	NA	NA	NA	NA		NA	Unsafe to access well
T-62											
4Q10	431.73	11/11/2010	NE	23.49	NA	NA	NA	408.24	412.02 - 382.02 (19.71 - 49.71)	NA	
1Q11		1/13/2011	NE	25.48	NA	NA	NA	406.25		NA	
2Q11		4/25/2011	NE	25.33	NA	NA	NA	406.40		NA	
3Q11		7/5/2011	NE	22.37	NA	NA	NA	409.36		NA	
		9/19/2011	NE	23.12	NA	NA	NA	408.61		NA	
4Q11		10/5/2011	NE	23.46	NA	NA	NA	408.27		NA	
1Q12		1/3/2012	NE	25.62	NA	NA	NA	406.11		NA	
2Q12		4/2/2012	NE	27.08	NA	NA	NA	404.65		NA	
3Q12		7/3/2012	NE	27.20	NA	NA	NA	404.53		NA	
4Q12		10/2/2012	NE	29.28	NA	NA	NA	402.45		NA	
1Q13		1/7/2013	NE	30.39	NA	NA	NA	401.34		NA	
2Q13		4/2/2013	NE	30.80	NA	NA	NA	400.93		NA	
3Q13		7/2/2013	NE	26.91	NA	NA	NA	404.82		0.0	
T-63											
4Q10	431.24	11/11/2010	NE	23.03	NA	NA	NA	408.21	411.26 - 381.26 (19.98 - 49.98)	NA	
1Q11		1/13/2011	NE	25.45	NA	NA	NA	405.79		NA	
2Q11		4/25/2011	NM	NM	NA	NA	NA	NA		NA	
3Q11		7/5/2011	NM	NM	NA	NA	NA	NA		NA	
		9/19/2011	NE	22.88	NA	NA	NA	408.36		NA	
4Q11		10/5/2011	NE	23.28	NA	NA	NA	407.96		NA	
1Q12		1/3/2012	NE	25.60	NA	NA	NA	405.64		NA	
2Q12		4/2/2012	NM	NM	NA	NA	NA	NA		NA	
3Q12		7/3/2012	NE	27.08	NA	NA	NA	404.16		NA	
4Q12		10/2/2012	NE	29.19	NA	NA	NA	402.05		NA	
1Q13		1/7/2013	NE	30.45	NA	NA	NA	400.79		NA	
2Q13		4/2/2013	NE	30.61	NA	NA	NA	400.63		NA	
3Q13		7/2/2013	NE	25.92	NA	NA	NA	405.32		0.0	
T-64											
4Q10	428.80	11/11/2010	NE	20.76	NA	NA	NA	408.04	408.99 - 378.99 (19.81 - 49.81)	NA	
1Q11		1/13/2011	NE	23.84	NA	NA	NA	404.96		NA	
2Q11		4/1/2011	NM	NM	NA	NA	NA	NA		NA	
3Q11		7/5/2011	NE	19.06	NA	NA	NA	409.74		NA	*
		9/19/2011	NE	21.86	NA	NA	NA	406.94		NA	
4Q11		10/5/2011	NE	21.36	NA	NA	NA	407.44		NA	
1Q12		1/3/2012	NE	23.86	NA	NA	NA	404.94		NA	
2Q12		4/2/2012	NE	25.10	NA	NA	NA	403.70		NA	
3Q12		7/3/2012	NE	25.24	NA	NA	NA	403.56		NA	
4Q12		10/2/2012	NE	27.44	NA	NA	NA	401.36		NA	
1Q13		1/7/2013	NE	28.89	NA	NA	NA	399.91		NA	
2Q13		4/2/2013	NE	28.63	NA	NA	NA	400.17		NA	
3Q13		7/2/2013	NE	23.15	NA	NA	NA	405.65		0.2	

TABLE 1a
CUMULATIVE QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & QUARTER	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)	WELL HEAD PID[6] (ppm)	COMMENTS
PZ-1-85											
4Q11	445.50	10/5/2011	NE	37.85	NA	NA	NA	407.65	369.70 - 359.70 (75.80 - 85.80)	NA	*
1Q12		1/3/2012	NE	39.80	NA	NA	NA	405.70		NA	*
2Q12		4/4/2012	NE	41.05	NA	NA	NA	404.45		NA	*
3Q12		7/2/2012	NE	41.35	NA	NA	NA	404.15		NA	*
4Q12		10/1/2012	NE	43.06	NA	NA	NA	402.44		NA	*
1Q13		1/3/2013	NE	44.35	NA	NA	NA	401.15		NA	*
2Q13		4/1/2013	NE	45.12	NA	NA	NA	400.38		NA	*
3Q13		7/1/2013	NE	42.68	NA	NA	NA	402.82		0.0	*
PZ-1-101											
4Q11	445.52	10/5/2011	NE	37.83	NA	NA	NA	407.69	354.52 - 344.52 (91.00 - 101.00)	NA	*
1Q12		1/3/2012	NE	39.73	NA	NA	NA	405.79		NA	*
2Q12		4/4/2012	NE	41.14	NA	NA	NA	404.38		NA	*
3Q12		7/2/2012	NE	41.28	NA	NA	NA	404.24		NA	*
4Q12		10/1/2012	NE	42.95	NA	NA	NA	402.57		NA	*
1Q13		1/3/2013	NE	44.21	NA	NA	NA	401.31		NA	*
2Q13		4/1/2013	NE	45.04	NA	NA	NA	400.48		NA	*
3Q13		7/1/2013	NE	42.50	NA	NA	NA	403.02		0.0	*
PZ-2-70.5											
4Q11	443.15	10/5/2011	NE	35.74	NA	NA	NA	407.41	382.65 - 372.65 (60.50 - 70.50)	NA	*
1Q12		1/3/2012	NE	38.14	NA	NA	NA	405.01		NA	*
2Q12		4/4/2012	NE	39.43	NA	NA	NA	403.72		NA	*
3Q12		7/2/2012	NE	39.57	NA	NA	NA	403.58		NA	*
4Q12		10/1/2012	NE	41.32	NA	NA	NA	401.83		NA	*
1Q13		1/3/2013	NE	42.40	NA	NA	NA	400.75		NA	*
2Q13		4/1/2013	NE	43.03	NA	NA	NA	400.12		NA	*
3Q13		7/1/2013	NE	40.13	NA	NA	NA	403.02		0.0	*
PZ-2-84											
4Q11	443.12	10/5/2011	NE	35.71	NA	NA	NA	407.41	371.12 - 359.12 (72.00 - 84.00)	NA	*
1Q12		1/3/2012	NE	38.05	NA	NA	NA	405.07		NA	*
2Q12		4/4/2012	NE	39.37	NA	NA	NA	403.75		NA	*
3Q12		7/2/2012	NE	39.48	NA	NA	NA	403.64		NA	*
4Q12		10/1/2012	NE	41.21	NA	NA	NA	401.91		NA	*
1Q13		1/3/2013	NE	42.32	NA	NA	NA	400.80		NA	*
2Q13		4/1/2013	NE	42.95	NA	NA	NA	400.17		NA	*
3Q13		7/1/2013	NE	40.03	NA	NA	NA	403.09		0.4	*

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 quarterly monitoring well gauging data from the combined Village of Roxana Interim Groundwater Monitoring Program and the WRB Refining LP Wood River Refinery Program.

6) PID values measured with a 10.6 electron volt (eV) lamp photoionization detector.

TABLE 1b
3Q13 WEEKLY / MONTHLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	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)	WELL HEAD PID[6] (ppm)	Comments
GP-9-PZ											
Weekly	442.41	7/10/2013	NE	39.90	NA	NA	NA	402.51	404.81 - 394.81 (37.6 - 47.6)	3.7	
Weekly		7/19/2013	NE	39.67	NA	NA	NA	402.74		0.3	No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	39.89	NA	NA	NA	402.52		19.0	
Monthly		9/3/2013	NE	39.56	NA	NA	NA	402.85		0.1	
MW-01											
Weekly	442.65	7/8/2013	NE	39.55	NA	NA	NA	403.10	392.67 - 382.67 (49.98 - 59.98)	7.3	*
Weekly		7/16/2013	NE	39.32	NA	NA	NA	403.33		0.0	* No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	39.29	NA	NA	NA	403.36		0.0	*
Monthly		9/3/2013	NE	39.41	NA	NA	NA	403.24		0.0	*
MW-02											
Weekly	443.77	7/8/2013	NE	40.90	NA	NA	NA	402.87	392.45 - 382.45 (51.32 - 61.32)	176.2	*
Weekly		7/16/2013	NE	40.66	NA	NA	NA	403.11		123.4	* No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	40.70	NA	NA	NA	403.07		156.4	*
Monthly		9/3/2013	NE	40.72	NA	NA	NA	403.05		108.4	*
MW-03											
Weekly	430.08	7/8/2013	NE	26.40	NA	NA	NA	403.68	395.41 - 385.41 (34.67 - 44.67)	4.1	*
Weekly		7/16/2013	NE	26.17	NA	NA	NA	403.91		36.9	* No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	26.18	NA	NA	NA	403.90		20.9	*
Monthly		9/3/2013	NE	26.56	NA	NA	NA	403.52		7.8	*
MW-04											
Weekly	441.14	7/8/2013	NE	37.84	NA	NA	NA	403.30	395.08 - 385.08 (46.06 - 56.06)	95.2	*
Weekly		7/16/2013	NE	37.58	NA	NA	NA	403.56		130.9	* No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	37.59	NA	NA	NA	403.55		33.7	*
Monthly		9/3/2013	NE	37.86	NA	NA	NA	403.28		72.9	*
MW-05											
Weekly	429.8	7/8/2013	NE	26.07	NA	NA	NA	403.73	395.83 - 385.83 (33.97 - 43.97)	0.2	*
Weekly		7/16/2013	NE	25.87	NA	NA	NA	403.93		0.0	* No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	25.88	NA	NA	NA	403.92		7.7	*
Monthly		9/3/2013	NE	26.29	NA	NA	NA	403.51		0.4	*
MW-06A											
Weekly	432.14	7/8/2013	NE	28.22	NA	NA	NA	403.92	397.31 - 387.31 (34.83 - 44.83)	0.0	*
Weekly		7/16/2013	NE	28.02	NA	NA	NA	404.12		0.0	* No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	28.02	NA	NA	NA	404.12		0.0	*
Monthly		9/3/2013	NE	28.46	NA	NA	NA	403.68		0.7	*
MW-06B											
Monthly	432.29	8/5/2013	NE	28.08	NA	NA	NA	404.21	368.24 - 363.24 (64.05 - 69.05)	0.0	*
Monthly		9/3/2013	NE	28.52	NA	NA	NA	403.77		0.2	*
MW-06C											
Monthly	432.11	8/5/2013	NE	27.86	NA	NA	NA	404.25	347.16 - 342.16 (84.95 - 89.95)	0.0	*
Monthly		9/3/2013	NE	28.32	NA	NA	NA	403.79		1.9	*
MW-06D											
Monthly	431.99	8/5/2013	NE	27.72	NA	NA	NA	404.27	327.27 - 322.27 (104.72 - 109.72)	1.1	*
Monthly		9/3/2013	NE	28.17	NA	NA	NA	403.82		2.9	*
MW-07											
Weekly	443.1	7/8/2013	NE	39.84	NA	NA	NA	403.26	400.18 - 390.18 (42.92 - 52.92)	561.1	*
Weekly		7/16/2013	NE	39.58	NA	NA	NA	403.52		4106	* No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	39.61	NA	NA	NA	403.49		191.0	*
Monthly		9/3/2013	NE	39.91	NA	NA	NA	403.19		539.0	*
MW-08											
Weekly	434.11	7/8/2013	NE	30.62	NA	NA	NA	403.49	400.51 - 390.51 (33.6 - 43.6)	624.1	*
Weekly		7/16/2013	NE	30.42	NA	NA	NA	403.69		988.2	* No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	30.42	NA	NA	NA	403.69		397.0	*
Monthly		9/3/2013	NE	30.81	NA	NA	NA	403.30		364.0	*
MW-09											
Weekly	445.2	7/8/2013	NE	42.11	NA	NA	NA	403.09	398.75 - 388.75 (46.45 - 56.45)	10.6	*
Weekly		7/16/2013	NE	41.88	NA	NA	NA	403.32		0.0	* No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	41.55	NA	NA	NA	403.65		0.1	*
Monthly		9/3/2013	NE	41.58	NA	NA	NA	403.62		0.0	*
MW-10											
Weekly	445.03	7/8/2013	NE	42.31	NA	NA	NA	402.72	400.6 - 390.6 (44.43 - 54.43)	14.2	*
Weekly		7/16/2013	NE	42.12	NA	NA	NA	402.91		2.2	* No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	41.80	NA	NA	NA	403.23		0.0	*
Monthly		9/3/2013	NE	41.69	NA	NA	NA	403.34		0.0	*
MW-11											
Weekly	442.33	7/8/2013	NE	39.27	NA	NA	NA	403.06	400.67 - 390.67 (41.66 - 51.66)	0.1	*
Weekly		7/16/2013	NE	39.04	NA	NA	NA	403.29		0.0	* No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	38.81	NA	NA	NA	403.52		0.1	*
Monthly		9/3/2013	NE	38.75	NA	NA	NA	403.58		1.5	*

TABLE 1b
3Q13 WEEKLY / MONTHLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	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)	WELL HEAD PID[6] (ppm)	Comments
MW-12											
Weekly	442.6	7/8/2013	NE	39.32	NA	NA	NA	403.28	400.68 - 390.68 (41.92 - 51.92)	10.1	*
Weekly		7/16/2013	NE	39.11	NA	NA	NA	403.49		0.0	* No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	39.00	NA	NA	NA	403.60		0.0	*
Monthly		9/3/2013	NE	39.10	NA	NA	NA	403.50		0.0	*
MW-13											
Weekly	430.27	7/9/2013	NE	25.71	NA	NA	NA	404.56	404.7 - 394.7 (25.57 - 35.57)	80.2	
Weekly		7/17/2013	NE	25.51	NA	NA	NA	404.76		43.6	* No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	25.50	NA	NA	NA	404.77		23.3	*
Monthly		9/3/2013	NE	26.30	NA	NA	NA	403.97		0.5	
MW-14											
Monthly	434.44	8/5/2013	NE	30.24	NA	NA	NA	404.20	401.02 - 391.02 (33.42 - 43.42)	20.1	*
Monthly		9/3/2013	NE	30.68	NA	NA	NA	403.76		75.0	*
MW-16											
Monthly	443.39	8/5/2013	NE	40.30	NA	NA	NA	403.09	405.96 - 395.96 (37.43 - 47.43)	0.0	
Monthly		9/3/2013	NE	40.09	NA	NA	NA	403.30		0.1	
MW-17											
Weekly	441.57	7/8/2013	NE	39.17	NA	NA	NA	402.40	407.02 - 392.02 (34.55 - 49.55)	0.0	
Weekly		7/16/2013	NE	38.97	NA	NA	NA	402.60		0.0	No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	38.80	NA	NA	NA	402.77		0.0	
Monthly		9/3/2013	NE	37.99	NA	NA	NA	403.58		6.9	
MW-18											
Weekly	442.04	7/8/2013	NE	39.68	NA	NA	NA	402.36	406.79 - 391.79 (35.25 - 50.25)	0.3	
Weekly		7/16/2013	NE	39.45	NA	NA	NA	402.59		0.0	No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	39.33	NA	NA	NA	402.71		0.0	
Monthly		9/3/2013	NE	38.44	NA	NA	NA	403.60		1.1	
MW-19											
Weekly	442.77	7/8/2013	NE	40.27	NA	NA	NA	402.50	406.07 - 391.07 (36.7 - 51.7)	0.0	
Weekly		7/16/2013	NE	40.04	NA	NA	NA	402.73		0.0	
Weekly		7/22/2013	NE	39.81	NA	NA	NA	402.96		0.0	
Weekly		7/29/2013	NE	39.91	NA	NA	NA	402.86		0.0	
Monthly		8/5/2013	NE	39.97	NA	NA	NA	402.80		0.0	
Weekly		8/12/2013	NE	39.94	NA	NA	NA	402.83		0.0	
Weekly		8/20/2013	NE	39.89	NA	NA	NA	402.88		1.7	
Weekly		8/26/2013	NE	39.78	NA	NA	NA	402.99		0.0	
Monthly		9/3/2013	NE	39.43	NA	NA	NA	403.34		0.0	
MW-20											
Weekly	443.67	7/8/2013	NE	41.00	NA	NA	NA	402.67	407.44 - 392.44 (36.23 - 51.23)	0.0	
Weekly		7/16/2013	NE	40.78	NA	NA	NA	402.89		0.0	No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	40.77	NA	NA	NA	402.90		1.5	
Monthly		9/3/2013	NE	40.56	NA	NA	NA	403.11		0.1	
MW-21											
Weekly	443.81	7/8/2013	NE	40.82	NA	NA	NA	402.99	408.51 - 393.51 (35.3 - 50.3)	5.1	
Weekly		7/16/2013	NE	40.58	NA	NA	NA	403.23		0.0	No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	40.60	NA	NA	NA	403.21		0.0	
Monthly		9/3/2013	NE	40.80	NA	NA	NA	403.01		0.5	
MW-22											
Weekly	442.16	7/24/2013	NE	39.08	NA	NA	NA	403.08	403.95 - 393.95 (38.21 - 48.21)	0.0	
Weekly		7/29/2013	NE		NA	NA	NA	NA			
Monthly		8/5/2013	NE	39.07	NA	NA	NA	403.09		13.2	
Weekly		8/12/2013	NE	39.04	NA	NA	NA	403.12		0.0	
Weekly		8/21/2013	NE	39.07	NA	NA	NA	403.09		0.0	
Weekly		8/30/2013	NE	39.14	NA	NA	NA	403.02		1.0	
Monthly		9/3/2013	NE	38.75	NA	NA	NA	403.41		0.3	
MW-24											
Monthly	443.42	8/5/2013	NE	40.02	NA	NA	NA	403.40	404.53 - 394.53 (38.89 - 48.89)	26.6	
Monthly		9/3/2013	NE	40.03	NA	NA	NA	403.39		1.7	
P-54											
Weekly	442.18	7/8/2013	NE	39.16	NA	NA	NA	403.02	404.18 - 379.18 (38 - 63)	0.0	
Weekly		7/16/2013	NE	38.94	NA	NA	NA	403.24		0.0	No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	38.72	NA	NA	NA	403.46		0.0	
Monthly		9/3/2013	NE	38.82	NA	NA	NA	403.36		0.0	

TABLE 1b
3Q13 WEEKLY / MONTHLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	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)	WELL HEAD PID[6] (ppm)	Comments
P-60											
Weekly	446.573	7/10/2013	44.12	44.19	402.383	402.453	0.07	402.44	403.123 - 383.123 (43.45 - 63.45)	62	
Weekly		7/19/2013	43.88	43.95	402.623	402.693	0.07	402.68		12.6	
Weekly		7/22/2013	43.91	43.96	402.613	402.663	0.05	402.65		4.6	
Weekly		7/29/2013	43.93	43.95	402.623	402.643	0.02	402.64		36	
Monthly		8/5/2013	43.90	43.95	402.623	402.673	0.05	402.66		110.1	
Weekly		8/12/2013	43.87	43.92	402.653	402.703	0.05	402.69		45.8	
Weekly		8/21/2013	43.81	43.86	402.713	402.763	0.05	402.75		39.2	
Weekly		8/26/2013	NE	44.19	NA	NA	NA	402.38		1.3	
Monthly		9/3/2013	43.40	43.46	403.113	403.173	0.06	403.16		35.6	*
P-60-11											
Weekly	446.18	7/10/2013	NE	43.51	NA	NA	NA	402.67	413.03 - 383.03 (33.15 - 63.15)	1.0	
Weekly		7/19/2013	NE	43.16	NA	NA	NA	403.02		2.2	No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	42.84	NA	NA	NA	403.34		0.2	
Monthly		9/3/2013	NE	42.54	NA	NA	NA	403.64		0.5	
P-60-12											
Weekly	443.31	7/10/2013	NE	40.90	NA	NA	NA	402.41	383.31 - 373.31 (60 - 70)	1.8	*
Weekly		7/19/2013	NE	40.68	NA	NA	NA	402.63		1.8	* No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	40.70	NA	NA	NA	402.61		14.5	*
Monthly		9/3/2013	NE	40.20	NA	NA	NA	403.11		0.0	*
P-60-12S											
Monthly	443.33	8/5/2013	NE	18.15	NA	NA	NA	425.18	429.49 - 419.49 (13.84 - 23.84)	0.0	
Monthly		9/3/2013	NE	18.57	NA	NA	NA	424.76		0.1	
P-60-13											
Weekly	442.43	7/10/2013	NE	40.26	NA	NA	NA	402.17	402.43 - 382.43 (40 - 60)	1.2	
Weekly		7/19/2013	NE	39.94	NA	NA	NA	402.49		0.7	* No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	39.73	NA	NA	NA	402.70		6.6	*
Monthly		9/3/2013	NE	39.42	NA	NA	NA	403.01		0.0	*
P-60-13S											
Monthly	442.39	8/5/2013	NE	17.10	NA	NA	NA	425.29	432.39 - 422.39 (10 - 20)	1.2	
Monthly		9/3/2013	NE	17.51	NA	NA	NA	424.88		0.0	
P-93A											
Weekly	446.575	7/10/2013	NE	43.39	NA	NA	NA	403.19	398.409 - 383.409 (48.166 - 63.166)	3.4	*
Monthly		7/18/2013	NE	43.25	NA	NA	NA	403.33		0.0	* No longer gauged weekly after IEPA 7/18/13 letter.
Monthly		8/5/2013	NE	43.38	NA	NA	NA	403.20		0.0	*
Monthly		9/3/2013	NE	43.66	NA	NA	NA	402.92		0.0	*
P-93B											
Monthly	446.463	8/5/2013	NE	43.43	NA	NA	NA	403.03	371.863 - 369.863 (74.6 - 76.6)	3.8	*
Monthly		9/3/2013	NE	43.70	NA	NA	NA	402.76		0.0	*
P-93C											
Monthly	446.512	8/5/2013	NE	43.30	NA	NA	NA	403.21	352.257 - 350.257 (94.255 - 96.255)	0.0	*
Monthly		9/3/2013	NE	43.58	NA	NA	NA	402.93		0.0	*
P-93D											
Monthly	446.89	8/5/2013	NE	43.48	NA	NA	NA	403.41	321.14 - 319.14 (125.75 - 127.75)	1.0	*
Monthly		9/3/2013	NE	43.74	NA	NA	NA	403.15		0.1	*
PZ-1-101											
Monthly	445.52	8/5/2013	NE	41.78	NA	NA	NA	403.74	354.52 - 344.52 (91 - 101)	2.6	*
Monthly		9/3/2013	NE	41.80	NA	NA	NA	403.72		0.0	*
PZ-1-85											
Monthly	445.5	8/5/2013	NE	41.90	NA	NA	NA	403.60	369.7 - 359.7 (75.8 - 85.8)	3.8	*
Monthly		9/3/2013	NE	41.90	NA	NA	NA	403.60		0.0	*
PZ-2-70.5											
Monthly	443.15	8/5/2013	NE	39.57	NA	NA	NA	403.58	382.65 - 372.65 (60.5 - 70.5)	0.0	*
Monthly		9/3/2013	NE	39.65	NA	NA	NA	403.50		49.5	*
PZ-2-84											
Monthly	443.12	8/5/2013	NE	39.48	NA	NA	NA	403.64	371.12 - 359.12 (72 - 84)	0.0	*
Monthly		9/3/2013	NE	39.56	NA	NA	NA	403.56		0.0	*
ROST-10-PZ											
Monthly	444.51	8/5/2013	NE		NA	NA	NA	NA	434.51 - 424.51 (10 - 20)	0.0	
Monthly		9/3/2013	NE		NA	NA	NA	NA		0.0	
ROST-21-PZ											
Monthly	443.72	8/5/2013	NE	18.64	NA	NA	NA	425.08	433.72 - 423.72 (10 - 20)	0.7	
Monthly		9/3/2013	NE	19.11	NA	NA	NA	424.61		3.8	

WELL ID & EVENT	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)	WELL HEAD PID[6] (ppm)	Comments
ROST-3-MW											
Weekly		7/8/2013	NE	39.57	NA	NA	NA	402.72		98.8	
Weekly		7/18/2013	NE	39.27	NA	NA	NA	403.02		296.7	
Weekly		7/22/2013	NE	39.14	NA	NA	NA	403.15		307.8	
Weekly		7/29/2013	NE	39.11	NA	NA	NA	403.18		367.7	
Monthly	442.29	8/5/2013	NE	39.08	NA	NA	NA	403.21	404.11 - 394.11 (38.18 - 48.18)	374.4	
Weekly		8/12/2013	NE	39.03	NA	NA	NA	403.26		278.8	
Weekly		8/20/2013	NE	39.09	NA	NA	NA	403.20		111	
Weekly		8/26/2013	NE	39.22	NA	NA	NA	403.07		156.6	
Monthly		9/3/2013	NE	38.96	NA	NA	NA	403.33		242	
ROST-4-PZ											
Weekly		7/8/2013	NE	39.33	NA	NA	NA	402.80		0.0	
Weekly		7/18/2013	NE	38.98	NA	NA	NA	403.15		0.1	
Weekly		7/22/2013	NE	38.84	NA	NA	NA	403.29		1.9	
Weekly		7/29/2013	NE	38.74	NA	NA	NA	403.39		0.0	
Monthly	442.13	8/5/2013	NE	38.55	NA	NA	NA	403.58	407.2 - 397.2 (34.93 - 44.93)	0.2	
Weekly		8/12/2013	NE	38.41	NA	NA	NA	403.72		2.8	
Weekly		8/20/2013	NE	38.45	NA	NA	NA	403.68		1.2	
Weekly		8/26/2013	NE	38.38	NA	NA	NA	403.75		0.5	
Monthly		9/3/2013	NE	38.31	NA	NA	NA	403.82		1.9	
ROST-4-PZ(A)											
Weekly		7/8/2013	NE	39.43	NA	NA	NA	402.68		0.0	
Weekly		7/18/2013	NE	39.15	NA	NA	NA	402.96		0.0	
Weekly		7/22/2013	NE	39.02	NA	NA	NA	403.09		15.4	
Weekly		7/29/2013	NE	38.93	NA	NA	NA	403.18		0.0	
Monthly	442.11	8/5/2013	NE	38.76	NA	NA	NA	403.35	407.34 - 397.34 (34.77 - 44.77)	0.0	
Weekly		8/12/2013	NE	38.55	NA	NA	NA	403.56		0.0	
Weekly		8/20/2013	NE	38.55	NA	NA	NA	403.56		0.0	
Weekly		8/26/2013	NE	38.46	NA	NA	NA	403.65		1.6	
Monthly		9/3/2013	NE	38.34	NA	NA	NA	403.77		0.3	
ROST-4-PZ(B)											
Weekly		7/8/2013	NE	39.25	NA	NA	NA	403.13		0.0	
Weekly		7/18/2013	NE	38.89	NA	NA	NA	403.49		0.2	
Weekly		7/22/2013	NE	38.73	NA	NA	NA	403.65		5.0	
Weekly		7/29/2013	NE	38.60	NA	NA	NA	403.78		0.0	
Monthly	442.38	8/5/2013	NE	38.43	NA	NA	NA	403.95	407.33 - 397.33 (35.05 - 45.05)	0.0	
Weekly		8/12/2013	NE	38.26	NA	NA	NA	404.12		0.0	
Weekly		8/20/2013	NE	38.27	NA	NA	NA	404.11		0.4	
Weekly		8/26/2013	NE	38.19	NA	NA	NA	404.19		1.2	
Monthly		9/3/2013	NE	38.16	NA	NA	NA	404.22		0.0	
ROST-4-PZ(C)											
Weekly		7/8/2013	NE	40.26	NA	NA	NA	402.40		0.0	
Weekly		7/18/2013	NE	39.90	NA	NA	NA	402.76		0.2	
Weekly		7/22/2013	NE	39.75	NA	NA	NA	402.91		0.7	
Weekly		7/29/2013	NE	39.63	NA	NA	NA	403.03		0.3	
Monthly	442.66	8/5/2013	NE	39.46	NA	NA	NA	403.20	407.71 - 397.71 (34.95 - 44.95)	0.7	
Weekly		8/12/2013	NE	39.33	NA	NA	NA	403.33		1.5	
Weekly		8/20/2013	NE	39.38	NA	NA	NA	403.28		1.7	
Weekly		8/26/2013	NE	39.32	NA	NA	NA	403.34		1.9	
Monthly		9/3/2013	NE	39.29	NA	NA	NA	403.37		0.0	
ROST-4-PZ(D)											
Weekly		7/8/2013	NE	NE	NA	NA	NA	NA		1.4	
Weekly		7/18/2013	NE	NE	NA	NA	NA	NA		0.0	
Weekly		7/22/2013	NE	39.11	NA	NA	NA	403.87		8.1	
Weekly		7/29/2013	NE	NE	NA	NA	NA	NA		0.0	
Monthly	442.98	8/5/2013	NE	NE	NA	NA	NA	NA	408.01 - 398.01 (34.97 - 44.97)	1.1	
Weekly		8/12/2013	NE	NE	NA	NA	NA	NA		0.0	
Weekly		8/20/2013	NE	NE	NA	NA	NA	NA		0.0	
Weekly		8/26/2013	NE	NE	NA	NA	NA	NA		4.6	
Monthly		9/3/2013	NE	NE	NA	NA	NA	NA		1.1	
ROST-4-PZ(E)											
Weekly		7/8/2013	NE	39.31	NA	NA	NA	402.65		0.0	
Weekly		7/18/2013	NE	38.98	NA	NA	NA	402.98		0.5	
Weekly		7/22/2013	NE	38.83	NA	NA	NA	403.13		27.0	
Weekly		7/29/2013	NE	38.72	NA	NA	NA	403.24		0.0	
Monthly	441.96	8/5/2013	NE	38.58	NA	NA	NA	403.38	407.21 - 397.21 (34.75 - 44.75)	0.0	
Weekly		8/12/2013	NE	38.38	NA	NA	NA	403.58		0.0	
Weekly		8/20/2013	NE	38.41	NA	NA	NA	403.55		0.4	
Weekly		8/26/2013	NE	38.34	NA	NA	NA	403.62		1.8	
Monthly		9/3/2013	NE	38.28	NA	NA	NA	403.68		0.0	

TABLE 1b
3Q13 WEEKLY / MONTHLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	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)	WELL HEAD PID[6] (ppm)	Comments
ROST-4-PZ(F)											
Weekly	442.12	7/8/2013	NE	39.43	NA	NA	NA	402.69	407.59 - 397.59 (34.53 - 44.53)	0.0	
Weekly		7/18/2013	NE	39.14	NA	NA	NA	402.98		0.0	
Weekly		7/22/2013	NE	39.01	NA	NA	NA	403.11		0.1	
Weekly		7/29/2013	NE	38.87	NA	NA	NA	403.25		0.0	
Monthly		8/5/2013	NE	38.72	NA	NA	NA	403.40		0.0	
Weekly		8/12/2013	NE	38.57	NA	NA	NA	403.55		0.0	
Weekly		8/20/2013	NE	38.58	NA	NA	NA	403.54		0.1	
Weekly		8/26/2013	NE	38.49	NA	NA	NA	403.63		0.8	
Monthly		9/3/2013	NE	38.42	NA	NA	NA	403.70		0.0	
ROST-4-PZ(G)											
Weekly	442.13	7/8/2013	NE	39.44	NA	NA	NA	402.69	407.85 - 397.85 (34.28 - 44.28)	0.0	
Weekly		7/18/2013	NE	39.18	NA	NA	NA	402.95		0.2	
Weekly		7/22/2013	NE	39.03	NA	NA	NA	403.10		11.8	
Weekly		7/29/2013	NE	39.07	NA	NA	NA	403.06		0.0	
Monthly		8/5/2013	NE	39.04	NA	NA	NA	403.09		0.4	
Weekly		8/12/2013	NE	39.01	NA	NA	NA	403.12		0.2	
Weekly		8/20/2013	NE	38.99	NA	NA	NA	403.14		0.3	
Weekly		8/26/2013	NE	39.31	NA	NA	NA	402.82		0.1	
Monthly		9/3/2013	NE	38.63	NA	NA	NA	403.50		0.3	
ROST-5-PZ											
Monthly	442.22	8/5/2013	NE	23.02	NA	NA	NA	419.20	429.02 - 419.02 (13.2 - 23.2)	0.0	
Monthly		9/3/2013	NE	23.03	NA	NA	NA	419.19		0.0	
ROST-7-PZ											
Monthly	442.19	8/5/2013	NE	21.91	NA	NA	NA	420.28	422.19 - 412.19 (20 - 30)	1.2	
Monthly		9/3/2013	NE	22.10	NA	NA	NA	420.09		0.0	

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) Monthly groundwater monitoring well gauging began in August 2013, after receipt and incorporation of the conditions of the IEPA July 18, 2013 letter.

TABLE 2a
CUMMULATIVE SUMMARY OF MAIN AQUIFER 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	138.1	1.03	157.0	
3Q11	6.68	30.81	*	*	0.08	0.03	
4Q11	6.62	16.52	1.021	7.70	0.00	0.02	
1Q12	6.64	18.37	1.180	13.32	0.00	0.02	
2Q12	6.61	19.00	2.194	3.02	0.00	41.0	
3Q12	6.65	20.03	0.997	2.01	0.09	29.0	
4Q12	6.63	18.38	3.346	5.10	0.00	47.0	Initial Sample
	7.64	17.47	1.226	6.88	0.00	-12.0	Laboratory Error. Resample for VOCs
1Q13	6.73	18.14	2.192	8.16	0.20	-0.02	
2Q13	6.70	18.71	1.096	7.39	0.01	-117.0	
3Q13	6.76	19.26	1.068	28.82	0.90	-35.0	
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	168.5	0.09	-69.0	
3Q11	6.76	25.10	*	2.10	0.00	-0.28	
4Q11	6.67	17.71	1.126	29.40	0.00	-0.08	
1Q12	6.55	18.13	1.165	45.20	0.00	-1.00	
2Q12	6.61	19.70	2.462	41.55	0.00	-60.0	
3Q12	6.66	20.80	1.082	4.01	0.00	-26.0	
4Q12	6.61	18.86	3.887	6.41	0.00	-37.0	
1Q13	6.67	18.53	2.027	12.39	0.05	-0.11	
2Q13	6.64	20.21	1.204	7.15	0.01	-159.0	
3Q13	6.76	21.55	1.320	9.69	0.00	-105.0	
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	0.00	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	0.00	-79.0	
3Q12	6.63	20.63	1.255	1.18	0.03	-67.0	
4Q12	6.80	20.10	2.205	1.81	0.00	-61.0	
1Q13	6.88	19.17	1.333	2.67	0.01	-243.0	
2Q13	6.92	19.83	1.078	2.64	0.02	-207.0	
3Q13	6.99	20.05	1.084	8.73	0.00	-143.0	
MW-04							
4Q10	6.76	19.51	0.854	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	0.00	-0.01	
4Q11	6.89	19.04	1.111	13.20	0.00	-0.07	
1Q12	6.81	18.62	0.955	3.40	0.00	-0.08	
2Q12	6.74	20.35	2.417	9.39	0.00	-58.0	
3Q12	6.60	19.94	1.137	9.69	0.00	-82.0	
4Q12	6.78	19.13	3.319	8.68	0.00	-66.0	
1Q13	6.83	18.75	2.516	25.45	0.21	-113.0	Initial Sample
	7.26	18.37	1.296	6.07	0.04	-108.0	Confirmation Sample
2Q13	6.81	19.74	1.283	8.50	0.00	-151.0	
3Q13	6.76	20.36	1.481	8.03	0.00	-105.0	
MW-05							
4Q10	6.77	19.39	0.801	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	0.00	0.29	
4Q11	6.70	17.87	0.956	10.03	0.02	-0.09	
1Q12	6.71	17.90	0.987	6.60	0.00	-13.0	
2Q12	6.68	19.74	1.956	4.57	0.00	-50.0	
3Q12	6.78	22.92	0.856	8.64	0.00	-120.0	
4Q12	6.79	18.67	2.428	8.72	0.00	-67.0	
1Q13	6.83	19.18	1.925	11.85	0.04	-124.0	
2Q13	6.79	19.64	1.010	8.72	0.00	-166.0	
3Q13	6.85	20.57	1.113	12.87	0.00	-129.0	

TABLE 2a
CUMMULATIVE SUMMARY OF MAIN AQUIFER GROUNDWATER MONITORING WELL FIELD PARAMETERS

Well ID	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
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	0.00	-0.07	
2Q12	6.52	20.09	2.045	6.24	0.00	-55.0	
3Q12	6.56	20.14	1.098	1.46	0.00	-37.0	
4Q12	6.65	19.52	1.965	8.32	0.00	-57.0	
1Q13	7.00	20.21	0.690	20.50	0.02	-132.0	
2Q13	6.84	18.96	0.848	7.09	0.00	-255.0	
3Q13	6.77	20.15	0.928	9.62	0.00	-128.0	
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	0.630	2.10	0.17	-54.0	
3Q11	6.85	25.55	*	20.50	0.00	0.44	
4Q11	6.86	18.30	1.059	1.35	0.11	-0.06	
1Q12	6.90	17.13	1.080	10.59	0.00	-0.06	
2Q12	6.80	19.60	2.251	3.07	0.00	-35.0	
3Q12	6.80	20.81	1.437	5.88	0.00	-42.0	
4Q12	6.89	19.49	2.344	7.40	0.00	-34.0	
1Q13	6.82	18.11	1.127	7.34	0.00	-79.0	
2Q13	6.80	18.21	1.557	1.11	0.04	-132.0	
3Q13	6.92	19.68	1.210	9.92	0.19	-85.0	
MW-06C							
4Q10	6.86	17.87	1.132	5.50	0.16	-104.0	
1Q11	6.87	13.90	0.981	4.20	0.13	-66.0	
2Q11	6.84	18.93	0.713	2.10	0.43	-72.0	
3Q11	*	26.07	*	0.80	0.00	0.02	
4Q11	6.90	18.08	1.095	7.00	0.07	-0.08	
1Q12	6.93	17.04	1.127	4.02	0.00	-0.08	
2Q12	6.87	19.09	1.921	1.71	0.00	-68.0	
3Q12	6.92	20.05	1.036	2.16	0.00	-55.0	
4Q12	6.94	19.04	2.426	0.51	0.00	-63.0	
1Q13	6.94	17.60	0.828	6.48	0.01	-103.0	
2Q13	7.70	18.38	1.051	4.91	0.05	-178.0	
3Q13	7.03	19.24	1.050	6.30	0.10	-124.0	
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	0.614	13.20	0.09	-61.0	
3Q11	7.04	28.06	*	*	0.00	0.31	
4Q11	6.99	17.79	1.240	1.25	0.00	-107.0	
1Q12	6.94	16.69	1.192	5.48	0.02	-0.08	
2Q12	6.96	19.50	2.368	7.17	0.00	-77.0	
3Q12	6.43	20.56	1.030	1.05	0.04	-41.0	
4Q12	7.03	19.07	2.753	5.16	0.00	-61.0	
1Q13	7.07	17.15	0.929	6.69	0.00	-116.0	
2Q13	8.27	18.20	1.131	7.93	0.00	-172.0	
3Q13	7.04	18.60	1.373	8.93	0.00	-134.0	
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	0.560	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	0.00	-31.0	
3Q12	6.69	21.88	1.062	1.69	0.03	-69.0	
4Q12	6.75	18.34	2973.000	6.24	0.17	-15.0	
1Q13	6.90	18.28	1.056	8.57	0.00	-91.0	
2Q13	6.86	19.35	1.123	3.37	0.07	-148.0	
3Q13	6.76	19.76	1.254	21.67	0.09	-91.0	

TABLE 2a
CUMMULATIVE SUMMARY OF MAIN AQUIFER GROUNDWATER MONITORING WELL FIELD PARAMETERS

Well ID	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
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	0.791	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	0.00	17.0	Well was resampled on 08/07/12.
4Q12	6.52	17.81	4.075	5.83	0.12	0.00	
1Q13	6.58	17.83	0.863	9.84	0.00	-56.0	
2Q13	6.50	19.71	0.890	7.19	0.05	-124.0	
3Q13	6.57	19.86	2.092	8.65	0.07	-60.0	
MW-09							
4Q10	6.72	16.98	0.919	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	*	*	0.00	-0.08	
4Q11	6.66	18.84	1.012	366.2	0.20	-75.0	sampled on 11/1
1Q12	6.56	17.30	1.160	7.35	0.00	-27.0	
2Q12	6.62	20.12	2.821	5.46	0.00	-15.0	
3Q12	6.67	19.87	1.127	8.71	0.01	-39.0	
4Q12	6.69	17.19	3.368	5.51	0.00	-10.0	
1Q13	6.73	17.96	1.367	25.29	0.00	-111.0	
2Q13	6.69	18.01	1.126	9.51	0.00	-125.0	
3Q13	6.75	18.84	1.213	9.52	0.13	-76.0	
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	0.546	17.50	1.89	-48.0	
3Q11	6.93	21.44	*	*	0.00	-0.11	
4Q11	6.81	18.15	0.823	3.25	0.00	-0.10	sampled on 11/1
1Q12	6.76	18.29	0.973	28.75	0.00	-41.0	
2Q12	6.73	18.57	1.972	5.76	0.00	-63.0	
3Q12	6.87	21.46	0.623	2.57	0.02	-90.0	
4Q12	6.78	17.36	2.686	7.57	0.00	-20.0	Initial Sample
	7.61	17.42	1.222	6.93	0.00	-126.0	Laboratory Error. Resample for VOCs
1Q13	6.89	18.36	1.082	9.43	0.00	-173.0	Initial Sample
	6.88	16.98	6.226	8.89	0.04	-101.0	Resample
2Q13	6.78	18.85	1.210	8.71	0.02	-260.0	
3Q13	6.90	20.11	1.360	9.57	0.02	-127.0	
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	0.00	0.06	
4Q11	6.78	17.01	1.099	20.33	0.01	-0.06	
1Q12	6.74	16.18	1.077	7.87	0.00	22.0	
2Q12	6.76	18.13	2.204	5.40	0.00	-68.0	
3Q12	6.67	21.27	1.158	1.15	0.06	-69.0	
4Q12	6.68	18.82	4.141	8.44	0.00	-41.0	
1Q13	6.76	17.64	1.586	1.94	0.00	-179.0	
2Q13	6.75	18.16	1.313	5.58	0.01	-310.0	
3Q13	6.78	19.55	1.336	10.06	0.08	-94.0	
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	0.958	5.40	0.01	132.0	
3Q11	6.89	20.17	*	*	0.01	0.22	
4Q11	6.83	18.28	1.127	0.03	0.00	-0.10	
1Q12	6.78	17.26	1.074	8.26	0.10	146.0	
2Q12	6.80	18.23	1.736	4.57	0.00	38.0	
3Q12	6.78	20.11	0.912	2.66	0.03	4.00	
4Q12	6.81	19.19	2.515	6.47	0.00	90.0	
1Q13	6.79	17.34	1.006	5.83	0.06	1.00	
2Q13	6.86	19.24	0.958	1.01	0.09	-285.0	
3Q13	6.85	19.61	1.003	4.21	0.13	261.0	

TABLE 2a
CUMMULATIVE SUMMARY OF MAIN AQUIFER GROUNDWATER MONITORING WELL FIELD PARAMETERS

Well ID	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
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	0.713	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	0.00	-102.0	
1Q12	6.68	18.94	1.202	5.78	0.00	-0.06	
2Q12	6.66	20.78	2.374	6.11	0.00	-78.0	
3Q12	6.64	22.65	1.435	7.16	0.00	-96.0	
4Q12	6.60	20.73	3.041	9.02	0.04	-35.0	
1Q13	6.64	18.59	1.019	3.55	0.01	-178.0	
2Q13	6.60	19.69	1.260	2.35	0.00	-152.0	
3Q13	6.69	20.60	1.355	9.26	0.04	-122.0	
MW-14							
4Q11	6.71	18.41	0.966	1783.0	0.00	-0.09	
1Q12	NM	NM	NM	NM	NM	NM	Restricted Area.
2Q12	6.64	20.65	2.151	9.70	0.00	5.00	
3Q12	6.61	22.82	1.058	5.78	0.00	-63.0	
4Q12	6.61	19.59	1.137	7.69	0.03	-129.0	
1Q13	6.65	18.92	0.804	8.18	0.06	-100.0	
2Q13	6.48	19.09	1.138	5.68	0.03	-129.0	
3Q13	6.73	20.30	1.076	4.75	0.24	-113.0	
MW-16							
1Q13	*	19.17	0.851	7.03	0.00	-98.0	Added to Interim GW Monitoring Program in 1Q13
2Q13	6.57	19.56	0.826	0.96	0.03	-288.0	
3Q13	6.56	21.37	0.986	9.33	0.28	-63.0	
MW-22							
1Q13	11.15	17.69	1.096	9.20	0.00	-111.0	Added to Interim GW Monitoring Program in 1Q13
2Q13	6.76	19.91	1.150	1.64	0.07	-282.0	
3Q13	6.74	21.40	1.101	21.29	0.01	-105.0	
MW-24							
2Q13	6.73	18.63	1.203	3.04	0.24	-219.0	Added to Interim GW Monitoring Program in 2Q13
3Q13	6.75	19.12	1.169	9.18	0.34	207.0	
P-54							
4Q10	6.71	14.70	0.870	68.60	1.74	140.0	
1Q11	6.69	14.47	0.970	25.40	1.29	56.0	
2Q11	6.74	17.70	0.885	48.00	1.62	-66.0	
3Q11	6.80	17.89	*	20.80	0.27	0.27	
4Q11	6.73	17.01	0.921	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	0.973	7.77	0.00	9.00	
4Q12	6.72	17.62	1.167	4.76	0.17	146.0	
1Q13	6.75	17.50	1.061	4.97	0.11	-23.0	
2Q13	6.70	18.08	1.105	2.88	0.11	-96.0	Initial Sample
	6.73	17.51	1.035	4.36	0.63	165.0	Resample
3Q13	6.80	18.42	1.091	8.66	4.22	293.0	
P-55							
4Q11	6.90	18.41	0.727	4.88	0.00	-0.13	Added to Interim GW Monitoring Program in 4Q11
1Q12	6.86	15.22	0.706	1.56	0.08	-0.07	
2Q12	6.78	19.69	2.098	4.55	0.00	-43.0	
3Q12	NM	NM	NM	NM	NM	NM	
4Q12	NM	NM	NM	NM	NM	NM	
1Q13	*	17.37	0.635	7.68	0.00	-125.0	Well Replaced during 4Q12
2Q13	6.86	21.33	0.799	0.06	0.02	-174.0	
3Q13	6.91	21.72	0.785	9.58	0.01	-133.0	
P-56							
4Q11	6.68	18.24	1.063	128.6	0.00	-0.12	Added to Interim GW Monitoring Program in 4Q11
1Q12	6.53	16.08	1.012	4.68	0.04	-5.00	
2Q12	6.57	21.78	2.385	1.04	0.00	0.00	
3Q12	6.58	22.08	1.245	3.47	0.00	12.0	
4Q12	6.51	22.60	3040.000	7.52	0.02	-7.00	
1Q13	*	20.98	1.106	4.56	0.00	-47.0	
2Q13	6.61	22.69	1.218	3.00	0.00	-122.0	
3Q13	6.70	25.57	1.395	6.56	0.02	-115.0	
P-57							
4Q11	6.60	18.87	1.220	220.7	0.00	-0.10	Added to Interim GW Monitoring Program in 4Q11
1Q12	6.48	16.73	1.502	2.30	0.02	-73.0	
2Q12	6.55	19.24	2.718	2.28	0.00	-54.0	
3Q12	6.59	20.98	1.182	3.25	0.00	-5.00	
4Q12	6.59	18.72	3.841	5.19	0.00	-28.0	
1Q13	*	20.16	1.116	6.22	0.00	-104.0	
2Q13	6.53	20.78	1.331	6.97	0.00	-146.0	
3Q13	6.59	22.45	1.235	8.81	0.00	-109.0	

TABLE 2a
CUMMULATIVE SUMMARY OF MAIN AQUIFER GROUNDWATER MONITORING WELL FIELD PARAMETERS

Well ID	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
P-58							
4Q11	6.53	18.22	1.144	10.71	0.00	-0.06	Added to Interim GW Monitoring Program in 4Q11
1Q12	6.54	16.97	1.252	14.38	0.01	-0.03	
2Q12	6.50	19.08	2.978	10.20	0.00	-5.00	
3Q12	6.56	19.51	1.199	12.67	0.00	19.0	
4Q12	6.49	18.76	2.836	8.22	0.00	11.0	Initial Sample
	7.45	18.15	1.259	13.60	0.01	-112.0	Laboratory Error. Resample for SVOCs and PAHs
1Q13	6.57	16.48	0.964	23.26	0.00	-67.0	
2Q13	6.50	18.92	1.174	23.19	0.03	-109.0	
3Q13	6.53	21.63	1.201	9.42	0.05	-87.0	
P-59							
4Q11	6.71	18.22	1.211	38.94	0.00	-0.11	Added to Interim GW Monitoring Program 4Q11
1Q12	6.56	16.14	1.152	8.31	0.00	-26.0	
2Q12	6.59	19.27	2.582	3.30	0.00	-23.0	
3Q12	6.63	21.74	1.220	9.00	0.00	-79.0	
4Q12	6.57	17.90	2.977	7.16	0.00	14.0	
1Q13	6.64	16.36	1.208	4.99	0.00	-82.0	
2Q13	6.54	18.74	1.109	3.91	0.00	-119.0	
3Q13	6.64	21.34	1.202	3.31	0.05	-107.0	
P-66							
4Q11	6.38	18.49	1.228	29.77	0.00	-0.10	Added to Interim GW Monitoring Program 4Q11
1Q12	NM	NM	NM	NM	NM	NM	Restricted Area.
2Q12	6.42	20.82	2.898	19.95	0.00	-11.0	
3Q12	6.41	22.52	1.372	20.89	0.00	-53.0	
4Q12	6.44	18.80	1.353	21.29	0.00	-161.0	
1Q13	6.48	19.00	0.943	14.28	0.00	-79.0	
2Q13	6.40	19.20	1.198	13.65	0.00	-133.0	
3Q13	6.46	20.78	1.173	8.99	0.04	-81.0	
P-74							
4Q11	6.54	18.49	0.502	15.49	0.00	-0.10	
1Q12	6.84	11.70	0.233	6.86	0.87	101.0	
2Q12	6.84	19.17	0.367	8.55	0.37	28.0	
3Q12	6.68	20.31	0.580	10.52	0.00	1.00	
4Q12	6.60	18.13	2.047	14.87	0.00	-22.0	
1Q13	*	16.88	0.445	24.29	0.00	-39.0	
2Q13	6.99	16.19	0.175	14.65	1.42	-93.0	
3Q13	6.92	20.80	0.318	9.99	0.04	-122.0	
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	0.670	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	
1Q13	6.79	20.25	1.198	36.06	4.26	-66.0	
2Q13	6.85	19.70	1.433	33.41	5.83	-86.0	
3Q13	6.99	23.07	1.654	36.18	4.25	-83.0	
P-93B							
4Q10	7.10	18.10	1.150	0.00	NM	NM	
1Q11	6.69	16.44	1.377	1.20	NM	NM	
2Q11	6.64	19.20	0.757	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	6.78	18.27	2.904	0.00	0.02	19.0	
1Q13	6.80	17.81	1.731	2.92	0.12	-116.0	
2Q13	6.84	17.21	1.666	3.54	0.97	-99.0	
3Q13	6.80	20.05	1.644	1.56	0.05	-117.0	

TABLE 2a
CUMMULATIVE SUMMARY OF MAIN AQUIFER GROUNDWATER MONITORING WELL FIELD PARAMETERS

Well ID	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
P-93C							
4Q10	7.28	17.50	1.057	0.00	NM	NM	
1Q11	7.14	16.51	1.832	0.50	NM	NM	
2Q11	6.81	18.40	0.693	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	0.00	0.02	19.0	
1Q13	6.91	17.76	0.916	0.83	0.12	-118.0	
2Q13	6.91	17.09	0.961	0.00	0.89	-74.0	
3Q13	6.83	20.08	1.550	0.69	0.08	-81.0	Initial Sample
	6.87	20.60	1.270	0.03	0.08	-111.0	Resample
P-93D							
4Q10	7.13	18.50	1.211	0.00	NM	NM	
1Q11	NM	NM	NM	NM	NM	NM	
2Q11	6.89	16.70	0.710	0.16	NM	NM	
3Q11	6.68	20.90	1.410	0.86	NM	NM	
4Q11	6.99	18.13	1.224	0.00	0.00	-166.0	
1Q12	6.93	15.16	1.222	1.77	0.08	-23.0	
2Q12	6.93	19.04	2.254	3.31	0.00	-0.03	
3Q12	6.93	21.54	1.446	2.93	0.00	-88.00	
4Q12	7.76	17.20	1.623	2.10	NM	NM	
1Q13	7.07	16.25	1.187	4.91	0.00	-77.0	
2Q13	7.08	18.02	1.211	3.37	0.17	-111.0	
3Q13	7.04	21.16	1.306	1.21	0.12	-120.0	
P-114							
4Q11	7.16	20.29	1.287	12.60	3.19	-118.0	Added to Interim GW Monitoring Program 4Q11
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	
1Q13	7.25	19.52	0.782	9.14	1.53	-96.0	
2Q13	7.33	20.80	0.941	31.68	1.83	-144.0	
3Q13	7.45	22.10	1.095	17.89	3.10	-103.0	
ROST-3-MW							
1Q13	*	16.92	0.723	6.82	0.00	-124.0	
2Q13	6.94	18.60	0.751	11.04	0.01	-319.0	
3Q13	6.95	18.57	0.773	33.57	0.00	-128.0	
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	0.813	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	0.00	-1.00	Added to Interim GW Monitoring Program 2Q12
3Q12	6.74	21.56	0.976	6.67	0.04	-94.0	
4Q12	6.75	18.50	2.754	0.81	0.02	-47.0	
1Q13	6.77	19.35	1.091	7.82	0.00	-173.0	
2Q13	6.75	19.22	1.334	1.67	0.01	-148.0	
3Q13	6.85	20.00	1.089	4.00	0.13	-111.0	
T-12							
4Q11	6.87	16.98	0.919	6.28	0.00	-111.0	Added to Interim GW Monitoring Program 4Q11
1Q12	6.85	15.13	0.801	13.15	0.00	-0.09	
2Q12	6.66	17.63	2.382	1.18	0.00	-37.0	
3Q12	6.79	18.86	1.259	4.54	0.00	-125.0	
4Q12	6.68	16.69	3.955	1.47	0.00	-2.00	
1Q13	6.93	15.73	1.075	2.11	0.00	-117.0	
2Q13	6.81	18.64	1.177	10.67	0.00	-122.0	
3Q13	7.06	20.34	1.200	5.39	0.01	-164.0	

NOTES:
1) Field parameters were collected using the Troll 9500.
2) NM = Not Measured; NI = Not Installed
3) * = Equipment malfunction. Results are suspect.
4) Negative parameter 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
1Q13	NM	NM	NM	NM	NM	NM	Slow recharge prevented sampling per the SOP
2Q13	NM	NM	NM	NM	NM	NM	Slow recharge prevented sampling per the SOP
3Q13	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
1Q13	NM	NM	NM	NM	NM	NM	Well is dry.
2Q13	NM	NM	NM	NM	NM	NM	Slow recharge prevented sampling per the SOP
3Q13	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.
1Q13	NM	NM	NM	NM	NM	NM	Well is dry.
2Q13	NM	NM	NM	NM	NM	NM	Well is dry.
3Q13	NM	NM	NM	NM	NM	NM	Slow recharge prevented sampling per the SOP
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
1Q13	NM	NM	NM	NM	NM	NM	Slow recharge prevented sampling per the SOP
2Q13	NM	NM	NM	NM	NM	NM	Slow recharge prevented sampling per the SOP
3Q13	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.
1Q13	NM	NM	NM	NM	NM	NM	Well is dry.
2Q13	NM	NM	NM	NM	NM	NM	Well is dry.
3Q13	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.
1Q13	NM	NM	NM	NM	NM	NM	Well is dry.
2Q13	NM	NM	NM	NM	NM	NM	Well is dry.
3Q13	NM	NM	NM	NM	NM	NM	Slow recharge prevented sampling per the SOP

NOTES:
1) NM = Not Measured

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

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	VOCs: 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	2-Hexanone (Methyl N-Butyl Ketone)	Isopropylbenzene (Cumene)	4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	Methyl tert-Butyl Ether (MTBE)	Naphthalene	n-Propylbenzene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl acetate	m,p-Xylenes	o-Xylenes	Xylenes (total)	SVOCs: Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid
					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]		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]	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]
						Analytical Results (mg/L)																																								
	MW-1-111110	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		<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		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048
	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		<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		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.049
	MW1-ROX-011711	1/17/2011	43.41 - 58.41	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		<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		<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.013
	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	<0.005	<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	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.013 UJ
	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	<0.005	<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	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
	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	<0.005	<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	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000056 U	<0.0001	<0.0001	<0.01 UJ
MW-01	MW1-ROX-011612	1/16/2012		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	<0.005	<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	0.000077 J	0.000035 J	0.000062 J	0.00011	0.0001	0.00011	<0.00011 U	0.00012	<0.01 UJ
	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	<0.005	<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	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01 UJ
	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	<0.005	<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	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<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
	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	<0.005	<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									
	MW1-ROX-011013	1/10/2013		42.59	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	<0.005	<0.005	<0.005	0.0015	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.000024 U	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
	MW1-ROX-040913	4/9/2013		42.55	NE	0.0004 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	<0.005	<0.005	<0.005	0.0012	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
	MW1-ROX-070813	7/8/2013	49.98 - 59.98	39.56	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	<0.005	<0.005	<0.005	0.0049	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.000026 U	<0.0001	<0.0001	<0.000051	<0.0001	0.000027 J	<0.0001	<0.0001	<0.01
	MW-2-111010	11/11/2010		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		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		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048
	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		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		<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	0.0082 J
	MW02-ROX-051011	5/10/2011	47.19 - 62.19	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	<0.005	0.0539	<0.005	<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	<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
	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	<0.05	0.0995	<0.05	<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	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
	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	<0.05	0.0967	<0.05	<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	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
	MW2-ROX-112811	11/28/2011		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	<0.005	0.128	<0.005	<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	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01 UJ
MW-02	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	<0.025	0.0832	<0.025	<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	0.000057 J	<0.00011	<0.00011	<0.000053	0.000033 J	0.00004 J	<0.000047 U	<0.00011	<0.011 UJ
	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	<0.025	0.0886	<0.025	<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	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ
	MW2-ROX-073012	7/30/2012	51.32 - 61.32	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	<0.005	0.0818	<0.005	<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	0.000051 J	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
	MW2-ROX-102612	10/26/2012		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	<0.025	0.0764	<0.025	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	0.000093 J	<0.00011	<0.00011	0.00016	<0.00011	<0.000054	<0.00011	<0.00011	<0.011 UJ
	MW2-ROX-011113	1/11/2013		42.94	NE	0.0192	0.0176 J	0.0077 J	0.002 J	<0.01	<0.002	<0.002	0.0083	<0.002	<0.004	<0.01	0.0094 J	<0.05	0.676	<0.01	<0.01	<0.01	0.0879	<0.01	<0.002	0.0768	0.121	0.0093	<0.01	<0.01	<0.002	0.219	0.105	<0.01	0.685	0.0287	0.713	0.00016	0.000019 J	<0.00011	<0.000056	0.000027 J	0.000039 J	<0.00011	<0.00011	<0.011
	MW2-ROX-040913	4/9/2013		43.70	NE	0.0174	0.0191 J	0.0085 J	<0.025	<0.025	<0.005	<0.005	<0.01	<0.005	<0.01	<0.025	0.0101 J	<0.13	0.91	<0.025	<0.025	<0.025	0.085	<0.025	<0.005	0.0578	0.11	0.0073	<0.025	<0.025	<0.005	0.338	0.155	<0.025	1.01	0.0454	1.05	<0.00011	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011
	MW2-ROX-071113	7/11/2013	51.32 - 61.32	40.82	NE	0.006	<0.005	0.0073	0.0029 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0075	R	1.57	<0.005	<0.005	<0.005	0.0931	<0.005	0.0062	0.114	0.127	0.11	<0.005	<0.005	<0.001	0.522	0.175	<0.005 UJ	1.88	0.174	1.88	0.000035 J	<0.00011	<0.00011	<0.000055	<0.00011	<0.000055	<0.00011	<0.00011	<0.011 UJ
	MW-3-111210	11/12/2010		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		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		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048
	MW3-ROX-011811	1/18/2011	30.98 - 45.98	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		<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		<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011
	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	<0.005	<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	<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
	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	<0.005	0.0012 J	<0.005	<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	<0.000095	<0.000095	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095 UJ
	MW3-ROX-112911	11/29/2011		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	<0.005	<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	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ
	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	<0.005	<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	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01 UJ
MW-03	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	<0.005	<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	<0.0001	<0.0001	0.000063 J	0.00011	0.00012	0.00013	<0.00013 U	0.00012	<0.01 UJ
	MW3-ROX-043012	4/30/2012	34.67 - 44.67	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	<0.005	<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	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ
	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	<0.005 UJ	<0.005	<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	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011 UJ	<0.00011	<0.011
	MW3-ROX-102512	10/25/2012		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	<0.005	<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	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
	MW3-ROX-010913	1/9/2013		29.88	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	<0.005	<0.005	<0.005	0.0008 J	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	0.007	<0.001	<0.001	<0.001	<0.0001	0.000023 J	0.000037 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
	MW3-ROX-040813	4/8/2013		29.74	NE	0.008	<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	<0.005	<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	<0.00011	<0.00011	<0.00011	<0.000057	<0.00011	<0.000057	<0.00011	<0.00011	<0.011
	MW3-ROX-071113	7/11/2013	34.67 - 44.67	26.32	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	R	<0.001	<0.005	<0.005	<0.005	0.0049 J	<0.005	0.0035	<0.005	0.0055	0.0013	<0.005	<0.005	<0.001	0.0013 J	<0.005	<0.005 UJ	0.0028	<0.001	0.0028	0.000028 J	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011 UJ
	MW-4-111210	11/12/2010		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		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		<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.047
	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		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		<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.01
	MW04-ROX-051111	5/11/2011	42.63 - 57.63	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	<0.005	0.0036 J	<0.005	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	<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
	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	<0.005	0.0088	<0.005	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	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	0.0102
	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	<0.005	0.0088	<0.005	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	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	0.0103
	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	<0.005	<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	<0.0001	0.00011	<0.0001	<0.000052	0.00012	<0.000087 U	<0.00063 U	<0.0001	<0.01 UJ
	MW4-ROX-011612	1/16/2012		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	<0.005	0.0061	<0.005	<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	<0.0001	<0.0001	0.00003 J	0.00012	0.00012	0.00013	<0.0002 U	0.00015	<0.01 UJ
	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	<0.005	0.0038 J	<0.005	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	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
	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	<0.005	0.0036 J	<0.005	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	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
MW-04	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	<0.005	0.0061	<0.005	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	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	0.0056 J
	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	<0.005	0.0063	<0.005	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	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000046 U	<0.0001	<0.0001	<0.01
	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	<0.01	0.0029 J	<0.01	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	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
	MW4-ROX-011113	1/11/2013		40.20	NE	9.04 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	0.00052 J	<0.005	<0.005	<0.005	0.0012 J	<0.005	0.0654	<0.005	0.0026 J	0.0075	<0.005	<0.005	<0.001	0.0019 J	0.0024 J	<0.005	0.0056	<0.001	0.0056	<0.00011	<0.00011	<0.00011	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011
	MW4-ROX-011113-DUP	1/11/2013		40.20	NE	8.96 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	0.00056 J	<0.005	<0.005	<0.005	0.0014 J	<0.005	0.0681	<0.005	0.003 J	0.0083	<0.005	<0.005	<0.001	0.0019 J	0.0026 J	<0.005	0.006	<0.001	0.006	<0.00012	<0.00012	<0.00012	<0.00006	<0.00012	<0.00006	<0.00012	<0.00012	<0.012
	MW4-ROX-030413	3/4/2013		40.20	NE	21.4	<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	<0.5	<0.5	<0.5	0.112	<0.5	<0.5	<0.1	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1									
	MW4-ROX-040913	4/9/2013		40.90	NE	64.2	<0.01	<0.01	<0.01	<0.01	<0.002	<0.002	<0.004	<0.002	<0.004	<0.01	<0.01	<0.05	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	0.112	<0.01	<0.01	0.0057	<0.01	<0.01	<0.002	<0.01	<0.01	<0.01	0.0052	<0.002	0.0062	<0.00011	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011
	MW4-ROX-040913-DUP	4/9/2013		40.90	NE	72.9	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	0.00081 J	<0.005	<0.005	<0.005	<0.005	<0.005	0.125	<0.005	0.004 J	0.0076	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.0073	0.0011	0.0084	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
	MW4-ROX-071713	7/17/2013	46.06 - 56.06	37.61	NE	12.2	<0.005	0.0016 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.05	0.0015	<0.005	<0.005	0.0041 J	0.0067	<0.005	0.0559	<0.005	0.008	0.0381	<0.005	<0.005	0.00085 J	0.0012 J	<0.005	0.0392 J	0.0302	0.0052	0.0353	<0.000036 U	<0.00011	<0.00011	<0.000055	0.00004 J	0.000034 J	0.000061 J	<0.00011	<0.011
	MW-5-111210	11/12/2010		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		<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		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048
	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		<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		<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011
	MW05-ROX-051211	5/12/2011	31.13 - 46.13	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	<0.005	<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	<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
	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	<0.005	0.0161	<0.005	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	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
	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	<0.005	0.016	<0.005	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	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
	MW5-ROX-112111	11/21/2011		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	<0.005	<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	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011 UJ
MW-05	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	<0.005	<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	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011 UJ
	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	<0.005	0.001 J	<0.005	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	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
	MW5-ROX-072512	7/25/2012	33.97 - 43.97	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	<0.005	0.0066	<0.005	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	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
	MW5-ROX-102912	10/29/2012		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	<0.005	0.002 J	<0.005	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	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
	MW5-ROX-011113	1/11/2013		28.75	NE	0.0072	<0.005	0.0016 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	<0.005	0.00086 J	<0.005	0.0295	<0.005	<0.005	0.0008 J	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	0.000071 J	0.000066 J	0.000028 J	<0.000055	<0.00011	<0.000055	<0.00011	<0.00011	<0.011
	MW5-ROX-040913	4/9/2013		29.41	NE	0.0018	<0.005	0.0018 J	0.0063	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	0.00085 J	<0.005	0.0427	<0.005	<0.005	0.002	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	0.001	<0.001	0.0014	<0.00011	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011
	MW5-ROX-070913	7/9/2013	33.97 - 43.97	26.04	NE	0.0075	<0.005	<0.005	0.0085	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005	R	<0.001	<0.005	<0.005	<0.005	0.0268	<0.005	0.0121	<0.005	0.0132	0.0029	<0.005	<0.005	0.0018	<0.005	<0.005	<0.005 UJ	0.0079	0.0018	0.0097	<0.0001	<0.0001	<0.0001	0.0001 J	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
	MW-6A-110910	11/9/2010		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		<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		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048
	MW6A-ROX-011911	1/19/2011	31.98 - 46.98	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		<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		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0044 J J
	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	<0.005 UJ	<0.005	<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	<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
	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	<0.005	<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	0.00024	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
	MW6A-ROX-112111	11/21/2011		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	<0.005	<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	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ
	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	<0.005	<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	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01 UJ
MW-06A	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	<0.005	<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	<0.00011	<0.00011	<0.00011	<0.000064 U	<0.00008 U	<0.00009 U	<0.00015 U	0.000094 J	<0.011 UJ
	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	<0.005	<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	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.0029 UJ
	MW6A-ROX-080112	8/1/2012	34.83 - 44.83	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	<0.005	<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	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
	MW6A-ROX-102412	10/24/2012		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	<0.005	<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	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
	MW6A-ROX-011413	1/14/2013		31.00	NE	0.0276	<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	<0.005	<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	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	0.000073 J	<0.0001	<0.01 UJ
	MW6A-ROX-040313	4/3/2013		31.62	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	<0.005	<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	<0.00011	<0.00011 UJ	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
	MW6A-ROX-070913	7/9/2013	34.83 - 44.83	28.25	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	R	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0027	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000055	<0.00011	<0.000055	<0.00011	<0.00011	<0.011
	MW6A-ROX-070913-DUP	7/9/2013		28.25	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	R	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0025	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000055	<0.00011	<0.000055	<0.00011	<0.00011	<0.011

SEE LAST PAGE OF TABLE FOR NOTES

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

Analytical Results (mg/L) — VOCs

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
					Screening Values (mg/L)	0.005 [1]	0.35 [3]			0.7 [2]	0.005 [1]	0.1 [2]		0.0002 [2]	
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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	MW6B-ROX-102412	10/24/2012		30.11	NE	0.0015	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
	MW6B-ROX-011713	1/17/2013		31.11	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
	MW6B-ROX-040313	4/3/2013		31.68	NE	0.00043 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
	MW6B-ROX-070913	7/9/2013	64.05 - 69.05	28.25	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
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
	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
	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
	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
	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
	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
	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
	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
	MW6C-ROX-102412	10/24/2012		27.85	NE	0.00035 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
	MW6C-ROX-011713	1/17/2013		30.88	NE	<0.0005 UJ	<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
	MW6C-ROX-040313	4/3/2013		31.41	NE	0.00062	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
	MW6C-ROX-070913	7/9/2013	84.95 - 89.95	28.03	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
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
	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
	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
	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
	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
	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
	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
	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
	MW6D-ROX-102412	10/24/2012		29.71	NE	0.00055	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
	MW6D-ROX-011713	1/17/2013		30.75	NE	0.00053 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
	MW6D-ROX-040313	4/3/2013		31.27	NE	0.00055	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
	MW6D-ROX-070913	7/9/2013	104.72 - 109.72	27.91	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
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
	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
	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
	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
	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
	MW7-ROX-072411	7/24/2011		35.22	NE	1840	<25	<25	<25	<25	<5	<5	<10	<5	<10
	MW-7-ROX-110211	11/2/2011		35.95	NE	774	<5	<5	<5	<5	<1	<1	<2	<1	<2 UJ
	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
	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
	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
	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
	MW7-ROX-103012	10/30/2012		41.23	NE	833	<10	<10	<10	<10	<2	<2	<4	<2	<4 UJ
	MW7-ROX-103012-DUP	10/30/2012		41.23	NE	863	<10	<10	<10	<10	<2	<2	<4	<2	<4 UJ
	MW7-ROX-011513	1/15/2013		42.21	NE	1230	<20	<20	<20	<20	<4	<4	<8	<4	<8
	MW7-ROX-011513-DUP	1/15/2013		42.21	NE	1320	<20	<20	<20	<20	<4	<4	<8	<4	<8
	MW7-ROX-041013	4/10/2013		42.70	NE	475	<10	<10	<10	<10	<2	<2	<4	<2	<4
	MW7-ROX-041013-DUP	4/10/2013		42.70	NE	499	<10	<10	<10	<10	<2	<2	<4	<2	<4
	MW7-ROX-071713	7/17/2013	42.92 - 52.92	39.60	NE	1000 J	<0.005	0.0023 J J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
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
	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
	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
	MW08-ROX-051311	5/13/2011		28.35	NE	1310	<50	<50	<50	<50	<10	<10	<20	<10	<20
	MW08-ROX-051311D	5/13/2011		28.35	NE	952 J	<5	<5	<5	<5	<1	<1	<2	<1	<2
	MW8-ROX-072411	7/24/2011		26.02	NE	1650	<25	<25	<25	<25	<5	<5	<10	<5	<10 UJ
	MW8-ROX-072411-DUP	7/24/2011		26.02	NE	1860	<25	<25	<25	<25	<5	<5	<10	<5	<10
	MW-8-ROX-110211	11/2/2011		27.02	NE	934	<5	<5	<5	<5	<1	<1	<2	<1	<2 UJ
	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
	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
	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
	MW8-ROX-080712	8/7/2012		30.97	NE	397 J	<0.1	<0.1	<0.1	<0.1	<0.02	<0.02	<0.04	<0.02	<0.04
	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
	MW8-ROX-103012	10/30/2012		32.32	NE	523	<5	<5	<5	<5	<1	<1	<2	<1	<2 UJ
	MW8-ROX-011513	1/15/2013		33.30	NE	1120 J	<10	<10	<10	<10	<2	<2	<4	<2	<4
	MW8-ROX-041013	4/10/2013		33.77	NE	969	<25	<25	<25	<25	<5	<5	<10	<5	<10
	MW8-ROX-071713	7/17/2013	33.60 - 43.60	30.43	NE	532	<0.005	0.0033 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
	MW8-ROX-071713-DUP	7/17/2013		30.43	NE	494	<0.005	0.0031 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
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
	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
	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
	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
	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
	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
	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
	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
	MW9-ROX-102912	10/29/2012		43.17	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002 UJ
	MW9-ROX-011113	1/11/2013		44.70	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
	MW9-ROX-040913	4/9/2013		44.67	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
	MW9-ROX-070813	7/8/2013	46.45 - 56.45	42.35	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002

Analytical Results (mg/L) — VOCs (continued)

Sample ID	4-Chlorotoluene	Cymene (p-Isopropyltoluene)	1,4-Dioxane	Ethylbenzene	Ethyl methacrylate	Hexachlorobutadiene	2-Hexanone (Methyl N-Butyl Ketone)	Isopropylbenzene (Cumene)	4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	Methyl tert-Butyl Ether (MTBE)	Naphthalene	n-Propylbenzene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,2-Trichloroethane
Screening Values (mg/L)			0.005 [4]	0.7 [1]		0.007 [3]		0.7 [3]		0.070 [1]	0.14 [2]	0.7 [3]	1 [1]	0.0056 [3]	0.07 [2]	0.005 [2]
MW-6B-111610	<0.005	<0.005		<0.005		<0.005		<0.005		0.00204 J	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005
MW6B-ROX-011911	<0.005	<0.005		<0.001		<0.005		<0.005		0.0016	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001
MW6B-ROX-011911-DUP	<0.005	<0.005		<0.001		0.0014 J		<0.005		0.0016	<0.0051	<0.005	<0.001	0.0016 J	0.0011 J	<0.001
MW6B-ROX-051611	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005 UJ	<0.005	<0.005	0.0029	<0.000095 UJ	<0.005	<0.001	<0.005	<0.005	<0.001
MW6B-ROX-051611-DUP	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005 UJ	<0.005	<0.005	0.0031	0.000044 J J	<0.005	<0.001	<0.005	<0.005	<0.001
MW6B-ROX-072311	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0049	0.0012 B	<0.005	<0.001	<0.005	<0.005	<0.001
MW6B-ROX-110311	<0.05	<0.05	<0.25	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	0.036 J	<0.0001	<0.05	<0.01	<0.05	<0.05	<0.01
MW6B-ROX-011712	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0049	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001
MW6B-ROX-050212	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0115	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001
MW6B-ROX-080112	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0122	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001
MW6B-ROX-102412	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0091	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001
MW6B-ROX-011713	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0166	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001
MW6B-ROX-040313	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0132	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001
MW6B-ROX-070913	<0.005	<0.005	R	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0069	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001
MW-6C-111610	<0.005	<0.005		<0.005		<0.005		<0.005		<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005
MW6C-ROX-012111	<0.005	<0.005		<0.001		<0.005		<0.005		0.0021	<0.0053	<0.005	<0.001	<0.005	<0.005	<0.001
MW6C-ROX-051611	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005 UJ	<0.005	<0.005	0.0034	<0.0001 UJ	<0.005	<0.001	<0.005	<0.005	<0.001
MW6C-ROX-072411	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0027	0.00075 B	<0.005	<0.001	<0.005	<0.005	<0.001
MW6C-ROX-110311	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0039 J	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001
MW6C-ROX-011712	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001
MW6C-ROX-050212	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001
MW6C-ROX-080112	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001
MW6C-ROX-102412	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001
MW6C-ROX-011713	<0.005 UJ	<0.005 UJ	<0.025 UJ	<0.001 UJ	<0.005 UJ	<0.005 UJ	<0.005 UJ	<0.005 UJ	<0.005 UJ	0.0012 J	<0.005 UJ	<0.005 UJ	<0.001 UJ	<0.005 UJ	<0.005 UJ	<0.001 UJ
MW6C-ROX-040313	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0022	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001
MW6C-ROX-070913	<0.005	<0.005	R	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001
MW-6D-111610	<0.005	<0.005		<0.005		<0.005		<0.005		<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005
MW6D-ROX-012111	<0.005	<0.005		<0.001		<0.005		<0.005		<0.001	<0.0053	<0.005	<0.001	<0.005	<0.005	<0.001
MW6D-ROX-051611	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005 UJ	<0.005	<0.005	<0.001	<0.00011 UJ	<0.005	<0.001	<0.005	<0.005	<0.001
MW6D-ROX-072311	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.00074 B	<0.005	<0.001	<0.005	<0.005	<0.001
MW6D-ROX-110311	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001
MW6D-ROX-011712	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.00016 U	<0.005	<0.001	<0.005	<0.005	<0.001
MW6D-ROX-050212	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001
MW6D-ROX-080212	<0.005	<0.005		<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001
MW6D-ROX-102412	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001
MW6D-ROX-011713	<0.005 UJ	<0.005 UJ	<0.025 UJ	<0.001 UJ	<0.005 UJ	<0.005 UJ	<0.005 UJ	<0.005 UJ	<0.005 UJ	<0.001 UJ	<0.005 UJ	<0.005 UJ	<0.001 UJ	<0.005 UJ	<0.005 UJ	<0.001 UJ
MW6D-ROX-040313	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001
MW6D-ROX-070913	<0.005	<0.005	R	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001
MW-7-111710	<1.25	<1.25		<1.25		<1.25		<1.25		<1.25	0.004 J	<1.25	<1.25	<1.25	<1.25	<1.25
MW-7-111710-Dup	<1.25	<1.25		<1.25		<1.25		<1.25		<1.25	0.005 J	<1.25	<1.25	<1.25	<1.25	<1.25
MW7-ROX-012511	<0.005 UJ	<0.005 UJ		0.0325 J		<0.005 UJ	<0.005 UJ	0.004 J J	<0.005 UJ	<0.0057 U	0.0058	0.0058 J	0.0907 J	<0.005 UJ	<0.005 UJ	<0.001 UJ
MW07-ROX-051311	<0.005 UJ	<0.005 UJ	<0.025 UJ	0.0494 J	<0.005 UJ	<0.005 UJ	<0.005 UJ	0.0061 J	<0.005 UJ	0.0109 J	0.0114 J	0.0078 J	0.128 J	<0.005 UJ	<0.005 UJ	<0.001 UJ
MW07-ROX-051311D	<0.005	<0.005	<0.025	0.0487	<0.005	<0.005	<0.005	0.006	<0.005	0.012	0.011 J	0.0078	0.126	<0.005	<0.005	<0.001
MW7-ROX-072411	<25	<25	<130	<5	<25	<25	<25	<25	<25	<5	0.0081	<25	<5	<25	<25	<5
MW-7-ROX-110211	<5	<5	<25	<1	<5	<5	<5	<5	<5	<1	0.0113	<5	<1	<5	<5	<1
MW7-ROX-011812	<0.005	<0.005	<0.025	0.0727	<0.005	<0.005	<0.005	0.0101	<0.005	0.0022	0.0134	0.0135	0.158	<0.005	<0.005	<0.001
MW7-ROX-011812-DUP	<0.005	0.0015 J	<0.025	0.0718	<0.005	<0.005	<0.005	0.01	<0.005	0.0024	0.0138	0.0138	0.156	<0.005	<0.005	<0.001
MW7-ROX-050412	<0.5	<0.5	<2.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	0.0158	<0.5	0.101	<0.5	<0.5	<0.1
MW7-ROX-080712	<0.05	<0.05	<0.25	0.0619	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	0.0089	0.0102 J	0.0629	<0.05	<0.05	<0.01
MW7-ROX-103012	<10	<10	<50	<2	<10	<10	<10	<10	<10	<2	<10	<10	<2	<10	<10	<2
MW7-ROX-103012-DUP	<10	<10	<50	<2	<10	<10	<10	<10	<10	<2	<10	<10	<2	<10	<10	<2
MW7-ROX-011513	<20	<20	<100	<4	<20	<20	<20	<20	<20	<4	<20	<20	<4	<20	<20	<4
MW7-ROX-011513-DUP	<20	<20	<100	<4	<20	<20	<20	<20	<20	<4	<20	<20	<4	<20	<20	<4
MW7-ROX-041013	<10	<10	<50	<2	<10	<10	<10	<10	<10	<2	<10	<10	<2	<10	<10	<2
MW7-ROX-041013-DUP	<10	<10	<50	<2	<10	<10	<10	<10	<10	<2	<10	<10	<2	<10	<10	<2
MW7-ROX-071713	<0.005	0.0016 J J	<0.05	0.2 J	<0.005	<0.005	<0.005	0.0096 J	<0.005	0.0031 J	0.0185 J	0.0173 J	0.289 J	<0.005	<0.005	<0.001
MW-8-111710	<1.25	<1.25		<1.25		<1.25		<1.25		<1.25	0.023	<1.25	0.328 J	<1.25	<1.25	<1.25
MW8-ROX-012511	<0.005 UJ	0.0012 J J		0.234 J		<0.005 UJ	<0.005 UJ	0.0104 J	<0.005 UJ	0.21 J	0.026	0.0173 J	1.2 E J	<0.005 UJ	<0.005 UJ	<0.001 UJ
MW8-ROX-012511-DUP	<0.005 UJ	0.001 J J		0.237 J		<0.005 UJ	<0.005 UJ	0.0105 J	<0.005 UJ	0.205 J	0.0288	0.017 J	1.12 E J	<0.005 UJ	<0.005 UJ	<0.001 UJ
MW08-ROX-051311	<50	<50	<250	<10	<50	<50	<50	<50	<50	<10	0.0241 J	<50	<10	<50	<50	<10
MW08-ROX-051311D	<5	<5	<25	<1	<5	<5	<5	<5	<5	0.657 J	0.0288 J	<5	<1	<5	<5	<1
MW8-ROX-072411	<25	<25	<130	<5	<25	<25	<25	<25	<25	<5	0.0237	<25	<5	<25	<25	<5
MW8-ROX-072411-DUP	<25	<25	<130	<5	<25	<25	<25	<25	<25	<5	0.023	<25	<5	<25	<25	<5
MW-8-ROX-110211	<5	<5	<25	<1	<5	<5	<5	<5	<5	4.94 J	0.0282	<5	<1	<5	<5	<1
MW8-ROX-011812	<0.005	0.0022 J	<0.025	0.285	<0.005	<0.005	<0.005	0.0162	<0.005	1.41 J	0.0239	0.0377	<2	<0.005	<0.005	<0.001
MW8-ROX-050412	<0.5	<0.5	<2.5	0.393	<0.5	<0.5	<0.5	<0.5	<0.5	4.15	0.0186	<0.5	1.55	<0.5	<0.5	<0.1
MW8-ROX-050412-DUP	<0.5	<0.5	<2.5	0.396	<0.5	<0.5	<0.5	<0.5	<0.5	4.07	0.0188	<0.5	1.52	<0.5	<0.5	<0.1
MW8-ROX-080712	<0.1	<0.1	<0.5	0.249	<0.1	<0.1	<0.1	<0.1	<0.1	0.878	0.0164	0.0191 J	0.781	<0.1	<0.1	<0.02
MW8-ROX-080712-DUP	<0.05	<0.05	<0.25	0.232	<0.05	<0.05	<0.05	<0.05	<0.05	0.885	0.0164	0.0176 J	0.729	<0.05	<0.05	<0.01
MW8-ROX-103012	<5	<5	<25	<1	<5	<5	<5	<5	<5	<1	<5	<5	<1	<5	<5	<1
MW8-ROX-011513	<10	<10	<50	<2	<10	<10	<10	<10	<10	<2	<10	<10	2.09	<10	<10	<2
MW8-ROX-041013	<25	<25	<130	<5	<25	<25	<25	<25	<25	<5	<25	<25	<5	<25	<25	<5
MW8-ROX-071713	<0.005	0.0023 J	<0.05	0.508	<0.005	<0.005	<0.005	0.0173	<0.005	0.197	0.0335	0.0374	0.348	<0.005	<0.005	<0.001
MW8-ROX-071713-DUP	<0.005	0.0024 J	<0.05	0.442 J	<0.005	<0.005	<0.005	0.0174	<0.005	0.187	0.0347	0.0383	0.341	<0.005	<0.005	<0.001
MW-9-111510	<0.005	<0.005		<0.005		<0.005		<0.005		<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005
MW9-ROX-012111	<0.005	<0.005		<0.001		<0.005		<0.005		<0.001	<0.0053	<0.005	<0.001	<0.005	<0.005	<0.001
MW09-ROX-050611	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005 UJ	<0.005	<0.005	<0.001	<0.000097 UJ	<0.005	<0.001	<0.005	<0.005	<0.001
MW9-ROX-072311	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.001 B	<0.005	<0.001	<0.005	<0.005	<0.001
MW9-ROX-110111	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001
MW9-ROX-011612	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.000062 J	<0.005	<0.001	<0.005	<0.005	<0.001
MW9-ROX-050312	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001		<0.005	<0.001	<0.005	<0.005	<0.001
MW9-ROX-072712	<0.005	<0.005		<0.001	<0.005	<0.005	<0.005 UJ	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001
MW9-ROX-102912	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001
MW9-ROX-011113	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001
MW9-ROX-040913	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001
MW9-ROX-070813	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001

Analytical Results (mg/L) — VOCs (continued) and SVOCs

Sample ID	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl acetate	m,p-Xylenes	o-Xylenes	Xylenes (total)	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid
Screening Values (mg/L)		0.07 [3]	7.0 [2]	10		10 [1]	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]
MW-6B-111610	<0.005	<0.005	<0.05	<0.01	<0.005		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
MW6B-ROX-011911	<0.005	<0.005	<0.005 UJ	<0.001	<0.001		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01 UJ
MW6B-ROX-011911-DUP	<0.005	<0.005	<0.005 UJ	<0.001	<0.001		<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.01 UJ
MW6B-ROX-051611	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<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
MW6B-ROX-051611-DUP	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<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
MW6B-ROX-072311	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.00075 U	<0.0002 U	<0.00019 U	<0.00007 U	<0.00023 U	<0.011 UJ
MW6B-ROX-110311	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
MW6B-ROX-011712	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000055	<0.00015 U	<0.00011 U	<0.00028 U	0.0001 J	<0.011 UJ
MW6B-ROX-050212	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01 UJ
MW6B-ROX-080112	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
MW6B-ROX-102412	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
MW6B-ROX-011713	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
MW6B-ROX-040313	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011 UJ	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011
MW6B-ROX-070913	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011
MW-6C-111610	<0.005	<0.005	<0.05	<0.01	<0.005		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
MW6C-ROX-012111	<0.005	<0.005	<0.005 UJ	<0.001	<0.001		<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011 UJ
MW6C-ROX-051611	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<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
MW6C-ROX-072411	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	0.00016 B	0.00013 B	0.00014 B	0.000041 J	0.00016 B	<0.011 UJ
MW6C-ROX-110311	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
MW6C-ROX-011712	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011 UJ
MW6C-ROX-050212	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01 UJ
MW6C-ROX-080112	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
MW6C-ROX-102412	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
MW6C-ROX-011713	<0.005 UJ	<0.005 UJ	<0.005 UJ	<0.001 UJ	<0.001 UJ	<0.001 UJ	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
MW6C-ROX-040313	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001 UJ	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
MW6C-ROX-070913	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011
MW-6D-111610	<0.005	<0.005	<0.05	<0.01	<0.005		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.051
MW6D-ROX-012111	<0.005	<0.005	<0.005 UJ	<0.001	<0.001		<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011 UJ
MW6D-ROX-051611	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<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
MW6D-ROX-072311	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.00038 U	<0.00015 U	<0.00017 U	<0.000049 U	<0.00019 U	<0.011 UJ
MW6D-ROX-110311	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
MW6D-ROX-011712	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000055	<0.00011	<0.000055	<0.00011	<0.00011	<0.011 UJ
MW6D-ROX-050212	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.0044 UJ
MW6D-ROX-080212	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
MW6D-ROX-102412	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
MW6D-ROX-011713	<0.005 UJ	<0.005 UJ	<0.005 UJ	<0.001 UJ	<0.001 UJ	<0.001 UJ	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
MW6D-ROX-040313	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011 UJ	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
MW6D-ROX-070913	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000055	<0.00011	<0.000055	<0.00011	<0.00011	<0.011
MW-7-111710	<1.25	<1.25	<12.5	<2.5	<1.25		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048
MW-7-111710-Dup	<1.25	<1.25	<12.5	<2.5	<1.25		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
MW7-ROX-012511	0.0552 J	0.0133 J	<0.005 UJ	0.0694 J	0.0235 J		<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011
MW07-ROX-051311	0.0822 J	0.0193 J	<0.005 UJ	0.101 J	0.0418 J	0.143 J	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
MW07-ROX-051311D	0.0825	0.0193	<0.005	0.0984	0.0405	0.139	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
MW7-ROX-072411	<25	<25	<25 UJ	<5	<5	<5	0.0001 J	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011 UJ
MW-7-ROX-110211	<5	<5	<5	<1	<1	<1	<0.00026 U	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
MW7-ROX-011812	0.148	0.0341	<0.005	0.137	0.0527	0.19	0.00025	<0.0001	<0.0001	<0.00005	<0.000024 U	<0.00005	<0.0001	<0.0001	
MW7-ROX-011812-DUP	0.146	0.0332	<0.005	0.134	0.051	0.184	0.00027	<0.00011	<0.00011	<0.000056	<0.00003 U	<0.000056	<0.00011	<0.00011	
MW7-ROX-050412	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	0.00028	<0.0001	<0.0001	0.00011	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
MW7-ROX-080712	0.1	0.021 J	<0.05	0.12	0.0486	0.169	0.00024	0.000037 J	0.000022 J	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
MW7-ROX-103012	<10	<10	<10	<2	<2	<2	0.00031	<0.00012	<0.00012	<0.000058	<0.00012	<0.000058	<0.00012	<0.00012	<0.012
MW7-ROX-103012-DUP	<10	<10	<10	<2	<2	<2	0.00034	<0.00011	<0.00011	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011
MW7-ROX-011513	<20	<20	<20	<4	<4	<4	0.00073	0.00011	0.000059 J	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011 UJ
MW7-ROX-011513-DUP	<20	<20	<20	<4	<4	<4	0.00066	0.000093 J	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ
MW7-ROX-041013	<10	<10	<10	<2	<2	<2	0.0012	0.00015	0.000089 J	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011
MW7-ROX-041013-DUP	<10	<10	<10	<2	<2	<2	0.0012	0.00016	0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
MW7-ROX-071713	0.117 J	0.0264 J	0.0094 J	0.455 J	0.183 J	0.639 J	0.00019	0.000031 J	0.000028 J	0.00004 J	0.000044 J	0.000045 J	0.00008 J	<0.00011	<0.011
MW-8-111710	<1.25	<1.25	<12.5	<2.5	<1.25		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048
MW8-ROX-012511	0.109 J	0.0332 J	<0.005 UJ	0.499 J	0.188 J		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW8-ROX-012511-DUP	0.11 J	0.0336 J	<0.005 UJ	0.518 J	0.191 J		<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.011
MW08-ROX-051311	<50	<50	<50	<10	<10	<10	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
MW08-ROX-051311D	<5	<5	<5	<1	<1	<1	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
MW8-ROX-072411	<25	<25	<25 UJ	<5	<5	<5	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
MW8-ROX-072411-DUP	<25	<25	<25 UJ	<5	<5	<5	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
MW-8-ROX-110211	<5	<5	<5	<1	<1	<1	<0.00023 U	<0.000095	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095
MW8-ROX-011812	0.163	0.061	<0.005	0.574	0.219	0.794	0.00038 J	<0.00053	<0.00053	<0.00026	<0.00053	<0.00026	<0.00053	<0.00053	
MW8-ROX-050412	<0.5	<0.5	<0.5	0.978	0.37	1.35	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	0.0204
MW8-ROX-050412-DUP	<0.5	<0.5	<0.5	0.939	0.381	1.32	<0.0001	<0.0001	<0.0001	0.00012	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
MW8-ROX-080712	0.104	0.0299 J	<0.1	0.623	0.246	0.868	0.00023	0.00013	0.000055 J	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011
MW8-ROX-080712-DUP	0.0921	0.0265 J	<0.05	0.598	0.235	0.833	0.0002	0.00029	0.000071 J	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011
MW8-ROX-103012	<5	<5	<5	<1	<1	<1	0.00026	0.00011	0.00044	<0.00087 U	0.00053 B	0.00057 B	0.00058 B	0.00064 B	<0.011
MW8-ROX-011513	<10	<10	<10	<2	<2	<2	0.00017	0.000085 J	0.000029 J	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011 UJ
MW8-ROX-041013	<25	<25	<25	<5	<5	<5	0.00018	0.000059 J	0.000072 J	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
MW8-ROX-071713	0.199	0.0598	<0.005 UJ	1.01	0.361	1.3	0.0002	<0.0001	0.000049 J	<0.000052	0.000021 J	<0.000052	0.00004 J	<0.0001	<0.01
MW8-ROX-071713-DUP	0.203	0.0613	<0.005 UJ	0.818 J	0.364	1.05	0.00019	0.000056 J	0.000061 J	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011
MW-9-111510	<0.005	<0.005	<0.05	<0.01	<0.005		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048
MW9-ROX-012111	<0.005	<0.005	<0.005 UJ	<0.001	<0.001		<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011 UJ
MW09-ROX-050611	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<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
MW9-ROX-072311	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.00021 U	<0.00013 U	<0.00015 U	<0.000046 U	<0.00018 U	<0.01 UJ
MW9-ROX-110111	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
MW9-ROX-011612	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000057	0.000058 J	0.000051 J	<0.000096 U	<0.00011	<0.011 UJ
MW9-ROX-050312	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001									
MW9-ROX-072712	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001 UJ	<0.0001	<0.01
MW9-ROX-102912	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
MW9-ROX-011113	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	0.000068 J	0.000064 J	0.00006 J	<0.000054	<0.00011	0.000026 J	<0.00011	<0.00011	<0.011
MW9-ROX-040913	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<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 UJ
MW9-ROX-070813	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000056	<0.00011	0.000035 J	<0.00011	<0.00011	R

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

Analytical Results (mg/L)

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	VOCs: Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform
					Screening Values (mg/L)	0.005 [1]	0.35 [3]			0.7 [2]	0.005 [1]	0.1 [2]		0.0002 [2]
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
	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
	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
	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
	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
	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
	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
	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
	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
	MW10-ROX-102612	10/26/2012		43.08	NE									
	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
	MW10-ROX-011013	1/10/2013		44.61	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	MW10-ROX-012113	1/21/2013		44.61	NE	0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.001
	MW10-ROX-040913	4/9/2013		44.60	NE	0.00067	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	MW10-ROX-070813	7/8/2013	44.43 - 54.43	42.27	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
MW-11	MW-11-111710	11/17/2010	41.66 - 51.66	36.39	NE	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	<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
	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
	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
	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
	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
	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
	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
	MW11-ROX-102512	10/25/2012		40.59	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	MW11-ROX-011013	1/10/2013		42.15	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	MW11-ROX-040813	4/8/2013		42.02	NE	<0.00065 U	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	MW11-ROX-070813	7/8/2013	41.66 - 51.66	39.24	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
MW-12	MW-12-111510	11/15/2010	41.92 - 51.92	36.63	NE	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.01	0.00161 J
	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
	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
	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
	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
	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
	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
	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
	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
	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
	MW12-ROX-102512	10/25/2012		40.95	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	MW12-ROX-011013	1/10/2013		42.46	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	MW12-ROX-040813	4/8/2013		42.46	NE	<0.00088 U	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	MW12-ROX-070913	7/9/2013	41.92 - 51.92	39.28	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
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
	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
	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
	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
	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
	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
	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
	MW13-ROX-110812	11/8/2012		25.30	NE	0.0048	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	MW13-ROX-012313	1/23/2013		29.26	NE	0.0067 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	MW13-ROX-041213	4/12/2013		29.44	NE	0.0102 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	MW13-ROX-071213	7/12/2013	25.57 - 35.57	25.67	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001 UJ	<0.001	<0.002	<0.001
MW-14	MW14-ROX-110911	11/9/2011	Unknown			<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	MW14-ROX-051012	5/10/2012	33.42 - 43.42	NM	NE	0.009	0.0014 J	0.0026 J	0.0012 J	<0.005	<0.001	<0.001	<0.002	<0.001
	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
	MW14-ROX-103112	10/31/2012		32.02	NE	0.00093	<0.005	0.0028 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	MW14-ROX-011813	1/18/2013		33.05	NE	0.0017	0.0014 J	0.0032 J	0.0011 J	<0.005	<0.001	<0.001	<0.002	<0.001
	MW14-ROX-041113	4/11/2013		33.31	NE	0.0125 J	0.0021 J	0.0048 J	0.0016 J	<0.005	<0.001	<0.001	<0.002	<0.001
	MW14-ROX-071213	7/12/2013	33.42 - 43.42	30.36	NE	0.00064	0.00066 J	0.002 J	0.0013 J	<0.005	<0.001 UJ	<0.001	<0.002	<0.001
MW-16	MW16-ROX-012313	1/23/2013	37.43 - 47.43	43.05	NE	0.00057 J	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	MW16-ROX-040813	4/8/2013		43.39	NE	<0.00058 U	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	MW16-ROX-070813	7/8/2013	37.43 - 47.43	40.62	NE	<0.00062 U	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
MW-22	MW22-ROX-012313	1/23/2013	38.21 - 48.21	41.80	NE	2.12	<0.25	<0.25	<0.25	<0.25	<0.05	<0.05	<0.1	<0.05
	MW22-ROX-012313-DUP	1/23/2013		41.80	NE	2.09	<0.25	<0.25	<0.25	<0.25	<0.05	<0.05	<0.1	<0.05
	MW22-ROX-040513	4/5/2013		42.23	NE	1.5	0.0413 J	0.0142 J	0.0171 J	<0.005	<0.001	<0.001	<0.002	<0.001
	MW22-ROX-071113	7/11/2013	38.21 - 48.21	39.35	NE	1.19	<0.005	0.0116	0.0142	<0.005	<0.001	<0.001	<0.002	<0.001
	MW22-ROX-071113-DUP	7/11/2013	38.21 - 48.21	39.35	NE	1.11	<0.005	0.0116	0.0148	<0.005	<0.001	<0.001	<0.002	<0.001
MW-24	MW24-ROX-040513	4/5/2013	38.89 - 48.89	43.39	NE	0.0029	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	MW24-ROX-071113	7/11/2013	38.89 - 48.89	40.35	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
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
	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
	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
	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
	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
	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
	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
	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
	P54-ROX-103012	10/30/2012		40.70	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	P54-ROX-011113	1/11/2013		41.56	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	P54-ROX-041013	4/10/2013		41.80	NE	0.172	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	P54-ROX-050313	5/3/2013		41.80	NE	0.0028	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
	P54-ROX-071113	7/11/2013	38.00 - 63.00	39.07	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001
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
	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
	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
	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
	P55-ROX-012113	1/21/2013	40.85 - 50.85	43.60	NE	0.571	0.0533	0.011 J	<0.05	<0.05	<0.05	<0.05	<0.1	<0.01
	P55-ROX-012113	1/21/2013		43.60	NE	0.538	0.0203	0.0143	0.0013 J	<0.005	<0.001	<0.001	<0.002	<0.001
	P55-ROX-041513	4/15/2013		43.63	NE	0.434	0.0052 J	0.0196	<0.01	<0.01	<0.002	<0.002	<0.004	<0.002
	P55-ROX-071613	7/16/2013	40.85 - 50.85	40.06	NE	0.573	0.0256	0.0155	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001

Sample ID	Chloromethane	4-Chlorotoluene	Cymene (p-Isopropyltoluene)	1,4-Dioxane	Ethylbenzene	Ethyl methacrylate	Hexachlorobutadiene	2-Hexanone (Methyl N-Butyl Ketone)	Isopropylbenzene (Cumene)	4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	Methyl tert-Butyl Ether (MTBE)	Naphthalene	n-Propylbenzene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene
Screening Values (mg/L)				0.005 [4]	0.7 [1]		0.007 [3]		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]
MW-10-111010	<0.01	<0.005	<0.005		<0.005		<0.005		<0.005		<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW10-ROX-012411	<0.002	<0.005	<0.005		<0.001		<0.005	<0.005	<0.005	<0.005	<0.001	<0.0051	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW10-ROX-012411-DUP	<0.002	<0.005	<0.005		<0.001		<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW10-ROX-042811	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.0048	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW10-ROX-072311	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.00062 B	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW10-ROX-110111	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW10-ROX-011612	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.000047 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW10-ROX-050112	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.000052 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW10-ROX-072712	<0.002 UJ	<0.005	<0.005		<0.001	<0.005	<0.005	<0.005 UJ	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW10-ROX-102612																			
MW10-ROX-121712	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW10-ROX-011013	0.0074	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW10-ROX-012113	<0.01	<0.005	<0.005		<0.005	<0.005	<0.005	<0.025	<0.005	<0.025	<0.002	<0.0001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW10-ROX-040913	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW10-ROX-070813	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW-11-111710	<0.01	<0.005	<0.005		<0.005		<0.005		<0.005		<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW11-ROX-012411	<0.002	<0.005	<0.005		<0.001		<0.005	<0.005	<0.005	<0.005	<0.001	<0.0052	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW11-ROX-050611	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005 UJ	<0.005	<0.005	<0.001	<0.000095 UJ	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW11-ROX-072411	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.00027 B	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW-11-ROX-110211	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.003 J	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW11-ROX-011712	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001		<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW11-ROX-043012	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW11-ROX-072712	<0.002 UJ	<0.005	<0.005		<0.001	<0.005	<0.005	<0.005 UJ	<0.005	<0.005	<0.001	<0.00012	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW11-ROX-102512	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW11-ROX-011013	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW11-ROX-040813	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW11-ROX-070813	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW-12-111510	<0.01	<0.005	<0.005		<0.005		<0.005		<0.005		<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
MW12-ROX-012411	<0.002	<0.005	<0.005		<0.001		<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW12-ROX-051211	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.0001 UJ	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW12-ROX-072411	<0.002	<0.005	<0.005 UJ	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.00098 B	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW-12-ROX-110211	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.000095	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW-12-ROX-110211-DUP	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.000095	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW12-ROX-011712	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW12-ROX-011712-DUP	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW12-ROX-043012	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW12-ROX-072712	<0.002 UJ	<0.005	<0.005		<0.001	<0.005	<0.005	<0.005 UJ	<0.005	<0.005	<0.001	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW12-ROX-102512	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW12-ROX-011013	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	0.00089 J	<0.005	<0.005	<0.001	<0.005	<0.005
MW12-ROX-040813	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW12-ROX-070913	<0.002	<0.005	<0.005	R	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW13-ROX-012511	<0.002	<0.005	<0.005		<0.001		<0.005	<0.005	<0.005	<0.005	<0.001	<0.0052	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW13-ROX-051311	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0061 J	<0.000095 U	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW13-ROX-080311	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.004	<0.000045 U	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW13-ROX-110311	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0156 J	0.00017	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW13-ROX-012012	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0066 J	0.00021	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW13-ROX-050712	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0083	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW13-ROX-080812	<0.002 UJ	<0.005 UJ	<0.005 UJ	<0.025 UJ	<0.001 UJ	<0.005 UJ	<0.005 UJ	<0.005 UJ	<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
MW13-ROX-110812	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0093	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW13-ROX-012313	<0.002	<0.005	<0.005	<0.025 UJ	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0082	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW13-ROX-041213	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0093	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW13-ROX-071213	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005 UJ	<0.005	<0.005	<0.005	0.0094	<0.005	0.00064 J	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW14-ROX-110911	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW14-ROX-051012	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	0.0104	<0.005	<0.001	0.00099	0.0078	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW14-ROX-080312	<0.002	<0.005	<0.005	<0.025	0.00065 J	<0.005	<0.005	<0.005	0.0173	<0.005	<0.001	0.0013	0.0137	0.00093 J	<0.005	<0.005	<0.001	<0.005	<0.005
MW14-ROX-103112	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	0.0161	<0.005	<0.001	<0.005	0.0121	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW14-ROX-011813	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	0.021	<0.005	<0.001	<0.005	0.0162	0.00097 J	<0.005	<0.005	<0.001	<0.005	<0.005
MW14-ROX-041113	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	0.0346	<0.005	<0.001	<0.005	0.0206	0.0014	<0.005	<0.005	<0.001	<0.005	<0.005
MW14-ROX-071213	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005 UJ	<0.005	0.0168	<0.005	<0.001	<0.005	0.0109	0.00059 J	<0.005	<0.005	<0.001	<0.005	<0.005
MW16-ROX-012313	<0.002	<0.005	<0.005	<0.025 UJ	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW16-ROX-040813	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW16-ROX-070813	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
MW22-ROX-012313	<0.1	<0.25	<0.25	<1.3 UJ	3.45	<0.25	<0.25	<0.25	0.126 J	<0.25	<0.05	0.396	0.22 J	10.5	<0.25	<0.25	<0.05	1.23	0.288
MW22-ROX-012313-DUP	<0.1	<0.25	<0.25	<1.3 UJ	3.19	<0.25	<0.25	<0.25	0.124 J	<0.25	<0.05	0.377	0.234 J	9.06	<0.25	<0.25	<0.05	1.26	0.291
MW22-ROX-040513	<0.002	<0.005	0.0122 J	<0.025	2.44	<0.005	<0.005	<0.005	0.159 J	0.0124 J	<0.001	0.286 J	0.29 J	6.14	<0.005	<0.005	<0.001	0.931	0.379 J
MW22-ROX-071113	<0.002	<0.005	0.0087	R	2.07	<0.005	<0.005	<0.005	0.131	0.0102	<0.001	0.345	0.242	3.92	<0.005	<0.005	<0.001	0.864	0.309
MW22-ROX-071113-DUP	<0.002	<0.005	0.0087	R	1.79	<0.005	<0.005	<0.005	0.133	0.0103	<0.001	0.362	0.245	3.57	<0.005	<0.005	<0.001	0.754	0.311
MW24-ROX-040513	<0.002	<0.005	<0.005	<0.025	0.0012	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	0.0014	<0.005	<0.005	<0.001	0.00051 J	<0.005
MW24-ROX-071113	<0.002	<0.005	<0.005	R	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
P-54-111710	<0.01	<0.005	<0.005		<0.005		<0.005		<0.005		<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
P54-ROX-012411	<0.002	<0.005	<0.005		<0.001		<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
P54-ROX-051111	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.00013 J	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
P54-ROX-072411	<0.002	<0.005	<0.005 UJ	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.000066 JB	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
P54-ROX-110311	<0.002 UJ	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
P54-ROX-011712	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.000089 U	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
P54-ROX-050412	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.0001	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
P54-ROX-080212	<0.002	<0.005	<0.005		<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.00011	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
P54-ROX-103012	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
P54-ROX-011113	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
P54-ROX-041013	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
P54-ROX-050313	<0.002	<0.005	<0.005	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
P54-ROX-071113	<0.002	<0.005	<0.005	R	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005
P55-ROX-103111	<0.002	<0.005	<0.005	<0.025	0.0143	<0.005	<0.005	<0.005	<0.005	<0.005	0.0012	0.0015	<0.005	0.029	<0.005	<0.005	<0.001	0.0067	0.0056
P55-ROX-011912	<0.002	<0.005	<0.005	<0.025	0.0656	<0.005	<0.005	<0.005	0.0105 J	<0.005	<0.001	0.0197	0.0173	0.0337	<0.005	<0.005	<0.001	0.017	0.009
P55-ROX-011912-D	<0.002	<0.005	<0.005	<0.025	0.0683	<0.005	<0.005	<0.005	0.0105 J	<0.005	<0.001	0.0169	0.0176	0.0359	<0.005	<0.005	<0.001	0.0179	0.0097
P55-ROX-050912	<0.002	<0.005	0.0031 J	<0.025	0.41	<0.005	<0.005	<0.005	0.0392	<0.005	<0.001	0.0271	0.0699	0.227	<0.005	<0.005	<0.001	0.158	0.0368
P55-ROX-012113	<0.1	<0.05	<0.05		0.316	<0.05	<0.01	<0.25	0.0678	<0.25	<0.02	0.079 J	0.14	0.189	<0.05	<0.01	<0.05	0.039 J	0.026 J
P55-ROX-012113	<0.002	<0.005	0.0055	<0.025	0.366	<0.005	<0.005	<0.005	0.0937	<0.005	0.002	0.12	0.206	0.262	<0.005	<0.005	<0.001	0.046	0.0312
P55-ROX-041513	<0.004	<0.01	<0.01	<0.05	0.35	<0.01	<0.01	<0.01	0.068	<0.01	<0.002	0.0974 J	0.148	0.143	<0.01	<0.01	<0.002	0.0241	0.0229
P55-ROX-071613	<0.002	<0.005	0.0065	<0.025	0.495	<0.005	<0.005 UJ	<0.005	0.0884	<0.005	<0.001	0.0841	0.175	0.343	<0.005	<0.005	<0.001	0.073	0.0559

Sample ID	Vinyl acetate	m,p-Xylenes	o-Xylenes	Xylenes (total)	SVOCs: Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid
Screening Values (mg/L)	7.0 [2]	10		10 [1]	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]
MW-10-111010	<0.05	<0.01	<0.005		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048
MW10-ROX-012411	<0.005	<0.001	<0.001		<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.01
MW10-ROX-012411-DUP	<0.005	<0.001	<0.001		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW10-ROX-042811	<0.005	<0.001	<0.001	<0.001	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0095 UJ
MW10-ROX-072311	<0.005 UJ	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.00025 U	<0.00013 U	<0.00014 U	<0.000039 U	<0.00017 U	<0.01 UJ
MW10-ROX-110111	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
MW10-ROX-011612	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	0.000027 J	0.000037 J	0.000031 J	0.000043 J	<0.000042 U	<0.00011	<0.011 UJ
MW10-ROX-050112	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	0.000018 J	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ
MW10-ROX-072712	<0.005 UJ	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001 UJ	<0.0001	<0.01
MW10-ROX-102612					<0.00011	<0.00011	<0.00011	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011 UJ
MW10-ROX-121712	<0.005	<0.001	<0.001	0.00058 J									
MW10-ROX-011013	0.016	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
MW10-ROX-012113	<0.01	<0.005	<0.005		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.05
MW10-ROX-040913	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011
MW10-ROX-070813	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011
MW-11-111710	<0.05	<0.01	<0.005		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048
MW11-ROX-012411	<0.005	<0.001	<0.001		<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.01
MW11-ROX-050611	<0.005	<0.001	<0.001	<0.001	<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
MW11-ROX-072411	<0.005 UJ	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	0.00013 B	0.00012 B	0.00013 B	0.000035 J	0.00014 B	<0.011 UJ
MW-11-ROX-110211	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011
MW11-ROX-011712	<0.005	<0.001	<0.001	<0.001			0.000022 J J					0.000065 J J	
MW11-ROX-043012	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01 UJ
MW11-ROX-072712	<0.005 UJ	<0.001	<0.001	<0.001	<0.00012	<0.00012	<0.00012	<0.000058	<0.00012	<0.000058	<0.00012 UJ	<0.00012	<0.012
MW11-ROX-102512	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011
MW11-ROX-011013	<0.005	<0.001	<0.001	<0.001	<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 UJ
MW11-ROX-040813	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
MW11-ROX-070813	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011
MW-12-111510	<0.05	<0.01	<0.005		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048
MW12-ROX-012411	<0.005	<0.001	<0.001		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
MW12-ROX-051211	<0.005 UJ	<0.001	<0.001	<0.001	<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
MW12-ROX-072411	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	0.000072 B	0.00014 B	0.00014 B	0.000053 J	0.00019 B	<0.01 UJ
MW-12-ROX-110211	<0.005	<0.001	<0.001	<0.001	<0.000095	<0.000095	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095
MW-12-ROX-110211-DUP	<0.005	<0.001	<0.001	<0.001	<0.000095	<0.000095	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095
MW12-ROX-011712	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000054	<0.00016 U	<0.00013 U	<0.00021 U	0.00013	<0.011 UJ
MW12-ROX-011712-DUP	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000056	<0.000039 U	<0.00004 U	<0.000067 U	<0.00011	<0.011 UJ
MW12-ROX-043012	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01 UJ
MW12-ROX-072712	<0.005 UJ	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011 UJ	<0.00011	<0.011
MW12-ROX-102512	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
MW12-ROX-011013	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	0.000026 J	<0.0001	<0.0001	<0.01
MW12-ROX-040813	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
MW12-ROX-070913	<0.005 UJ	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	0.00012 J	<0.00011	<0.000055	<0.00011	<0.00011	<0.011
MW13-ROX-012511	<0.005	<0.001	<0.001		<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.01
MW13-ROX-051311	<0.005 UJ	<0.001	<0.001	<0.001	<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
MW13-ROX-080311	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	0.00011	0.000037 J	0.000039 J	0.000037 J	0.000053 J	0.000036 J	<0.01 UJ
MW13-ROX-110311	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011
MW13-ROX-012012	<0.005	<0.001	<0.001	<0.001	<0.00011	0.00014	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	0.0087 J J
MW13-ROX-050712	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
MW13-ROX-080812	<0.005 UJ	<0.001 UJ	<0.001 UJ	<0.001 UJ	0.0001 J	0.00019	0.000063 J	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
MW13-ROX-110812	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
MW13-ROX-012313	<0.005 UJ	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000055	<0.00011	<0.000055	<0.00011	<0.00011	<0.011
MW13-ROX-041213	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
MW13-ROX-071213	<0.005 UJ	<0.001	<0.001	<0.001	<0.00011	<0.000063 U	<0.000058 U	<0.00014 U	<0.00011	<0.000054	<0.00011	<0.00011	<0.011 UJ
MW14-ROX-110911	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011 UJ	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
MW14-ROX-051012	<0.005	0.0016	0.00041 J	0.002	0.00046	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
MW14-ROX-080312	<0.005	0.0033	0.00061 J	0.0039	0.00095	0.00015	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
MW14-ROX-103112	<0.005	0.0024	<0.001	0.0024	0.00074	0.00008 J	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01 UJ
MW14-ROX-011813	<0.005	0.0026	<0.001	0.003	0.00092	0.00013	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
MW14-ROX-041113	<0.005	0.0038	<0.001	0.0043	0.00068	0.000098 J	<0.00011	0.00013	<0.00011	0.000054	0.000053 J	<0.00011	<0.011
MW14-ROX-071213	<0.005 UJ	0.0026	<0.001	0.0029	0.00046 B	<0.000062 U	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011 UJ
MW16-ROX-012313	<0.005 UJ	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
MW16-ROX-040813	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
MW16-ROX-070813	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011
MW22-ROX-012313	<0.25 UJ	7.56	3.73	11.3	0.00018	<0.0001	0.00002 J	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
MW22-ROX-012313-DUP	<0.25 UJ	6.96	3.52	10.5	0.00018	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
MW22-ROX-040513	<0.005	5.15	2.64	7.79	0.00018	0.000049 J J	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
MW22-ROX-071113	<0.005 UJ	4.13	2.26	6.39	0.00026	0.00048	0.000035 J	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011 UJ
MW22-ROX-071113-DUP	<0.005 UJ	3.83	2.05	5.88	0.00018	0.00047	<0.00011	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011 UJ
MW24-ROX-040513	<0.005	0.0021	0.0009 J	0.003	<0.0001	<0.0001 UJ	<0.0001	<0.000052	<0.0001	0.000057	<0.0001	<0.0001	<0.01
MW24-ROX-071113	<0.005 UJ	<0.001	<0.001	<0.001	0.000024 J	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011 UJ
P-54-111710	<0.05	<0.01	<0.005		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048
P54-ROX-012411	<0.005	<0.001	<0.001		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
P54-ROX-051111	<0.005	<0.001	<0.001	<0.001	<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
P54-ROX-072411	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	0.000079 B	0.00014 B	0.00015 B	0.000053 J	0.00017 B	<0.01 UJ
P54-ROX-110311	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01 UJ
P54-ROX-011712	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.000052	<0.000024 U	<0.000052	<0.0001	<0.0001	<0.01 UJ
P54-ROX-050412	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	0.0045 J
P54-ROX-080212	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
P54-ROX-103012	<0.005	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
P54-ROX-011113	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
P54-ROX-041013	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000057	<0.00011	<0.000057	<0.00011	<0.00011	<0.011
P54-ROX-050313	<0.005	<0.001	<0.001	<0.001	<0.00011	<0.00011	<0.00011	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011
P54-ROX-071113	<0.005 UJ	<0.001	<0.001	<0.001	0.000032 J	0.000016 J	0.000018 J	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ
P55-ROX-103111	<0.005	0.0466	0.0163	0.0629	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
P55-ROX-011912	<0.005	0.205	0.0663	0.271	0.00017	<0.0001	<0.0001	<0.000052	0.000022 J	<0.000052	<0.0001	<0.0001	
P55-ROX-011912-D	<0.005	0.21	0.0649	0.275	0.00015	<0.00011	<0.00011	<0.000054	0.000067 J	0.000061	0.00011	0.000071 J	
P55-ROX-050912	<0.005	0.885	0.112	0.97	0.00036	0.000095 J	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
P55-ROX-012113	<0.1	0.279	0.347		0.00069	0.00019	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.05
P55-ROX-012113	<0.005	0.356	0.382	0.738	0.00054	0.00014	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
P55-ROX-041513	<0.01	0.235	0.362	0.597	0.00073	0.00021	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001 UJ	<0.0001 UJ	<0.01
P55-ROX-071613	<0.005 UJ	0.535	0.558	1.11	0.00066	0.0002	<0.00011	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011

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

Analytical Results (mg/L)

VOCs (part 1)

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane
					Screening Values (mg/L)	0.005 [1]	0.35 [3]			0.7 [2]	0.005 [1]	0.1 [2]		0.0002 [2]	
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
	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
	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
	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
	P56-ROX-103112	10/31/2012		44.80	NE	0.176	<0.005	0.005	0.0021 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
	P56-ROX-011713	1/17/2013		45.65	NE	0.191	0.0031 J	<0.025	<0.025	<0.025	<0.005	<0.005	<0.01	<0.005	<0.01
	P56-ROX-041213	4/12/2013		46.12	NE	0.131	<0.01	0.0142	<0.01	<0.01	<0.002	<0.002	<0.004	<0.002	<0.004
	P56-ROX-071513	7/15/2013	40.82 - 65.82	43.25	NE	0.131	0.0141	0.0072	0.0038 J	<0.005	<0.001	<0.001	0.0047	<0.001	<0.002
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
	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
	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
	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
	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
	P57-ROX-110512	11/5/2012		44.98	NE	142	<2.5	<2.5	<2.5	<2.5	<0.5	<0.5	<1	<0.5	<1
	P57-ROX-012913	1/29/2013		45.92	NE	114	<2.5	<2.5	<2.5	<2.5	<0.5	1.43	<1	<0.5	<1
	P57-ROX-041113	4/11/2013		46.29	NE	141	<2.5	<2.5	<2.5	<2.5	<0.5	<0.5	<1	<0.5	<1
	P57-ROX-071613	7/16/2013	40.46 - 65.46	43.38	NE	254	0.0143 J	0.0131 J	0.0103 J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
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
	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
	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
	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
	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
	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
	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
	P58-ROX-110612	11/6/2012		43.09	NE	415	<0.5	<0.5	<0.5	<0.5	<0.1 UJ	<0.1	<0.2	<0.1	<0.2
	P58-ROX-121012	12/10/2012		43.09	NE										
	P58-ROX-012213	1/22/2013		44.21	NE	552	<5	<5	<5	<5	<1	<1	<2	<1	<2
	P58-ROX-041113	4/11/2013		44.40	NE	532	<10	<10	<10	<10	<2	<2	<4	<2	<4
	P58-ROX-071613	7/16/2013	40.21 - 65.21	41.49	NE	398	0.0239	0.0215	0.0532	<0.005	<0.001	0.0017	<0.002	<0.001	<0.002
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
	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
	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
	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
	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
	P59-ROX-110212	11/2/2012		45.98	NE	10.3	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2
	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
	P59-ROX-013013	1/30/2013		46.60	NE	12.1	<0.25	<0.25	<0.25	<0.25	<0.05	<0.05	<0.1	<0.05	<0.1
	P59-ROX-041213	4/12/2013		46.95	NE	15	<0.25	0.289	<0.25	<0.25	<0.05	<0.05	<0.1	<0.05	<0.1
	P59-ROX-041213-DUP	4/12/2013		46.95	NE	13.4	<0.25	0.288	<0.25	<0.25	<0.05	<0.05	<0.1	<0.05	<0.1
	P59-ROX-071613	7/16/2013	47.91 - 72.91	44.13	NE	10.2	0.0213 J	0.0068 J	0.0027 J J	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
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
	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
	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
	P66-ROX-103112	10/31/2012		34.75	NE	0.223	0.0145	0.02	0.0054	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
	P66-ROX-011813	1/18/2013		35.70	NE	0.0896	0.0129	0.0227	0.0087	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
	P66-ROX-041113	4/11/2013		36.03	NE	0.0444	0.0199	0.0249	0.0104	<0.005	<0.001	<0.001	0.00065 J	<0.001	<0.002
	P66-ROX-071213	7/12/2013	34.72 - 59.72	33.20	NE	0.187	0.0146	0.0221	0.006	<0.005	<0.001 UJ	0.00059 J	<0.002	<0.001	<0.002
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
	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
	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
	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
	P74-ROX-110112	11/1/2012		41.72	NE	3.5	<0.1	<0.1	<0.1	<0.1	<0.02	<0.02	<0.04	<0.02	<0.04
	P74-ROX-011713	1/17/2013		42.65	NE	4.99	0.0143 J	<0.1	<0.1	<0.1	<0.02	<0.02	<0.04	<0.02	<0.04
	P74-ROX-041113	4/11/2013		42.83	NE	0.144	0.0026 J	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
	P74-ROX-071513	7/15/2013	44.43 - 69.43	40.11	NE	0.117	0.0088	0.002 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
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
	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
	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
	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
	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
	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
	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
	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
	P93A-ROX-110712	11/7/2012		45.00	NE	148	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2
	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
	P93A-ROX-012313	1/23/2013		45.89	NE	101	<2.5	<2.5	<2.5	<2.5	<0.5	<0.5	<1	<0.5	<1
	P93A-ROX-012313-DUP	1/23/2013		45.89	NE	98.5	<2.5	<2.5	<2.5	<2.5	<0.5	<0.5	<1	<0.5	<1
	P93A-ROX-041113	4/11/2013		46.29	NE	120	<2.5	<2.5	<2.5	<2.5	<0.5	<0.5	<1	<0.5	<1
	P93A-ROX-041113-DUP	4/11/2013		46.29	NE	120	<2.5	<2.5	<2.5	<2.5	<0.5	<0.5	<1	<0.5	<1
	P93A-ROX-071813	7/18/2013	48.17 - 63.17	43.25	NE	89.1	<0.005	0.0056	0.0916	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002
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
	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
	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
	P93B-ROX-081811	8/18/2011		38.91	NE	304	<5	<5	<5	<5	<1	<1	<2	<1	<2
	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
	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
	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
	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
	P93B-ROX-110712	11/7/2012		44.98	NE	162 J	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.2	<0.1	<0.2
	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
	P93B-ROX-012313	1/23/2013		45.89	NE	415	<5	<5	<5	<5	<1	<1	<2	<1	<2
	P93B-ROX-041113	4/11/2013		46.32	NE	618	<2.5	<2.5	<2.5	<2.5	<0.5	<0.5	<1	<0.5	<1
	P93B-ROX-071813	7/18/2013	74.60 - 76.60	43.30	NE	296	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002

VOCs (part 2)

Sample ID	4-Chlorotoluene	Cymene (p-Isopropyltoluene)	1,4-Dioxane	Ethylbenzene	Ethyl methacrylate	Hexachlorobutadiene	2-Hexanone (Methyl N-Butyl Ketone)	Isopropylbenzene (Cumene)	4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	Methyl tert-Butyl Ether (MTBE)	Naphthalene
Screening Values (mg/L)			0.005 [4]	0.7 [1]		0.007 [3]		0.7 [3]		0.070 [1]	0.14 [2]
P56-ROX-102711	<0.005	<0.005	<0.025	0.457 J	<0.005	<0.005	<0.005	0.0512	<0.005	<0.001	0.067
P56-ROX-011912	<0.005	<0.005	<0.025	0.227	<0.005	<0.005	<0.005	0.0787 J	<0.005	<0.001	0.0596
P56-ROX-050812	<0.005	0.0044 J	<0.025	1.14	<0.005	<0.005	<0.005	0.0876	<0.005	<0.001	0.0667
P56-ROX-080612	<0.025	<0.025		0.101	<0.025	<0.025	<0.025 UJ	0.0442	<0.025	<0.005	0.0197
P56-ROX-103112	<0.005	0.0041 J	<0.025	1.29	<0.005	<0.005	<0.005	0.0752	<0.005	<0.001	0.167
P56-ROX-011713	<0.025	<0.025	<0.13	0.0088	<0.025	<0.025	<0.025	0.0398	<0.025	<0.005	0.0322
P56-ROX-041213	<0.01	<0.01	<0.05	0.691	<0.01	<0.01	<0.01	0.0581	<0.01	<0.002	0.0964 J
P56-ROX-071513	<0.005	0.0061	<0.025	2	<0.005	<0.005	<0.005	0.0968	<0.005	<0.001	0.316
P57-ROX-110811	<0.5	<0.5	<2.5	1.1	<0.5	<0.5	<0.5	<0.5	<0.5	0.221	0.152
P57-ROX-021312	<2.5	<2.5	<13	0.719	<2.5	<2.5	<2.5	<2.5	<2.5	<0.5	0.271 J
P57-ROX-050712	<0.5	<0.5	<2.5	1.07	<0.5	<0.5	<0.5	<0.5	<0.5	0.453	0.0894
P57-ROX-080612	<0.25	<0.25		0.795	<0.25	<0.25	<0.25 UJ	<0.25	<0.25	0.238	0.119
P57-ROX-080612-DUP	<0.005	0.0109		0.759 E	<0.005	<0.005	<0.005 UJ	0.0432	<0.005	0.212	0.115
P57-ROX-110512	<2.5	<2.5	<13	1.09	<2.5	<2.5	<2.5	<2.5	<2.5	<0.5	1.53 J
P57-ROX-012913	<2.5	<2.5	<13	1.1	<2.5	<2.5	<2.5	<2.5	<2.5	<0.5	<2.5
P57-ROX-041113	<2.5	<2.5	<13	1.19	<2.5	<2.5	<2.5	<2.5	<2.5	<0.5	<2.5
P57-ROX-071613	<0.005	0.0119 J	<0.025	1.59	<0.005	<0.005 UJ	<0.005	0.0698 J	<0.005	0.112 J	0.203 J
P58-ROX-102811	<0.005	0.0113	<0.025	<5	<0.005	<0.005	<0.005	0.0734	<0.005	<0.001	0.204
P58-ROX-011912	<0.005	0.0149	<0.025	0.97 J	<0.005	<0.005	0.0097	0.108 J	<0.005	0.0082	0.212
P58-ROX-011912-D	<0.005	0.0123 J	<0.025	1.03	<0.005	<0.005	<0.005	0.0832 J	<0.005	0.0101 J	0.191 J
P58-ROX-050712	<0.5	<0.5	<2.5	1.03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	0.112 J
P58-ROX-050712-DUP	<0.5	<0.5	<2.5	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	0.0697 J
P58-ROX-080612	<0.1	<0.1		0.889	<0.1	<0.1	<0.1 UJ	0.0649 J	<0.1	<0.02	0.142
P58-ROX-080612-DUP	<0.05	0.0118 J	<0.25	0.931	<0.05	<0.05	<0.05	0.0718	<0.05	<0.01	0.15
P58-ROX-110612	<0.5	<0.5	<2.5	0.844	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
P58-ROX-121012											
P58-ROX-012213	<5	<5	<25	1.27	<5	<5	<5	<5	<5	<1	<5
P58-ROX-041113	<10	<10	<50	1.28 J	<10	<10	<10	<10	<10	<2	<10
P58-ROX-071613	<0.005	0.0152	<0.025	1.07	<0.005	<0.005 UJ	<0.005	0.101	<0.005	<0.001	0.234
P59-ROX-102711	<0.25	<0.25	<1.3	1.49	<0.25	<0.25	<0.25	<0.25	<0.25	<0.05	0.0793
P59-ROX-011912	<0.005	0.0036 J	<0.025	1.28	<0.005	<0.005	<0.005	0.0713	<0.005	<0.001	0.18
P59-ROX-011912-DUP	<0.005	0.0038 J	<0.025	1.4	<0.005	<0.005	<0.005	0.0733	<0.005	<0.001	0.183
P59-ROX-050912	<0.25	<0.25	<1.3	1.93	<0.25	<0.25	<0.25	0.0585 J	<0.25	<0.05	0.0925
P59-ROX-080212	<0.1	<0.1		1.74	<0.1	<0.1	<0.1	0.0452 J	<0.1	<0.02	0.0886
P59-ROX-110212	<0.5	<0.5	<2.5	1.87	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
P59-ROX-110212-DUP	<0.5	<0.5	<2.5	1.94	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
P59-ROX-013013	<0.25	<0.25	<1.3	1.9	<0.25	<0.25	<0.25	0.0455 J	<0.25 UJ	<0.05 UJ	0.376
P59-ROX-041213	<0.25	<0.25	<1.3	2.85	<0.25	<0.25	<0.25	0.062 J	<0.25	<0.05	0.664
P59-ROX-041213-DUP	<0.25	<0.25	<1.3	2.57	<0.25	<0.25	<0.25	0.0543 J	<0.25	<0.05	0.547
P59-ROX-071613	<0.005	0.0046 J J	<0.025	2.4	<0.005	<0.005 UJ	<0.005	0.074 J	<0.005	<0.001	0.215 J
P66-ROX-110111	<0.005	<0.005	<0.025	0.0016	<0.005	<0.005	<0.005	0.158	<0.005	0.0845 J	0.0091
P66-ROX-051012	<0.005	<0.005	<0.025	0.0015	<0.005	<0.005	<0.005	0.123	<0.005	0.0771	<0.0001
P66-ROX-080312	<0.005	<0.005	<0.025	0.0013	<0.005	<0.005	<0.005	0.0874	<0.005	0.103	0.0013
P66-ROX-103112	<0.005	<0.005	<0.025	0.0012	<0.005	<0.005	<0.005	0.122	<0.005	0.0733	<0.005
P66-ROX-011813	<0.005	<0.005	<0.025	0.0014	<0.005	<0.005	<0.005	0.146	<0.005	0.104	<0.005
P66-ROX-041113	<0.005	0.0093	<0.025	0.0036	<0.005	<0.005	<0.005	0.287	<0.005	0.086	<0.005
P66-ROX-071213	<0.005	<0.005	<0.025	0.0022	<0.005	<0.005 UJ	<0.005	0.191	<0.005	<0.001	<0.005
P74-ROX-103111	<0.005	<0.005	<0.025	0.229	<0.005	<0.005	<0.005	0.0123	<0.005	0.0222	0.0673
P74-ROX-011912	<0.005	<0.005	<0.025	0.0095	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.0158
P74-ROX-050712	<0.005	<0.005	<0.025	0.0081	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.00024
P74-ROX-080612	<0.05	<0.05		0.0782	<0.05	<0.05	<0.05 UJ	<0.05	<0.05	<0.01	0.0177
P74-ROX-110112	<0.1	<0.1	<0.5	0.0493	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	0.0834 J
P74-ROX-011713	<0.1	<0.1	<0.5	0.0997	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	0.141
P74-ROX-041113	<0.005	<0.005	<0.025	0.0086	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	0.0016 J
P74-ROX-071513	<0.005	0.0017 J	<0.025	0.0306	<0.005	<0.005	<0.005	0.0031 J	<0.005	<0.001	0.024
P93A-102610	<1.25	<1.25		0.32 J		<1.25		<1.25		<1.25	0.095 D
P93A-ROX_012611	<0.005	0.0047 J		0.373		0.0016 J		0.0225		0.124	0.0803
P93A-ROX-050511	<0.005	0.0034 J J	<0.025	<5	<0.005	<0.005	<0.005 UJ	0.0206 J	<0.005	0.0684 J	0.0795 J
P93A-ROX-081811	<0.005	0.0049 J	<0.025	<10	<0.005	<0.005	<0.005	0.0236 J	<0.005	0.0356	0.0868
P93A-ROX-102611	<0.005	0.0081	<0.025	0.304	<0.005	<0.005	<0.005	0.0189	<0.005	0.0405	0.108
P93A-ROX-012012	<0.005	0.0023 J	<0.025	0.185	<0.005	<0.005	0.0041 J	0.0134	<0.005	0.0604	0.059 J
P93A-ROX-050812	<0.005 UJ	0.0035 J J	<0.025 UJ	0.38 J	<0.005 UJ	<0.005 UJ	<0.005 UJ	0.0218 J	<0.005 UJ	0.0557 J	0.0472
P93A-ROX-080912	<0.005	0.0022 J	<0.025	0.225	<0.005	<0.005	<0.005	0.0126	<0.005	0.0485	0.0496
P93A-ROX-110712	<0.5	<0.5	<2.5	0.265	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
P93A-ROX-110712-DUP	<0.5	<0.5	<2.5	0.262	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
P93A-ROX-012313	<2.5	<2.5	<13 UJ	<0.5	<2.5	<2.5	<2.5	<2.5	<2.5	<0.5	<2.5
P93A-ROX-012313-DUP	<2.5	<2.5	<13 UJ	<0.5	<2.5	<2.5	<2.5	<2.5	<2.5	<0.5	<2.5
P93A-ROX-041113	<2.5	<2.5	<13	0.255 J	<2.5	<2.5	<2.5	<2.5	<2.5	<0.5	<2.5
P93A-ROX-041113-DUP	<2.5	<2.5	<13	<0.5	<2.5	<2.5	<2.5	<2.5	<2.5	<0.5	<2.5
P93A-ROX-071813	<0.005	0.0024 J	<0.05	0.162	<0.005	<0.005	<0.005	0.0101	<0.005	0.0054	0.0303
P93B-102610	<0.5	<0.5		<0.5		<0.5		<0.5		<0.5	<0.009
P93B-ROX_012611	<0.005	<0.005		0.0104		<0.005		0.0108		0.0088	0.0011 J
P93B-ROX-050511	<0.005	<0.005	<0.025	0.0169	<0.005	<0.005	<0.005 UJ	0.0142	<0.005	0.0113	0.0013 J
P93B-ROX-081811	<5	<5	<25	<1	<5	<5	<5	<5	<5	<1	0.0037
P93B-ROX-102611	<0.005	<0.005	<0.025	0.0533	<0.005	<0.005	<0.005	0.0292	<0.005	<0.001	0.012
P93B-ROX-012012	<0.005	<0.005	0.0831 J	0.0274 J	<0.005	<0.005	<0.005	0.022 J	<0.005	0.0063 J	0.0041 J J
P93B-ROX-050812	<0.005	<0.005	<0.025	0.0379 J	<0.005	<0.005	<0.005	0.0188 J	<0.005	<0.001	0.002
P93B-ROX-080912	<0.005	<0.005	<0.025	0.0741	<0.005	<0.005	<0.005	0.0266	<0.005	<0.001	0.0049
P93B-ROX-110712	<0.5	<0.5	<2.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
P93B-ROX-110712-DUP	<0.5	<0.5	<2.5	0.0695 J	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
P93B-ROX-012313	<5	<5	<25 UJ	<1	<5	<5	<5	<5	<5	<1	<5
P93B-ROX-041113	<2.5	<2.5	<13	<0.5	<2.5	<2.5	<2.5	<2.5	<2.5	<0.5	<2.5
P93B-ROX-071813	<0.005	<0.005	<0.05	0.0652	<0.005	<0.005	<0.005	0.0247	<0.005	0.0035	0.0093

VOCs (part 3)

Sample ID	n-Propylbenzene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl acetate	m,p-Xylenes	o-Xylenes	Xylenes (total)
Screening Values (mg/L)	0.7 [3]	1 [1]	0.0056 [3]	0.07 [2]	0.005 [2]		0.07 [3]	7.0 [2]	10		10 [1]
P56-ROX-102711	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	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	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	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	0.105	0.187	<0.005	<0.005	<0.001	0.387	0.0901	<0.005	1.62	0.144	1.73
P56-ROX-011713	0.0456	0.0119	<0.025	<0.025	<0.005	0.0172 J	0.0092 J	<0.025	0.0745	<0.005	0.0745
P56-ROX-041213	0.0805	0.0799	<0.01	<0.01	<0.002	0.27	0.0486	<0.01	1	0.0243	1.03
P56-ROX-071513	0.145	0.311	<0.005	<0.005	<0.001	0.551	0.134	<0.005	2.67	0.21	2.85
P57-ROX-110811	<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	<2.5	<0.5	<2.5	<2.5	<0.5	<2.5	<2.5	<2.5	0.502	<0.5	0.502
P57-ROX-050712	<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	<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	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	<2.5	<0.5	<2.5	<2.5	<0.5	0.577 J	<2.5	<2.5	1.03	<0.5	1.03
P57-ROX-012913	0.331 J	<0.5	<2.5	<2.5	<0.5	<2.5	<2.5	<2.5	<0.5	<0.5	<0.5
P57-ROX-041113	<2.5	<0.5	<2.5	<2.5	<0.5	0.494 J	<2.5	<2.5	<0.5	<0.5	<0.5
P57-ROX-071613	0.0802 J	0.202 J	<0.005	<0.005	<0.001	<5	0.129 J	<0.005 UJ	1.81	0.256 J	2.01
P58-ROX-102811	0.0862	0.13	<0.005	<0.005	<0.001	<25	0.104	<0.005	0.575	0.101	0.677
P58-ROX-011912	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	0.0993 J	0.119 J	<0.005	<0.005	<0.001	<5	0.11	<0.005 UJ	<1	<1	<1
P58-ROX-050712	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	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	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	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	<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											
P58-ROX-012213	<5	<1	<5	<5	<1	<5	<5	<5	<1	<1	0.728 J
P58-ROX-041113	<10	<2	<10	<10	<2	0.926 J	<10	<10	<2	<2	<2
P58-ROX-071613	0.131	0.147	<0.005	<0.005	<0.001	0.634 J	0.13	<0.005 UJ	0.723	0.12	0.843
P59-ROX-102711	<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	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	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	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	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	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	0.111 J	1.1	<0.5	<0.5	<0.1	0.592	0.167 J	<0.5	4.68	0.721	5.4
P59-ROX-013013	0.085 J	0.296	<0.25	<0.25	<0.05	0.563	0.0491 J	<0.25	4.19	0.264	4.45
P59-ROX-041213	0.136 J	0.523	<0.25	<0.25	<0.05	0.946	<0.25	<0.25	6.52	0.646	7.16
P59-ROX-041213-DUP	0.117 J	0.463	<0.25	<0.25	<0.05	0.843	<0.25	<0.25	5.89	0.591	6.48
P59-ROX-071613	0.149 J	1.03	<0.005	<0.005	<0.001	0.784	0.219	<0.005 UJ	5.76	0.431	6.19
P66-ROX-110111	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	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	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	0.156	0.0014	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
P66-ROX-011813	0.193	0.0015	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	0.00093 J	0.00093 J
P66-ROX-041113	0.384	0.0012	<0.005	<0.005	<0.001	0.0041 J	<0.005	<0.005	<0.001	<0.001	<0.001
P66-ROX-071213	0.229	0.0018	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	0.001	0.0015
P74-ROX-103111	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	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	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	<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	<0.1	0.232	<0.1	<0.1	<0.02	0.125	0.0414 J	<0.1	0.246	0.0811	0.328
P74-ROX-011713	<0.1	0.278	<0.1	<0.1	<0.02	0.249	0.0973 J	<0.1	0.547	<0.02	0.555
P74-ROX-041113	<0.005	0.003	<0.005	<0.005	<0.001	0.0184	0.0138	<0.005	0.0456	0.0146	0.0601
P74-ROX-071513	0.0054	0.0064	<0.005	<0.005	<0.001	0.101	0.0365	<0.005	0.109	0.027	0.136
P93A-102610	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<1.25	<12.5	0.543 J	<1.25	
P93A-ROX_012611	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	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	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	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	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	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	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	<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	<0.5	<0.1	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	0.404	0.073 J	0.477
P93A-ROX-012313	<2.5	<0.5	<2.5	<2.5	<0.5	<2.5	<2.5	<2.5 UJ	<0.5	<0.5	<0.5
P93A-ROX-012313-DUP	<2.5	<0.5	<2.5	<2.5	<0.5	<2.5	<2.5	<2.5 UJ	<0.5	<0.5	<0.5
P93A-ROX-041113	<2.5	<0.5	<2.5	<2.5	<0.5	<2.5	<2.5	<2.5	<0.5	<0.5	<0.5
P93A-ROX-041113-DUP	<2.5	<0.5	<2.5	<2.5	<0.5	<2.5	<2.5	<2.5	<0.5	<0.5	<0.5
P93A-ROX-071813	0.0113	0.0072	<0.005	<0.005	<0.001	0.0915	0.0116	<0.005 UJ	0.273	0.0426	0.316
P93B-102610	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<1	<0.5	
P93B-ROX_012611	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	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	<5	<1	<5	<5	<1	<5	<5	<5	<1	<1	<1
P93B-ROX-102611	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	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	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	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	<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	<0.5	0.0719 J	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	0.237	<0.1	0.237
P93B-ROX-012313	<5	<1	<5	<5	<1	<5	<5	<5 UJ	<1	<1	<1
P93B-ROX-041113	<2.5	<0.5	<2.5	<2.5	<0.5	<2.5	<2.5	<2.5	<0.5	<0.5	<0.5
P93B-ROX-071813	0.0357	0.0646	<0.005	<0.005	<0.001	0.025	0.0069	0.0176 J	0.195	0.0418	0.236

SVOCs

Sample ID	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid
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]
P56-ROX-102711	0.0007	0.00013	0.00013	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
P56-ROX-011912	0.00064	<0.0001	0.00011	<0.000051	0.000021 J	<0.000051	<0.0001	<0.0001	
P56-ROX-050812	0.00057	0.0001	<0.0001	<0.00011 U	<0.00012 U	<0.000052	<0.0001	<0.0001	<0.01
P56-ROX-080612	0.00058	0.000087 J	0.00013	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
P56-ROX-103112	0.0011	<0.0001	0.00012	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01 UJ
P56-ROX-011713	0.00039	0.000083 J	0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
P56-ROX-041213	0.00053	0.000088 J	0.0001 J	<0.000055	<0.00011	<0.000055	<0.00011	<0.00011	<0.011
P56-ROX-071513	0.00065	0.00013	0.00014	<0.000055	<0.00011	<0.000055	<0.00011	<0.00011	<0.011
P57-ROX-110811	0.00055	<0.00054	<0.00054	<0.00027	<0.00054	<0.00027	<0.00054	<0.00054	<0.011
P57-ROX-021312	0.00056	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
P57-ROX-050712	0.00033	<0.0001	<0.0001	0.00011	0.00012	<0.000052	<0.0001	<0.0001	<0.01
P57-ROX-080612	0.00056	0.0001	0.000073 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
P57-ROX-080612-DUP	0.00051	0.0001	0.000064 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
P57-ROX-110512	0.00053	<0.0001	0.000061 J	<0.00005	<0.0001	<0.00005	0.00005 J	<0.0001	<0.01 UJ
P57-ROX-012913	0.00061	0.00013	0.000076 J	<0.000059	<0.00012	<0.000059	<0.00012	<0.00012	<0.012
P57-ROX-041113	0.00063	0.00012	0.000073 J	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
P57-ROX-071613	0.00047	0.0001 J	0.000077 J	0.00012	<0.00011	<0.000056	<0.00011	<0.00011	<0.011
P58-ROX-102811	0.0011	<0.000097	<0.000097	<0.000049	<0.000097	<0.000049	<0.000097	<0.000097	<0.0097
P58-ROX-011912	0.001	<0.00011	<0.00011	0.000039 J	0.000051 J	0.000032 J	0.000047 J	<0.00011	
P58-ROX-011912-D	0.00092	<0.00011	<0.00011	0.000036 J	0.000036 J	<0.000053	<0.00011	<0.00011	
P58-ROX-050712	0.00059	0.00019	0.00057 J	0.00017	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
P58-ROX-050712-DUP	0.00044	0.00015	<0.0001 UJ	0.00015	0.000032 J	<0.000052	<0.0001	<0.0001	<0.01
P58-ROX-080612	0.00086	0.00029	0.000094 J	0.00024	0.00011	0.000064	0.000043 J	<0.0001	<0.01
P58-ROX-080612-DUP	0.00098	0.0003	0.00011	0.00021	0.000098 J	0.00005	<0.0001	<0.0001	<0.01
P58-ROX-110612									
P58-ROX-121012	0.00093	0.00024	0.00083	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011
P58-ROX-012213	0.0011	0.0006	<0.00011	0.00038	0.00022	0.00012	0.00012	<0.00011	<0.011
P58-ROX-041113	0.0015	0.0005	<0.00011	0.0003	0.00019	0.000095	0.000074 J	<0.00011	<0.011
P58-ROX-071613	0.00076	0.00027	0.000096 J	0.00018	0.000073 J	0.000045 J	<0.00011	<0.00011	<0.011
P59-ROX-102711	0.00077	0.00012	0.00046	0.00019	<0.00011	0.000073	<0.00011	<0.00011	<0.011
P59-ROX-011912	0.00036	<0.00011	0.00025	0.000055 J	0.000038 J	0.000037 J	0.000052 J	<0.00011	
P59-ROX-011912-DUP	0.00037	<0.0001	0.00015	0.00005 J	0.000029 J	0.000027 J	<0.0001	<0.0001	
P59-ROX-050912	0.00022	<0.0001	0.000095 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	0.0161
P59-ROX-080212	0.00042	0.0001 J	0.00014	0.00021	0.000036 J	0.000047 J	<0.00011	<0.00011	<0.011
P59-ROX-110212	0.00043	<0.00011	0.000086 J	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011 UJ
P59-ROX-110212-DUP	0.00042	<0.0001	0.000084 J	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ
P59-ROX-013013	0.00047	<0.0001	0.00012	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
P59-ROX-041213	0.00057	0.00013	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	0.0831 J
P59-ROX-041213-DUP	0.00058	0.00012	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	0.0518 J
P59-ROX-071613	0.00035	0.000071 J	0.000092 J	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011
P66-ROX-110111	0.0018	<0.0001	<0.0001	<0.000095 U	<0.0001	<0.000088 U	<0.0001	<0.0001	<0.01
P66-ROX-051012	0.00078	<0.0001	<0.0001	<0.00005	<0.0001	0.000024 J	<0.0001	<0.0001	<0.01
P66-ROX-080312	0.00073	0.00025	<0.00011	0.00018	0.000066 J	0.00008	0.000066 J	<0.00011	<0.011
P66-ROX-103112	0.00078	0.00022	0.0006	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01 UJ
P66-ROX-011813	0.00074	0.00034	<0.000055 U	<0.000053	<0.00011	<0.000028 U	<0.00011	<0.00011	<0.011
P66-ROX-041113	0.0011	0.00028	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
P66-ROX-071213	0.00087	<0.00011	<0.0002 U	0.00018 B	<0.00015 U	0.00017 B	<0.00019 U	0.00015	<0.011 UJ
P74-ROX-103111	0.00033	0.00012	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
P74-ROX-011912	<0.000095	<0.000095	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	
P74-ROX-050712	<0.0001	<0.0001	<0.0001	0.00012	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
P74-ROX-080612	0.00016	0.000056 J	0.000041 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
P74-ROX-110112	0.00023	<0.0001	0.000044 J	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01 UJ
P74-ROX-011713	0.00019	0.0001	0.000063 J	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
P74-ROX-041113	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
P74-ROX-071513	<0.000063 U	<0.00011	0.000032 J	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011
P93A-102610	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.047
P93A-ROX_012611	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0098 UJ
P93A-ROX-050511	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
P93A-ROX-081811	0.00036	<0.0001	0.000058 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
P93A-ROX-102611	0.00024	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
P93A-ROX-012012	0.00014	<0.000095	0.000032 J	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095 UJ
P93A-ROX-050812	<0.0001	<0.0001	<0.0001	<0.0001 U	<0.00012 U	<0.000051	<0.0001	<0.0001	<0.01
P93A-ROX-080912	0.00015	<0.00011	0.000048 J	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	0.0032 J
P93A-ROX-110712	<0.00022 U	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
P93A-ROX-110712-DUP	0.00029 B	<0.0001	0.000061 J	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
P93A-ROX-012313	0.00016	<0.0001	0.000028 J	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
P93A-ROX-012313-DUP	0.00014	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
P93A-ROX-041113	0.00023	<0.0001	0.000074 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
P93A-ROX-041113-DUP	0.00021	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
P93A-ROX-071813	<0.00011	0.000032 J	0.00003 J	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011 UJ
P93B-102610	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.047
P93B-ROX_012611	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.011 UJ
P93B-ROX-050511	<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
P93B-ROX-081811	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
P93B-ROX-102611	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
P93B-ROX-012012	<0.000095	0.000028 J	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095 UJ
P93B-ROX-050812	<0.0001	<0.0001	<0.0001	<0.000051	<0.00012 U	<0.000051	<0.0001	<0.0001	<0.01
P93B-ROX-080912	<0.00011	0.000087 J	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011
P93B-ROX-110712	<0.0001	0.000073 JB	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
P93B-ROX-110712-DUP	<0.000047 U	0.000058 J	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
P93B-ROX-012313	0.00014	0.000072 J	0.00013	0.00022	0.00011	0.00013	0.00012	0.00012	<0.011
P93B-ROX-041113	<0.0001	<0.0001	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
P93B-ROX-071813	<0.00011	<0.00011	<0.00011	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011 UJ

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

VOCs — Analytical Results (mg/L)

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	4-Chlorotoluene	Cymene (p-Isopropyltoluene)
					Screening Values (mg/L)	0.005 [1]	0.35 [3]			0.7 [2]	0.005 [1]	0.1 [2]		0.0002 [2]			
	P93C-102610	10/26/2010		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
	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
	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
	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
	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
P-93C	P93C-ROX-012012	1/20/2012	94.26 - 96.26	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
	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
	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
	P93C-ROX-110812	11/8/2012		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
	P93C-ROX-012313	1/23/2013		45.78	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
	P93C-ROX-041213	4/12/2013		46.21	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
	P93C-ROX-080813	8/8/2013		43.31	NE	19.1	<0.25	<0.25	<0.25	<0.25	<0.05	<0.05	<0.1	<0.05	<0.1	<0.25	<0.25
	P93D-102610	10/26/2010	125.44 - 127.44	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
	P93D-ROX-050511	5/5/2011		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
	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
	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
	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
P-93D	P93D-ROX-050812	5/8/2012	125.75 - 127.75	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
	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
	P93D-ROX-110812	11/8/2012		NM	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
	P93D-ROX-012213	1/22/2013		44.21	NE	0.106	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005
	P93D-ROX-041113	4/11/2013		46.37	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
	P93D-ROX-071213	7/12/2013	125.75 - 127.75	43.51	NE	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.001 UJ	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005
	P114-ROX-102811	10/28/2011		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
	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
	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
	P114-ROX-080912	8/9/2012	32.67 - 52.67	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
P-114	P114-ROX-110912	11/9/2012		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
	P114-ROX-012313	1/23/2013		30.22	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
	P114-ROX-041513	4/15/2013		31.80	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
	P114-ROX-071813	7/18/2013	32.67 - 52.67	27.22	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
	P114-ROX-071813-DUP	7/18/2013		27.22	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
	ROST3PZ-ROX-051412	5/14/2012		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
ROST-3-PZ	ROST3PZ-ROX-080712	8/7/2012	40.00 - 50.00	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
	ROST3PZ-ROX-110112	11/1/2012		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
ROST-3-MW	ROST3MW-ROX-012313	1/23/2013	38.18 - 48.18	41.50	NE	0.0051 J	0.0028 J	0.0013 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0011 J
	ROST3MW-ROX-040513	4/5/2013		42.24	NE	0.0605	<0.005	0.0011 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0012 J
	ROST3MW-ROX-071113	7/11/2013	38.18 - 48.18	39.50	NE	0.0125	<0.005	0.0014 J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0014 J
	ROST4PZ-C-051412	5/14/2012		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
	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
ROST-4-PZ(C)	ROST4PZC-ROX-102912	10/29/2012	34.95 - 44.95	40.75	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
	ROST4PZ(C)-ROX-011113	1/11/2013		41.42	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
	ROST4PZC-ROX-041013	4/10/2013		42.27	NE	0.0153 J	<0.005	<0.005	<0.005	<0.005	<0.001 UJ	<0.001 UJ	<0.002	<0.001	<0.002	<0.005	<0.005
	ROST4PZC-ROX-071113	7/11/2013	34.95 - 44.95	40.18	NE	0.0497	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	<0.005
	T12-ROX-102711	10/27/2011		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
	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
	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
T-12	T12-ROX-080212	8/2/2012	46.46 - 72.46	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
	T12-ROX-110512	11/5/2012		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
	T12-ROX-011813	1/18/2013		44.50	NE	2.03	0.0056 J	0.0036 J	<0.025	<0.025	<0.005	<0.005	<0.01	<0.005	<0.01	<0.025	<0.025
	T12-ROX-041513	4/15/2013		44.99	NE	1.61	<0.05	0.0595	<0.05	<0.05	<0.01	<0.01	<0.02	<0.01	<0.02	<0.05	<0.05
	T12-ROX-071613	7/16/2013	46.46 - 72.46	42.33	NE	1.65	0.0069 J	0.003 J J	<0.005	<0.005	<0.001	<0.001	<0.002	<0.001	<0.002	<0.005	0.0025 J J

VOCs (continued) — Analytical Results (mg/L)

Sample ID	1,4-Dioxane	Ethylbenzene	Ethyl methacrylate	Hexachlorobutadiene	2-Hexanone (Methyl N-Butyl Ketone)	Isopropylbenzene (Cumene)	4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	Methyl tert-Butyl Ether (MTBE)	Naphthalene	n-Propylbenzene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl acetate	m,p-Xylenes	o-Xylenes	Xylenes (total)
Screening Values (mg/L)	0.005 [4]	0.7 [1]		0.007 [3]		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]
P93C-102610		<0.005		<0.005		<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		0.0175		<0.005		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	<0.025	0.0029	<0.005	<0.005	<0.005 UJ	<0.005	<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	<0.025	<0.001	<0.005	<0.005	<0.005	<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	<0.025	<0.001	<0.005	<0.005	<0.005	<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	<0.025	<0.001	<0.005	<0.005	<0.005	<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	<0.025	<0.001	<0.005	<0.005	<0.005	<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	<0.025	<0.001	<0.005	<0.005	<0.005	<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	<0.025	<0.001	<0.005	<0.005	<0.005	<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
P93C-ROX-012313	<0.025 UJ	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0044	<0.005	<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-041213	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0045	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
P93C-ROX-080813	<1.3	<0.05	<0.25	<0.25	<0.25	<0.25	<0.25	<0.05	<0.25	<0.25	<0.05	<0.25	<0.25	<0.05	<0.25	<0.25	<0.25	<0.05	<0.05	<0.05
P93D-102610		<0.005		<0.005		<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	<0.025	<0.001	<0.005	<0.005	<0.005 UJ	<0.005	<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	<0.025	<0.001	<0.005	<0.005	<0.005	<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	<0.025	<0.001	<0.005	<0.005	<0.005	<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	<0.025	<0.001	<0.005	<0.005	<0.005	<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	<0.025	<0.001	<0.005	<0.005	<0.005	<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	<0.025	<0.001	<0.005	<0.005	<0.005	<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	<0.025	<0.001	<0.005	<0.005	<0.005	<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
P93D-ROX-012213	<0.025	0.00069 J	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	0.0015 J	<0.005	<0.005	<0.001	<0.001	<0.001
P93D-ROX-041113	<0.025	<0.001	<0.005	<0.005	<0.005	<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
P93D-ROX-071213	<0.025	<0.001	<0.005	<0.005 UJ	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
P114-ROX-102811	<0.025	<0.001	<0.005	<0.005	<0.005	<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	<0.025	<0.001	<0.005	<0.005	<0.005	<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	<0.025	<0.001	<0.005	<0.005	<0.005	<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	<0.025	<0.001	<0.005	<0.005	<0.005	<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	<0.025	<0.001	<0.005	<0.005	<0.005	<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
P114-ROX-012313	<0.025 UJ	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.003 J	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
P114-ROX-041513	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0051	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001
P114-ROX-071813	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0023 J	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
P114-ROX-071813-DUP	<0.025	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.0022 J	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005 UJ	<0.001	<0.001	<0.001
ROST3PZ-ROX-051412	<0.025	0.0167	<0.005	<0.005	<0.005	<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	<0.025	0.0047	<0.005	<0.005	<0.005	<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	<0.025	0.0018	<0.005	<0.005	<0.005	<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
ROST3MW-ROX-012313	<0.025 UJ	0.0296	<0.005	<0.005	<0.005	0.0066	<0.005	<0.001	0.0076	0.0156	0.0016	<0.005	<0.005	<0.001	0.0786	0.022	<0.005 UJ	0.114	0.0159	0.13
ROST3MW-ROX-040513	<0.025	0.0136	<0.005	<0.005	<0.005	0.0032 J	<0.005	<0.001	0.132 J	0.0082	0.0076	<0.005	<0.005	<0.001	0.0531	0.0145	<0.005	0.0603	0.0126	0.0729
ROST3MW-ROX-071113	R	0.218	<0.005	<0.005	<0.005	0.0146	<0.005	<0.001	0.0411	0.0279	0.014	<0.005	<0.005	<0.001	0.164	0.0373	<0.005 UJ	0.644	0.124	0.768
ROST4PZ-C-051412	<0.025	<0.001	<0.005	<0.005	<0.005	<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	<0.025	0.177	<0.005	<0.005 UJ	<0.005	0.0036 J	<0.005	<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	<0.025	0.0014	<0.005	<0.005	<0.005	<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
ROST4PZ(C)-ROX-011113	<0.025	0.0013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	<0.005	<0.005	<0.001	0.002 J	0.0014 J	<0.005	0.0018	<0.001	0.0018
ROST4PZC-ROX-041013	<0.025	0.0028 J	<0.005	<0.005	<0.005 UJ	0.00061 J J	<0.005 UJ	<0.001	<0.005	0.0011 J	0.0006 J J	<0.005 UJ	<0.005 UJ	<0.001 UJ	0.0016 J	<0.005	<0.005	<0.001 UJ	<0.001 UJ	<0.001 UJ
ROST4PZC-ROX-071113	R	0.0651	<0.005	<0.005	<0.005	0.0025 J	<0.005	<0.001	0.0189	0.0041 J	0.041	<0.005	<0.005	<0.001	0.0194	0.0044 J	<0.005 UJ	0.126	0.0649	0.191
T12-ROX-102711	<0.25	0.648	<0.05	<0.05	<0.05	<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	<0.025	0.285	<0.005	<0.005	<0.005	0.022	<0.005	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	<0.13	1.88	<0.025	<0.025	<0.025	0.0572	<0.025	<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		0.573	<0.05	<0.05	<0.05	0.0297 J	<0.05	<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	<0.25	1.73	<0.05	<0.05	<0.05	0.0468 J	<0.05	<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
T12-ROX-011813	<0.13 UJ	0.426	<0.025	<0.025	<0.025	0.031	<0.025	<0.005	0.129	0.0466	0.184	<0.025	<0.025	<0.005	0.42	0.0407	<0.025	1.11	0.0252	1.13
T12-ROX-041513	<0.25	1.03	<0.05	<0.05	<0.05	0.0405 J	<0.05	<0.01	0.266 J	0.076	0.592	<0.05	<0.05	<0.01	0.309	<0.05	<0.05	1.2	0.104	1.3
T12-ROX-071613	<0.025	0.45	<0.005	<0.005 UJ	<0.005	0.0363 J	<0.005	<0.001	0.122 J	0.0627 J	0.186 J	<0.005	<0.005	<0.001	0.361 J	0.0238 J	<0.005 UJ	0.794 J	0.0145 J	0.808 J

SVOCs — Analytical Results (mg/L)

Sample ID	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid
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]
P93C-102610	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.047
P93C-ROX_012611	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.01 UJ
P93C-ROX-050611	<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
P93C-ROX-081811	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
P93C-ROX-102611	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
P93C-ROX-012012	<0.0001	<0.0001	<0.0001	<0.000051	0.000019 J	0.000027 J	<0.0001	<0.0001	<0.01 UJ
P93C-ROX-050812	<0.00011	<0.00011	<0.00011	<0.00012 U	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
P93C-ROX-080912	0.000089 J	0.000022 J	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
P93C-ROX-110812	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
P93C-ROX-012313	<0.00011	<0.00011	<0.00011	<0.000055	<0.00011	<0.000055	<0.00011	<0.00011	<0.011
P93C-ROX-041213	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
P93C-ROX-080813									
P93D-102610	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.048
P93D-ROX-050511	<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
P93D-ROX-081811	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
P93D-ROX-102711	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
P93D-ROX-012012	<0.00011	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011 UJ
P93D-ROX-050812	<0.0001	<0.0001	<0.0001	<0.0001 U	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
P93D-ROX-080812	0.00017	0.000051 J	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
P93D-ROX-110812	<0.00011	<0.00011	<0.00011	<0.000055	<0.00011	<0.000055	<0.00011	<0.00011	<0.011
P93D-ROX-012213	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
P93D-ROX-041113	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
P93D-ROX-071213	<0.000026 U	<0.00011	<0.00011	<0.000056	<0.00011	<0.000056	<0.00011	<0.00011	<0.011 UJ
P114-ROX-102811	<0.000095	<0.000095	<0.000095	<0.000048	<0.000095	<0.000048	<0.000095	<0.000095	<0.0095
P114-ROX-012012	<0.0001	<0.0001	<0.0001	<0.000051	0.000055 J	0.00005 J	0.000058 J	<0.0001	<0.01 UJ
P114-ROX-050912	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
P114-ROX-080912	<0.0001	0.000029 J	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
P114-ROX-110912	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
P114-ROX-012313	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
P114-ROX-041513	<0.0001	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001 UJ	<0.0001 UJ	<0.01
P114-ROX-071813	0.00013 B	<0.00011	0.00011	0.000045 J	0.000034 J	0.000064	0.000067 J	<0.00011	<0.011 UJ
P114-ROX-071813-DUP	<0.00011	<0.00011	0.00013	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011 UJ
ROST3PZ-ROX-051412	0.000023 J	<0.0001	<0.0001	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
ROST3PZ-ROX-080712	<0.00011	<0.00011	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011
ROST3PZ-ROX-110112	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011 UJ
ROST3MW-ROX-012313	0.00025	0.000059 J	0.000074 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
ROST3MW-ROX-040513	0.00016	<0.00011 UJ	<0.00011	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011
ROST3MW-ROX-071113	0.00029	<0.00011	0.000091 J	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011 UJ
ROST4PZ-C-051412	0.00027	0.000072 J	0.00011	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
ROST4PZ-C-ROX-072512	0.00039 B	<0.00011	<0.00018 U	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
ROST4PZC-ROX-102912	0.000054 J	<0.0001	0.00005 J	<0.000052	<0.0001	<0.000052	<0.0001	<0.0001	<0.01
ROST4PZ(C)-ROX-011113	<0.00011	<0.00011	<0.00011	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
ROST4PZC-ROX-041013	0.000066 J	0.000018 J	0.000033 J	<0.000055	<0.00011	<0.000055	<0.00011	<0.00011	<0.011
ROST4PZC-ROX-071113	0.00019	0.000073 J	0.00012	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011 UJ
T12-ROX-102711	0.00079	0.00012	0.00017	<0.000051	<0.0001	<0.000051	<0.0001	<0.0001	<0.01
T12-ROX-011912	0.00047	<0.00011	0.00014	<0.000056	0.000032 J	0.000035 J	0.000069 J	<0.00011	
T12-ROX-050912	0.00032	<0.0001	0.000081 J	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01
T12-ROX-080212	0.00044	0.000082 J	0.0001 J	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011
T12-ROX-110512	0.00044	<0.0001	0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.01 UJ
T12-ROX-011813	0.0005	0.000093 J	<0.00013 U	<0.000053	<0.00011	<0.000053	<0.00011	<0.00011	<0.011
T12-ROX-041513	0.00063	0.00009 J	<0.0001	<0.000051	<0.0001	<0.000051	<0.0001 UJ	<0.0001 UJ	<0.01
T12-ROX-071613	0.00055	0.0001 J	0.00015	0.00013	<0.00011	<0.000054	<0.00011	<0.00011	<0.011

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

SVOCs — Analytical Results (mg/L)

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	Benzyl alcohol	bis(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	4-Chloro-3-methylphenol (p-Chloro-m-cresol)	Chrysene (1,2-Benzphenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	2,4-Dichlorophenol	Diethyl phthalate	2,4-Dimethylphenol	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene
					Screening Values (mg/L)	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]		0.7 [2]	0.14 [2]	0.28 [2]	0.28 [2]
	MW-1-111110	11/11/2010		36.91	NE		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW-1-111110-Dup	11/11/2010		36.91	NE		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW1-ROX-011711	1/17/2011	43.41 - 58.41	37.58	NE		<0.0063	<0.0025	<0.0063	<0.013	<0.0063	<0.0063	<0.0063	<0.013	<0.0063	<0.013	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063
	MW1-ROX-042911	4/29/2011		38.37	NE	<0.013	<0.0063	<0.00077 U	<0.0063	<0.013	<0.0063	<0.0063	<0.0063	<0.013	<0.0063	<0.013	<0.0063	<0.00085 U	<0.0063	<0.0063	<0.0063
	MW1-ROX-072711	7/27/2011		35.15	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001
	MW1-ROX-120511	12/5/2011		37.10	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	<0.0001
MW-01	MW1-ROX-011612	1/16/2012		37.75	NE	<0.01	<0.0051	<0.002	<0.00039 U	<0.01	0.00011	<0.00011 U	<0.0051	<0.01	<0.0051	<0.01	<0.0051	<0.0051	<0.0051	0.00011	0.000059 J
	MW1-ROX-050112	5/1/2012		39.09	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01	<0.0051	<0.00054 U	<0.0051	<0.0001	<0.0001
	MW1-ROX-073012	7/30/2012		39.39	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	0.00032 J	<0.011	<0.0053	<0.00043 U	<0.0053	<0.00011	<0.00011
	MW1-ROX-102612	10/26/2012	49.98 - 59.98	41.22	NE	<0.011	<0.0057	0.00099 J	<0.0057	<0.011	<0.00011	<0.00011	<0.0023	<0.011	<0.0057	<0.011	<0.0057	<0.0057	<0.0057	<0.00011	<0.00011
	MW1-ROX-121712	12/17/2012		41.22	NE																
	MW1-ROX-011013	1/10/2013		42.59	NE	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01	<0.0052 UJ	<0.0052	<0.0052	<0.0001	<0.0001
	MW1-ROX-040913	4/9/2013		42.55	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0011 U	<0.011	<0.0053 UJ	<0.0012 U	<0.0053	<0.00011	<0.00011
	MW1-ROX-070813	7/8/2013	49.98 - 59.98	39.56	NE	<0.01	<0.0051	<0.0024 U	<0.0051	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.0051	<0.01	<0.0051	<0.0051	<0.0051	0.000033 J	<0.0001
	MW-2-111010	11/11/2010		38.12	NE		<0.01	<0.003 U	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW2-ROX-011711	1/17/2011		38.67	NE		<0.0048	0.25	<0.0048	<0.0095	<0.0048	<0.0048	<0.0048	<0.0095	<0.0048	0.0022 J	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
	MW02-ROX-051011	5/10/2011	47.19 - 62.19	39.14	NE	0.0019 J	<0.0052	<0.0029 U	<0.0052 UJ	<0.01	<0.0001 UJ	<0.0001 UJ	<0.0052	<0.01	0.0016 J J	<0.01	<0.0052 UJ	<0.001 U	<0.0052	<0.0001 UJ	<0.0001 UJ
	MW2-ROX-072711	7/27/2011		36.36	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001
	MW2-ROX-072711-DUP	7/27/2011		36.36	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001
	MW2-ROX-112811	11/28/2011		38.03	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001
MW-02	MW2-ROX-011612	1/16/2012		38.89	NE	<0.011	<0.0053	<0.00083 U	<0.00047 U	<0.011	<0.00011	<0.000047 U	<0.0053	<0.011	<0.0053	0.0035 J	<0.0053	0.00056 J	<0.0053	<0.00011	0.000052 J
	MW2-ROX-050112	5/1/2012		40.25	NE	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	0.0055 J	<0.0052	<0.0005 U	<0.0052	<0.0001	<0.0001
	MW2-ROX-073012	7/30/2012	51.32 - 61.32	40.60	NE	<0.011	<0.0053	0.00059 J	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	0.00036 J	0.0045 J	<0.0053	<0.00047 U	<0.0053	<0.00011	<0.00011
	MW2-ROX-102612	10/26/2012		42.35	NE	<0.011	<0.0054	<0.0022	<0.0054	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0054	0.0034 J	<0.0054	<0.0054	<0.0054	0.000061 J	0.00011
	MW2-ROX-011113	1/11/2013		42.94	NE	<0.011	<0.0056	<0.0022	<0.0056	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0056	<0.011	<0.0056 UJ	<0.0056	<0.0056	0.00004 J	<0.00011
	MW2-ROX-040913	4/9/2013		43.70	NE	<0.011	<0.0054	<0.0022	<0.0054	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0054	0.005 J	<0.0054 UJ	<0.0054	<0.0054	<0.00011	<0.00011
	MW2-ROX-071113	7/11/2013	51.32 - 61.32	40.82	NE	<0.011	<0.0055	0.00063 J	<0.0055	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0055	0.005 J	<0.0055	<0.0055	<0.0055	<0.00011	<0.00011
	MW-3-111210	11/12/2010		24.05	NE		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW3-ROX-011811	1/18/2011	30.98 - 45.98	24.92	NE		<0.0053	0.00062 J	<0.0053	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.0053	<0.011	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053
	MW03-ROX-051011	5/10/2011		24.79	NE	<0.01	<0.005	<0.0025 U	0.0064 J	<0.01	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.005 UJ	<0.01	<0.005 UJ	<0.0014 U	<0.005	<0.0001 UJ	<0.0001 UJ
	MW3-ROX-080311	8/3/2011		22.40	NE	<0.0095	<0.0048	0.0084	<0.0048	<0.0095	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048	<0.0095	<0.0048	<0.00061 U	<0.0048	<0.000095	<0.000095
	MW3-ROX-112911	11/29/2011		24.06	NE	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	<0.0001
	MW3-ROX-112911-DUP	11/29/2011		24.06	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	<0.0001
MW-03	MW3-ROX-011612	1/16/2012		24.93	NE	<0.01	<0.0052	<0.0004 U	<0.00039 U	<0.01	0.000098 J	<0.00013 U	<0.0052	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	0.000098 J	<0.0001
	MW3-ROX-043012	4/30/2012	34.67 - 44.67	26.19	NE	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01	<0.0052	<0.00047 U	<0.0052	<0.0001	<0.0001
	MW3-ROX-072712	7/27/2012		26.60	NE	<0.011	<0.0053	<0.00067 U	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011	<0.0053	<0.00066 U	<0.0053	<0.00011	<0.00011
	MW3-ROX-102512	10/25/2012		28.39	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.00059 U	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	<0.0001
	MW3-ROX-010913	1/9/2013		29.88	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01	<0.005	0.0025 J	<0.005	0.000047 J	0.000052 J
	MW3-ROX-040813	4/8/2013		29.74	NE	<0.011	<0.0057	<0.0023	<0.0057	<0.011	<0.00011	<0.00011	<0.0023	<0.011	<0.0057	<0.011	<0.0057	<0.0057	<0.0057	<0.00011	<0.00011
	MW3-ROX-071113	7/11/2013	34.67 - 44.67	26.32	NE	<0.011	<0.0054	0.0038	<0.0054	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0054	<0.011	<0.0054	<0.0054	<0.0054	<0.00011	<0.00011
	MW-4-111210	11/12/2010		35.38	NE		<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<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	<0.0021	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052
	MW04-ROX-051111	5/11/2011	42.63 - 57.63	36.19	NE	<0.01	<0.005	<0.0023 U	0.0063 J	<0.01	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.005 UJ	<0.01	<0.005 UJ	<0.0012 U	<0.005	<0.0001 UJ	<0.0001 UJ
	MW4-ROX-072611	7/26/2011		33.65	NE	<0.01	<0.005	<0.0057 U	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001
	MW4-ROX-072611-DUP	7/26/2011		33.65	NE	<0.01	<0.005	<0.002 U	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001
	MW4-ROX-121511	12/15/2011		33.99	NE	<0.01	<0.0052	<0.0028 U	<0.0052	<0.01	<0.0001	<0.00035 U	<0.0052	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	<0.0001
	MW4-ROX-011612	1/16/2012		36.00	NE	<0.01	<0.0052	<0.0005 U	<0.00073 U	<0.01	0.00014	<0.00019 U	<0.0052	<0.01	<0.0052	<0.01	<0.0052	0.00077 J	<0.0052	0.000047 J	<0.0001
	MW4-ROX-050312	5/3/2012		37.45	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.00062 U	<0.005	<0.0001	<0.0001
MW-04	MW4-ROX-050312-DUP	5/3/2012		37.45	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01	<0.0051	<0.00061 U	<0.0051	<0.0001	<0.0001
	MW4-ROX-072512	7/25/2012		37.63	NE	<0.01	<0.0051	<0.00079 U	0.00039 J	<0.01	<0.0001	<0.0001	<0.002	<0.01	0.0014 J	<0.01	<0.0051	0.00075 J	<0.0051	<0.0001	<0.0001
	MW4-ROX-072512-Dup	7/25/2012		37.63	NE	<0.01	<0.0051	<0.00069 U	<0.0051	<0.01	<0.0001	<0.0001	<0.002	<0.01	0.0012 J	<0.01	<0.0051	0.00057 J	<0.0051	<0.000047 U	<0.0001
	MW4-ROX-102912	10/29/2012	46.06 - 56.06	39.45	NE	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	<0.0001
	MW4-ROX-011113	1/11/2013		40.20	NE	<0.011	<0.0056	<0.0022	<0.0056	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0056	<0.011	<0.0056 UJ	<0.0056	<0.0056	<0.00011	<0.00011
	MW4-ROX-011113-DUP	1/11/2013		40.20	NE	<0.012	<0.006	<0.0024	<0.006	<0.012	<0.00012	<0.00012	<0.0024	<0.012	<0.006	<0.012	<0.006 UJ	<0.006	<0.006	<0.00012	<0.00012
	MW4-ROX-030413	3/4/2013		40.20	NE																
	MW4-ROX-040913	4/9/2013		40.90	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011	<0.0053 UJ	<0.0053	<0.0053	<0.00011	<0.00011
	MW4-ROX-040913-DUP	4/9/2013		40.90	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053 UJ	<0.011	<0.0053 UJ	<0.00062 U	<0.0053	<0.00011	<0.00011
	MW4-ROX-071713	7/17/2013	46.06 - 56.06	37.61	NE	<0.011	<0.0055	<0.0022	<0.0055	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0055	<0.011	<0.0055	<0.0055	<0.0055	<0.00011	<0.00011
	MW-5-111210	11/12/2010		23.32	NE		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW5-ROX-011811	1/18/2011		24.15	NE		<0.0053	<0.0021	<0.0053	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.0009 J	<0.011	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053
	MW05-ROX-051211	5/12/2011	31.13 - 46.13	23.98	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011 UJ	<0.00011 UJ	<0.0053	<0.011	<0.0053	<0.011	<0.0053	<0.0009 U	<0.0053	<0.00011 UJ	<0.00011 UJ
	MW5-ROX-072611	7/26/2011		21.72	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001
	MW5-ROX-072611-DUP	7/26/2011		21.72	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001
	MW5-ROX-112111	11/21/2011		23.46	NE	<0.011	<0.0053	0.00079 J	<0.0053	<0.011	<0.00011	<0.00011	<0.0053	<0.011	<0.0053	<0.011	<0.0053	0.00052 J	<0.0053	0.00041	<0.00011
MW-05	MW5-ROX-011712	1/17/2012		24.76	NE	<0.011	<0.0053	<0.0015 U	<0.00049 U	<0.011	<0.00011	<0.00011	<0.0053	<0.011	<0.0053	<0.011	<0.0053	<0.0053	<0.0053	<0.00011	<0.00011
	MW5-ROX-050312	5/3/2012		25.89	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01	<0.0051	<0.0005 U	<0.0051	<0.0001	<0.0001
	MW5-ROX-072512	7/25/2012	33.97 - 43.97	26.18	NE	<0.01	<0.0052	<0.00064 U	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	0.0011 J	<0.01	<0.0052	0.00057 J	<0.0052	<0.0001	<0.0001
	MW5-ROX-102912	10/29/2012		28.16	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.0051	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	<0.0001
	MW5-ROX-011113	1/11/2013		28.75	NE	<0.011	<0.0055	<0.0022	<0.0055	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0055	<0.011	<0.0055 UJ	<0.0055	<0.0055	<0.00011	<0.00011
	MW5-ROX-040913	4/9/2013		29.41	NE	<0.011	<0.0054	<0.0022	<0.0054	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0054	<0.011	<0.0054 UJ	<0.0054	<0.0054	<0.00011	<0.00011
	MW5-ROX-070913	7/9/2013	33.97 - 43.97	26.04	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	0.00099 U
	MW-6A-110910	11/9/2010		25.62	NE		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	MW6A-ROX-011911	1/19/2011	31.98 - 46.98	26.36	NE		<0.005	<0.002	<0.005	<0.01	<0.005	<0.005	<0.005	<0.01	<0.0019 U	<0.01	<0.005	0.00081 J	<0.005	<0.005	<0.005
	MW6A-ROX-051611	5/16/2011		26.10	NE	<0.01	<0.005	0.0026	<0.005	<0.01	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.00083 U	<0.01	<0.005	<0.0016 U	<0.005	<0.0001 UJ	0.00025 J
	MW6A-ROX-072611	7/26/2011		24.07	NE	<0.01	<0.005	<0.002 U	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001
	MW6A-ROX-112111	11/21/2011		25.49	NE	<0.01	<0.0052	0.0023	0.00077 J	<0.01	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01	<0.0052	0.00053 J	0.00093 J	<0.0001	<0.0001
	MW6A-ROX-112111-DUP	11/21/2011		25.49	NE	<0.01	<0.0051	0.0011 J	0.00054 J	<0.01	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01	<0.0051	0.00069 J	<0.0051	<0.0001	<0.0001
MW-06A	MW6A-ROX-011712	1/17/2012		26.74	NE	<0.011	<0.0054	<0.0022	<0.0054	<0.011	<0.00011	<0.00014 U	<0.0054	<0.011	<0.0054	<0.011	<0.0054	<0.0054	<0.0054	<0.00011	<0.00011
	MW6A-ROX-050212	5/2/2012		27.77	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001
	MW6A-ROX-080112	8/1/2012	34.83 - 44.83	28.36	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01	<0.005	0.00049 J	<0.005	<0.0001	<0.0001
	MW6A-ROX-102412	10/24/2012		30.06	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011	<0.0053	<0.0053	<0.0053	<0.00011	<0.00011
	MW6A-ROX-011413	1/14/2013		31.00	NE	<0.01	<0.0051	0.00054 J	<0.0051	<0.01	<0.0001	0.000066 J	<0.002	<0.01	<0.0051	<0.01	<0.0051 UJ	<0.0051	<0.0051	<0.0001	<0.0001
	MW6A-ROX-040313	4/3/2013		31.62	NE	<0.011 UJ	<0.0053	0.00052 J	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011	<0.0053	0.0018 J	<0.0053	<0.00011	<0.00011
	MW6A-ROX-070913	7/9/2013	34.83 - 44.83	28.25	NE	<0.011	<0.0055	<0.0022	<0.0055	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0055	<0.011	<0.0055	<0.0055	<0.0055	<0.00011	<0.00011
	MW6A-ROX-070913-DUP	7/9/2013		28.25	NE	<0.011	<0.0055	<0.0022	<0.0055	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0055	<0.011	<0.0055	<0.0055	<0.0055	<0.00011	<0.00011

Sample ID	Hexachlorobenzene	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)	0.00006 [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]
MW-1-111110	<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	<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	<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	<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	<0.005	<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	<0.0051	<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	<0.0051	<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	<0.0051	<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	<0.0053	<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	<0.0057	<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															
MW1-ROX-011013	<0.0052	<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000021 U	<0.0052	<0.0001
MW1-ROX-040913	<0.0053	<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
MW1-ROX-070813	<0.0051	<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000043 U	<0.0051	<0.0001
MW-2-111010	<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	<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	<0.0052	<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	<0.005	<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	<0.005	<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	<0.005	<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	<0.0053	<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	<0.0052	<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	<0.0053	<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	<0.0054	<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
MW2-ROX-011113	<0.0056	<0.00011	<0.0056	0.008	0.0162	<0.011	<0.011	<0.011	<0.0056	<0.0056	<0.0056	<0.011	0.000044 J	<0.0056	0.000039 J
MW2-ROX-040913	<0.0054	<0.00011	<0.0054	0.012	0.0256	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	<0.000054	<0.0054	<0.00011
MW2-ROX-071113	<0.0055	<0.00011	<0.0055	0.0123 JJ	0.0249	<0.011	<0.011	<0.011 UJ	<0.0055	<0.0055	<0.0055	<0.011	<0.000051 U	<0.0055 UJ	<0.00011
MW-3-111210	<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	<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	<0.005	<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	<0.0048	<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	<0.0052	<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	<0.0051	<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	<0.0052	<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	<0.0052	<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	<0.0053	<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	<0.0051	<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
MW3-ROX-010913	<0.005	<0.0001	<0.005	<0.0002	0.000081 J	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	0.000068	<0.005 UJ	0.000036 J
MW3-ROX-040813	<0.0057	<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
MW3-ROX-071113	<0.0054	<0.00011	<0.0054	0.00044 JJ	0.00038	<0.011	<0.011	<0.011 UJ	<0.0054	<0.0054	<0.0054	<0.011	<0.000039 U	<0.0054 UJ	<0.000072 U
MW-4-111210	<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	<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	<0.005	<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	<0.005	<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	<0.005	<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	<0.0052	<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	<0.0052	<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	<0.005	<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	<0.0051	<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	<0.0051	<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	<0.0051	<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	<0.0052	<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
MW4-ROX-011113	<0.0056	<0.00011	<0.0056	<0.00022	0.00014 J	<0.011	<0.011	<0.011	<0.0056	<0.0056	<0.0056	<0.011	<0.000056	0.0608	<0.00011
MW4-ROX-011113-DUP	<0.006	<0.00012	<0.006	<0.00024	0.000099 J	<0.012	<0.012	<0.012	<0.006	<0.006	<0.006	<0.012	<0.00006	0.0665	<0.00012
MW4-ROX-030413															
MW4-ROX-040913	<0.0053	<0.00011	<0.0053	<0.00022	0.000082 J	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.000054	0.11	<0.00011
MW4-ROX-040913-DUP	<0.0053	<0.00011	<0.0053	<0.00021	0.000076 J	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.000053	0.103	<0.00011
MW4-ROX-071713	<0.0055	0.000052 J	<0.0055	0.00037	0.00023	<0.011	<0.011	<0.011	<0.0055	<0.0055	<0.0055	<0.011	<0.00003 U	0.0661	<0.00011
MW-5-111210	<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	<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	<0.0053	<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	<0.005	<0.0001	<0.005	0.00056	<0.0002	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
MW5-ROX-072611-DUP	<0.005	<0.0001	<0.005	0.00075	<0.0002	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
MW5-ROX-112111	<0.0053	<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	<0.0053	<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	<0.0051	<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	<0.0052	<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	<0.0051	<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
MW5-ROX-011113	<0.0055	<0.00011	<0.0055	0.0043	0.000084 J	<0.011	<0.011	<0.011	<0.0055	<0.0055	<0.0055	<0.011	0.000048 J	<0.0055	<0.00011
MW5-ROX-040913	<0.0054	<0.00011	<0.0054	0.004	<0.00022	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	<0.000054	<0.0054	<0.00011
MW5-ROX-070913	<0.005	<0.0001	<0.005	0.0015	<0.0002	<0.01	<0.01	<0.01 UJ	<0.005	<0.005	<0.005	<0.01	0.000074 B U	<0.005	<0.0001
MW-6A-110910	<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	<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	<0.005	<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	<0.005	<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	<0.0052	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	<0.0051	<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	<0.0054	<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	<0.005	<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	<0.005	<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	<0.0053	<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
MW6A-ROX-011413	<0.0051	0.000072 J	<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
MW6A-ROX-040313	<0.0053	<0.00011	<0.0053	<0.00021	<0.00021	<0.011	<0.011	<0.011	<0.0053	<0.0053 UJ	<0.0053	<0.011	0.000084	<0.0053 UJ	0.000053 J
MW6A-ROX-070913	<0.0055	<0.00011	<0.0055	<0.00022	<0.00022	<0.011	<0.011	<0.011 UJ	<0.0055	<0.0055	<0.0055	<0.011	<0.000055	<0.0055	<0.00011
MW6A-ROX-070913-DUP	<0.0055	<0.00011	<0.0055	<0.00022	<0.00022	<0.011	<0.011	<0.011 UJ	<0.0055	<0.0055	<0.0055	<0.011	<0.000055	<0.0055	<0.00011

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

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	SVOCs: Benzyl alcohol	bis(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	4-Chloro-3-methylphenol (p-Chloro-m-cresol)	Chrysene (1,2-Benzphenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	2,4-Dichlorophenol	Diethyl phthalate	2,4-Dimethylphenol	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Hexachlorobenzene	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 [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]		0.7 [2]	0.14 [2]	0.28 [2]	0.28 [2]	0.00006 [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]
						Analytical Results (mg/L)																														
	MW-6B-111610	11/16/2010		25.47	NE		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<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	<0.002	<0.005	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00087 U	<0.01	<0.005	<0.005	<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	<0.002	<0.0051	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.001 U	<0.01	<0.0051	<0.0051	<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	<0.0095	<0.0048	0.0023	<0.0048	<0.0095	<0.000095 UJ	<0.000095 UJ	<0.0048	<0.0095	<0.00078 U	<0.0095	<0.0048	<0.0012 U	<0.0048	<0.000095 UJ	<0.000095 UJ	<0.0048	<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	<0.01	<0.005	0.0024	<0.005	<0.01	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.00096 U	<0.01	<0.005	<0.0014 U	<0.005	<0.0001 UJ	<0.0001 UJ	<0.005	<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	<0.011	<0.0053	0.00077 J	<0.0053	<0.011	<0.0008 U	<0.000031 U	<0.0053	<0.011	<0.0053	<0.011	<0.0053 UJ	<0.00047 U	<0.0053	<0.00021 U	<0.00011	<0.0053	<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
MW-06B	MW6B-ROX-110311	11/3/2011	64.05 - 69.05	24.67	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01 UJ	<0.005	<0.005	<0.005	<0.0001	<0.0001	<0.005	<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	<0.011	<0.0055	<0.0011 U	<0.0055	<0.011	<0.00011	<0.00027 U	<0.0055	<0.011	<0.0055	<0.011	<0.0055	0.00055 J	<0.0055	<0.00011	<0.00011	<0.0055	<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	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	0.00039 J	<0.005	<0.0001	<0.0001	<0.005	<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	<0.01	<0.0051	0.00049 J	<0.0051	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.0051	<0.01	<0.0051	0.0007 J	<0.0051	<0.0001	<0.0001	<0.0051	<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		30.11	NE	<0.01	<0.0051	<0.002	0.00057 J	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.0051	<0.01	<0.0051	0.00079 J	<0.0051	<0.0001	<0.0001	<0.0051	<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
	MW6B-ROX-011713	1/17/2013		31.11	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01	<0.005	0.0026 J	<0.005	<0.0001	<0.0001	<0.005	<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-040313	4/3/2013		31.68	NE	<0.011 UJ	<0.0054	<0.0022	<0.0054	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0054	<0.011	<0.0054	0.0012 J	<0.0054	<0.00011	<0.00011	<0.0054	<0.00011	<0.0054	<0.00022	0.0002 J	<0.011	<0.011	<0.011	<0.0054	<0.0054 UJ	<0.0054	<0.011	<0.000054	<0.0054 UJ	<0.00011
	MW6B-ROX-070913	7/9/2013	64.05 - 69.05	28.25	NE	<0.011	<0.0056	<0.0022	<0.0056	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0056	<0.011	<0.0056	<0.0056	<0.0056	<0.00011	<0.00011	<0.0056	<0.00011	<0.0056	<0.00022	<0.00022	<0.011	<0.011	<0.011 UJ	<0.0056	<0.0056	<0.0056	<0.011	<0.000056	<0.0056	<0.00011
	MW-6C-111610	11/16/2010		25.25	NE		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<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	<0.0021	<0.0053	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.00084 U	<0.011	<0.0053	<0.0053	<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	<0.01	<0.005	0.0025	0.0064	<0.01	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.00063 U	<0.01	<0.005	<0.0013 U	<0.005	<0.0001 UJ	<0.0001 UJ	<0.005	<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	<0.011	<0.0053	<0.0021	<0.0053	<0.011	0.00015 B	<0.00011	<0.0053	<0.011	<0.0053	<0.011	<0.0053 UJ	<0.0004 U	<0.0053	0.000024 JB	<0.00011	<0.0053	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	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01 UJ	<0.005	<0.005	<0.005	<0.0001	<0.0001	<0.005	<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
MW-06C	MW6C-ROX-011712	1/17/2012	84.95 - 89.95	26.50	NE	<0.011	<0.0054	<0.0022	<0.00046 U	<0.011	<0.00011	<0.00011	<0.0054	<0.011	<0.0054	<0.011	<0.0054	<0.0054	<0.0054	<0.00011	<0.00011	<0.0054	<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	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001	<0.005	<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	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01	<0.005	0.001 J	<0.005	<0.0001	<0.0001	<0.005	<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		27.85	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.0051	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	<0.0001	<0.0051	<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
	MW6C-ROX-011713	1/17/2013		30.88	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01	<0.005	0.0022 J	<0.005	<0.0001	<0.0001	<0.005	<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-040313	4/3/2013		31.41	NE	<0.01 UJ	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01	<0.0052	0.00077 J	<0.0052	<0.0001	<0.0001	<0.0052	<0.0001	<0.0052	<0.00021	0.00016 J	<0.01	<0.01	<0.01	<0.0052	<0.0052 UJ	<0.0052	<0.01	<0.000052	<0.0052 UJ	<0.0001
	MW6C-ROX-070913	7/9/2013	84.95 - 89.95	28.03	NE	<0.011	<0.0056	<0.0022	<0.0056	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0056	<0.011	<0.0056	<0.0056	<0.0056	<0.00011	<0.00011	<0.0056	<0.00011	<0.0056	<0.00022	<0.00022	<0.011	<0.011	<0.011 UJ	<0.0056	<0.0056	<0.0056	<0.011	<0.000056	<0.0056	<0.00011
	MW-6D-111610	11/16/2010		25.13	NE		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<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		<0.0053	<0.0021	<0.0053	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.001 U	<0.011	<0.0053	0.00071 J	<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
	MW6D-ROX-051611	5/16/2011		25.60	NE	<0.011	<0.0055	0.0027	0.0069	<0.011	<0.00011 UJ	<0.00011 UJ	<0.0055	<0.011	<0.00085 U	<0.011	<0.0055	<0.0015 U	<0.0055	<0.00011 UJ	<0.00011 UJ	<0.0055	<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	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00039 U	<0.00011	<0.0053	<0.011	<0.0053	<0.011	<0.0053 UJ	<0.00046 U	<0.0053	<0.000067 U	<0.00011	<0.0053	<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	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01 UJ	<0.0052	<0.0052	<0.0052	<0.0001	<0.0001	<0.0052	<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-06D	MW6D-ROX-011712	1/17/2012	104.72 - 109.72	26.33	NE	<0.011	<0.0055	<0.0022	<0.0055	<0.011	<0.00011	<0.00011	<0.0055	<0.011	<0.0055	<0.011	<0.0055	0.00047 J	<0.0055	<0.00011	<0.00011	<0.0055	<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	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	0.00047 J	<0.005	<0.0001	<0.0001	<0.005	<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	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.002	<0.01	0.00022 J	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	<0.0001	<0.0051	<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		29.71	NE	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	<0.0001	<0.0052	<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-011713	1/17/2013		30.75	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001	<0.005	<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
	MW6D-ROX-040313	4/3/2013		31.27	NE	<0.011 UJ	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011	<0.0053	0.00069 J	<0.0053	<0.00011	<0.00011	<0.0053	<0.00011	<0.0053	<0.00021	<0.00021	<0.011	<0.011	<0.011	<0.0053	<0.0053 UJ	<0.0053	<0.011	<0.000053	<0.0053 UJ	<0.00011
	MW6D-ROX-070913	7/9/2013	104.72 - 109.72	27.91	NE	<0.011	<0.0055	<0.0022	<0.0055	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0055	<0.011	<0.0055	<0.0055	<0.0055	<0.00011	<0.00011	<0.0055	<0.00011	<0.0055	<0.00022	<0.00022	<0.011	<0.011	<0.011 UJ	<0.0055	<0.0055	<0.0055	<0.011	<0.000055	<0.0055	<0.00011
	MW-7-111710	11/17/2010		36.93	NE		<0.01	<0.005 U	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<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	<0.007 U	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<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	<0.0021	<0.0053	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.003 U	<0.011	<0.0053	<0.0053	<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	<0.011	<0.0054	<0.0032 U	<0.0071 U	<0.011	<0.00011 UJ	<0.00011 UJ	<0.0054	<0.011	<0.00097 U	<0.011	<0.0054	<0.0017 U	<0.0054	<0.00011 UJ	0.0001 J J	<0.0054	<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	<0.011	<0.0055	<0.0035 U	<0.007 U	<0.011	<0.00011 UJ	<0.00011 UJ	<0.0055	<0.011	<0.0055	<0.011	<0.0055	<0.0018 U	<0.0055	<0.00011 UJ	0.000097 J J	<0.0055	<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	<0.011	<0.0054	<0.0022	<0.0054	<0.011	0.000018 J	<0.00011	<0.0054	<0.011	<0.0054	<0.011	<0.0054 UJ	<0.00044 U	<0.0054	0.00003 J	0.000066 J	<0.0054	<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	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01 UJ	<0.005	<0.005	<0.005	<0.0001	<0.00028 U	<0.005	<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	<0.01 UJ	<0.005	<0.002	0.00049 J	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	0.00045 J	<0.005	<0.0001	0.00018	<0.005	<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
MW-07	MW7-ROX-011812-DUP	1/18/2012	42.92 - 52.92	38.10	NE	<0.011 UJ	<0.0056	0.00044 J	0.00048 J	<0.011	<0.00011	<0.00011	<0.0056	<0.011	<0.0056	<0.011	<0.0056	<0.0056	<0.0056	<0.00011	0.0002	<0.0056	<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	<0.01	<0.005	0.00071 J	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.00095 U	<0.005	0.000039 J	0.00019	<0.005	<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	<0.01	<0.0051	0.0006 J	<0.0051	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.00058 U	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	0.00016	<0.0051	<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		41.23	NE	<0.012	<0.0058	0.0015 J	<0.0058	<0.012	<0.00012	<0.00012	<0.0023	<0.012	<0.0058	<0.012	<0.0058	<0.0058	<0.0058	<0.00012	0.00023	<0.0058	<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	<0.011	<0.0056	0.0007 J	<0.0056	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0056	<0.011	<0.0056	<0.0056	<0.0056	<0.00011	0.00026	<0.0056	<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
	MW7-ROX-011513	1/15/2013		42.21	NE	<0.011	<0.0053	0.00061 J	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011	<0.0053 UJ	<0.0053	<0.0053	0.00004 J	0.00061	<0.0053	<0.00011	<0.0053	0.0187	0.0224	<0.011	<0.011	<0.011	<0.0053	<0.0053 UJ	<0.0053	<0.011	0.00086	0.0865 J	0.000089 J
	MW7-ROX-011513-DUP	1/15/2013		42.21	NE	<0.01	<0.0052	0.00055 J	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01	<0.0052 UJ	<0.0052	<0.0052	<0.0001	0.00057	<0.0052	<0.0001	<0.0052	0.0173	0.0207	<0.01	<0.01	<0.01	<0.0052	<0.0052 UJ	<0.0052	<0.01	0.00078	0.0735 J	0.000078 J
	MW7-ROX-041013	4/10/2013		42.70	NE	<0.011	<0.0054	<0.0022	<0.0054	<0.011	<0.00011	<0.00011	0.00083 J	<0.011	<0.0054	<0.011	<0.0054	<0.0054	<0.0054	0.000039 J	0.00081	<0.0054	<0.00011	<0.0054	0.0271	0.0351	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	0.0014	0.147	0.00015
	MW7-ROX-041013-DUP	4/10/2013		42.70	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	0.00088 J	<0.011	<0.0053	<0.011	<0.0053	<0.0053	<0.0053	0.000068 J	0.00087	<0.0053	<0.00011	<0.0053	0.0274	0.0357	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.0015	0.148	0.00016
	MW7-ROX-071713	7/17/2013	42.92 - 52.92	39.60	NE	<0.011	<0.0054	<0.0022	<0.0054	<0.011	<0.00011	0.000077 J	<0.0022	<0.011	<0.0054	<0.011	<0.0054	<0.0054	<0.0054	<0.00011	0.00019	<0.0054	0.000078 J	<0.0054	0.0043	0.006	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	0.00024	0.118	0.000039 J
	MW-8-111710	11/17/2010		27.84	NE		<0.01	<0.006 U	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.018	<0.01	<0.01	<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	0.00086 J	<0.005	<0.01	<0.005	<0.005	<0.005	<0.01	<0.0025 U	0.0233	<0.005	<0.005	0.0004 J	<0.005	<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	0.0012 J	<0.0057	<0.011	<0.0057	<0.0057	<0.0057	<0.011	0.0125	0.0299	<0.0057	<0.0057	<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	<0.011	<0.0055	<0.0031 U	<0.0055	<0.011	<0.00011 UJ	<0.00011 UJ	<0.0055	<0.011	<0.0018 U	0.0225	<0.0055	<0.0014 U	<0.0055	0.00003 J J	0.00023 J	<0.0055	<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	<0.011	<0.0056	<0.0034 U	<0.0056	<0.011	<0.00011 UJ	<0.00011 UJ	<0.0056	<0.011	<0.0011 U	0.0232	<0.0056	<0.0021 U	<0.0056	<0.00011 UJ	0.00021 J	<0.0056	<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	<0.011	<0.0054	0.0019 J	<0.0054	<0.011	0.000099 JB	<0.00011	<0.0054	<0.011	<0.0054	0.0228	<0.0054 UJ	<0.0054	0.00077 J	0.000031 JB	0.00034	<0.0054	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	<0.011	<0.0055	0.0013 J	<0.0055	<0.011	0.000099 JB	<0.00011	<0.0055	<0.011	<0.0055	0.0213	<0.0055 UJ	<0.00038 U	0.00054 J	0.000022 JB	0.0003	<0.0055	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	33.60 - 43.60	27.02	NE	<0.0095	<0.0048	<0.0019	<0.0048	<0.0095	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048	0.0383 J	<0.0048	<0.0048	<0.0048	<0.000095	<0.00032 U	<0.0048	<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
MW-08	MW8-ROX-011812	1/18/2012		29.15	NE	<0.011 UJ	<0.0053	0.00052 J	0.00042 J	<0.011	<0.00053	<0.00053	0.0006 J	<0.011	<0.0053	0.015	<0.0053	<0.0053	<0.0053	<0.00053	0.00074	<0.0053	<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	<0.011	<0.0053	0.00053 J	<0.0053	<0.011	<0.00011	<0.00011	0.00044 J	<0.011	<0.0053	0.0595	<0.0053	<0.00063 U	<0.0053	<0.00011	0.00024	<0.0053	<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	<0.01	<0.005	0.00047 J	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	0.0557	<0.005	<0.005	<0.005	<0.0001	0.00031	<0.005	<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	<0.011	<0.0054	0.00051 J	<0.0054	<0.011	<0.00011	<0.00011	0.00035 J	<0.011	<0.0016 U	0.015	<0.0054	<0.0054	<0.0054	<0.00011	0.00027	<0.0054	<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	<0.011	<0.0056	0.00043 J	<0.0056	<0.011	<0.00011	<0.00011	0.0004 J	<0.011	<0.0018 U	0.0158	<0.0056	<0.0056	<0.0056	<0.00011	0.00026	<0.0056	<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		32.32	NE	<0.011	<0.0053	0.0012 J	0.00086 J	<0.011	0.00066 B	0.00059 B	<0.0021	<0.011	<0.0053	0.0085 J	<0.0053	0.00082 J	0.00063 J	0.00059 B	0.00053	<0.0053	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
	MW8-ROX-011513	1/15/2013		33.30	NE	<0.011	<0.0056	0.00089 J	<0.0056	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0056	0.019	<0.0056 UJ	<0.0056	<0.0056	<0.00011	0.00041	<0.0056	<0.00011	<0.0056	0.011	0.0129	0.0332	0.102	<0.011	<0.0056	<0.0056 UJ	<0.0056	<0.011	0.00016	0.0997 J	<0.00011
	MW8-ROX-041013	4/10/2013		33.77	NE	<0.011	<0.0053	0.0023	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	0.0358	<0.0053	0.0013 J	<0.0053	0.000056 J	0.00032	<0.0053	<0.00011	<0.0053	0.0091	0.0113	0.0388	0.084	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.00019	0.253 J	0.000042 J
	MW8-ROX-071713	7/17/2013	33.60 - 43.60	30.43	NE	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	0.009 J	<0.0052	<0.0052	<0.0052	<0.0001	0.00033	<0.0052	<0.0001	<0.0052	0.0097 J	0.0113	0.0046 J	0.0106	<0.01	<0.0052	<0.0052	<0.0052	<0.01	0.00015	0.328	0.000062 J
	MW8-ROX-071713-DUP	7/17/2013		30.43	NE	<0.011	<0.0054	<0.0022	<0.0054	<0.011	<0.00011	<0.00011	0.0004 J	<0.011	<0.0054	0.0089 J	<0.0054	<0.0054	<0.0054	<0.00011	0.00036	<0.0054	<0.00011	<0.0054	0.0087 J	0.0098	0.0037 J	0.0091 J	<0.011	<0.0054	<0.0054	<0.0054	<0.011	0.00016	0.303	<0.00011
	MW-9-111510	11/15/2010		39.00	NE		<0.01	<0.001 U	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
	MW9-ROX-012111	1/21/2011		39.62	NE		<0.0053	<0.0021	<0.0053	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.001 U	<0.011	<0.0053	0.00064 J	<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
	MW09-ROX-050611	5/6/2011		40.12	NE	<0.0097	<0.0049	<0.0019	<0.0049	<0.0097	<0.000097 UJ	<0.000097 UJ	<0.0049	<0.0097	<0.0018 U	<0.0097	<0.0049	<0.00046 U	<0.0049	0.00002 J J	<0.000097 UJ	<0.0049	<0.000097 UJ	<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	<0.011	<0.0054	<0.0022	<0.0054	<0.01 UJ	<0.0002 U	<0.00011	<0.0054	<0.01 UJ	<0.0054	<0.01 UJ	<0.0054 UJ	<0.0054	<0.0054	<0.000044 U	<0.00011	<0.0054	<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	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001	<0.005	<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-09	MW9-ROX-011612	1/16/2012	46.45 - 56.45	39.50	NE	<0.011	<0.0057	<0.00085 U	<0.00037 U	<0.011	<0.00011	<0.000078 U	<0.0057	<0.011	<0.0057	<0.011	<0.0057	0.00048 J	<0.0057	<0.00011	<0.00011	<0.0057	<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			0.0016 J J	0.00045 JB J																											
	MW9-ROX-072712	7/27/2012		41.30	NE	<0.01	<0.005	<0.00043 U	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01	<0.005	<0.00054 U	<0.005	<0.0001	<0.0001	<0.005	<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		43.17	NE	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	<0.0001	<0.0052	<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
	MW9-ROX-011113	1/11/2013		44.70	NE	<0.011	<0.0054	<0.0022	<0.0054	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0054	<0.011	<0.0054 UJ	<0.0054	<0.0054	0.000066 J	0.00011	<0.0054	<0.00011	<0.0054	<0.00022	0.00014 J	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	0.00012	<0.0054	0.000057 J
	MW9-ROX-040913	4/9/2013		44.67	NE	<0.01 UJ	<0.0052 UJ	<0.0021 UJ	<0.0052 UJ	<0.01 UJ	<0.0001 UJ	<0.0001 UJ	<0.0021 UJ	<0.01 UJ	<0.0016 UJ	<0.01 UJ	<0.0052 UJ	<0.0018 UJ	<0.0052 UJ	<0.0001 UJ	<0.0001 UJ	<0.0052 UJ	<0.0001 UJ	<0.0052 UJ	<0.00021 UJ	<0.00021 UJ	<0.01 UJ	<0.01 UJ	<0.01 UJ	<0.0052 UJ	<0.0052 UJ	<0.0052 UJ	<0.01 UJ	<0.000052 UJ	<0.0052 UJ	<0.0001 UJ
	MW9-ROX-070813	7/8/2013	46.45 - 56.45	42.35	NE	<0.011	<0.0056	<0.0022	<0.0056	R	<0.00011	<0.00011	<0.0022	R	<0.0056	R	<0.0056	<0.0056	<0.0056	<0.00011	<0.00011	<0.0056	<0.00011	<0.0056	<0.00022	<0.00022	R	R	<0.011	<0.0056	<0.0056	<0.0056	R	<0.000028 U	R	<0.00011

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

SVOCs — Analytical Results (mg/L)

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	Benzyl alcohol	bis(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	4-Chloro-3-methylphenol (p-Chloro-m-cresol)	Chrysene (1,2-Benzphenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	2,4-Dichlorophenol	Diethyl phthalate
	Screening Values (mg/L)					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]
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
	MW10-ROX-012411	1/24/2011		39.40	NE		<0.0051	0.00068 J	<0.0051	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.001 U
	MW10-ROX-012411-DUP	1/24/2011		39.40	NE		<0.005	0.00071 J	<0.005	<0.01	<0.005	<0.005	<0.005	<0.01	<0.0012 U
	MW10-ROX-042811	4/28/2011		40.20	NE	<0.0095	<0.0048	<0.00051 U	<0.0048	<0.0095	<0.0048	<0.0048	<0.0048	<0.0095	<0.0048
	MW10-ROX-072311	7/23/2011		37.24	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.00027 U	<0.0001	<0.005	<0.01	<0.005
	MW10-ROX-110111	11/1/2011		37.72	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005
	MW10-ROX-011612	1/16/2012		39.28	NE	<0.011	<0.0053	0.0255	<0.0013 U	<0.011	<0.00011	<0.00011	<0.0053	<0.011	<0.0053
	MW10-ROX-050112	5/1/2012		40.86	NE	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0052	<0.01	<0.0052
	MW10-ROX-072712	7/27/2012		41.21	NE	<0.01	<0.005	<0.00067 U	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005
	MW10-ROX-102612	10/26/2012		43.08	NE	<0.011	<0.0056	<0.0022	<0.0056	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0056
	MW10-ROX-121712	12/17/2012		43.08	NE										
	MW10-ROX-011013	1/10/2013		44.61	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005
	MW10-ROX-012113	1/21/2013		44.61	NE	<0.02	<0.01	<0.006	<0.01	<0.02	<0.0001	<0.0001	<0.01	<0.01	<0.01
	MW10-ROX-040913	4/9/2013		44.60	NE	<0.011	<0.0054	<0.0022	<0.0054	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0018 U
	MW10-ROX-070813	7/8/2013	44.43 - 54.43	42.27	NE	<0.011	<0.0056	<0.0027 U	<0.0056	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0056
MW-11	MW-11-111710	11/17/2010	41.66 - 51.66	36.39	NE		<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	0.00073 J	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.001 U
	MW11-ROX-050611	5/6/2011		37.60	NE	<0.0095	<0.0048	<0.0028 U	<0.0048	<0.0095	0.000037 J J	<0.000095 UJ	<0.0048	<0.0095	<0.0009 U
	MW11-ROX-072411	7/24/2011		34.68	NE	<0.011	<0.0056	<0.0022	<0.0056	<0.011	0.00013 B	<0.00011	<0.0056	<0.011	<0.0056
	MW-11-ROX-110211	11/2/2011		35.44	NE	<0.011	<0.0054	<0.0022	<0.0054	<0.011	<0.00011	<0.00011	<0.0054	<0.011	<0.0054
	MW11-ROX-011712	1/17/2012		37.44	NE										
	MW11-ROX-043012	4/30/2012		38.66	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.0051	<0.01	<0.0051
	MW11-ROX-072712	7/27/2012		38.90	NE	<0.012	<0.0058	<0.00056 U	<0.0058	<0.012	<0.00012	<0.00012	<0.0023	<0.012	<0.0058
	MW11-ROX-102512	10/25/2012		40.59	NE	<0.011	<0.0054	<0.0022	<0.0054	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.00042 U
	MW11-ROX-011013	1/10/2013		42.15	NE	<0.01 UJ	<0.005 UJ	<0.002 UJ	<0.005 UJ	<0.01 UJ	<0.0001 UJ	<0.0001 UJ	<0.002 UJ	<0.01 UJ	<0.005 UJ
	MW11-ROX-040813	4/8/2013		42.02	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053
	MW11-ROX-070813	7/8/2013	41.66 - 51.66	39.24	NE	<0.011	<0.0054	<0.0052 U	<0.0054	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0054
MW-12	MW-12-111510	11/15/2010	41.92 - 51.92	36.63	NE		<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	<0.002	<0.005	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00077 U
	MW12-ROX-051211	5/12/2011		37.58	NE	<0.01	<0.005	<0.002	<0.005	<0.01	0.000019 J J	<0.0001 UJ	<0.005	<0.01	<0.005
	MW12-ROX-072411	7/24/2011		34.88	NE	<0.01	<0.005	<0.002	<0.005	<0.01 UJ	0.000072 JB	0.000031 JB	<0.005	<0.01 UJ	<0.005
	MW-12-ROX-110211	11/2/2011		35.70	NE	<0.0095	<0.0048	<0.0019	<0.0048	<0.0095	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048
	MW-12-ROX-110211-DUP	11/2/2011		35.70	NE	<0.0095	<0.0048	<0.0019	<0.0048	<0.0095	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048
	MW12-ROX-011712	1/17/2012		37.70	NE	<0.011	<0.0054	<0.0022	<0.00029 U	<0.011	<0.00011	<0.00021 U	<0.0054	<0.011	<0.0054
	MW12-ROX-011712-DUP	1/17/2012		37.70	NE	<0.011	<0.0056	<0.0022	<0.00033 U	<0.011	<0.00011	<0.000051 U	<0.0056	<0.011	<0.0056
	MW12-ROX-043012	4/30/2012		38.98	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.0051	<0.01	<0.0051
	MW12-ROX-072712	7/27/2012		39.22	NE	<0.011	<0.0053	<0.0019 U	0.00029 J	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053
	MW12-ROX-102512	10/25/2012		40.95	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.00077 U
	MW12-ROX-011013	1/10/2013		42.46	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.0051
	MW12-ROX-040813	4/8/2013		42.46	NE	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052
	MW12-ROX-070913	7/9/2013	41.92 - 51.92	39.28	NE	<0.011	<0.0055	<0.0022	<0.0055	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0055
MW-13	MW13-ROX-012511	1/25/2011	25.57 - 35.57	24.28	NE		<0.0052	<0.0021	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.0027 U
	MW13-ROX-051311	5/13/2011		23.65	NE	<0.0099	<0.005	<0.0027 U	<0.005	<0.0099	0.000059 J J	<0.000099 UJ	<0.005	<0.0099	<0.00086 U
	MW13-ROX-080311	8/3/2011		21.88	NE	<0.01	<0.005	<0.002	<0.005	<0.01	0.000036 J	<0.0001	<0.005	<0.01	<0.005
	MW13-ROX-110311	11/3/2011		22.85	NE	<0.011	<0.0056	<0.0022	<0.0056	<0.011	<0.00011	<0.00011	<0.0056	<0.011	<0.0056
	MW13-ROX-012012	1/20/2012		24.77	NE	<0.011	<0.0053	<0.0007 U	<0.0007 U	<0.011	<0.00011	<0.00011	<0.0053	<0.011	<0.0053
	MW13-ROX-050712	5/7/2012		25.79	NE	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0052	<0.01	<0.0052
	MW13-ROX-080812	8/8/2012		26.67	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053
	MW13-ROX-110812	11/8/2012		25.30	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005
	MW13-ROX-012313	1/23/2013		29.26	NE	<0.011	<0.0055	<0.0022	<0.0055	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0055 UJ
	MW13-ROX-041213	4/12/2013		29.44	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.0051
	MW13-ROX-071213	7/12/2013	25.57 - 35.57	25.67	NE	<0.011	<0.0054	0.00079 J	<0.0054	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0054
MW-14	MW14-ROX-110911	11/9/2011	Unknown			<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0053	<0.011	<0.0053
	MW14-ROX-051012	5/10/2012	33.42 - 43.42	NM	NE	<0.01	<0.0052	<0.00042 U	<0.0052	<0.01	<0.0001	<0.0001	<0.0052	0.00084 J	<0.0052
	MW14-ROX-080312	8/3/2012		29.87	NE	<0.011	<0.0053	0.00049 J	<0.0053	<0.011	<0.00011	<0.00011	0.00076 J	0.00096 J	<0.0053
	MW14-ROX-103112	10/31/2012		32.02	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	0.0003 J	<0.01	<0.005
	MW14-ROX-011813	1/18/2013		33.05	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005
	MW14-ROX-041113	4/11/2013		33.31	NE	<0.011	<0.0054	<0.0022	<0.0054	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0054
	MW14-ROX-071213	7/12/2013	33.42 - 43.42	30.36	NE	<0.011	<0.0053	0.00066 J	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053
MW-16	MW16-ROX-012313	1/23/2013	37.43 - 47.43	43.05	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053 UJ
	MW16-ROX-040813	4/8/2013		43.39	NE	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052
	MW16-ROX-070813	7/8/2013	37.43 - 47.43	40.62	NE	<0.011	<0.0056	<0.0022	<0.0056	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0056
MW-22	MW22-ROX-012313	1/23/2013	38.21 - 48.21	41.80	NE	0.0031 J	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052 UJ
	MW22-ROX-012313-DUP	1/23/2013		41.80	NE	0.0033 J	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053 UJ
	MW22-ROX-040513	4/5/2013		42.23	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053
	MW22-ROX-071113	7/11/2013	38.21 - 48.21	39.35	NE	<0.011	<0.0054	0.0017 J	<0.0054	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0054
	MW22-ROX-071113-DUP	7/11/2013	38.21 - 48.21	39.35	NE	<0.011	<0.0056	0.0021 J	<0.0056	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0056
MW-24	MW24-ROX-040513	4/5/2013	38.89 - 48.89	43.39	NE	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052
	MW24-ROX-071113	7/11/2013	38.89 - 48.89	40.35	NE	<0.011	<0.0054	<0.0022	<0.0054	<0.011 UJ	<0.00011	<0.00011	<0.0022	<0.011 UJ	<0.0054
P-54	P-54-111710	11/17/2010	38.00 - 63.00	36.43	NE		<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	<0.002	<0.005	<0.01	<0.005	<0.005	<0.005	<0.01	<0.002 U
	P54-ROX-051111	5/11/2011		37.37	NE	<0.01	<0.005	<0.0024 U	<0.005 UJ	<0.01	0.000019 J J	<0.00011 UJ	<0.005	<0.01	<0.005 UJ
	P54-ROX-072411	7/24/2011		34.78	NE	<0.01	<0.005	<0.002	<0.005	<0.01	0.000081 JB	0.00002 JB	<0.005	<0.01	<0.005
	P54-ROX-110311	11/3/2011		35.49	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005
	P54-ROX-011712	1/17/2012		37.17	NE	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0052	<0.01	<0.0052
	P54-ROX-050412	5/4/2012		38.77	NE	<0.01	<0.0051	0.0133	<0.0051	<0.01	<0.0001	<0.0001	<0.0051	<0.01	<0.0051
	P54-ROX-080212	8/2/2012		38.95	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053
	P54-ROX-103012	10/30/2012		40.70	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.0051
	P54-ROX-011113	1/11/2013		41.56	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053
	P54-ROX-041013	4/10/2013		41.80	NE	<0.011	<0.0057	<0.0023	<0.0057	<0.011	<0.00011	<0.00011	<0.0023	<0.011	<0.0057
	P54-ROX-050313	5/3/2013		41.80	NE	<0.011	<0.0056	<0.0022	<0.0056	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0056
	P54-ROX-071113	7/11/2013	38.00 - 63.00	39.07	NE	<0.01	<0.0052	0.00052 J	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052
P-55	P55-ROX-103111	10/31/2011	39.82 - 64.82	39.15	NE	<0.01	<0.005	0.0022	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005
	P55-ROX-011912	1/19/2012		41.09	NE	<0.01 UJ	<0.0052	<0.0021	<0.00048 U	<0.01	<0.0001	<0.0001	0.00035 J	<0.01	<0.0052
	P55-ROX-011912-D	1/19/2012		41.09	NE	<0.011 UJ	<0.0054	<0.0022	<0.00035 U	<0.011	<0.00011	0.000086 J	0.00033 J	<0.011	<0.0054
	P55-ROX-050912	5/9/2012		42.44	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.0051	<0.01	<0.0051
	P55-ROX-012113	1/21/2013	40.85 - 50.85	43.60	NE	<0.02	<0.01	<0.006	<0.01	<0.02	<0.0001	<0.0001	0.001 J	<0.01	<0.01
	P55-ROX-012113	1/21/2013		43.60	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	0.001 J	<0.01	0.00073 J
	P55-ROX-041513	4/15/2013		43.63	NE	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	0.0017 J	<0.01	<0.0052
	P55-ROX-071613	7/16/2013	40.85 - 50.85	40.06	NE	<0.011	<0.0056 UJ	<0.00066 U	<0.0056	<0.011	<0.00011	<0.00011	0.0016 J	<0.011	<0.0056

Sample ID	2,4-Dimethylphenol	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Hexachlorobenzene	Indeno(1,2,3-cd)pyrene	Isophorone (3,5,5-trimethyl-2-cyclohexene-1-one)	1-Methylnaphthalene	2-Methylnaphthalene
Screening Values (mg/L)	0.14 [2]		0.7 [2]	0.14 [2]	0.28 [2]	0.28 [2]	0.00006 [2]	0.00043 [2]	1.4 [2]	0.49 [3]	0.028 [4]
MW-10-111010	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01
MW10-ROX-012411	<0.01	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051		<0.0051
MW10-ROX-012411-DUP	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005
MW10-ROX-042811	<0.0095	<0.0048	<0.00061 U	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048		<0.0048
MW10-ROX-072311	<0.01	<0.005 UJ	<0.005	<0.005	<0.000047 U	<0.0001	<0.005	<0.000031 U	<0.005	<0.0002	<0.00002 U
MW10-ROX-110111	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001	<0.005	<0.0001	<0.005	<0.0002	<0.0002
MW10-ROX-011612	<0.011	<0.0053	0.00081 J	<0.0053	0.000052 J	<0.00011	<0.0053	<0.00011	<0.0053	<0.00021	0.000055 J
MW10-ROX-050112	<0.01	<0.0052	<0.00041 U	<0.0052	<0.0001	<0.0001	<0.0052	<0.0001	<0.0052	<0.00021	<0.00021
MW10-ROX-072712	<0.01	<0.005	<0.00043 U	<0.005	<0.0001	<0.0001	<0.005	<0.0001	<0.005	<0.0002	<0.0002
MW10-ROX-102612	<0.011	<0.0056	<0.0056	<0.0056	0.000052 J	0.000086 J	<0.0056	<0.00011	<0.0056	<0.00022	0.00009 J
MW10-ROX-121712											
MW10-ROX-011013	<0.01	<0.005 UJ	<0.005	<0.005	<0.0001	<0.0001	<0.005	<0.0001	<0.005	<0.0002	<0.0002
MW10-ROX-012113	<0.01	<0.01	<0.01	<0.01	<0.0001	<0.0001	<0.002	<0.0001	<0.01		<0.01
MW10-ROX-040913	<0.011	<0.0054 UJ	<0.0019 U	<0.0054	<0.00011	<0.00011	<0.0054	<0.00011	<0.0054	<0.00022	<0.00022
MW10-ROX-070813	<0.011	<0.0056	<0.0056	<0.0056	<0.00011	<0.00011	<0.0056	<0.00011	<0.0056	<0.00022	<0.00022
MW-11-111710	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01
MW11-ROX-012411	<0.01	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052		<0.0052
MW11-ROX-050611	<0.0095	<0.0048	<0.001 U	<0.0048	0.000026 J J	<0.000095 UJ	<0.0048	0.000015 J J	<0.0048	<0.0048 UJ	<0.00019 UJ
MW11-ROX-072411	<0.011	<0.0056 UJ	<0.0056	<0.0056	0.000025 JB	<0.00011	<0.0056	0.000026 J	<0.0056	<0.00022	0.000023 JB
MW-11-ROX-110211	<0.011 UJ	<0.0054	<0.0054	<0.0054	<0.00011	<0.00011	<0.0054	<0.00011	<0.0054	<0.00022	<0.00022
MW11-ROX-011712											
MW11-ROX-043012	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	<0.0001	<0.0051	<0.0001	<0.0051	<0.0002	<0.0002
MW11-ROX-072712	<0.012	<0.0058	<0.00057 U	<0.0058	<0.00012	<0.00012	<0.0058	<0.00012	<0.0058	<0.00023	<0.00023
MW11-ROX-102512	<0.011	<0.0054	<0.0054	<0.0054	<0.00011	<0.00011	<0.0054	<0.00011	<0.0054	<0.00022	<0.00022
MW11-ROX-011013	<0.01 UJ	<0.005 UJ	<0.005 UJ	<0.005 UJ	<0.0001 UJ	<0.0001 UJ	<0.005 UJ	<0.0001 UJ	<0.005 UJ	<0.0002 UJ	<0.0002 UJ
MW11-ROX-040813	<0.011	<0.0053	<0.0053	<0.0053	<0.00011	<0.00011	<0.0053	<0.00011	<0.0053	<0.00021	<0.00021
MW11-ROX-070813	<0.011	<0.0054	<0.0054	<0.0054	<0.00011	<0.00011	<0.0054	<0.00011	<0.0054	<0.00022	<0.00022
MW-12-111510	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01
MW12-ROX-012411	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005
MW12-ROX-051211	<0.01	<0.005	<0.0011 U	<0.005	<0.0001 UJ	<0.0001 UJ	<0.005	<0.0001 UJ	<0.005	<0.005 UJ	<0.0002 UJ
MW12-ROX-072411	<0.01 UJ	<0.005 UJ	<0.00039 U	<0.005	0.000035 JB	<0.0001	<0.005	0.000047 J	<0.005	<0.0002	<0.0002
MW-12-ROX-110211	<0.0095 UJ	<0.0048	<0.0048	<0.0048	<0.000095	<0.000095	<0.0048	<0.000095	<0.0048	<0.00019	<0.00019
MW-12-ROX-110211-DUP	<0.0095 UJ	<0.0048	<0.0048	<0.0048	<0.000095	<0.000095	<0.0048	<0.000095	<0.0048	<0.00019	<0.00019
MW12-ROX-011712	<0.011	<0.0054	<0.0054	<0.0054	<0.00011	<0.00011	<0.0054	<0.00023 U	<0.0054	<0.00022	<0.00022
MW12-ROX-011712-DUP	<0.011	<0.0056	<0.0056	<0.0056	<0.00011	<0.00011	<0.0056	<0.00007 U	<0.0056	<0.00022	<0.00022
MW12-ROX-043012	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	<0.0001	<0.0051	<0.0001	<0.0051	<0.0002	<0.0002
MW12-ROX-072712	<0.011	<0.0053	<0.00063 U	<0.0053	<0.00011	<0.00011	<0.0053	<0.00011	<0.0053	<0.00021	<0.00021
MW12-ROX-102512	<0.011	<0.0053	<0.0053	<0.0053	<0.00011	<0.00011	<0.0053	<0.00011	<0.0053	<0.00021	<0.00021
MW12-ROX-011013	<0.01	<0.0051 UJ	<0.0051	<0.0051	0.000045 J	<0.0001	<0.0051	<0.0001	<0.0051	<0.0002	<0.0002
MW12-ROX-040813	<0.01	<0.0052	<0.0052	<0.0052	0.000044 J	<0.0001	<0.0052	<0.0001	<0.0052	<0.00021	<0.00021
MW12-ROX-070913	<0.011	<0.0055	<0.0055	<0.0055	<0.00011	<0.00011	<0.0055	<0.00011	<0.0055	<0.00022	<0.00022
MW13-ROX-012511	<0.01	<0.0052	<0.0052	<0.0052	<0.0052	0.00044 J	<0.0052	<0.0052	<0.0052		0.0021 J
MW13-ROX-051311	<0.0099	<0.005	<0.0013 U	<0.005	0.000032 J J	0.00023 J	<0.005	<0.000099 UJ	<0.005	<0.005 UJ	0.00015 J J
MW13-ROX-080311	<0.01	<0.005	<0.00074 U	<0.005	<0.0001	<0.0001	<0.005	0.00004 J	<0.005	<0.0002	0.00011 J
MW13-ROX-110311	<0.011 UJ	<0.0056	<0.0056	<0.0056	<0.00011	<0.00033 U	<0.0056	<0.00011	<0.0056	<0.00081 U	<0.0003 U
MW13-ROX-012012	<0.011	<0.0053	<0.00058 U	<0.0053	<0.00011	<0.00011	<0.0053	<0.00011	<0.0053	0.00022	<0.00027 U
MW13-ROX-050712	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	<0.0001	<0.0052	<0.0001	<0.0052	<0.00021	<0.00021
MW13-ROX-080812	<0.011	<0.0053	<0.0053	<0.0053	<0.00011	<0.00011	<0.0053	<0.00011	<0.0053	0.00021	<0.00014 UJ
MW13-ROX-110812	<0.01	<0.005	0.00054 J	<0.005	<0.0001	<0.0001	<0.005	<0.0001	<0.005	<0.0002	<0.0002
MW13-ROX-012313	<0.011	<0.0055 UJ	0.0027 J	<0.0055	<0.00011	<0.00011	<0.0055	<0.00011	<0.0055	<0.00022	0.00011 J
MW13-ROX-041213	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	<0.0001	<0.0051	<0.0001	<0.0051	<0.0002	0.00011 J
MW13-ROX-071213	<0.011	<0.0054 UJ	<0.0054	<0.0054	<0.000042	<0.00011	<0.0054	<0.00011	<0.0054	<0.00022	<0.000067 U
MW14-ROX-110911	<0.011	<0.0053	<0.0053	<0.0053	<0.00011	<0.00011	<0.0053	<0.00011	<0.0053	<0.00021	<0.00021
MW14-ROX-051012	<0.01	<0.0052	0.00043 J	<0.0052	<0.0001	0.00022	<0.0052	<0.0001	<0.0052	0.0101	0.0015
MW14-ROX-080312	<0.011	<0.0053	<0.0053	<0.0053	<0.00011	0.00071	<0.0053	<0.00011	<0.0053	0.019	0.0038
MW14-ROX-103112	<0.01 UJ	<0.005	0.00044 J	<0.005	<0.0001	0.00029	<0.005	<0.0001	<0.005	0.0192	0.004
MW14-ROX-011813	<0.01	<0.005 UJ	<0.005	<0.005	<0.0001	0.00064	<0.005	<0.0001	<0.005	0.0215	0.0084
MW14-ROX-041113	<0.011	<0.0054	<0.0054	<0.0054	0.000068 J	0.00016	<0.0054	<0.00011	<0.0054	0.0124	0.0018
MW14-ROX-071213	<0.011	<0.0053 UJ	0.00043 J	<0.0053	<0.00011	<0.000093 U	<0.0053	<0.00011	<0.0053	0.0127	0.0027
MW16-ROX-012313	<0.011	<0.0053 UJ	<0.0053	<0.0053	<0.00011	<0.00011	<0.0053	<0.00011	<0.0053	<0.00021	0.000085 J
MW16-ROX-040813	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	<0.0001	<0.0052	<0.0001	<0.0052	<0.00021	0.000058 J
MW16-ROX-070813	<0.011	<0.0056	<0.0056	<0.0056	<0.00011	<0.00011	<0.0056	<0.00011	<0.0056	<0.00022	<0.00022
MW22-ROX-012313	0.0146	<0.0052 UJ	0.0024 J	<0.0052	<0.0001	0.00018	<0.0052	<0.0001	<0.0052	0.0276	0.05
MW22-ROX-012313-DUP	0.0149	<0.0053 UJ	0.0024 J	<0.0053	<0.00011	0.00018	<0.0053	<0.00011	<0.0053	0.028	0.0501
MW22-ROX-040513	0.0269	<0.0053	0.00057 J	<0.0053	<0.00011	0.00018	<0.0053	<0.00011	<0.0053	0.0241	0.0413
MW22-ROX-071113	0.104	<0.0054	<0.0054	<0.0054	<0.00011	0.00027	<0.0054	<0.00011	<0.0054	0.0232 JJ	0.0393
MW22-ROX-071113-DUP	0.0978	<0.0056	0.00052 J	<0.0056	<0.00011	0.00017	<0.0056	<0.00011	<0.0056	0.0216 JJ	0.037
MW24-ROX-040513	<0.01	<0.0052	0.00049 J	<0.0052	0.000088 J	<0.0001	<0.0052	<0.0001	<0.0052	<0.00021	0.00015 J
MW24-ROX-071113	<0.011 UJ	<0.0054	<0.0054	<0.0054	<0.00011	<0.00011	<0.0054	<0.00011	<0.0054	<0.00022 UJ	0.000062 J
P-54-111710	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01
P54-ROX-012411	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005
P54-ROX-051111	<0.01	<0.005 UJ	<0.0011 U	<0.005	0.000031 J J	<0.00011 UJ	<0.005	<0.00011 UJ	<0.005	<0.005 UJ	<0.00022 UJ
P54-ROX-072411	<0.01	<0.005 UJ	<0.00049 U	<0.005	0.000035 JB	<0.0001	<0.005	0.00004 J	<0.005	<0.0002	0.000026 JB
P54-ROX-110311	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001	<0.005	<0.0001	<0.005	<0.0002	<0.0002
P54-ROX-011712	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	<0.0001	<0.0052	<0.0001	<0.0052	<0.00021	<0.000081 U
P54-ROX-050412	<0.01	<0.0051	<0.00085 U	<0.0051	<0.0001	<0.0001	<0.0051	<0.0001	<0.0051	<0.0002	<0.0002
P54-ROX-080212	<0.011	<0.0053	<0.0053	<0.0053	<0.00011	<0.00011	<0.0053	<0.00011	<0.0053	<0.00021	<0.00021
P54-ROX-103012	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	<0.0001	<0.0051	<0.0001	<0.0051	<0.0002	<0.0002
P54-ROX-011113	<0.011	<0.0053 UJ	<0.0053	<0.0053	<0.00011	<0.00011	<0.0053	<0.00011	<0.0053	<0.00021	<0.00021
P54-ROX-041013	<0.011	<0.0057 UJ	<0.0057	<0.0057	<0.00011	<0.00011	<0.0057	<0.00011	<0.0057	<0.00023	<0.00023
P54-ROX-050313	<0.011	<0.0056	<0.0056	<0.0056	<0.00011	<0.00011	<0.0056	<0.00011	<0.0056	<0.00022	<0.00022
P54-ROX-071113	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	<0.0001	<0.0052	<0.0001	<0.0052	<0.00021 UJ	0.000083 J
P55-ROX-103111	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001	<0.005	<0.0001	<0.005	0.00065	0.00096
P55-ROX-011912	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	0.00038	<0.0052	<0.0001	<0.0052	0.0048	0.0076
P55-ROX-011912-D	<0.011	<0.0054	<0.0054	<0.0054	<0.00011	0.00032	<0.0054	0.00011	<0.0054	0.0046	0.0076
P55-ROX-050912	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	0.00069	<0.0051	<0.0001	<0.0051	0.0118	0.0179
P55-ROX-012113	0.004 J	<0.01	<0.01	<0.01	<0.0001	0.00133	<0.002	<0.0001	<0.01		0.042
P55-ROX-012113	0.0024 J	<0.0051	0.00069 J	<0.0051	<0.0001	0.00093	<0.0051	<0.0001	<0.0051	0.0176	0.0254
P55-ROX-041513	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	0.0013	<0.0052	<0.0001	<0.0052	0.0268	0.0389
P55-ROX-071613	0.0024 J	<0.0056	<0.0056	<0.0056	<0.00011	0.0015	<0.0056	<0.00011	<0.0056	0.0244	0.0353

Sample ID	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)	0.35 [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]
MW-10-111010	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
MW10-ROX-012411	<0.01	<0.01	<0.01	<0.0051		<0.0051	<0.01	<0.0051	<0.0051	<0.0051
MW10-ROX-012411-DUP	<0.01	<0.01	<0.01	<0.005		<0.005	<0.01	<0.005	<0.005	<0.005
MW10-ROX-042811	<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	<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	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
MW10-ROX-011612	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.000072	<0.0053	0.00005 J
MW10-ROX-050112	<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	<0.01	<0.01 UJ	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
MW10-ROX-102612	<0.011	<0.011	<0.011	<0.0056	<0.0056	<0.0056	<0.011	0.000076	<0.0056	0.00004 J
MW10-ROX-121712										
MW10-ROX-011013	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.000021 U	<0.005	<0.0001
MW10-ROX-012113	<0.01	<0.01	<0.002	<0.004	<0.02	<0.003	<0.004	<0.0001	<0.005	<0.0001
MW10-ROX-040913	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	<0.000054	<0.0054	<0.00011
MW10-ROX-070813	<0.011	<0.011	<0.011	<0.0056	<0.0056	<0.0056	<0.011	<0.000021 U	<0.0056	<0.00011
MW-11-111710	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
MW11-ROX-012411	<0.01	<0.01	<0.01	<0.0052		<0.0052	<0.01	<0.0052	<0.0052	<0.0052
MW11-ROX-050611	<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	<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	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	<0.000054	<0.0054	<0.00011
MW11-ROX-011712										
MW11-ROX-043012	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	<0.0051	<0.0001
MW11-ROX-072712	<0.012	<0.012 UJ	<0.012	<0.0058	<0.0058	<0.0058	<0.012	<0.000058	<0.0058	<0.00012
MW11-ROX-102512	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	<0.000054	<0.0054 UJ	<0.00011
MW11-ROX-011013	<0.01 UJ	<0.01 UJ	<0.01 UJ	<0.005 UJ	<0.005 UJ	<0.005 UJ	<0.01 UJ	<0.000015 UJ	<0.005 UJ	<0.0001 UJ
MW11-ROX-040813	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.000053	<0.0053	<0.00011
MW11-ROX-070813	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	<0.000054	<0.0054	<0.00011
MW-12-111510	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
MW12-ROX-012411	<0.01	<0.01	<0.01	<0.005		<0.005	<0.01	<0.005	<0.005	<0.005
MW12-ROX-051211	<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	<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	<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	<0.0095	<0.0095	<0.0095	<0.0048	<0.0048	<0.0048	<0.0095	<0.000048	<0.0048	<0.000095
MW12-ROX-011712	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	<0.000054	<0.0054	<0.00011
MW12-ROX-011712-DUP	<0.011	<0.011	<0.011	<0.0056	<0.0056	<0.0056	<0.011	<0.000056	<0.0056	<0.00011
MW12-ROX-043012	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	<0.0051	<0.0001
MW12-ROX-072712	<0.011	<0.011 UJ	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.000053	<0.0053	<0.00011
MW12-ROX-102512	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.000053	<0.0053 UJ	<0.00011
MW12-ROX-011013	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000032 U	<0.0051	<0.0001
MW12-ROX-040813	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0052	<0.0001
MW12-ROX-070913	<0.011	<0.011	<0.011 UJ	<0.0055	<0.0055	<0.0055	<0.011	<0.000055	<0.0055	<0.00011
MW13-ROX-012511	<0.01	<0.01	<0.01	<0.0052		<0.0052	<0.01	0.0012 J	<0.0052	0.00032 J
MW13-ROX-051311	<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	<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	<0.011	<0.011	<0.011	<0.0056	<0.0056	<0.0056	<0.011	<0.000056	<0.0056	<0.00018 U
MW13-ROX-012012	<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	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0052	<0.0001
MW13-ROX-080812	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.000053	<0.0053	<0.00011
MW13-ROX-110812	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
MW13-ROX-012313	<0.011	<0.011	<0.011	<0.0055	<0.0055	<0.0055	<0.011	<0.000055	<0.0055	<0.00011
MW13-ROX-041213	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	<0.0051	<0.0001
MW13-ROX-071213	<0.011	<0.011	<0.011	<0.0054	<0.0054 UJ	<0.0054	<0.011	<0.000076	<0.0054 UJ	<0.00004
MW14-ROX-110911	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.000053	<0.0053	<0.00011
MW14-ROX-051012	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0052	<0.0001
MW14-ROX-080312	<0.011	<0.011	<0.011	0.00032 J	<0.0053	<0.0053	<0.011	<0.000053	<0.0053	<0.00011
MW14-ROX-103112	<0.01	<0.01	<0.01	<0.005	<0.005 UJ	<0.005	<0.01	<0.000051	<0.005 UJ	<0.0001
MW14-ROX-011813	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
MW14-ROX-041113	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	0.0001	<0.0054	0.000053 J
MW14-ROX-071213	<0.011	<0.011	<0.011	<0.0053	<0.0053 UJ	<0.0053	<0.011	<0.000032 U	<0.0053 UJ	<0.000067 U
MW16-ROX-012313	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.000025 J J	<0.0053	<0.00011
MW16-ROX-040813	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0052	<0.0001
MW16-ROX-070813	<0.011	<0.011	<0.011	<0.0056	<0.0056	<0.0056	<0.011	<0.000018 U	<0.0056	<0.00011
MW22-ROX-012313	0.018	0.0322	<0.01	<0.0052	<0.0052	<0.0052	<0.01	0.00019	0.0111	<0.0001
MW22-ROX-012313-DUP	0.0187	0.0349	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.0002	0.0122	<0.00011
MW22-ROX-040513	0.0236	0.0403	<0.011	<0.0053	<0.0053 UJ	<0.0053	<0.011	0.00019	0.0123 J	<0.00011
MW22-ROX-071113	0.0159	0.029	<0.011 UJ	<0.0054	<0.0054	<0.0054	<0.011	0.0002 B	0.0094 J	<0.00011
MW22-ROX-071113-DUP	0.0147	0.0269	<0.011 UJ	<0.0056	<0.0056	<0.0056	<0.011	0.0002 B	0.0088 J	<0.00011
MW24-ROX-040513	<0.01	<0.01	<0.01	<0.0052	<0.0052 UJ	<0.0052	<0.01	<0.000052	<0.0052 UJ	0.000066 J
MW24-ROX-071113	<0.011 UJ	<0.011 UJ	<0.011 UJ	<0.0054	<0.0054	<0.0054	<0.011 UJ	<0.000038 U	<0.0053 UJ	<0.00011
P-54-111710	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
P54-ROX-012411	<0.01	<0.01	<0.01	<0.005		<0.005	<0.01	<0.005	<0.005	<0.005
P54-ROX-051111	<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	<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	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	<0.00005	<0.005	<0.0001
P54-ROX-011712	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0052	<0.0001
P54-ROX-050412	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	0.0026 J	<0.0001
P54-ROX-080212	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.000053	<0.0053	<0.00011
P54-ROX-103012	<0.01	<0.01	<0.01	<0.0051	<0.0051 UJ	<0.0051	<0.01	<0.000051	<0.0051 UJ	<0.0001
P54-ROX-011113	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.000032 J	<0.0053	<0.00011
P54-ROX-041013	<0.011	<0.011	<0.011	<0.0057	<0.0057	<0.0057	<0.011	<0.000057	<0.0057	<0.00011
P54-ROX-050313	<0.011	<0.011	<0.011	<0.0056	<0.0056	<0.0056	<0.011	<0.000056	<0.0056	<0.00011
P54-ROX-071113	<0.01	<0.01	<0.01 UJ	<0.0052	<0.0052	<0.0052	<0.01	<0.000049 U	<0.0052 UJ	<0.0001
P55-ROX-103111	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	0.00016	<0.005	<0.0001
P55-ROX-011912	<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	<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	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	0.00066	<0.0051	<0.0001
P55-ROX-012113	<0.01	<0.01	<0.002	<0.004	<0.02	<0.003	<0.004	0.00211	0.004 J	<0.0001
P55-ROX-012113	<0.01	0.0018 J	<0.01	<0.0051	<0.0051	<0.0051	<0.01	0.0017	0.0034 J	<0.0001
P55-ROX-041513	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	0.0021	<0.0052	<0.0001
P55-ROX-071613	<0.011 UJ	<0.011	<0.011	<0.0056	<0.0056	<0.0056	<0.011	0.0019	0.0048 J J	<0.00011

SEE LAST PAGE OF TABLE FOR NOTES

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

Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	SVOCs: Benzyl alcohol	bis(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	4-Chloro-3-methylphenol (p-Chloro-m-cresol)	Chrysene (1,2-Benzphenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	2,4-Dichlorophenol	Diethyl phthalate	2,4-Dimethylphenol	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Hexachlorobenzene	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 [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]		0.7 [2]	0.14 [2]	0.28 [2]	0.28 [2]	0.00006 [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]
						Analytical Results (mg/L)																														
	P56-ROX-102711	10/27/2011		39.42	NE	<0.01	<0.0052	0.0026	<0.0052	<0.01	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	0.00039	<0.0052	<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	<0.01 UJ	<0.0051	<0.00066 U	<0.00053 U	<0.01	<0.0001	<0.0001	0.00064 J	<0.01	<0.0051	<0.01	<0.0051	<0.00044 U	<0.0051	<0.0001	0.00046	<0.0051	<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	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	0.00033	<0.0052	<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
P-56	P56-ROX-080612	8/6/2012	40.82 - 65.82	43.60	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	0.00051 J	<0.01	<0.0014 U	<0.01	<0.0051	<0.00075 U	<0.0051	<0.0001	0.0003	<0.0051	<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		44.80	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	0.00066 J	<0.01	<0.0051	<0.01 UJ	<0.0051	<0.0051	<0.0051	<0.0001	0.00046	<0.0051	<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
	P56-ROX-011713	1/17/2013		45.65	NE	<0.01	<0.005	0.0044	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	0.00032	<0.005	<0.0001	<0.005	0.0147	0.0131	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	0.0012	0.0014 J	<0.0001
	P56-ROX-041213	4/12/2013		46.12	NE	<0.011	<0.0055	<0.0022	<0.0055	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0055	<0.011	<0.0055	<0.0055	<0.0055	<0.00011	0.00032	<0.0055	<0.00011	<0.0055	0.0208	0.0239	<0.011	<0.011	<0.011	<0.0055	<0.0055	<0.0055	<0.011	0.0012	<0.0055	<0.00011
	P56-ROX-071513	7/15/2013	40.82 - 65.82	43.25	NE	<0.011	<0.0055 UJ	<0.0022	<0.0055	<0.011	<0.00011	<0.00011	0.00075 J	<0.011	<0.0055	0.0086 J	<0.0055	<0.0055	<0.0055	<0.00011	0.00059	<0.0055	<0.00011	<0.0055	0.0315	0.0431	<0.011 UJ	0.0064 J	<0.011	<0.0055	<0.0055	<0.0055	<0.011	0.0015	<0.0055 UJ	<0.00011
	P57-ROX-110811	11/8/2011		39.20	NE	<0.011	<0.0054	<0.0022	<0.0054	<0.011	<0.00054	<0.00054	<0.0054	<0.011	<0.0054	<0.011	<0.0054	<0.0054	<0.0054	<0.00054	0.00076	<0.0054	<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	<0.01	<0.0051	0.00043 J	<0.00043 U	<0.01	<0.0001	<0.0001	0.00087 J	<0.01	<0.0051	0.0045 J	<0.0051	<0.00046 U	<0.0051	<0.0001	0.00087	<0.0051	<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	<0.01	0.0008 J	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	0.00045	<0.0052	<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	40.46 - 65.46	43.53	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	0.00079 J	<0.01	<0.00096 U	0.0029 J	<0.005	<0.00087 U	<0.005	<0.0001	0.0006	<0.005	<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
P-57	P57-ROX-080612-DUP	8/6/2012		43.53	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	0.00073 J	<0.01	<0.001 U	0.0029 J	<0.005	<0.00089 U	<0.005	<0.0001	0.00063	<0.005	<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		44.98	NE	<0.01	<0.005	0.00052 J	<0.005	<0.01	<0.0001	0.000049 J	0.0006 J	<0.01	<0.005	<0.01 UJ	<0.005	<0.005	<0.005	<0.0001	0.00062	<0.005	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
	P57-ROX-012913	1/29/2013		45.92	NE	<0.012	<0.0059	<0.0024	<0.0059	<0.012	<0.00012	<0.00012	<0.0024	<0.012	<0.0059	0.0023 J J	<0.0059	<0.0059	<0.0059	<0.00012	0.00094	<0.0059	<0.00012	<0.0059	0.0369	0.0447	<0.012	<0.012	<0.012	<0.0059	<0.0059	<0.0059	<0.012	0.00074	<0.0059 UJ	<0.00012
	P57-ROX-041113	4/11/2013		46.29	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.0051	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	0.00076	<0.0051	<0.0001	<0.0051	0.0348	0.0453	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	0.00074	0.146	<0.0001
	P57-ROX-071613	7/16/2013	40.46 - 65.46	43.38	NE	<0.011	<0.0056 UJ	<0.0022	<0.0056	<0.011	<0.00011	<0.00011	0.00088 J	<0.011	<0.0056	0.002 J	<0.0056	<0.0056	<0.0056	0.000038 J	0.0008	<0.0056	<0.00011	<0.0056	0.0267	0.0365	<0.011 UJ	0.0086 J	<0.011	<0.0056	<0.0056	<0.0056	<0.011	0.00073	0.164 J	<0.000052 U
	P58-ROX-102811	10/28/2011		37.31	NE	<0.0097	<0.0049	0.003	<0.0049	<0.0097	<0.000097	<0.000097	<0.0049	<0.0097	<0.0049	<0.0097	<0.0049	<0.0049	<0.0049	<0.000097	0.0016	<0.0049	<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	<0.011 UJ	<0.0053	0.0361 J	<0.00059 U	<0.011	<0.00011	<0.00011	0.0026 J	<0.011	<0.0053	<0.011	<0.0053	<0.00057 U	<0.0053	0.000047 J	0.0017	<0.0053	<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	<0.011 UJ	<0.0053	0.024 J	<0.0053	<0.011	<0.00011	<0.00011	0.0023 J	<0.011	<0.0053	<0.011	<0.0053	<0.00059 U	<0.0053	0.000052 J	0.0018	<0.0053	<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	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	0.0017 J	<0.01	<0.0051	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	0.0009 J	<0.0051	<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	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	0.00067 J	<0.0052	<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
P-58	P58-ROX-080612	8/6/2012	40.21 - 65.21	41.63	NE	<0.01	<0.005	0.00043 J	<0.005	<0.01	0.0001	<0.0001	0.0022	<0.01	<0.005	<0.01	<0.005	<0.00053 U	<0.005	0.000068 J	0.0014	<0.005	<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	<0.01	<0.005	0.00042 J	<0.005	<0.01	0.000099 J	<0.0001	0.0025	<0.01	<0.005	<0.01	<0.005	<0.00063 U	<0.005	0.000066 J	0.0015	<0.005	<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																															
	P58-ROX-121012	12/10/2012		43.09	NE	<0.011	<0.0054	0.0103	<0.0054	<0.011	<0.00011	<0.00011	0.002 J	<0.011	<0.0054	<0.011	<0.0054 UJ	<0.0054	<0.0054	<0.00011	0.0014	<0.0054	<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
	P58-ROX-012213	1/22/2013		44.21	NE	<0.011	<0.0054	<0.0022	<0.0054	<0.011	0.00039	0.000068 J	0.0038	<0.011	<0.0054	<0.011	<0.0054	<0.0054	<0.0054	0.00024	0.003	<0.0054	0.000072 J	<0.0054	0.068	0.0846	<0.011	0.0198	<0.011	<0.0054	<0.0054	<0.0054	<0.011	0.0023	0.208	0.00077
	P58-ROX-041113	4/11/2013		44.40	NE	<0.011	<0.0054	<0.0022	<0.0054	<0.011	0.00032	<0.00011	0.0044	<0.011	<0.0054	<0.011	<0.0054	<0.0054	<0.0054	0.00019	0.0022	<0.0054	<0.00011	<0.0054	0.0692	0.0961	<0.011	0.014	<0.011	<0.0054	<0.0054	<0.0054	<0.011	0.0021	0.0985	0.00055
	P58-ROX-071613	7/16/2013	40.21 - 65.21	41.49	NE	<0.011	<0.0055 UJ	<0.0022	<0.0055	<0.011	0.00012	<0.00011	0.0025	<0.011	<0.0055	<0.011	<0.0055	<0.0055	<0.0055	0.000071 J	0.0013	<0.0055	<0.00011	<0.0055	0.0544	0.0708	<0.011 UJ	0.0359	<0.011	<0.0055	<0.0055	<0.0055	<0.011	0.00099	0.247	<0.0002 U
	P59-ROX-102711	10/27/2011		41.06	NE	<0.011	<0.0053	0.0028	<0.0053	<0.011	0.00034	<0.00011	<0.0053	<0.011	<0.0053	<0.011	<0.0053	<0.0053	<0.0053	0.00035	0.0012	<0.0053	<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	0.0011 J	<0.0057	<0.00079 U	<0.0011 U	<0.011	0.000085 J	<0.00011	<0.0057	<0.011	<0.0057	0.0133	<0.0057	<0.0005 U	<0.0057	0.000073 J	0.0008	<0.0057	<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	0.00091 J	<0.0051	<0.002	<0.00061 U	<0.01	0.000074 J	<0.0001	0.00042 J	<0.01	<0.0051	0.0108	<0.0051	<0.00041 U	<0.0051	0.000073 J	0.00063	<0.0051	<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	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	0.0085 J	<0.005	<0.005	<0.005	0.000062 J	0.00034	<0.005	<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	47.91 - 72.91	44.07	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	0.00036 J	<0.011	<0.0053	0.0088 J	<0.0053	<0.0053	<0.0053	0.00015	0.00048	<0.0053	<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
P-59	P59-ROX-110212	11/2/2012		45.98	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	0.00031 J	<0.011	<0.0053	0.0102 J J	<0.0053	<0.0053	<0.0053	0.000063 J	0.0005	<0.0053	<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	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	0.00029 J	<0.01	<0.0052	0.0092 J J	<0.0052	<0.0052	<0.0052	0.000066 J	0.00048	<0.0052	<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
	P59-ROX-013013	1/30/2013		46.60	NE	<0.01	<0.0052	0.0041	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	0.0581	<0.0052 UJ	0.0022 J	<0.0052	<0.000079 U	0.00069	<0.0052	<0.0001	<0.0052	0.0222	0.0305	0.154	0.107	<0.01 UJ	<0.0052	<0.0052 UJ	<0.0052	<0.01	0.001	0.141 J	<0.00011 U
	P59-ROX-041213	4/12/2013		46.95	NE	<0.011	<0.0054	<0.0022	<0.0054	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0054	0.0919	<0.0054	<0.0054	<0.0054	0.000077 J	0.00064	<0.0054	<0.00011	<0.0054	0.0247	0.0369	0.174	0.0842	<0.011	<0.0054	<0.0054	<0.0054	<0.011	0.0012	0.119	0.000098 J
	P59-ROX-041213-DUP	4/12/2013		46.95	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	0.0914	<0.0053	<0.0053	<0.0053	0.000078 J	0.00065	<0.0053	<0.00011	<0.0053	0.0265	0.0383	0.154	0.0794	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.0012	0.101	0.0001 J
	P59-ROX-071613	7/16/2013	47.91 - 72.91	44.13	NE	<0.011	<0.0054 UJ	<0.0022	<0.0054	<0.011	<0.00011	<0.00011	0.00041 J	<0.011	<0.0054	0.0583	<0.0054	<0.0054	<0.0054	0.000061 J	0.00063	<0.0054	<0.00011	<0.0054	0.0189	0.0302	0.17	0.042	<0.011	<0.0054	<0.0054	<0.0054	<0.011	0.00087	0.121 J	<0.000078 U
	P66-ROX-110111	11/1/2011		28.92	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.00011 U	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	0.00017	0.003	<0.005	<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	<0.01	<0.005	<0.00053 U	<0.005	<0.01	<0.0001	<0.0001	0.0018 J	<0.01	<0.005	<0.01	<0.005	0.00054 J	<0.005	0.000056 J	0.0015	<0.005	<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	34.72 - 59.72	30.51	NE	<0.011	<0.0053	0.00075 J	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011	<0.0053	<0.0053	<0.0053	0.000082 J	0.0011	<0.0053	<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
P-66	P66-ROX-103112	10/31/2012		34.75	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	0.0019 J	<0.01	<0.005	<0.01 UJ	<0.005	<0.005	<0.005	<0.000051 U	0.0017	<0.005	<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
	P66-ROX-011813	1/18/2013		35.70	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	0.0018 J	<0.011	<0.0053	<0.011	<0.0053 UJ	<0.0053	<0.0053	0.000076 J	0.0019	<0.0053	<0.00011	<0.0053	0.0655	0.0315	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.00082	0.0019 J	0.00011
	P66-ROX-041113	4/11/2013		36.03	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	0.0025	<0.011	<0.0053	<0.011	<0.0053	<0.0053	<0.0053	0.000072 J	0.0017	<0.0053	<0.00011	<0.0053	0.0681	0.0131	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.00091	<0.0053	0.000087 J
	P66-ROX-071213	7/12/2013	34.72 - 59.72	33.20	NE	<0.011	<0.0056	0.0124	<0.0056	<0.011	0.00017	0.00017	0.0016 J	<0.011	<0.0056	<0.011	<0.0056 UJ	<0.0056	<0.0056	<0.00019 U	0.0018	<0.0056	0.00017	<0.0056	0.0688	0.0642	<0.011	<0.011	<0.011	<0.0056	<0.0056 UJ	<0.0056	<0.011	0.00088	0.0035 J J	<0.0002 U
	P74-ROX-103111	10/31/2011		36.26	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	0.00044	<0.005	<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	<0.0095 UJ	<0.0048	<0.0019	<0.00043 U	<0.0095	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048	<0.0095	<0.0048	<0.0048	<0.0048	<0.000095	<0.000095	<0.0048	<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	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	<0.0001	<0.0052	<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	44.43 - 69.43	40.71	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.0012 U	0.0039 J	<0.005	<0.00082 U	<0.005	<0.0001	0.00021	<0.005	<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
P-74	P74-ROX-110112	11/1/2012		41.72	NE	<0.01	<0.0052	0.00044 J	<0.0052	<0.01	<0.0001	<0.0001	0.00031 J	0.001 J	<0.0052	0.008 J J	<0.0052	<0.0052	<0.0052	<0.0001	0.0003	<0.0052	<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
	P74-ROX-011713	1/17/2013		42.65	NE	0.0028 J	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.0051	0.0021 J	<0.0051	<0.0051	<0.0051	0.000038 J	0.00038	<0.0051	<0.0001	<0.0051	0.0156	0.0198	<0.01	0.001 J	<0.01	<0.0051	<0.0051	<0.0051	<0.01	0.00023	0.0298	0.000048 J
	P74-ROX-041113	4/11/2013		42.83	NE	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	<0.0001	<0.0052	<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0046 U	<0.0001
	P74-ROX-071513	7/15/2013	44.43 - 69.43	40.11	NE	<0.011	<0.0054	<0.0022	<0.0054	<0.011	<0.00011	<0.00011	<0.0022	0.0013 J	<0.0054	<0.011	<0.0054	<0.0054	<0.0054	0.00014	0.00011	<0.0054	<0.00011	<0.0054	0.0019	0.00019 J	<0.011	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	<0.00008 U	0.008	0.000074 J
	P93A-102610	10/26/2010		40.75	NE		<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<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	<0.002	<0.0049	<0.0098	<0.0049	<0.0049	<0.0049	<0.0098	<0.0014 U	<0.0098	<0.0049	<0.0049	<0.0049	<0.0049	0.00032 J	<0.0049	<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	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001 UJ	<0.0001 UJ	0.00035 J	<0.01	<0.00073 U	<0.01	<0.005	<0.001 U	<0.005	0.000019 J J	0.00044 J	<0.005	<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	<0.01	<0.005	0.003	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.0029 U	<0.01	<0.005	<0.001 U	<0.005	<0.000033 U	0.00047	<0.005	<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	<0.01	<0.005	0.0075	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	0.00033	<0.005	<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	<0.0095	<0.0048	<0.006 U	<0.00053 U	<0.0095	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048	<0.0095	<0.0048	<0.00038 U	<0.0048	<0.000095	<0.000095	<0.0048	<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	48.17 - 63.17	42.75	NE	<0.01	<0.0051	0.0029	<0.0051	<0.01	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	0.00021	<0.0051	<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
P-93A	P93A-ROX-080912	8/9/2012		43.66	NE	<0.011	<0.0054	0.0153	<0.0054	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0054	<0.011	<0.0054	<0.0054	<0.0054	<0.00011	0.00021	<0.0054	<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		45.00	NE	<0.01	<0.0052	0.0026	<0.0052	<0.01	<0.0001	<0.0001	0.00027 J	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	0.00029	<0.0052	<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	<0.01	<0.0052	0.0023	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	0.00037	<0.0052	<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
	P93A-ROX-012313	1/23/2013		45.89	NE	<0.01	<0.0052	0.0099	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052 UJ	<0.01	<0.0052 UJ	<0.0052	<0.0052	<0.0001	0.00021	<0.0052	<0.0001	<0.0052	0.0096	0.0093	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	0.00024	0.168	<0.0001
	P93A-ROX-012313-DUP	1/23/2013		45.89	NE	<0.01	<0.0052	0.011	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052 UJ	<0.01	<0.0052 UJ	<0.0052	<0.0052	<0.0001	0.00019	<0.0052	<0.0001	<0.0052	0.0094	0.009	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	0.00023	0.165	<0.0001
	P93A-ROX-041113	4/11/2013		46.29	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	0.000046 J	0.0003	<0.005	<0.0001	<0.005	0.0146 J	0.0098	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	0.00035	0.2	0.00004 J
	P93A-ROX-041113-DUP	4/11/2013		46.29	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	0.00025	<0.005	<0.0001	<0.005	0.0146 J	0.0096	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	0.00024	0.179	<0.0001
	P93A-ROX-071813	7/18/2013	48.17 - 63.17	43.25	NE	<0.011	<0.0056	<0.0022	<0.0056	<0.011	<0.00011	<0.00011	0.00024 J	<0.011	<0.0056	<0.011	<0.0056	<0.0056	<0.0056	<0.00011	0.00023	<0.0056	<0.00011	<0.0056	0.0089	0.0062	<0.011	<0.011	<0.011	<0.0056	<0.0056	<0.0056	<0.011	0.00021	0.107	<0.00011
	P93B-102610	10/26/2010		40.73	NE		<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<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	<0.0021	<0.0053	<0.011	<0.0053	<0.0053	<0.0053	<0.011	<0.00086 U	<0.011	<0.0053	<0.0053	<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	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.005	<0.01	<0.005	<0.001 U	<0.005	<0.0001 UJ	<0.0001 UJ	<0.005	<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	<0.01	<0.0052	0.001 J	<0.0052	<0.01	<0.0001	<0.0001	<0.0052	<0.01	<0.0021 U	<0.01	<0.0052	<0.00077 U	<0.0052	<0.0001	<0.0001	<0.0052	<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	<0.01	<0.0052	0.0103	<0.0052	<0.01	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	<0.0001	<0.0052	<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	74.60 - 76.60	41.72	NE	<0.0095	<0.0048	<0.0033 U	<0.00033 U	<0.0095	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048	<0.0095	<0.0048	<0.0048	<0.0048	<0.000095	<0.000095	<0.0048	<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
P-93B	P93B-ROX-050812	5/8/2012		42.79	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	<0.0001	<0.0051	<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	<0.011	<0.0054	0.0036	<0.0054	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.00051 U	<0.011	<0.0054	<0.0054	<0.0054	<0.00011	<0.00011	<0.0054	<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		44.98	NE	<0.01	<0.0051	0.0017 J	<0.0051	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.0051	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	<0.0001	<0.0051	<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	<0.01	<0.005	0.00057 J	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001	<0.005	<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
	P93B-ROX-012313	1/23/2013		45.89	NE	<0.011	<0.0053	0.0055	0.0032 J	0.0013 J	0.00012	0.00012	<0.0021	<0.011	<0.0053 UJ	0.0021 J	0.00024 J J	0.003 J	<0.0053	0.00013	0.00012	0.00058 J	0.00012	<0.0053	<0.00021	0.00012 J	<0.011	0.0014 J	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.00016	0.176	0.00013
	P93B-ROX-041113	4/11/2013		46.32	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.0051	<0.01	<0.0051	0.0013 J	<0.0051	<0.0001	<0.0001	<0.0051	<0.0001	<0.0051	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.000051	0.122	<0.0001
	P93B-ROX-071813	7/18/2013	74.60 - 76.60	43.30	NE	<0.011	<0.0056	<0.0022	<0.0056	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0056	<0.011	<0.0056	0.0005 J	<0.0056	<0.00011	<0.00011	<0.0056	<0.00011	<0.0056	<0.00022	<0.00022	<0.011	<0.011	<0.011	<0.0056	<0.0056	<0.0056	<0.011	0.000034 J	0.151	<0.00011

SEE LAST PAGE OF TABLE FOR NOTES

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

						SVOCs																														
						Benzyl alcohol	bis(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	4-Chloro-3-methylphenol (p-Chloro-m-cresol)	Chrysene (1,2-Benzphenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	2,4-Dichlorophenol	Diethyl phthalate	2,4-Dimethylphenol	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Hexachlorobenzene	Indeno(1,2,3-cd)pyrene	Isophorone (3,5,5-trimethyl-2-cyclohexen-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 [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]		0.7 [4]	0.14 [2]	0.28 [2]	0.28 [2]	0.00006 [2]	0.00043 [2]	1.4 [2]	0.49 [3]	0.028 [4]	0.35 [4]	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)	Product Thickness (ft)	Analytical Results (mg/L)																														
P-93C	P93C-102610	10/26/2010	94.26 - 96.26	40.69	NE		<0.009	<0.001 U	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	<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	<0.002	<0.0051	<0.01	<0.0051	<0.0051	<0.0051	<0.01	<0.00097 U	<0.01	<0.0051	<0.0051	<0.0051	<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	<0.01	<0.005	<0.0022 U	<0.005	<0.01	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.005	<0.01	<0.005	<0.0001 U	<0.005	<0.0001 UJ	<0.0001 UJ	<0.005	<0.0001 UJ	<0.005	<0.005 UJ	0.000099 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	<0.01	<0.005	0.0092	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.0015 U	<0.01	<0.005	<0.00064 U	<0.005	<0.0001	<0.0001	<0.005	<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	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	<0.0001	<0.0052	<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	<0.01	<0.0051	<0.0096 U	<0.00037 U	<0.01	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	<0.0001	<0.0051	<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	<0.011	<0.0053	0.008	<0.0053	<0.011	<0.00011	<0.00011	<0.0053	<0.011	<0.0053	<0.011	<0.0053	<0.0053	<0.0053	<0.00011	<0.00011	<0.0053	<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	<0.01	<0.0052	0.0043	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.00046 U	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	<0.0001	<0.0052	<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		45.12	NE	<0.01	<0.005	0.00081 J	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001	<0.005	<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
	P93C-ROX-012313	1/23/2013		45.78	NE	<0.011	<0.0055	0.0049	<0.0055	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0055 UJ	<0.011	<0.0055 UJ	<0.0055 UJ	0.0025 J	<0.0055	<0.00011	<0.00011	<0.00011	<0.0055	<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
	P93C-ROX-041213	4/12/2013		46.21	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01	<0.005 UJ	<0.005	<0.005	<0.0001	<0.0001	<0.005	<0.0001	<0.005	<0.0002	<0.0002	<0.01	<0.01	<0.01	<0.005	<0.005 UJ	<0.005	<0.01	<0.00005	<0.005	<0.0001
	P93C-ROX-080813	8/8/2013		43.31	NE																															
P-93D	P93D-102610	10/26/2010	125.44 - 127.44	40.59	NE		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	<0.019	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
	P93D-ROX-050511	5/5/2011		41.96	NE	<0.01	<0.005	<0.0027 U	<0.005	<0.01	<0.0001 UJ	<0.0001 UJ	<0.005	<0.01	<0.005	<0.01	<0.005	<0.0011 U	<0.005	<0.0001 UJ	<0.0001 UJ	<0.005	<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	<0.01	<0.005	<0.002	<0.005	<0.01	<0.000015 U	<0.0001	<0.005	<0.01	<0.0018 U	<0.01	<0.005	<0.0011 U	<0.005	<0.000023 U	<0.0001	<0.005	<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	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001	<0.005	<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	<0.011	<0.0054	<0.0022	<0.0054	<0.011	<0.00011	<0.00011	<0.0054	<0.011	<0.0054	<0.011	<0.0054	<0.0054	<0.0054	<0.00011	<0.00011	<0.0054	<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	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	<0.0001	<0.0051	<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	<0.0021 U	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	<0.0001	<0.0052	<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		NM	NE	<0.011	<0.0055	<0.0022	<0.0055	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0055	<0.011	<0.0055	<0.0055	<0.0055	<0.00011	<0.00011	<0.0055	<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
	P93D-ROX-012213	1/22/2013		44.21	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011	<0.0053	<0.0053	<0.0053	<0.00011	<0.00011	<0.0053	<0.00011	<0.0053	0.00027	0.00036	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.000042 J	<0.0053	<0.00011
	P93D-ROX-041113	4/11/2013		46.37	NE	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	<0.0001	<0.0052	<0.0001	<0.0052	<0.00021	<0.00021	<0.01	<0.01	<0.01	<0.0052	<0.0052	<0.0052	<0.01	<0.000052	<0.0087 U	<0.0001
	P93D-ROX-071213	7/12/2013	125.75 - 127.75	43.51	NE	<0.011	<0.0056	<0.0057 J	<0.0056	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0056	<0.011	<0.0056 UJ	<0.00045 J	<0.0056	<0.00011	<0.00011	<0.0056	<0.00011	<0.0056	<0.00022	<0.00059 U J	<0.011	<0.011	<0.011	<0.0056	<0.0056 UJ	<0.0056	<0.011	<0.000056	<0.0056 UJ	<0.00011
P-114	P114-ROX-102811	10/28/2011	32.67 - 52.67	24.73	NE	<0.0095	<0.0048	0.0053	<0.0048	<0.0095	<0.000095	<0.000095	<0.0048	<0.0095	<0.0048	<0.0095	<0.0048	<0.0048	<0.0048	<0.0048	<0.000095	<0.000095	<0.0048	<0.000095	<0.0048	<0.00019	<0.00019	<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	<0.01	<0.0051	<0.0013 U	<0.00044 U	<0.01	<0.0001	0.000053 J	<0.0051	<0.01	<0.0051	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	<0.0001	<0.0051	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	<0.01	<0.0052	0.0015 J	<0.0052	<0.01	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	<0.0001	<0.0052	<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	<0.01	<0.005	0.0039	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	<0.0001	<0.005	<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		30.90	NE	<0.01	<0.0052	<0.0021	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01	<0.0052	<0.0052	<0.0052	<0.0001	<0.0001	<0.0052	<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
	P114-ROX-012313	1/23/2013		30.22	NE	<0.011	<0.0053	0.0059	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053 UJ	<0.011	<0.0053 UJ	0.0024 J	<0.0053	<0.00011	<0.00011	<0.0053	<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
	P114-ROX-041513	4/15/2013		31.80	NE	<0.01	<0.0052	0.0023	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01	<0.0052	0.00047 J	<0.0052	<0.0001	<0.0001	<0.0052	<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
	P114-ROX-071813	7/18/2013		27.22	NE	<0.011	<0.0055	<0.0022	<0.0055	<0.011	<0.00011	0.000073 J	<0.0022	<0.011	<0.0055	<0.011	<0.0055	<0.0055	<0.0055	<0.00011	<0.00011	<0.0055	0.000071 J	<0.0055	<0.00022	<0.00022	<0.011	<0.011	<0.011	<0.0055	<0.0055	<0.0055	<0.011	0.000059	<0.0055	<0.00011
	P114-ROX-071813-DUP	7/18/2013		27.22	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011	<0.0053	<0.0053	<0.0053	<0.00011	<0.00011	<0.0053	<0.00011	<0.0053	<0.00021	<0.00021	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.000052 J	<0.0053	<0.00011
ROST-3-PZ	ROST3PZ-ROX-051412	5/14/2012	40.00 - 50.00	38.82	NE	<0.01	<0.0052	0.00065 J	<0.0052	<0.01	<0.0001	<0.0001	<0.0052	<0.01	<0.0052	<0.01	<0.0052	<0.00043 U	<0.0052	<0.0001	<0.0001	<0.0052	<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	<0.011	<0.0054	<0.0022	0.0016 J	<0.011	<0.00011	<0.00011	<0.0022	<0.011	0.0033 J	<0.011	<0.0054	0.0049 J	<0.0054	<0.00011	<0.00011	<0.0054	<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		40.82	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011	<0.0053	0.0017 J	<0.0053	<0.00011	<0.00011	<0.0053	<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-3-MW	ROST3MW-ROX-012313	1/23/2013	38.18 - 48.18	41.50	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.002	<0.01	<0.005 UJ	<0.01	<0.005 UJ	<0.005	<0.005	<0.0001	0.00031	<0.005	<0.0001	<0.005	0.0061	0.0087	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01	0.00068	<0.005	<0.0001
	ROST3MW-ROX-040513	4/5/2013		42.24	NE	<0.011	<0.0054	<0.0022	<0.0054	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0054	<0.011	<0.0054	0.00044 J	<0.0054	<0.00011	0.00017	<0.0054	<0.00011	<0.0054	0.0029	0.0039	<0.011	<0.011	<0.011	<0.0054	<0.0054 UJ	<0.0054	<0.011	0.00055	<0.0054 UJ	<0.00011
	ROST3MW-ROX-071113	7/11/2013		39.50	NE	<0.011	<0.0054	0.00061 J	<0.0054	<0.011 UJ	<0.00011	<0.00011	0.00029 J	<0.011 UJ	<0.0054	0.0016 J J	<0.0054	<0.0054	<0.0054	<0.00011	0.00043	<0.0054	<0.00011	<0.0054	0.0105 JJ	0.0142	<0.011 UJ	<0.011 UJ	<0.011 UJ	<0.0054	<0.0054	<0.0054	<0.011 UJ	0.00073	<0.0054 UJ	<0.000044 U
ROST-4-PZ(C)	ROST4PZ-C-051412	5/14/2012	34.95 - 44.95	39.04	NE	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	0.00027 J	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	0.00022	<0.005	<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	0.00042 J	<0.0053	<0.00051 U	<0.0053	<0.011	<0.00011	<0.00011	0.00036 J	<0.011	0.0012 J	0.003 J	<0.0053	0.0015 J	<0.0053	<0.000041 U	0.00032 B	<0.0053	<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		40.75	NE	<0.01	<0.0052	0.0045	<0.0052	<0.01	<0.0001	<0.0001	<0.0021	<0.01	<0.0052	<0.01	<0.0052	0.0018 J	<0.0052	<0.0001	<0.0001	<0.0052	<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
	ROST4PZ(C)-ROX-011113	1/11/2013		41.42	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	<0.011	<0.0053 UJ	<0.0053	<0.0053	<0.00011	<0.00011	<0.0053	<0.00011	<0.0053	<0.00021	0.000064 J	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.00012	<0.0053	<0.00011
	ROST4PZC-ROX-041013	4/10/2013		42.27	NE	<0.011	<0.0055	<0.0022	<0.0055	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0055	<0.011	<0.0055	<0.0055	<0.0055	<0.00011	0.000069 J	<0.0055	<0.00011	<0.0055	0.00062	0.000078 J	<0.011	<0.011	<0.011	<0.0055	<0.0055	<0.0055	<0.011	0.00018	<0.0055 U	<0.00011
	ROST4PZC-ROX-071113	7/11/2013	34.95 - 44.95	40.18	NE	<0.011	<0.0054	0.0032	<0.0054	<0.011	<0.00011	<0.00011	<0.0022	<0.011	<0.0054	<0.011	<0.0054	<0.0054	<0.0054	0.000099 J	0.00027	<0.0054	<0.00011	<0.0054	0.0027 JJ	0.0021	<0.011	<0.011	<0.011 UJ	<0.0054	<0.0054	<0.0054	<0.011	0.00052	0.00057 J J	<0.00009 U
T-12	T12-ROX-102711	10/27/2011	46.46 - 72.46	38.54	NE	<0.01	<0.0051	0.0025	<0.0051	<0.01	<0.0001	<0.0001	<0.0051	<0.01	<0.0051	0.0109	<0.0051	<0.0051	<0.0051	<0.0001	0.0006	<0.0051	<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	<0.011 UJ	<0.0056	<0.0017 U	<0.00062 U	<0.011	<0.00011	0.00005 J	0.00029 J	<0.011	<0.0056	0.0095 J	<0.0056	<0.00048 U	<0.0056	0.000044 J	0.00043	<0.0056	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	<0.01	<0.005	<0.002	<0.005	<0.01	<0.0001	<0.0001	<0.005	<0.01	<0.005	<0.01	<0.005	<0.005	<0.005	<0.0001	0.00024	<0.005	<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	<0.011	<0.0054	<0.0022	<0.0054	<0.011	<0.00011	<0.00011	0.0003 J	<0.011	<0.0054	0.0153	<0.0054	<0.0054	<0.0054	0.000046 J	0.00029	<0.0054	<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		43.91	NE	<0.01	<0.005	0.00054 J	<0.005	<0.01	<0.0001	<0.0001	0.00029 J	<0.01	<0.005	0.0028 J J	<0.005	<0.005	<0.005	<0.0001	0.00031	<0.005	<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
	T12-ROX-011813	1/18/2013		44.50	NE	<0.011	<0.0053	<0.0021	<0.0053	<0.011	<0.00011	<0.00011	<0.0021	<0.011	<0.0053	0.0065 J	<0.0053 UJ	<0.0053 UJ	<0.0053	<0.00011	0.00046	<0.0053	<0.00011	<0.0053	0.0241	0.0322	<0.011	<0.011	<0.011	<0.0053	<0.0053	<0.0053	<0.011	0.0011	0.0265	0.000067 J
	T12-ROX-041513	4/15/2013		44.99	NE	<0.01	<0.0051	<0.002	<0.0051	<0.01	<0.0001	<0.0001	0.00048 J	<0.01	<0.0051	<0.01	<0.0051	<0.0051	<0.0051	<0.0001	0.00037	<0.0051	<0.0001	<0.0051	0.0289	0.0444	0.0047 J	0.0042 J	<0.01	<0.0051	<0.0051	<0.0051	<0.01	0.0011	0.0149	0.000063 J
	T12-ROX-071613	7/16/2013	46.46 - 72.46	42.33	NE	0.001 J	<0.0054 UJ	<0.0044 U	<0.0054	<0.011	<0.00011	<0.00011	0.00042 J	<0.011	<0.0054	0.0096 J	<0.0054	<0.0054	<0.0054	0.000044 J	0.00034	<0.0054	<0.00011	<0.0054	0.0236	0.0331	0.0029 J J	<0.011	<0.011	<0.0054	<0.0054	<0.0054	<0.011	0.0011	0.0514 J	<0.00009 U

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.
[1] Denotes wells not part of the Interim Groundwater Monitoring Program but split sampled with the IEPA during 2Q13

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

LABORATORY QUALIFIERS

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

URS QUALIFIERS

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

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:

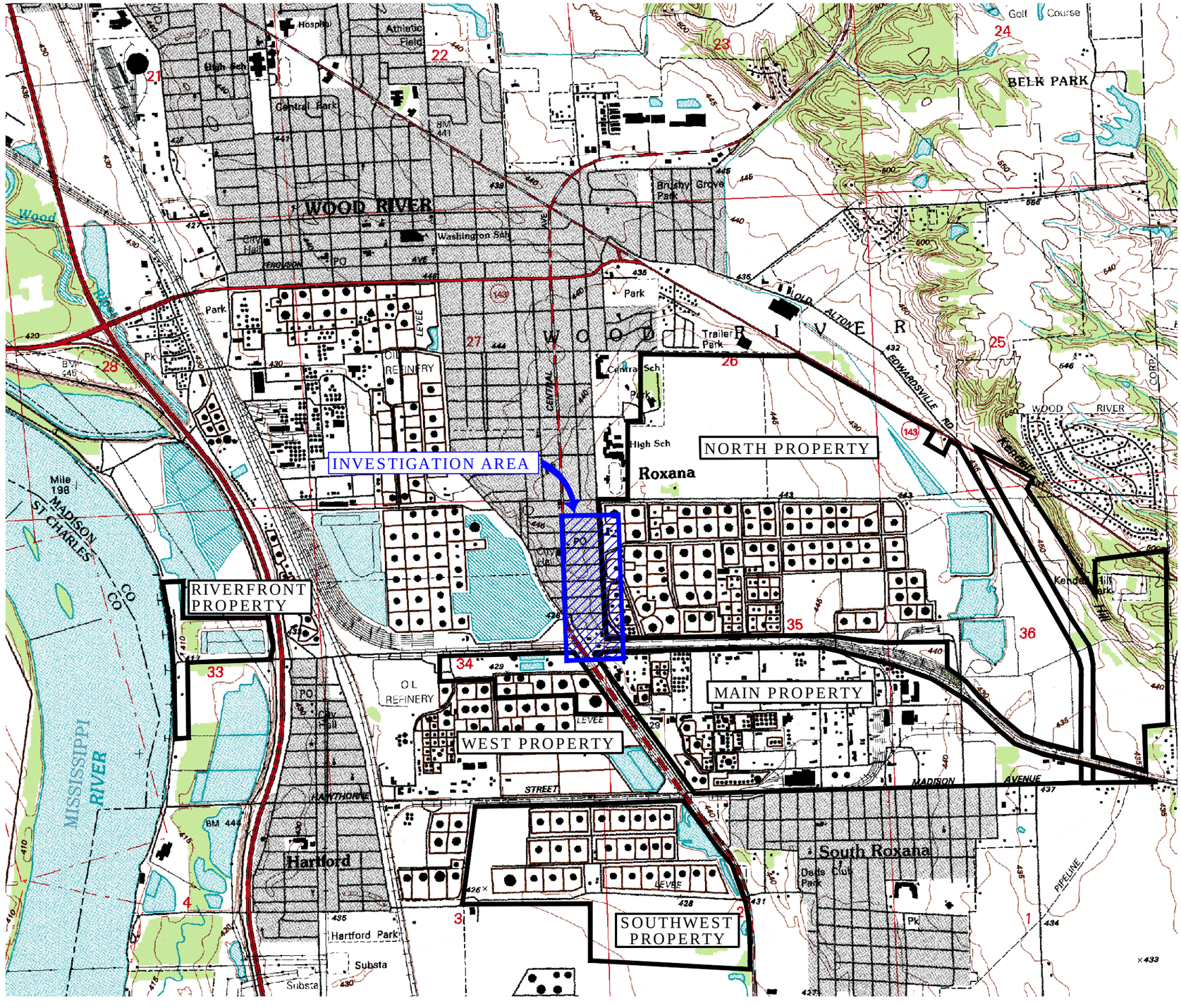
Plan View Model Output – The data input for the plan view model was not limited by depth and was modeled in two dimensions (2D). Regardless of sample depth, benzene concentrations were modeled on a flat horizontal plane.

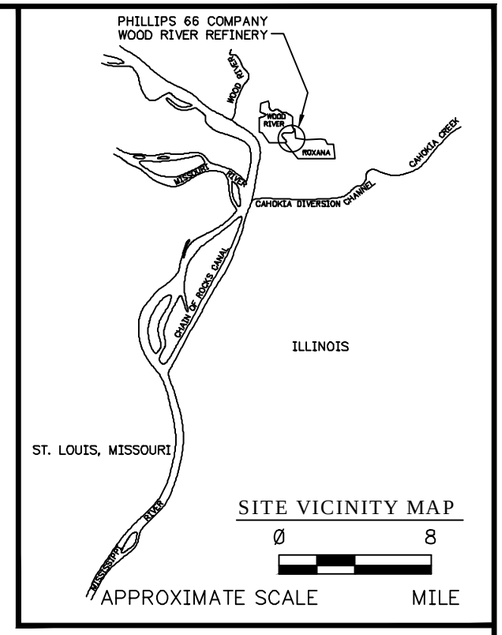
Inward Kriging / Boundary Cut-off – This method of Kriging limits the horizontal extent of data modeling to the extent of the data on the x/y plane in a convex hull.

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 2ØØØ

APPROXIMATE SCALE MILE

N

SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS	PROJECT NO. 21562850
URS	
DRN. BY: djd October 2013 DSGN. BY: djd CHKD. BY: kh	3Q13 Investigation Area Location Map
	FIG. NO. 1

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\SHELL OIL PRODUCTS US 2013\21562850 – ROXANA\21562850-4_GROUNDWATER QUARTERLY MONITORING\2013\FIGURES\FIG 1 INVESTIGATION AREA LOCATION MAP.DWG Last edited: 08/20/13 @ 09:24 a.m. @ WOD-STLOUIS

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\SHELL OIL PRODUCTS US 2013\21562850 – ROXANA\21562850-4_GROUNDWATER\QUARTERLY MONITORING\3Q13\FIGURES\FIGURE 2 GROUNDWATER MONITORING WELL SAMPLING LOCATIONS.DWG Last edited: AUG. 20, 13 @ 10:21 a.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 MW-24 WAS INSTALLED DURING 1Q13 AND WAS ADDED TO THE INTERIM GROUNDWATER MONITORING PROGRAM IN 2Q13.

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

T-1, PZ-1(101), PZ-1(85), MW-9, MW-10, P-55, ROST-4-PZ(A), ROST-4-PZ(B), ROST-4-PZ(C), ROST-4-PZ, ROST-3-MW, ROST-4-PZ(D), ROST-4-PZ(E), ROST-4-PZ(F), ROST-4-PZ(G), P-60-S, P-60-12, *P-60-12S, A-28, T-24, P-68, MW-11, P-54, * ROST-5-PZ, P-60-13, *P-60-13S, MW-17, T-12, MW-24, MW-22, * ROST-7-PZ, P-69, A-33, A-27, P-70, MW-18, P-74, MW-19, P-59, P-61, * ROST-21-PZ, MW-16, GP-9-PZ, PZ-2(84), PZ-2(70.5), MW-12, * ROST-10-PZ, MW-20, P-56, MW-2, MW-1, T-6, MW-21, P-57, MW-4, MW-3, P-93A, P-93B, P-93C, P-93D, P-73, MW-5, MW-7, MW-8, P-58, MW-13, MW-6A, MW-6B, MW-6C, MW-6D, P-66, P-75, MW-14, P-114

SCALE 0 200 FEET

N

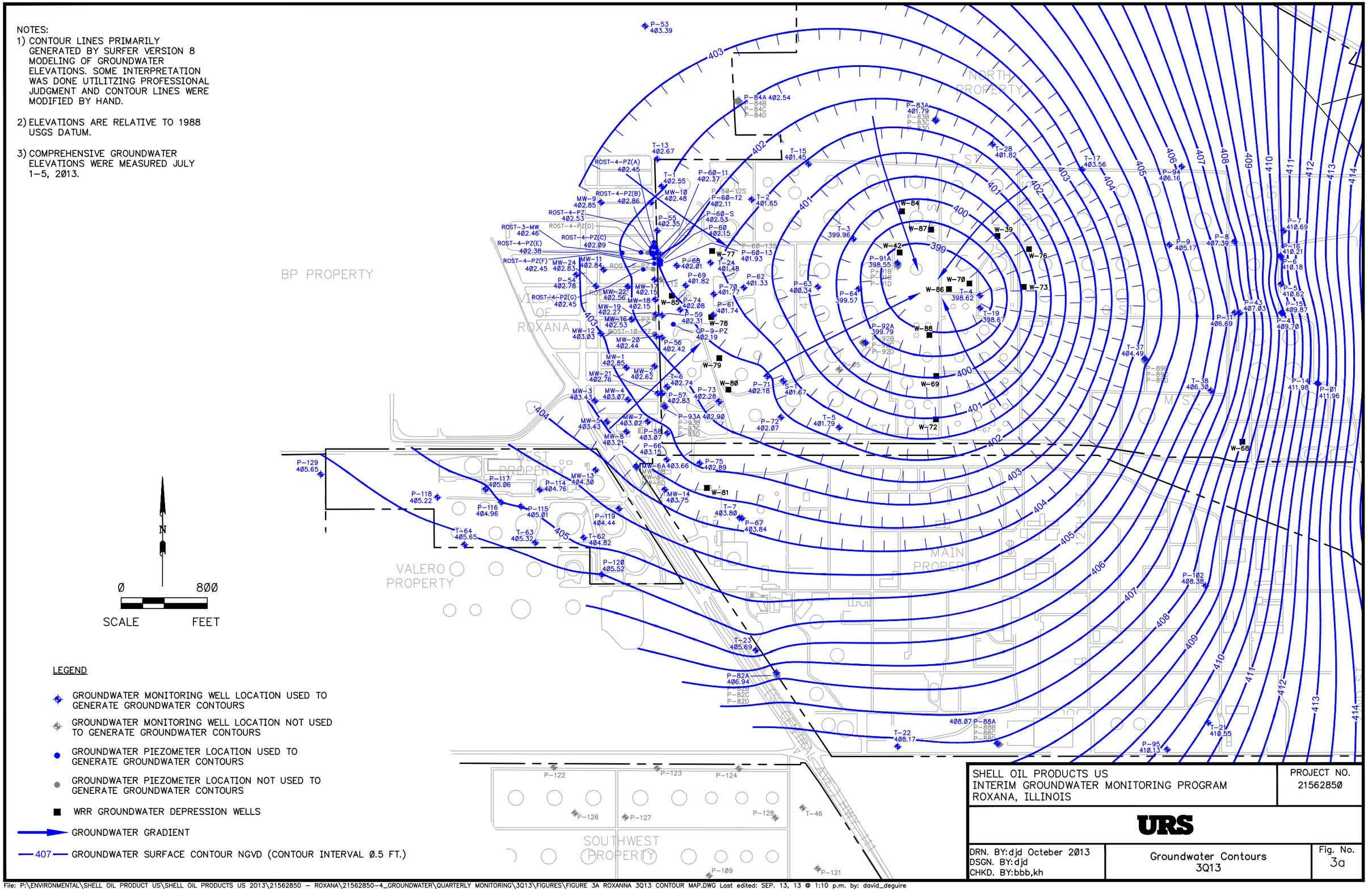
SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS		PROJECT NO. 21562850
URS		
DRN. BY:djd October 2013 DSGN. BY:lr CHKD. BY:kh	3Q13 Groundwater Monitoring Well Sampling Locations	FIG. NO. 2

NOTES:

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

2) ELEVATIONS ARE RELATIVE TO 1988 USGS DATUM.

3) COMPREHENSIVE GROUNDWATER ELEVATIONS WERE MEASURED JULY 1–5, 2013.



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 Ø.5 FT.)

SHELL OIL PRODUCTS US
INTERIM GROUNDWATER MONITORING PROGRAM
ROXANA, ILLINOIS

PROJECT NO. 21562850

URS

DRN. BY:djd Octeber 2Ø13
DSGN. BY:djd
CHKD. BY:bbb,kh

Groundwater Contours
3Q13

Fig. No. 3a

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\SHELL OIL PRODUCTS US 2013\21562850 – ROXANA\21562850-4_GROUNDWATER\QUARTERLY MONITORING\3Q13\FIGURES\FIGURE 3A ROXANNA 3Q13 CONTOUR MAP.DWG Last edited: SEP. 13, 13 @ 1:10 p.m. by: david_deguire

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\SHELL OIL PRODUCTS US 2013\21562850 – ROXANA\21562850-4_GROUNDWATER\QUARTERLY MONITORING\3Q13\FIGURES\FIGURE 3B ROXANA 3Q13 CONTOUR MAP.DWG Last edited: SEP. 13, 13 @ 1:17 p.m. by: wendy_pennington

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 Ø.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 JULY 1–5, 2Ø13.

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

T-1 402.55
PZ-1(101)
PZ-1(85)
MW-10 402.48
MW-9 402.85
ROST-4-PZ(A) 402.45
P-55 402.35
ROST-4-PZ 402.53
ROST-4-PZ(B) 402.86
P-60-11 402.37
ROST-4-PZ(C) 402.09
ROST-4-PZ(D)
P-60-12 402.11
P-60-12S
P-60 402.15
P-60-S
W–77
ROST-3-MW 402.46
ROST-4-PZ(E) 402.38
ROST-4-PZ(F) 402.45
A–28
MW-11 402.84
P-60-13
P-60-13S
P-68 402.01
T-24 401.48
ROST-4-PZ(G) 402.45
ROST-5-PZ
P-54 402.78
MW-22 402.56
MW-17 402.15
T-12
P-69 401.82
P-70 401.77
MW-24 402.83
ROST-7-PZ
MW-18 402.15
A–27
W–85
P-74 402.08
MW-19 402.27
P-59 402.31
P-61 401.74
W–78
FIFTH ST
ROST-21-PZ
MW-16 402.53
GP-9-PZ 402.19
PZ-2(84)
PZ-2(70.5)
ROST-10-PZ
MW-12 403.03
MW-20 402.44
P-56 402.42
MW-1 402.85
MW-2 402.62
W–79
T-6 402.74
MW-4 403.07
MW-21 402.76
P-57 402.83
MW-3 403.43
P-93A 402.90
P-93B
P-93C
P-93D
P-73 402.28
MW-5 403.43
MW-8 403.21
MW-7 403.02
P-58 403.07
MW-13 404.30
403.66 MW-6A
MW-6B
MW-6C
MW-6D
P-66 403.15
P-75 402.89
P-114
MW-14 403.75
W–81

402
403
–404–

SCALE Ø 2ØØ FEET

SHELL OIL PRODUCTS US
INTERIM GROUNDWATER MONITORING PROGRAM
ROXANA, ILLINOIS

PROJECT NO. 21562850

URS

DRN. BY:djd October 2Ø13
DSGN. BY:lr
CHKD. BY:kh

Groundwater Contours 3Q13– West Fenceline

FIG. NO. 3b

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\SHELL OIL PRODUCTS US 2013\21562850 – ROXANA\21562850-4_GROUNDWATER\QUARTERLY MONITORING\3Q13\FIGURES\FIGURE 4A THICKNESS OF LNAPL (WEST FENCLINE).DWG Last edited: AUG. 23, 13 @ 09:58 a.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 JULY 1–5, 2013.

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

P-84A P-84B P-84C P-84D
T-13 T-1 T-2
MW-9 MW-10 ROST-4-PZ(A) ROST-4-PZ(B) ROST-4-PZ(D) ROST-4-PZ(C) ROST-3-MW ROST-4-PZ(E) ROST-4-PZ(G) ROST-4-PZ(F)
P-55 P-60-S P-60-12 P-60-12S P-60-11 ROST-4-PZ R-77 T-24 0.39 0.10 0.01 0.01 A-28 P-68 0.07* P-60 0.05 P-60-13 P-60-13S A-33
P-54 MW-11 MW-17 T-12 P-69 P-62 1.11* P-70 1.00
MW-24 MW-22 MW-18 A-27 P-74
MW-19 P-59 P-61 0.04* R-78 0.01
MW-16 MW-12 MW-20 P-56
MW-2 MW-1 R-79
P-71 S-1 R-80 T-6
MW-21 P-57 MW-3 MW-4 P-93A P-93B P-93C P-93D P-73 P-72
MW-5 MW-8 MW-7 P-58
P-66 P-75 MW-6 MW-13
R-81 MW-14
P-117 P-114 P-116 P-115 P-119

0 300 SCALE FEET

N

SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS		PROJECT NO. 21562850
URS		
DRN. BY: djd October 2013 DSGN. BY: lr CHKD. BY: kh	3Q13 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

NOTES:
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 JULY 1–5, 2013.

NORTH PROPERTY

BP PROPERTY

SHELL OIL COMPANY PROPERTY

WEST PROPERTY

MAIN PROPERTY

VILLAGE OF HARTFORD

VALERO PROPERTY

ILLINOIS TERMINAL RAILROAD

RAND AVE.

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

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

ROUTE 1

SCALE Ø 1ØØØ FEET

REFERENCE: SHELL DRAWING E–36137–12

SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS		PROJECT NO. 21562850
URS		
DRN. BY: djd October 2013 DSGN. BY: lr CHKD. BY: kh	3Q13 Thickness of LNAPL	FIG. NO. 4b

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\SHELL OIL PRODUCTS US 2013\21562850 – ROXANA\21562850–4_GROUNDWATER QUARTERLY MONITORING\3Q13\FIGURES\FIGURE 4B THICKNESS OF LNAPL (REFINERY).DWG Last edited: AUG. 20, 13 @ 3:33 p.m. by: david_deguire

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
MTBE	0.07
Naphthalene	0.14
Toluene	1
1,3,5-Trimethylbenzene	0.07
Benzo(a)anthracene	0.00013
bis(2-Ethylhexyl)phthalate	0.006
2-Methylnaphthalene	0.028
Phenol	0.1

3. J = THE TARGET ANALYTE WAS DETECTED BELOW THE REPORTING LIMIT AND THE RESULT IS ESTIMATED.
   B = THE TARGET ANALYTE WAS FOUND IN THE ASSOCIATED METHOD BLANK.
4. MULTIPLE RESULTS (e.g., 475/499) INDICATE DUPLICATE SAMPLES.
5. WELLS IDENTIFIED IN BLUE WITH NO DATA BOX INDICATE THE RESULTS DID NOT EXCEED SCREENING CRITERIA.
6. GROUNDWATER MONITORING WELL MW-24 WAS INSTALLED DURING 1Q13 AND WAS ADDED TO THE INTERIM GROUNDWATER MONITORING PROGRAM IN 2Q13.

Sample Location	P-55
Sampled 7/16/13	Result (mg/L)
Benzene	0.573
2-Methynaphthalene	0.0353

Sample Location	ROST-4-PZ(C)
Sampled 7/11/13	Result (mg/L)
Benzene	0.0497

Sample Location	ROST-3-MW
Sampled 7/11/13	Result (mg/L)
Benzene	0.0125

Sample Location	T-12
Sampled 7/16/13	Result (mg/L)
Benzene	1.65
2-Methylnaphthalene	0.0331

Sample Location	MW-22
Sampled 7/11/13	Result (mg/L)
Benzene	1.19/1.11
Ethylbenzene	2.07/1.79
Naphthalene	0.345/0.362
Toluene	3.92/3.57
1,3,5-Trimethylbenzene	0.309/0.311
2-Methylnaphthalene	0.0393/0.037

Sample Location	P-59
Sampled 7/16/13	Result (mg/L)
Benzene	10.2
Ethylbenzene	2.4
Naphthalene	0.215 J
Toluene	1.03
1,3,5-Trimethylbenzene	0.219
2-Methylnaphthalene	0.0302
Phenol	0.121 J

Sample Location	P-74
Sampled 7/15/13	Result (mg/L)
Benzene	0.117

Sample Location	P-56
Sampled 7/15/13	Result (mg/L)
Benzene	0.131
Ethylbenzene	2
Naphthalene	0.316
1,3,5-Trimethylbenzene	0.134
2-Methylnaphthalene	0.0431

Sample Location	MW-2
Sampled 7/11/13	Result (mg/L)
Benzene	0.006
Ethylbenzene	1.57
1,3,5-Trimethylbenzene	0.175

Sample Location	P-57
Sampled 7/16/13	Result (mg/L)
Benzene	254
Ethylbenzene	1.59
MTBE	0.112
Naphthalene	0.203 J
1,3,5-Trimethylbenzene	0.129 J
2-Methylnaphthalene	0.0365
Phenol	0.164 J

Sample Location	MW-4
Sampled 7/17/13	Result (mg/L)
Benzene	12.2

Sample Location	P93A	P93B	P93C
Sampled 7/18/13, 8/8/13	Result (mg/L)	Result (mg/L)	Result (mg/L)
Benzene	89.1	296	19.1
Phenol	0.107	0.151	

Sample Location	MW-3
Sampled 7/11/13	Result (mg/L)
Benzene	0.0059

Sample Location	MW-7
Sampled 7/17/13	Result (mg/L)
Benzene	1,000 J
Phenol	0.118

Sample Location	P-58
Sampled 7/16/13	Result (mg/L)
Benzene	398
Ethylbenzene	1.07
Naphthalene	0.234
1,3,5-Trimethylbenzene	0.13
Benzo(a)anthracene	0.00018
2-Methylnaphthalene	0.0708
Phenol	0.247

Sample Location	MW-5
Sampled 7/09/13	Result (mg/L)
Benzene	0.0

Sample Location	MW-8
Sampled 7/17/13	Result (mg/L)
Benzene	534/494
MTBE	0.197/0.187
Phenol	0.328/0.303

Sample Location	P-66
Sampled 7/12/13	Result (mg/L)
Benzene	0.187
Benzo(a)anthracene	0.00018 B
bis(2-Ethylhexyl)phthalate	0.0124
2-Methylnaphthalene	0.0642

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

MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, MW-16, MW-17, MW-18, MW-19, MW-20, MW-21, MW-22, MW-24, MW-1, MW-2, MW-3, MW-4, MW-5, MW-6A, MW-6B, MW-6C, MW-6D, MW-7, MW-8
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), ROST-3-MW
P-54, P-55, P-56, P-57, P-58, P-59, P-60, P-61, P-66, P-68, P-69, P-70, P-73, P-74, P-75, P-93A, P-93B, P-93C, P-93D, P-114
T-6, T-12, T-24
A-27, A-28, A-33

SCALE 0 200 FEET
N

SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS		PROJECT NO. 21562850
URS		
DRN. BY: djd October 2013 DSGN. BY: lr CHKD. BY: kh	3Q13 Groundwater Monitoring Well Analytical Exceedances	FIG. NO. 5

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\SHELL OIL PRODUCTS US 2013\21562850 – ROXANA\21562850-4_GROUNDWATER\QUARTERLY MONITORING\3Q13\FIGURES\FIGURE 6 DISSOLVED PHASE BENZENE CONCENTRATIONS IN GROUNDWATER.DWG Last edited: SEP. 13, 13 @ 11:15 a.m. by: david_deguire

LEGEND

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

LNAPL THICKNESS WAS MEASURED DURING THE COMPREHENSIVE GROUNDWATER MONITORING GAUGING EVENT ON JULY 1–5, 2013. REFER TO TABLE 1 FOR GROUNDWATER GAUGING INFORMATION.

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., <Ø.ØØØ5 mg/L).
4. J = THE TARGET ANALYTE WAS DETECTED BELOW THE REPORTING LIMIT AND THE RESULT IS ESTIMATED.
   U = RESULTS IS NON-DETECT.
5. NON-DETECT VALUES ARE MODELED AT HALF THE REPORTING LIMIT.
6. MULTIPLE RESULTS (e.g. 532/494) INDICATE DUPLICATE SAMPLES.

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

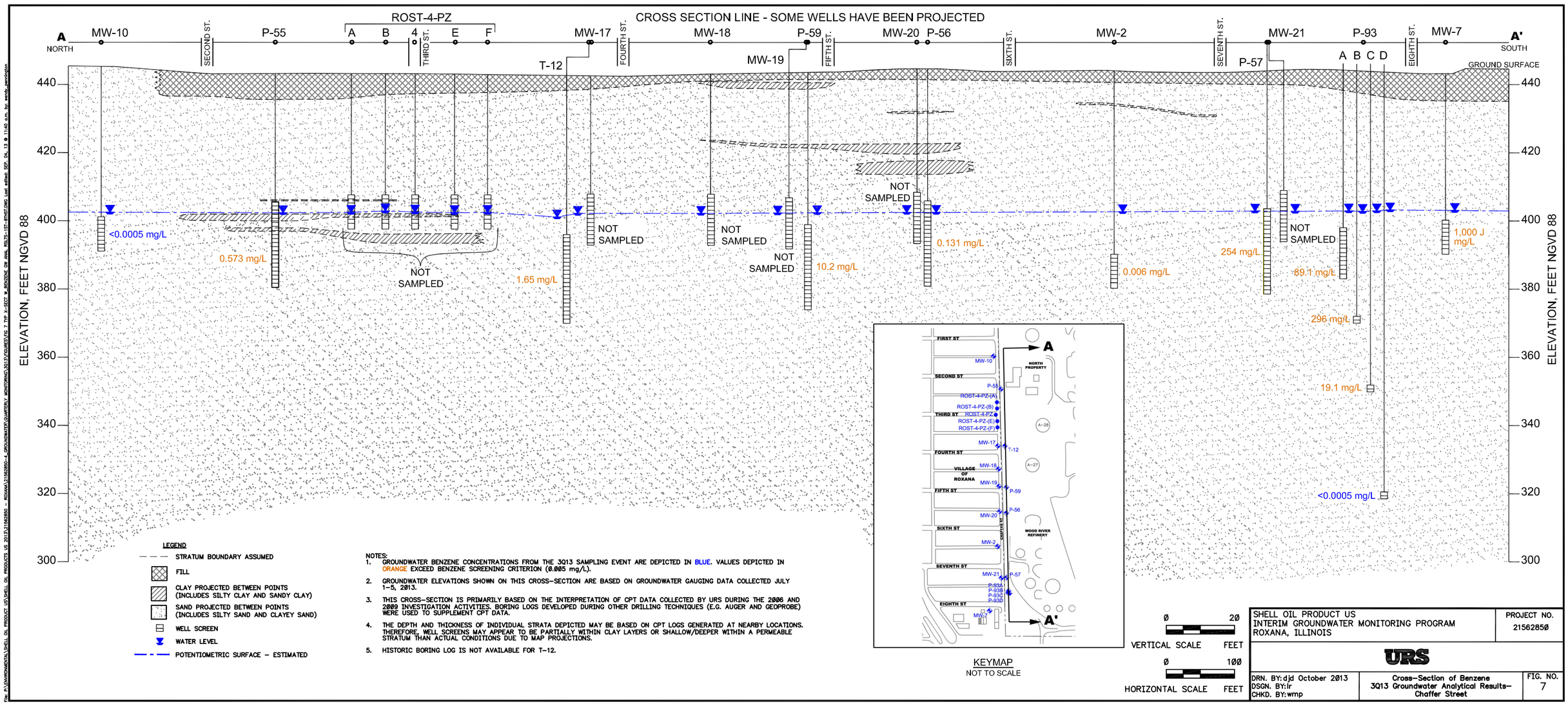
MW-9 <Ø.ØØØ5
MW-10 <Ø.ØØØ5
P-55 Ø.573
ROST-4-PZ(A)
P-6Ø-11
ROST-4-PZ(C) Ø.Ø497
ROST-3-MW Ø.Ø125
ROST-4-PZ
ROST-4-PZ(F)
ROST-4-PZ(G)
P-6Ø-S
P-6Ø Ø.Ø5
P-68 Ø.Ø7*
A-28
T-24 Ø.39
MW-11 <Ø.ØØØ5
P-54 <Ø.ØØØ5
MW-17
T-12 1.65
P-69
P-7Ø
MW-24 <Ø.ØØØ5
MW-22 1.9/1.11
A-27
MW-18
MW-19
P-59 1Ø.2
P-74 Ø.117
P-61 Ø.Ø4*
MW-16 <Ø.ØØØ62U
MW-12 <Ø.ØØØ5
MW-2Ø
P-56 Ø.131
MW-1 <Ø.ØØØ5
MW-2 Ø.ØØ6
T-6
MW-21
P-57 254
MW-3 Ø.ØØ59
MW-4 12.2
P-93A 89.1
P-93B 296
P-93C 19.1
P-93D <Ø.ØØØ5
MW-5 Ø.ØØ75
MW-7 1,ØØØJ
MW-8 532/494
P-58 398
P-66 Ø.187
P-75
MW-13 <Ø.ØØØ5
MW-6A <Ø.ØØØ5/<Ø.ØØØ5
MW-6B <Ø.ØØØ5
MW-6C <Ø.ØØØ5
MW-6D <Ø.ØØØ5
P-114 <Ø.ØØØ5/<Ø.ØØØ5
MW-14 Ø.ØØØ64
P-116
P-115
P-73

0.005 0.05 0.5 5.0 50.0 500.0

SCALE Ø 2ØØ FEET

N

SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS		PROJECT NO. 21562850
URS		
DRN. BY: djd October 2013 DSGN. BY: nm/lr CHKD. BY: kh	3Q13 Dissolved Phase Benzene Concentrations in Groundwater	FIG. NO. 6



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)
- WELL SCREEN
- WATER LEVEL
- POTENTIOMETRIC SURFACE – ESTIMATED

NOTES:

1. GROUNDWATER BENZENE CONCENTRATIONS FROM THE 3Q13 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 JULY 1-5, 2013.
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. HISTORIC BORING LOG IS NOT AVAILABLE FOR T-12.

0 20
VERTICAL SCALE FEET

0 100
HORIZONTAL SCALE FEET

SHELL OIL PRODUCT US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS	PROJECT NO. 21562850
URS	
DRN. BY: djd October 2013 DSGN. BY: ir CHKD. BY: wmp	Cross-Section of Benzene 3Q13 Groundwater Analytical Results– Chaffer Street
	FIG. NO. 7

CROSS SECTION LINE - SOME WELLS HAVE BEEN PROJECTED

WEST
B

EAST
B'

(S. CENTARL AVE)
HIGHWAY 111

EIGHTH ST

SEVENTH ST

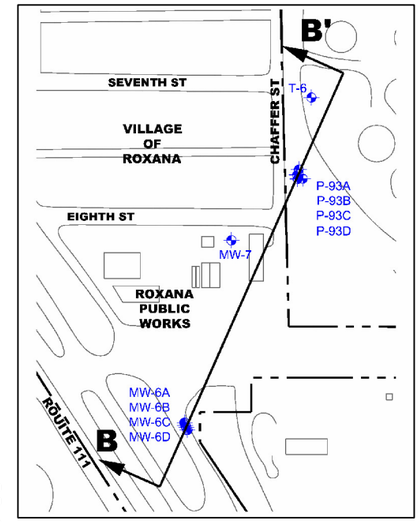
MW-6D
MW-6C
MW-6B
MW-6A
SVE-27
MW-7
P-93A
P-93B
P-93C
P-93D
T-6

GROUND SURFACE

ELEVATION, FEET NGVD 88

440
420
400
380
360
340
320
300

<0.0005/<0.0005 mg/L
<0.0005 mg/L
<0.0005 mg/L
<0.0005 mg/L
1,000 J mg/L
89.1 mg/L
296 mg/L
19.1 mg/L
<0.0005 mg/L
NOT SAMPLED



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

Ø 2Ø
VERTICAL SCALE FEET

Ø 1ØØ
HORIZONTAL SCALE FEET

NOTES:
1. GROUNDWATER BENZENE CONCENTRATIONS FROM THE 3Q13 SAMPLING EVENT ARE DEPICTED IN BLUE. VALUES DEPICTED IN ORANGE EXCEED BENZENE SCREENING CRITERION (Ø.ØØ5 mg/L).
2. GROUNDWATER ELEVATIONS SHOWN ON THIS CROSS-SECTION ARE BASED ON GROUNDWATER GAUGING DATA COLLECTED JULY 1-5, 2Ø13.
3. THIS CROSS-SECTION IS PRIMARILY BASED ON THE INTERPRETATION OF CPT DATA COLLECTED BY URS DURING THE 2ØØ6 AND 2ØØ9 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. 21562850
URS	
DRN. BY: djd October 2Ø13 DSGN. BY: lr CHKD. BY: wmp	Cross-Section of Benzene 3Q13 Groundwater Analytical Results- Roxana Public Works Yard
	FIG. NO. 8

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\SHELL OIL PRODUCTS US 2013\21562850 - ROXANA\21562850-4_GROUNDWATER\QUARTERLY MONITORING\3Q13\FIGURES\FIG 8 TYP X-SECT W_BENZENE GW ANAL RSLTS-HWY111-CHAFFER.DWG Last edited: SEP. 04, 13 @ 11:41 a.m. by: wendy_pennington

Roxana MW-22 Delineation Data Review

Laboratory SDG: 12120317

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
MW-22-120612	TB-120612-ROX

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?

There were no problems indicate in the laboratory case narrative.

The cooler receipt form indicated samples were received by the laboratory at a temperature of 7.4ºC, which is outside the 4ºC ± 2ºC criteria. Samples were received on ice within approximately two (2) hours of completion of sample collection and 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?

Yes

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 MW-22-120312 was spiked and analyzed for VOCs.

Were MS/MSD recoveries within evaluation criteria?

Yes

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

December 07, 2012

Dave Palmer
URS Corporation
1001 Highlands Plaza Drive West
Suite 300
St. Louis, MO 63110
TEL: (314) 429-0100
FAX: (314) 429-0462

RE: Roxana MW-22 delineation sampling
21562735.00025

WorkOrder: 12120317

Dear Dave Palmer:

TEKLAB, INC received 2 samples on 12/6/2012 12:00:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. Unless otherwise documented within this report, Teklab Inc. analyzes samples utilizing the most current methods in compliance with 40CFR. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Marvin L. Darling II

Marvin L. Darling
Project Manager
(618)344-1004 ex 41
mdarling@teklabinc.com

Report Contents

Client: URS Corporation
Work Order: 12120317
Client Project: Roxana MW-22 delineation sampling 21562735.00025
Report Date: 07-Dec-12

This reporting package includes the following:

Cover Letter	1
Report Contents	2
Definitions	3
Case Narrative	4
Laboratory Results	5
Sample Summary	9
Quality Control Results	10
Receiving Check List	18
Chain of Custody	Appended

Client: URS Corporation **Work Order:** 12120317

Client Project: Roxana MW-22 delineation sampling 21562735.00025 **Report Date:** 07-Dec-12

Abbr Definition

CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilutions factors.
DNI	Did not ignite
DUP	Laboratory duplicate is an aliquot of a sample taken from the same container under laboratory conditions for independent processing and analysis independently of the original aliquot.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample, spiked with verified known amounts of analytes, is analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The acceptable recovery range is in the QC Package (provided upon request).
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MB	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	Method detection limit means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. The acceptable recovery range is listed in the QC Package (provided upon request).
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TNTC	Too numerous to count (> 200 CFU)

Qualifiers

# -	Unknown hydrocarbon	B -	Analyte detected in associated Method Blank
E -	Value above quantitation range	H -	Holding times exceeded
J -	Analyte detected below quantitation limits	M -	Manual Integration used to determine area response
ND -	Not Detected at the Reporting Limit	R -	RPD outside accepted recovery limits
S -	Spike Recovery outside recovery limits	X -	Value exceeds Maximum Contaminant Level

Client: URS Corporation

Work Order: 12120317

Client Project: Roxana MW-22 delineation sampling 21562735.00025

Report Date: 07-Dec-12

Cooler Receipt Temp: 7.4 °C

Locations and Accreditations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email KKlostermann@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email dthompson@teklabinc.com

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2013	Collinsville
Kansas	KDHE	E-10374	NELAP	1/31/2013	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2013	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2013	Springfield
Texas	TCEQ	T104704515-12-1	NELAP	7/31/2013	Collinsville
Arkansas	ADEQ	88-0966		3/14/2013	Collinsville
Illinois	IDPH	17584		4/30/2013	Collinsville
Kentucky	UST	0073		5/26/2013	Collinsville
Missouri	MDNR	00930		4/13/2013	Collinsville
Oklahoma	ODEQ	9978		8/31/2013	Collinsville

Client: URS Corporation **Work Order:** 12120317

Client Project: Roxana MW-22 delineation sampling 21562735.00025 **Report Date:** 07-Dec-12

Lab ID: 12120317-001 **Client Sample ID:** MW-22-120612

Matrix: GROUNDWATER **Collection Date:** 12/06/2012 10:10

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS									
1,1,1,2-Tetrachloroethane	NELAP	100	200		**ND**	µg/L	100	12/06/2012 17:07	83975
1,1,1-Trichloroethane	NELAP	100	200		**ND**	µg/L	100	12/06/2012 17:07	83975
1,1,2,2-Tetrachloroethane	NELAP	100	400		**ND**	µg/L	100	12/06/2012 17:07	83975
1,1,2-Trichloroethane	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
1,1-Dichloroethane	NELAP	100	500		**ND**	µg/L	100	12/06/2012 17:07	83975
1,1-Dichloroethene	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
1,1-Dichloropropene	NELAP	100	500		**ND**	µg/L	100	12/06/2012 17:07	83975
1,2,3-Trichlorobenzene	NELAP	100	500		**ND**	µg/L	100	12/06/2012 17:07	83975
1,2,3-Trichloropropane	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
1,2,4-Trichlorobenzene	NELAP	100	500		**ND**	µg/L	100	12/06/2012 17:07	83975
1,2,4-Trimethylbenzene	NELAP	100	500		**1320**	µg/L	100	12/06/2012 17:07	83975
1,2-Dibromo-3-chloropropane	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
1,2-Dibromoethane	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
1,2-Dichlorobenzene	NELAP	100	500		**ND**	µg/L	100	12/06/2012 17:07	83975
1,2-Dichloroethane	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
1,2-Dichloropropane	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
1,3,5-Trimethylbenzene	NELAP	100	300		**325**	µg/L	100	12/06/2012 17:07	83975
1,3-Dichlorobenzene	NELAP	100	500		**ND**	µg/L	100	12/06/2012 17:07	83975
1,3-Dichloropropane	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
1,4-Dichlorobenzene	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
2,2-Dichloropropane	NELAP	100	500		**ND**	µg/L	100	12/06/2012 17:07	83975
2-Butanone	NELAP	500	2500		**ND**	µg/L	100	12/06/2012 17:07	83975
2-Chloroethyl vinyl ether	NELAP	500	2000		**ND**	µg/L	100	12/06/2012 17:07	83975
2-Chlorotoluene	NELAP	100	500		**ND**	µg/L	100	12/06/2012 17:07	83975
2-Hexanone	NELAP	500	2500		**ND**	µg/L	100	12/06/2012 17:07	83975
4-Chlorotoluene	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
4-Methyl-2-pentanone	NELAP	500	2500		**ND**	µg/L	100	12/06/2012 17:07	83975
Acetone	NELAP	500	2500		**ND**	µg/L	100	12/06/2012 17:07	83975
Acrolein	NELAP	1000	1000		**ND**	µg/L	100	12/06/2012 17:07	83975
Acrylonitrile	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
Benzene	NELAP	50.0	50.0		**2310**	µg/L	100	12/06/2012 17:07	83975
Bromobenzene	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
Bromochloromethane	NELAP	100	500		**ND**	µg/L	100	12/06/2012 17:07	83975
Bromodichloromethane	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
Bromoform	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
Bromomethane	NELAP	200	200		**ND**	µg/L	100	12/06/2012 17:07	83975
Carbon disulfide	NELAP	100	500		**ND**	µg/L	100	12/06/2012 17:07	83975
Carbon tetrachloride	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
Chlorobenzene	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
Chloroethane	NELAP	200	1000		**ND**	µg/L	100	12/06/2012 17:07	83975
Chloroform	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
Chloromethane	NELAP	200	1000		**ND**	µg/L	100	12/06/2012 17:07	83975
cis-1,2-Dichloroethene	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
cis-1,3-Dichloropropene	NELAP	100	500		**ND**	µg/L	100	12/06/2012 17:07	83975
Dibromochloromethane	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
Dichlorodifluoromethane	NELAP	200	1000		**ND**	µg/L	100	12/06/2012 17:07	83975
Ethyl methacrylate	NELAP	100	500		**ND**	µg/L	100	12/06/2012 17:07	83975

Client: URS Corporation **Work Order:** 12120317

Client Project: Roxana MW-22 delineation sampling 21562735.00025 **Report Date:** 07-Dec-12

Lab ID: 12120317-001 **Client Sample ID:** MW-22-120612

Matrix: GROUNDWATER **Collection Date:** 12/06/2012 10:10

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS									
Ethylbenzene	NELAP	100	500		**3410**	µg/L	100	12/06/2012 17:07	83975
Hexachlorobutadiene	NELAP	100	500		**ND**	µg/L	100	12/06/2012 17:07	83975
Isopropylbenzene	NELAP	100	500	J	**110**	µg/L	100	12/06/2012 17:07	83975
m,p-Xylenes	NELAP	100	500		**7340**	µg/L	100	12/06/2012 17:07	83975
Methyl tert-butyl ether	NELAP	50.0	50.0		**ND**	µg/L	100	12/06/2012 17:07	83975
Methylene chloride	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
Naphthalene	NELAP	200	200		**364**	µg/L	100	12/06/2012 17:07	83975
n-Butylbenzene	NELAP	100	500		**ND**	µg/L	100	12/06/2012 17:07	83975
n-Propylbenzene	NELAP	100	500	J	**220**	µg/L	100	12/06/2012 17:07	83975
o-Xylene	NELAP	100	500		**3600**	µg/L	100	12/06/2012 17:07	83975
p-Isopropyltoluene	NELAP	100	500		**ND**	µg/L	100	12/06/2012 17:07	83975
sec-Butylbenzene	NELAP	100	500		**ND**	µg/L	100	12/06/2012 17:07	83975
Styrene	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
tert-Butylbenzene	NELAP	100	500		**ND**	µg/L	100	12/06/2012 17:07	83975
Tetrachloroethene	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
Toluene	NELAP	100	500		**10700**	µg/L	100	12/06/2012 17:07	83975
trans-1,2-Dichloroethene	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
trans-1,3-Dichloropropene	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
Trichloroethene	NELAP	100	100		**ND**	µg/L	100	12/06/2012 17:07	83975
Trichlorofluoromethane	NELAP	100	500		**ND**	µg/L	100	12/06/2012 17:07	83975
Vinyl acetate	NELAP	200	1000		**ND**	µg/L	100	12/06/2012 17:07	83975
Vinyl chloride	NELAP	50.0	50.0		**ND**	µg/L	100	12/06/2012 17:07	83975
Xylenes, Total	NELAP	100	500		**10900**	µg/L	100	12/06/2012 17:07	83975
Surr: 1,2-Dichloroethane-d4		0	74.7-129		**99.3**	%REC	100	12/06/2012 17:07	83975
Surr: 4-Bromofluorobenzene		0	86-119		**101.7**	%REC	100	12/06/2012 17:07	83975
Surr: Dibromofluoromethane		0	81.7-123		**97.2**	%REC	100	12/06/2012 17:07	83975
Surr: Toluene-d8		0	84.3-114		**98.6**	%REC	100	12/06/2012 17:07	83975

Elevated reporting limit due to high levels of target and/or non-target analytes.

Client: URS Corporation **Work Order:** 12120317

Client Project: Roxana MW-22 delineation sampling 21562735.00025 **Report Date:** 07-Dec-12

Lab ID: 12120317-002 **Client Sample ID:** TB-120612-ROX

Matrix: TRIP BLANK **Collection Date:** 12/06/2012 0:00

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS									
1,1,1,2-Tetrachloroethane	NELAP	1.0	2.0		**ND**	µg/L	1	12/06/2012 16:40	83975
1,1,1-Trichloroethane	NELAP	1.0	2.0		**ND**	µg/L	1	12/06/2012 16:40	83975
1,1,2,2-Tetrachloroethane	NELAP	1.0	4.0		**ND**	µg/L	1	12/06/2012 16:40	83975
1,1,2-Trichloroethane	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
1,1-Dichloroethane	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
1,1-Dichloroethene	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
1,1-Dichloropropene	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
1,2,3-Trichlorobenzene	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
1,2,3-Trichloropropane	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
1,2,4-Trichlorobenzene	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
1,2,4-Trimethylbenzene	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
1,2-Dibromo-3-chloropropane	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
1,2-Dibromoethane	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
1,2-Dichlorobenzene	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
1,2-Dichloroethane	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
1,2-Dichloropropane	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
1,3,5-Trimethylbenzene	NELAP	1.0	3.0		**ND**	µg/L	1	12/06/2012 16:40	83975
1,3-Dichlorobenzene	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
1,3-Dichloropropane	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
1,4-Dichlorobenzene	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
2,2-Dichloropropane	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
2-Butanone	NELAP	5.0	25.0		**ND**	µg/L	1	12/06/2012 16:40	83975
2-Chloroethyl vinyl ether	NELAP	5.0	20.0		**ND**	µg/L	1	12/06/2012 16:40	83975
2-Chlorotoluene	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
2-Hexanone	NELAP	5.0	25.0		**ND**	µg/L	1	12/06/2012 16:40	83975
4-Chlorotoluene	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
4-Methyl-2-pentanone	NELAP	5.0	25.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Acetone	NELAP	5.0	25.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Acrolein	NELAP	10.0	10.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Acrylonitrile	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Benzene	NELAP	0.5	0.5		**ND**	µg/L	1	12/06/2012 16:40	83975
Bromobenzene	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Bromochloromethane	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Bromodichloromethane	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Bromoform	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Bromomethane	NELAP	2.0	2.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Carbon disulfide	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Carbon tetrachloride	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Chlorobenzene	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Chloroethane	NELAP	2.0	10.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Chloroform	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Chloromethane	NELAP	2.0	10.0		**ND**	µg/L	1	12/06/2012 16:40	83975
cis-1,2-Dichloroethene	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
cis-1,3-Dichloropropene	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Dibromochloromethane	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Dichlorodifluoromethane	NELAP	2.0	10.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Ethyl methacrylate	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975

Client: URS Corporation **Work Order:** 12120317

Client Project: Roxana MW-22 delineation sampling 21562735.00025 **Report Date:** 07-Dec-12

Lab ID: 12120317-002 **Client Sample ID:** TB-120612-ROX

Matrix: TRIP BLANK **Collection Date:** 12/06/2012 0:00

Analyses	Certification	MDL	RL	Qual	Result	Units	DF	Date Analyzed	Batch
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS									
Ethylbenzene	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Hexachlorobutadiene	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Isopropylbenzene	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
m,p-Xylenes	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Methyl tert-butyl ether	NELAP	0.5	0.5		**ND**	µg/L	1	12/06/2012 16:40	83975
Methylene chloride	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Naphthalene	NELAP	2.0	2.0		**ND**	µg/L	1	12/06/2012 16:40	83975
n-Butylbenzene	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
n-Propylbenzene	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
o-Xylene	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
p-Isopropyltoluene	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
sec-Butylbenzene	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Styrene	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
tert-Butylbenzene	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Tetrachloroethene	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Toluene	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
trans-1,2-Dichloroethene	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
trans-1,3-Dichloropropene	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Trichloroethene	NELAP	1.0	1.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Trichlorofluoromethane	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Vinyl acetate	NELAP	2.0	10.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Vinyl chloride	NELAP	0.5	0.5		**ND**	µg/L	1	12/06/2012 16:40	83975
Xylenes, Total	NELAP	1.0	5.0		**ND**	µg/L	1	12/06/2012 16:40	83975
Surr: 1,2-Dichloroethane-d4		0	74.7-129		**100.0**	%REC	1	12/06/2012 16:40	83975
Surr: 4-Bromofluorobenzene		0	86-119		**102.5**	%REC	1	12/06/2012 16:40	83975
Surr: Dibromofluoromethane		0	81.7-123		**98.8**	%REC	1	12/06/2012 16:40	83975
Surr: Toluene-d8		0	84.3-114		**98.3**	%REC	1	12/06/2012 16:40	83975

Client: URS Corporation
Work Order: 12120317
Client Project: Roxana MW-22 delineation sampling 21562735.00025
Report Date: 07-Dec-12

Lab Sample ID	Client Sample ID	Matrix	Fractions	Collection Date
12120317-001	MW-22-120612	Groundwater	1	12/06/2012 10:10
12120317-002	TB-120612-ROX	Trip Blank	1	12/06/2012 0:00

Client: URS Corporation **Work Order:** 12120317

Client Project: Roxana MW-22 delineation sampling 21562735.00025 **Report Date:** 07-Dec-12

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 83975 **SampType:** MBLK Units µg/L

SampID: MBLK-R121206-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	5.0		ND						12/06/2012
1,1,1-Trichloroethane	5.0		ND						12/06/2012
1,1,2,2-Tetrachloroethane	5.0		ND						12/06/2012
1,1,2-Trichloroethane	5.0		ND						12/06/2012
1,1-Dichloroethane	5.0		ND						12/06/2012
1,1-Dichloroethene	5.0		ND						12/06/2012
1,1-Dichloropropene	5.0		ND						12/06/2012
1,2,3-Trichlorobenzene	5.0		ND						12/06/2012
1,2,3-Trichloropropane	5.0		ND						12/06/2012
1,2,4-Trichlorobenzene	5.0		ND						12/06/2012
1,2,4-Trimethylbenzene	5.0		ND						12/06/2012
1,2-Dibromo-3-chloropropane	5.0		ND						12/06/2012
1,2-Dibromoethane	5.0		ND						12/06/2012
1,2-Dichlorobenzene	5.0		ND						12/06/2012
1,2-Dichloroethane	5.0		ND						12/06/2012
1,2-Dichloropropane	5.0		ND						12/06/2012
1,3,5-Trimethylbenzene	5.0		ND						12/06/2012
1,3-Dichlorobenzene	5.0		ND						12/06/2012
1,3-Dichloropropane	5.0		ND						12/06/2012
1,4-Dichlorobenzene	5.0		ND						12/06/2012
2,2-Dichloropropane	5.0		ND						12/06/2012
2-Butanone	25.0		ND						12/06/2012
2-Chloroethyl vinyl ether	20.0		ND						12/06/2012
2-Chlorotoluene	5.0		ND						12/06/2012
2-Hexanone	25.0		ND						12/06/2012
4-Chlorotoluene	5.0		ND						12/06/2012
4-Methyl-2-pentanone	25.0		ND						12/06/2012
Acetone	25.0		ND						12/06/2012
Acrolein	100		ND						12/06/2012
Acrylonitrile	5.0		ND						12/06/2012
Benzene	2.0		ND						12/06/2012
Bromobenzene	5.0		ND						12/06/2012
Bromochloromethane	5.0		ND						12/06/2012
Bromodichloromethane	5.0		ND						12/06/2012
Bromoform	5.0		ND						12/06/2012
Bromomethane	10.0		ND						12/06/2012
Carbon disulfide	5.0		ND						12/06/2012
Carbon tetrachloride	5.0		ND						12/06/2012
Chlorobenzene	5.0		ND						12/06/2012
Chloroethane	10.0		ND						12/06/2012
Chloroform	5.0		ND						12/06/2012
Chloromethane	10.0		ND						12/06/2012
cis-1,2-Dichloroethene	5.0		ND						12/06/2012
cis-1,3-Dichloropropene	5.0		ND						12/06/2012
Dibromochloromethane	5.0		ND						12/06/2012
Dichlorodifluoromethane	10.0		ND						12/06/2012
Ethyl methacrylate	5.0		ND						12/06/2012

Client: URS Corporation **Work Order:** 12120317

Client Project: Roxana MW-22 delineation sampling 21562735.00025 **Report Date:** 07-Dec-12

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 83975 **SampType:** MBLK Units **µg/L**

SampID: MBLK-R121206-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	5.0		**ND**						12/06/2012
Hexachlorobutadiene	5.0		**ND**						12/06/2012
Isopropylbenzene	5.0		**ND**						12/06/2012
m,p-Xylenes	5.0		**ND**						12/06/2012
Methyl tert-butyl ether	2.0		**ND**						12/06/2012
Methylene chloride	5.0		**ND**						12/06/2012
Naphthalene	10.0		**ND**						12/06/2012
n-Butylbenzene	5.0		**ND**						12/06/2012
n-Propylbenzene	5.0		**ND**						12/06/2012
o-Xylene	5.0		**ND**						12/06/2012
p-Isopropyltoluene	5.0		**ND**						12/06/2012
sec-Butylbenzene	5.0		**ND**						12/06/2012
Styrene	5.0		**ND**						12/06/2012
tert-Butylbenzene	5.0		**ND**						12/06/2012
Tetrachloroethene	5.0		**ND**						12/06/2012
Toluene	5.0		**ND**						12/06/2012
trans-1,2-Dichloroethene	5.0		**ND**						12/06/2012
trans-1,3-Dichloropropene	5.0		**ND**						12/06/2012
Trichloroethene	5.0		**ND**						12/06/2012
Trichlorofluoromethane	5.0		**ND**						12/06/2012
Vinyl acetate	10.0		**ND**						12/06/2012
Vinyl chloride	2.0		**ND**						12/06/2012
Xylenes, Total	5.0		**ND**						12/06/2012
Surr: 1,2-Dichloroethane-d4			**50.0**	50.0		100.0	74.7	129	12/06/2012
Surr: 4-Bromofluorobenzene			**52.3**	50.0		104.6	86	119	12/06/2012
Surr: Dibromofluoromethane			**49.9**	50.0		99.8	81.7	123	12/06/2012
Surr: Toluene-d8			**48.9**	50.0		97.8	84.3	114	12/06/2012

Client: URS Corporation **Work Order:** 12120317

Client Project: Roxana MW-22 delineation sampling 21562735.00025 **Report Date:** 07-Dec-12

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 83975 **SampType:** LCSD Units µg/L RPD Limit 40

SampID: LCSD-R121206-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1,1,2-Tetrachloroethane	5.0		**51.6**	50.0	0	103.3	49.48	4.25	12/06/2012
1,1,1-Trichloroethane	5.0		**51.1**	50.0	0	102.2	47.47	7.35	12/06/2012
1,1,2,2-Tetrachloroethane	5.0		**51.5**	50.0	0	102.9	51.24	0.45	12/06/2012
1,1,2-Trichloroethane	5.0		**50.0**	50.0	0	99.9	48.05	3.90	12/06/2012
1,1-Dichloroethane	5.0		**51.1**	50.0	0	102.1	47.50	7.22	12/06/2012
1,1-Dichloroethene	5.0		**47.8**	50.0	0	95.5	44.90	6.19	12/06/2012
1,1-Dichloropropene	5.0		**49.1**	50.0	0	98.2	45.96	6.61	12/06/2012
1,2,3-Trichlorobenzene	5.0		**49.3**	50.0	0	98.7	47.38	4.03	12/06/2012
1,2,3-Trichloropropane	5.0		**50.8**	50.0	0	101.6	50.24	1.13	12/06/2012
1,2,4-Trichlorobenzene	5.0		**50.3**	50.0	0	100.6	48.69	3.23	12/06/2012
1,2,4-Trimethylbenzene	5.0		**52.2**	50.0	0	104.4	50.65	2.99	12/06/2012
1,2-Dibromo-3-chloropropane	5.0		**50.9**	50.0	0	101.8	50.41	0.97	12/06/2012
1,2-Dibromoethane	5.0		**51.4**	50.0	0	102.7	49.93	2.82	12/06/2012
1,2-Dichlorobenzene	5.0		**50.7**	50.0	0	101.4	49.58	2.27	12/06/2012
1,2-Dichloroethane	5.0		**50.0**	50.0	0	100.0	47.95	4.17	12/06/2012
1,2-Dichloropropane	5.0		**52.3**	50.0	0	104.6	49.79	4.92	12/06/2012
1,3,5-Trimethylbenzene	5.0		**52.7**	50.0	0	105.4	50.80	3.65	12/06/2012
1,3-Dichlorobenzene	5.0		**52.0**	50.0	0	104.0	49.97	3.94	12/06/2012
1,3-Dichloropropane	5.0		**52.3**	50.0	0	104.6	50.05	4.42	12/06/2012
1,4-Dichlorobenzene	5.0		**50.0**	50.0	0	99.9	48.95	2.06	12/06/2012
2,2-Dichloropropane	5.0		**49.6**	50.0	0	99.2	46.31	6.88	12/06/2012
2-Butanone	25.0		**134**	125	0	107.4	130.6	2.75	12/06/2012
2-Chloroethyl vinyl ether	20.0		**36.5**	50.0	0	72.9	36.01	1.24	12/06/2012
2-Chlorotoluene	5.0		**51.5**	50.0	0	103.0	50.24	2.44	12/06/2012
2-Hexanone	25.0		**134**	125	0	107.3	128.4	4.31	12/06/2012
4-Chlorotoluene	5.0		**51.3**	50.0	0	102.6	49.54	3.51	12/06/2012
4-Methyl-2-pentanone	25.0		**132**	125	0	105.5	128.1	2.89	12/06/2012
Acetone	25.0		**128**	125	0	102.4	123.8	3.35	12/06/2012
Acrolein	100		**321**	500	0	64.2	322.0	0.31	12/06/2012
Acrylonitrile	5.0		**53.9**	50.0	0	107.7	51.09	5.28	12/06/2012
Benzene	2.0		**51.6**	50.0	0	103.1	49.04	5.03	12/06/2012
Bromobenzene	5.0		**53.4**	50.0	0	106.7	50.61	5.31	12/06/2012
Bromochloromethane	5.0		**51.9**	50.0	0	103.8	50.75	2.26	12/06/2012
Bromodichloromethane	5.0		**54.8**	50.0	0	109.5	51.92	5.31	12/06/2012
Bromoform	5.0		**51.3**	50.0	0	102.5	50.53	1.43	12/06/2012
Bromomethane	10.0		**55.4**	50.0	0	110.8	51.13	8.02	12/06/2012
Carbon disulfide	5.0		**45.5**	50.0	0	91.0	42.44	6.96	12/06/2012
Carbon tetrachloride	5.0		**51.5**	50.0	0	102.9	47.82	7.35	12/06/2012
Chlorobenzene	5.0		**50.1**	50.0	0	100.1	47.08	6.16	12/06/2012
Chloroethane	10.0		**63.8**	50.0	0	127.5	58.22	9.07	12/06/2012
Chloroform	5.0		**49.5**	50.0	0	99.1	47.57	4.06	12/06/2012
Chloromethane	10.0		**54.4**	50.0	0	108.9	51.95	4.68	12/06/2012
cis-1,2-Dichloroethene	5.0		**52.5**	50.0	0	105.0	50.03	4.86	12/06/2012
cis-1,3-Dichloropropene	5.0		**51.6**	50.0	0	103.2	49.59	3.95	12/06/2012
Dibromochloromethane	5.0		**52.5**	50.0	0	105.0	50.29	4.30	12/06/2012
Dichlorodifluoromethane	10.0		**53.4**	50.0	0	106.9	49.35	7.94	12/06/2012
Ethyl methacrylate	5.0		**53.7**	50.0	0	107.4	51.19	4.80	12/06/2012

Client: URS Corporation **Work Order:** 12120317

Client Project: Roxana MW-22 delineation sampling 21562735.00025 **Report Date:** 07-Dec-12

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch **83975** **SampType:** **LCSD** Units **µg/L** RPD Limit **40**

SampID: LCSD-R121206-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
Ethylbenzene	5.0		**48.1**	50.0	0	96.2	45.47	5.66	12/06/2012
Hexachlorobutadiene	5.0		**51.7**	50.0	0	103.3	47.32	8.79	12/06/2012
Isopropylbenzene	5.0		**50.1**	50.0	0	100.2	46.95	6.51	12/06/2012
m,p-Xylenes	5.0		**101**	100	0	101.0	95.52	5.58	12/06/2012
Methyl tert-butyl ether	2.0		**52.7**	50.0	0	105.5	50.63	4.08	12/06/2012
Methylene chloride	5.0		**47.4**	50.0	0	94.9	45.15	4.95	12/06/2012
Naphthalene	10.0		**53.4**	50.0	0	106.8	51.66	3.33	12/06/2012
n-Butylbenzene	5.0		**49.6**	50.0	0	99.1	46.75	5.84	12/06/2012
n-Propylbenzene	5.0		**51.5**	50.0	0	103.1	49.21	4.61	12/06/2012
o-Xylene	5.0		**50.8**	50.0	0	101.5	47.65	6.30	12/06/2012
p-Isopropyltoluene	5.0		**52.4**	50.0	0	104.8	50.50	3.71	12/06/2012
sec-Butylbenzene	5.0		**50.8**	50.0	0	101.7	48.35	5.02	12/06/2012
Styrene	5.0		**53.1**	50.0	0	106.1	50.01	5.94	12/06/2012
tert-Butylbenzene	5.0		**50.6**	50.0	0	101.2	49.06	3.05	12/06/2012
Tetrachloroethene	5.0		**46.8**	50.0	0	93.6	43.84	6.57	12/06/2012
Toluene	5.0		**50.6**	50.0	0	101.2	47.72	5.86	12/06/2012
trans-1,2-Dichloroethene	5.0		**51.1**	50.0	0	102.2	48.00	6.26	12/06/2012
trans-1,3-Dichloropropene	5.0		**52.9**	50.0	0	105.9	50.42	4.86	12/06/2012
Trichloroethene	5.0		**49.5**	50.0	0	99.1	47.57	4.06	12/06/2012
Trichlorofluoromethane	5.0		**51.9**	50.0	0	103.8	47.69	8.49	12/06/2012
Vinyl acetate	10.0		**56.2**	50.0	0	112.3	51.47	8.73	12/06/2012
Vinyl chloride	2.0		**53.2**	50.0	0	106.4	48.71	8.83	12/06/2012
Xylenes, Total	5.0		**152**	150	0	101.2	143.2	5.82	12/06/2012
Surr: 1,2-Dichloroethane-d4			**50.3**	50.0		100.5			12/06/2012
Surr: 4-Bromofluorobenzene			**50.6**	50.0		101.2			12/06/2012
Surr: Dibromofluoromethane			**50.1**	50.0		100.1			12/06/2012
Surr: Toluene-d8			**49.6**	50.0		99.3			12/06/2012

Client: URS Corporation **Work Order:** 12120317

Client Project: Roxana MW-22 delineation sampling 21562735.00025 **Report Date:** 07-Dec-12

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 83975 **SampType:** LCS Units µg/L

SampID: LCS-R121206-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1,1,2-Tetrachloroethane	5.0		**49.5**	50.0	0	99.0	0	200	12/06/2012
1,1,1-Trichloroethane	5.0		**47.5**	50.0	0	94.9	82.5	119	12/06/2012
1,1,2,2-Tetrachloroethane	5.0		**51.2**	50.0	0	102.5	0	200	12/06/2012
1,1,2-Trichloroethane	5.0		**48.0**	50.0	0	96.1	0	200	12/06/2012
1,1-Dichloroethane	5.0		**47.5**	50.0	0	95.0	0	200	12/06/2012
1,1-Dichloroethene	5.0		**44.9**	50.0	0	89.8	76.5	122	12/06/2012
1,1-Dichloropropene	5.0		**46.0**	50.0	0	91.9	0	200	12/06/2012
1,2,3-Trichlorobenzene	5.0		**47.4**	50.0	0	94.8	0	200	12/06/2012
1,2,3-Trichloropropane	5.0		**50.2**	50.0	0	100.5	0	200	12/06/2012
1,2,4-Trichlorobenzene	5.0		**48.7**	50.0	0	97.4	0	200	12/06/2012
1,2,4-Trimethylbenzene	5.0		**50.6**	50.0	0	101.3	0	200	12/06/2012
1,2-Dibromo-3-chloropropane	5.0		**50.4**	50.0	0	100.8	0	200	12/06/2012
1,2-Dibromoethane	5.0		**49.9**	50.0	0	99.9	85	115	12/06/2012
1,2-Dichlorobenzene	5.0		**49.6**	50.0	0	99.2	86.4	116	12/06/2012
1,2-Dichloroethane	5.0		**48.0**	50.0	0	95.9	82	121	12/06/2012
1,2-Dichloropropane	5.0		**49.8**	50.0	0	99.6	0	200	12/06/2012
1,3,5-Trimethylbenzene	5.0		**50.8**	50.0	0	101.6	0	200	12/06/2012
1,3-Dichlorobenzene	5.0		**50.0**	50.0	0	99.9	85.2	116	12/06/2012
1,3-Dichloropropane	5.0		**50.0**	50.0	0	100.1	0	200	12/06/2012
1,4-Dichlorobenzene	5.0		**49.0**	50.0	0	97.9	83.6	117	12/06/2012
2,2-Dichloropropane	5.0		**46.3**	50.0	0	92.6	0	200	12/06/2012
2-Butanone	25.0		**131**	125	0	104.5	65	124	12/06/2012
2-Chloroethyl vinyl ether	20.0		**36.0**	50.0	0	72.0	0	200	12/06/2012
2-Chlorotoluene	5.0		**50.2**	50.0	0	100.5	0	200	12/06/2012
2-Hexanone	25.0		**128**	125	0	102.8	0	200	12/06/2012
4-Chlorotoluene	5.0		**49.5**	50.0	0	99.1	0	200	12/06/2012
4-Methyl-2-pentanone	25.0		**128**	125	0	102.5	0	200	12/06/2012
Acetone	25.0		**124**	125	0	99.1	0	200	12/06/2012
Acrolein	100		**322**	500	0	64.4	0	200	12/06/2012
Acrylonitrile	5.0		**51.1**	50.0	0	102.2	0	200	12/06/2012
Benzene	2.0		**49.0**	50.0	0	98.1	82.7	117	12/06/2012
Bromobenzene	5.0		**50.6**	50.0	0	101.2	0	200	12/06/2012
Bromochloromethane	5.0		**50.8**	50.0	0	101.5	0	200	12/06/2012
Bromodichloromethane	5.0		**51.9**	50.0	0	103.8	87.4	119	12/06/2012
Bromoform	5.0		**50.5**	50.0	0	101.1	0	200	12/06/2012
Bromomethane	10.0		**51.1**	50.0	0	102.3	0	200	12/06/2012
Carbon disulfide	5.0		**42.4**	50.0	0	84.9	0	200	12/06/2012
Carbon tetrachloride	5.0		**47.8**	50.0	0	95.6	78.8	130	12/06/2012
Chlorobenzene	5.0		**47.1**	50.0	0	94.2	84.5	114	12/06/2012
Chloroethane	10.0		**58.2**	50.0	0	116.4	0	200	12/06/2012
Chloroform	5.0		**47.6**	50.0	0	95.1	79	113	12/06/2012
Chloromethane	10.0		**52.0**	50.0	0	103.9	0	200	12/06/2012
cis-1,2-Dichloroethene	5.0		**50.0**	50.0	0	100.1	0	200	12/06/2012
cis-1,3-Dichloropropene	5.0		**49.6**	50.0	0	99.2	0	200	12/06/2012
Dibromochloromethane	5.0		**50.3**	50.0	0	100.6	84	119	12/06/2012
Dichlorodifluoromethane	10.0		**49.4**	50.0	0	98.7	0	200	12/06/2012
Ethyl methacrylate	5.0		**51.2**	50.0	0	102.4	0	200	12/06/2012

Client: URS Corporation **Work Order:** 12120317

Client Project: Roxana MW-22 delineation sampling 21562735.00025 **Report Date:** 07-Dec-12

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 83975 **SampType:** LCS Units **µg/L**

SampID: LCS-R121206-1

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
Ethylbenzene	5.0		**45.5**	50.0	0	90.9	83	113	12/06/2012
Hexachlorobutadiene	5.0		**47.3**	50.0	0	94.6	0	200	12/06/2012
Isopropylbenzene	5.0		**47.0**	50.0	0	93.9	0	200	12/06/2012
m,p-Xylenes	5.0		**95.5**	100	0	95.5	80.3	116	12/06/2012
Methyl tert-butyl ether	2.0		**50.6**	50.0	0	101.3	69.1	121	12/06/2012
Methylene chloride	5.0		**45.2**	50.0	0	90.3	79.1	122	12/06/2012
Naphthalene	10.0		**51.7**	50.0	0	103.3	60.4	129	12/06/2012
n-Butylbenzene	5.0		**46.8**	50.0	0	93.5	0	200	12/06/2012
n-Propylbenzene	5.0		**49.2**	50.0	0	98.4	0	200	12/06/2012
o-Xylene	5.0		**47.6**	50.0	0	95.3	83.2	120	12/06/2012
p-Isopropyltoluene	5.0		**50.5**	50.0	0	101.0	0	200	12/06/2012
sec-Butylbenzene	5.0		**48.4**	50.0	0	96.7	0	200	12/06/2012
Styrene	5.0		**50.0**	50.0	0	100.0	0	200	12/06/2012
tert-Butylbenzene	5.0		**49.1**	50.0	0	98.1	0	200	12/06/2012
Tetrachloroethene	5.0		**43.8**	50.0	0	87.7	68.7	113	12/06/2012
Toluene	5.0		**47.7**	50.0	0	95.4	79.6	116	12/06/2012
trans-1,2-Dichloroethene	5.0		**48.0**	50.0	0	96.0	0	200	12/06/2012
trans-1,3-Dichloropropene	5.0		**50.4**	50.0	0	100.8	0	200	12/06/2012
Trichloroethene	5.0		**47.6**	50.0	0	95.1	79.4	111	12/06/2012
Trichlorofluoromethane	5.0		**47.7**	50.0	0	95.4	0	200	12/06/2012
Vinyl acetate	10.0		**51.5**	50.0	0	102.9	0	200	12/06/2012
Vinyl chloride	2.0		**48.7**	50.0	0	97.4	0	200	12/06/2012
Xylenes, Total	5.0		**143**	150	0	95.4	80.3	120	12/06/2012
Surr: 1,2-Dichloroethane-d4			**50.1**	50.0		100.3	74.7	129	12/06/2012
Surr: 4-Bromofluorobenzene			**52.2**	50.0		104.3	86	119	12/06/2012
Surr: Dibromofluoromethane			**50.7**	50.0		101.5	81.7	123	12/06/2012
Surr: Toluene-d8			**49.2**	50.0		98.3	84.3	114	12/06/2012

Batch 83975 **SampType:** MS Units **mg/L**

SampID: 12120166-001CMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1-Dichloroethene	0.500		**4.72**	5.00	0	94.4	61.3	123	12/06/2012
1,2-Dichloroethane	0.500		**4.83**	5.00	0	96.6	71.5	116	12/06/2012
1,4-Dichlorobenzene	0.500		**5.03**	5.00	0	100.6	76.9	113	12/06/2012
2-Butanone	2.50		**4.75**	5.00	0	95.0	64.1	132	12/06/2012
Benzene	0.200		**5.46**	5.00	0.3480	102.2	81.5	113	12/06/2012
Carbon tetrachloride	0.500		**5.24**	5.00	0	104.9	55.5	125	12/06/2012
Chlorobenzene	0.500		**4.99**	5.00	0	99.7	81.8	111	12/06/2012
Chloroform	0.500		**4.91**	5.00	0	98.2	81	115	12/06/2012
Tetrachloroethene	0.500		**4.65**	5.00	0	92.9	61.7	114	12/06/2012
Trichloroethene	0.500		**5.03**	5.00	0	100.5	74.4	117	12/06/2012
Vinyl chloride	0.200		**3.91**	5.00	0	78.2	45.7	130	12/06/2012
Surr: 1,2-Dichloroethane-d4			**4.97**	5.00		99.5	74.7	129	12/06/2012
Surr: 4-Bromofluorobenzene			**5.09**	5.00		101.9	86	119	12/06/2012
Surr: Dibromofluoromethane			**4.90**	5.00		98.0	81.7	123	12/06/2012
Surr: Toluene-d8			**4.92**	5.00		98.5	84.3	114	12/06/2012

Client: URS Corporation **Work Order:** 12120317

Client Project: Roxana MW-22 delineation sampling 21562735.00025 **Report Date:** 07-Dec-12

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch 83975 **SampType:** MSD Units **mg/L** RPD Limit **20**

SampID: 12120166-001CMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1-Dichloroethene	0.500		**4.92**	5.00	0	98.4	4.720	4.11	12/06/2012
1,2-Dichloroethane	0.500		**4.82**	5.00	0	96.5	4.832	0.17	12/06/2012
1,4-Dichlorobenzene	0.500		**5.13**	5.00	0	102.6	5.031	1.97	12/06/2012
2-Butanone	2.50		**4.89**	5.00	0	97.9	4.751	2.94	12/06/2012
Benzene	0.200		**5.57**	5.00	0.3480	104.4	5.458	2.03	12/06/2012
Carbon tetrachloride	0.500		**5.40**	5.00	0	108.1	5.243	3.01	12/06/2012
Chlorobenzene	0.500		**4.95**	5.00	0	98.9	4.986	0.79	12/06/2012
Chloroform	0.500		**5.01**	5.00	0	100.2	4.908	2.04	12/06/2012
Tetrachloroethene	0.500		**4.72**	5.00	0	94.4	4.647	1.54	12/06/2012
Trichloroethene	0.500		**5.08**	5.00	0	101.7	5.026	1.17	12/06/2012
Vinyl chloride	0.200		**4.15**	5.00	0	82.9	3.912	5.83	12/06/2012
Surr: 1,2-Dichloroethane-d4			**5.00**	5.00		99.9			12/06/2012
Surr: 4-Bromofluorobenzene			**5.04**	5.00		100.8			12/06/2012
Surr: Dibromofluoromethane			**4.92**	5.00		98.3			12/06/2012
Surr: Toluene-d8			**4.87**	5.00		97.5			12/06/2012

Batch 83975 **SampType:** MS Units **µg/L**

SampID: 12120197-011DMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1-Dichloroethene	5.0		**49.0**	56.0	0	87.4	35.7	136	12/06/2012
Benzene	2.0		**48.2**	56.0	0	86.0	62.5	121	12/06/2012
Chlorobenzene	5.0		**45.5**	56.0	0	81.3	78.6	114	12/06/2012
Ethylbenzene	5.0		**44.3**	56.0	0	79.0	74.4	130	12/06/2012
m,p-Xylenes	5.0		**46.5**	56.0	0	83.1	70.5	126	12/06/2012
o-Xylene	5.0		**45.5**	56.0	0	81.2	71.2	124	12/06/2012
Toluene	5.0		**46.1**	56.0	0	82.3	69.5	118	12/06/2012
Trichloroethene	5.0		**49.2**	56.0	2.120	84.0	69.4	117	12/06/2012
Xylenes, Total	5.0		**92.0**	112	0	82.2	71.1	125	12/06/2012
Surr: 1,2-Dichloroethane-d4			**50.4**	50.0		100.8	74.7	129	12/06/2012
Surr: 4-Bromofluorobenzene			**53.0**	50.0		106.0	86	119	12/06/2012
Surr: Dibromofluoromethane			**48.7**	50.0		97.4	81.7	123	12/06/2012
Surr: Toluene-d8			**49.2**	50.0		98.5	84.3	114	12/06/2012

Client: URS Corporation **Work Order:** 12120317

Client Project: Roxana MW-22 delineation sampling 21562735.00025 **Report Date:** 07-Dec-12

SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS

Batch **83975** **SampType:** **MSD** Units **µg/L** RPD Limit **20**

SampID: 12120197-011DMSD

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	RPD Ref Val	%RPD	Date Analyzed
1,1-Dichloroethene	5.0		**49.3**	56.0	0	88.0	48.96	0.67	12/06/2012
Benzene	2.0		**48.8**	56.0	0	87.1	48.18	1.24	12/06/2012
Chlorobenzene	5.0		**45.5**	56.0	0	81.2	45.52	0.11	12/06/2012
Ethylbenzene	5.0		**44.9**	56.0	0	80.2	44.26	1.41	12/06/2012
m,p-Xylenes	5.0		**46.6**	56.0	0	83.3	46.52	0.26	12/06/2012
o-Xylene	5.0		**45.9**	56.0	0	81.9	45.49	0.83	12/06/2012
Toluene	5.0		**46.0**	56.0	0	82.1	46.08	0.28	12/06/2012
Trichloroethene	5.0		**49.6**	56.0	2.120	84.9	49.16	0.97	12/06/2012
Xylenes, Total	5.0		**92.5**	112	0	82.6	92.01	0.54	12/06/2012
Surr: 1,2-Dichloroethane-d4			**50.9**	50.0		101.8			12/06/2012
Surr: 4-Bromofluorobenzene			**50.5**	50.0		101.0			12/06/2012
Surr: Dibromofluoromethane			**49.7**	50.0		99.4			12/06/2012
Surr: Toluene-d8			**48.6**	50.0		97.2			12/06/2012

Batch **83975** **SampType:** **MS** Units **mg/L**

SampID: 12120355-001AMS

Analyses	RL	Qual	Result	Spike	SPK Ref Val	%REC	Low Limit	High Limit	Date Analyzed
1,1-Dichloroethene	0.500		**4.70**	5.00	0	93.9	61.3	123	12/06/2012
1,2-Dichloroethane	0.500		**4.82**	5.00	0	96.3	71.5	116	12/06/2012
1,4-Dichlorobenzene	0.500		**5.51**	5.00	0.4670	100.8	76.9	113	12/06/2012
2-Butanone	2.50		**5.17**	5.00	0	103.4	64.1	132	12/06/2012
Benzene	0.200		**6.86**	5.00	1.757	102.0	81.5	113	12/06/2012
Carbon tetrachloride	0.500		**5.12**	5.00	0	102.5	55.5	125	12/06/2012
Chlorobenzene	0.500		**7.54**	5.00	2.676	97.2	81.8	111	12/06/2012
Chloroform	0.500		**4.95**	5.00	0	99.0	81	115	12/06/2012
Tetrachloroethene	0.500		**4.50**	5.00	0	89.9	61.7	114	12/06/2012
Trichloroethene	0.500		**4.92**	5.00	0	98.4	74.4	117	12/06/2012
Vinyl chloride	0.200		**3.89**	5.00	0	77.8	45.7	130	12/06/2012
Surr: 1,2-Dichloroethane-d4			**4.98**	5.00		99.6	74.7	129	12/06/2012
Surr: 4-Bromofluorobenzene			**5.19**	5.00		103.7	86	119	12/06/2012
Surr: Dibromofluoromethane			**4.94**	5.00		98.8	81.7	123	12/06/2012
Surr: Toluene-d8			**4.87**	5.00		97.5	84.3	114	12/06/2012

Teklab, Inc.
Environmental Laboratory

Receiving Check List

http://www.teklabinc.com/

Client: URS Corporation

Work Order: 12120317

Client Project: Roxana MW-22 delineation sampling 21562735.00025

Report Date: 07-Dec-12

Carrier: Mike Corbett

Received By: HLR

Completed by: Emily E. Pohlman
On: 06-Dec-12

Reviewed by: Marvin L. Darling
On: 06-Dec-12

Pages to follow: Chain of custody [1] Extra pages included [0]

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp ℃	***7.4***		
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice	☐		
Chain of custody present?	Yes ☑	No ☐					
Chain of custody signed when relinquished and received?	Yes ☑	No ☐					
Chain of custody agrees with sample labels?	Yes ☑	No ☐					
Samples in proper container/bottle?	Yes ☑	No ☐					
Sample containers intact?	Yes ☑	No ☐					
Sufficient sample volume for indicated test?	Yes ☑	No ☐					
All samples received within holding time?	Yes ☑	No ☐					
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑				
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐					

When thermal preservation is required, samples are compliant with a temperature between 0.1℃ - 6.0℃, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?	Yes ☑	No ☐	No VOA vials	☐
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers	☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐		
NPDES/CWA TCN interferences checked/treated in the field?	Yes ☐	No ☐	NA	☑

Any No responses must be detailed below or on the COC.

CHAIN OF CUSTODY

pg. 1 of 1 Work Order # 12120317

TEKLAB, INC. 5445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618) 344-1004 ~ Fax: (618) 344-1005

Client: URS Corp
Address: 1001 Highlands Plaza Dr. W. Ste 300
City / State / Zip: St. Louis, MO 63110
Contact: Dave Palmer Phone: 314-429-0100
E-Mail: dave.palmer@urs.com Fax: 314-429-0462

Samples on: ☒ Ice ☐ Blue Ice ☐ No Ice 1.4 °C
Preserved in: ☐ Lab ☐ Field FOR LAB USE ONLY
Lab Notes: zero headspace CEP 12/6/12

Comments:

- Are these samples known to be involved in litigation? If yes, a surcharge will apply. ☐ Yes ☐ No
- Are these samples known to be hazardous? ☐ Yes ☐ No
- Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in comment section. ☐ Yes ☐ No

Project Name / Number: Roxana MW-22 delineation sampling 21562735.00025
Sample Collector's Name: Mike Corbett/Susie Jansen

Results Requested: ☐ Standard ☐ 1-2 Day (100% Surcharge) ☒ Other 24 hr TAT ☐ 3 Day (50% Surcharge)
Billing Instructions:

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNPRES	HNO_3	NaOH	H_2SO_4	HCL	MeOH	$NaHSO_4$	Other	MATRIX: Water	Drinking Water	Soil	Sludge	Sp. Waste	INDICATE ANALYSIS REQUESTED: VOC by 624/MS
1220317-001	MW-22-120612	12/6/12 10:10					4				X					X
-002	TB-120612-ROX	12/6/12 —					2				X					X

One Pres Vial

Relinquished By	Date / Time	Received By	Date / Time
[signature]	12/6/12 / 12:00 pm	[signature]	12/6/12 12:00

The individual signing this agreement on behalf of client acknowledges that he/she has read and understands the terms and conditions of this agreement, on the reverse side, and that he/she has the authority to sign on behalf of client.

WHITE – LAB YELLOW – SAMPLER'S COPY

1. Objective

This document defines the standard procedure for decontamination. This SOP serves as a supplement to the project Work/O&M/Field Sampling Plans and is intended to be used together with several other SOPs.

The overall objective of multimedia sampling programs is to obtain samples that accurately depict the chemical, physical, and/or biological conditions at the sampling site. Extraneous contaminants can be brought onto the sampling location and/or introduced into the medium of interest during the sampling program (e.g. using sampling equipment that is not properly or fully decontaminated). Trace quantities of contaminants can consequently be captured in a sample and lead to false positive analytical results and, ultimately, to an incorrect assessment of the contaminant conditions associated with the site. Decontamination of sampling equipment (e.g., all non-disposable equipment that will come in direct contact with samples) and field support equipment (e.g., drill rigs, vehicles) is, therefore, required prior to, between, and after uses to ensure that sampling cross-contamination is prevented, and that on-site contaminants are not carried off-site.

2. Equipment

The following is a list of equipment that may be needed to perform decontamination:

- Brushes
- Wash tubs
- Buckets
- Scrapers, flat bladed
- Hot water - high-pressure sprayer
- Sponges or paper towels
- Alconox/Liquinox detergent (or equivalent)
- Isopropyl alcohol
- Potable tap water
- Deionized or distilled water
- Garden-type water sprayers.
- Plastic sheeting or trash bags

3. Decontamination Procedures

3.1 Personnel

A temporary personnel decontamination line will be set up around each exclusion zone. If contamination is not encountered, a dry decontamination station may be established which consists of discarding of disposable personal protective equipment (PPE).

If real-time monitoring instruments indicate that contamination has been encountered (i.e. action levels are exceeded requiring an upgrade from initial PPE levels), a complete personnel decontamination station will be established.

The temporary decontamination line should provide space to wash and rinse boots, gloves, and all sampling or measuring equipment prior to placing the equipment into a vehicle. A container should be available to dispose of used disposable items such as gloves, tape, or tyvek (if used).

The decontamination procedure for field personnel will include:

1. Glove and boot wash in an Liquinox (or similar) solution
2. Glove and boot rinse
3. Duct tape removal
4. Outer glove removal
5. Coverall removal
6. Respirator removal (if used)
7. Inner glove removal

3.2 Sampling Equipment

The following steps will be used to decontaminate sampling equipment:

1. Personnel will dress in suitable safety PPE to reduce personal exposure as required by the HASP.
2. Gross contamination on equipment will be scraped off at the sampling or construction site.
3. Equipment will be sprayed and/or wiped off with isopropyl alcohol.
4. Equipment that cannot be damaged by liquid or water will be placed in a wash tub or bucket containing Liquinox or similar along with potable or distilled water and

scrubbed with a bristle brush or similar utensil (pumps will be turned on in order to circulate water through).

5. Equipment that cannot be damaged by liquid or water will then be rinsed with distilled water in a second wash tub or bucket.
6. Equipment that may be damaged by liquid/water will be carefully wiped clean using a sponge/paper towel with isopropyl alcohol, followed by a sponge/paper towel with detergent water and a sponge/paper towel with deionized or distilled water. Care will be taken to prevent equipment damage.
7. Rinse water and detergent water will be replaced with new solutions periodically throughout the day, at least at mid-day.

Following decontamination, equipment will be placed in a clean area or on clean plastic sheeting to prevent contact with contaminated media. If the equipment is not used immediately after decontamination, the equipment will be stored in such a way as to minimize potential contact with contaminants.

3.3 Water Level / Interface Probes

The following steps will be used to decontaminate water level meters and water/product interface probes:

1. Personnel will dress in suitable safety PPE to reduce personal exposure as required by the HASP.
2. Paper towel or other disposable media will be saturated with isopropyl alcohol.
3. Measuring tape and probe will be wiped clean as removed from the monitoring well where gauging activities are being performed by passing through the disposable media saturated with isopropyl alcohol.
4. Care will be taken to replace saturated paper towel if gross contamination is observed or it becomes dry during the process.
5. Probe tip will also be sprayed off with isopropyl alcohol, Liquinox (or similar) soapy water solution, and distilled water after wiping.

Following decontamination, equipment will be placed in a clean area or on clean plastic sheeting to prevent potential contact with contaminants.

3.4 Drilling and Heavy Equipment

Drilling rigs will be decontaminated at a decontamination station located near a central staging area. The decontamination station may consist of a temporary or permanent structure capable of collecting all decontamination fluids. Mobile decontamination trailers may be used to decontaminate heavy equipment at each site. The following steps will be used to decontaminate drilling and heavy equipment:

1. Review JSA for drilling and heavy equipment decontamination.
2. Personnel will dress in suitable PPE to reduce personal exposure as required by the HASP.
3. Equipment showing gross contamination or having caked-on drill cuttings will be scraped with a flat-bladed scraper at the sampling or construction site.
4. Equipment that cannot be damaged by water, such as drill rigs, augers, drill bits, and shovels, will be washed with a hot water, high-pressure sprayer then rinsed with potable water. Care will be taken to adequately clean the insides of the hollow-stem augers, backhoe buckets, etc.

Following decontamination, drilling equipment will be placed on the clean drill rig and moved to a clean area. If the equipment is not used immediately, it should be stored in a designated clean area.

3.5 Equipment Leaving the Site

Vehicles used for activities in non-contaminated areas shall be cleaned on an as-needed basis, as determined by the Site Safety Officer, using soap and water on the outside and vacuuming the inside. On-site cleaning will be required for very dirty vehicles leaving the area. Construction equipment such as trucks, drilling rigs, backhoes, trailers, etc., will be pressure washed before the equipment is removed from the site to limit exposure of off-site personnel to potential contaminants.

3.6 Wastewater

Liquid waste water from decontamination activities will be containerized and left at the site where it originated, unless otherwise specified. Check the project/task work plan or with the Shell IDW Coordinator for additional information/guidance.

4. Documentation

Sampling personnel will be responsible for documenting the decontamination of sampling and drilling equipment. The documentation will be recorded with waterproof ink in the sampler's field notebook with consecutively numbered pages. The information entered in the field book concerning decontamination should include the following:

- Decontamination personnel
- Date and start and end times
- Decontamination observations
- Weather conditions.

5. Quality Assurance Requirements

Equipment rinsate samples of the decontaminated sampling equipment may be taken to verify the effectiveness of the decontamination procedures. The rinsate sampling procedure will include rinsing deionized water through or over a decontaminated sampling tool (such as a split spoon) and collecting the rinsate water into the appropriate sample bottles. The rinsate sampling procedure, including the sample number, will be recorded in the field notebook.

GROUNDWATER DEVELOPMENT/SAMPLING DATA SHEET

PROJECT NAME: Roxana PROJECT NUMBER: 21562851.07003
DATE: 9/11/13 & 9/12/13
WEATHER: Cloudy
FIELD PERSONNEL: D. Mattingly, C. Williams
MONITORING WELL ID: MW-1

INITIAL DATA

Well Diameter: 2 in.
Total Depth of Well: ~~60.01~~ 59.13 ft btoc
Depth to Water: 39.57 ft btoc
Height of Water Column: 20.74 ft
(0.163 gal/ft for 2-in well, 0.652 gal/ft for 4-in well, 1.468 gal/ft for 6-in well)

Gallons/Lin.Ft: 0.163
Vol. Of Water Column: 3.38 gallons
Min. Purge Volume: 16.90 gallons (5 volumes)
Depth to Top of Screen: ~~49.98~~ 48.80 ft btoc

Water Added during Drilling: N/A gallons
Total Water to be Removed: -17 gallons
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 7.4 ppm

PURGE DATA

Purge Method: Water Spout

Stabilized: +/- 0.2 +/- 1 °C +/- 10 % visually sediment free

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (µmhos/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
	1442									
	1456						94 min.		19 gal	

Start Time: 0900
Purge Stop Time: 0930
Elapsed Time: 30 min.
Total Volume Purged: 23 gallons gallons
Average Purge Rate (gallons/min): 1.36 gal/min
Well Volumes Purged: 5.62 6.80
Water Quality Meter ID:
Calibrated on:

SAMPLING DATA

Sampling Method: —

Sample Date: N/A Sample Time: N/A Analysis: N/A

COMMENTS:

DTB = 58.97 ft btoc prior to development
DTB = 59.05 ft btoc after development
59.13
WATER QUALITY PARAMETERS NOT COLLECTED PER URS SOP.

WATER VISUALLY SEDIMENT FREE? Yes (yes / no)

TOTAL VOLUME OF WATER REMOVED: 42 gallons
+13
55 gallons

GROUNDWATER DEVELOPMENT/SAMPLING DATA SHEET

PROJECT NAME: Roxana **PROJECT NUMBER:** 21562851.07003
DATE: 9/12/13 & 9/13/13
WEATHER: Sunny
FIELD PERSONNEL: D. Mattingly, C. Williams
MONITORING WELL ID: MW-2

INITIAL DATA

Well Diameter: 2 in.
Total Depth of Well: ~~61.65~~ 60.20 ft btoc
Depth to Water: 40.87 ft btoc
Height of Water Column: 20.78 ft
(0.163 gal/ft for 2-in well, 0.652 gal/ft for 4-in well, 1.468 gal/ft for 6-in well)

Gallons/Lin.Ft: 0.163
Vol. Of Water Column: 3.39 gallons
Min. Purge Volume: 16.94 gallons (5 volumes)
Depth to Top of Screen: ~~51.22~~ 49.87 ft btoc

Water Added during Drilling: N/A gallons
Total Water to be Removed: ~17 gallons
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 133.9 ppm

PURGE DATA

Purge Method: Water Spout

Stabilized: +/- 0.2 +/- 1 °C +/- 10 % visually sediment free

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (µmhos/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
				DMX CW						

Start Time: 1429/0920
Purge Stop Time: 1452/0935
Elapsed Time: 23 min / 15 min
Total Volume Purged: ~17/n/0 gallons
Average Purge Rate (gallons/min): 0.73 gallon
Well Volumes Purged: ~~5.01~~ / 2.95
Water Quality Meter ID:
Calibrated on:

SAMPLING DATA

Sampling Method: —

Sample Date: N/A **Sample Time:** N/A **Analysis:** N/A

COMMENTS: 60.07
DTB = 60.05 ft btoc **prior to development**
DTB = 60.07 / 60.20 ft btoc **after development**
WATER QUALITY PARAMETERS NOT COLLECTED PER URS SOP.

WATER VISUALLY SEDIMENT FREE? Yes (yes / no)

TOTAL VOLUME OF WATER REMOVED: ~27 gallons

GROUNDWATER DEVELOPMENT/SAMPLING DATA SHEET

PROJECT NAME: Roxana **PROJECT NUMBER:** 21562851.07003
DATE: 9/12/13
WEATHER: Cloudy
FIELD PERSONNEL: DMattingly, CWilliams
MONITORING WELL ID: MW-4

INITIAL DATA

Well Diameter: 2 in.
Total Depth of Well: 56.39 ft btoc
Depth to Water: 37.90 ft btoc
Height of Water Column: 18.49 ft
(0.163 gal/ft for 2-in well, 0.652 gal/ft for 4-in well, 1.468 gal/ft for 6-in well)

Gallons/Lin.Ft: 0.163
Vol. Of Water Column: 3.01 gallons
Min. Purge Volume: 15.07 gallons (5 volumes)
Depth to Top of Screen: 46.06 ft btoc

Water Added during Drilling: N/A gallons
Total Water to be Removed: ~16 gallons
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 84.5 ppm

PURGE DATA

Purge Method: water sport

Stabilized: +/- 0.2 +/- 1 °C +/- 10 % visually sediment free

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (µmhos/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
					DRY					

Start Time: 1026/1135 **Purge Stop Time:** 1042/1200 **Elapsed Time:** 14 min / 25 min **Total Volume Purged:** ~23 + ~25 gallons
Average Purge Rate (gallons/min): 1.64 gal/min **Well Volumes Purged:** 7.64/8.31 **Water Quality Meter ID:** **Calibrated on:**

SAMPLING DATA

Sampling Method:

Sample Date: N/A **Sample Time:** N/A **Analysis:** N/A

COMMENTS:

DTB = 54.91 ft btoc **prior to development**
DTB = ~~55.10~~ 55.74 ft btoc **after development**
WATER QUALITY PARAMETERS NOT COLLECTED PER URS SOP.

WATER VISUALLY SEDIMENT FREE? YES (yes / no)

TOTAL VOLUME OF WATER REMOVED: ~23 gallons
~48

GROUNDWATER DEVELOPMENT/SAMPLING DATA SHEET

PROJECT NAME: Roxana PROJECT NUMBER: 21562851.07003
DATE: 9/11/13, 9/13/13
WEATHER: Sunny, 70°F
FIELD PERSONNEL: Dmattingly, CWilliams
MONITORING WELL ID: MW-6A

INITIAL DATA

Well Diameter: 2 in.
Total Depth of Well: 45.16 ft btoc
Depth to Water: 28.33, 28.34 ft btoc
Height of Water Column: 16.83 ft
(0.163 gal/ft for 2-in well, 0.652 gal/ft for 4-in well, 1.468 gal/ft for 6-in well)

Gallons/Lin.Ft: 0.163
Vol. Of Water Column: 2.74 gallons
Min. Purge Volume: 13.71 gallons (5 volumes)
Depth to Top of Screen: 34.83 ft btoc

Water Added during Drilling: N/A gallons
Total Water to be Removed: 14 gallons
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Purge Method: water spout

Stabilized: +/- 0.2 +/- 1 °C +/- 10 % visually sediment free

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (µmhos/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
					DM					

Start Time: 1306 / 0920 Purge Stop Time: 1320/0930 Elapsed Time: 14min/15min Total Volume Purged: 15/10 gallons
Average Purge Rate (gallons/min): 1.07 gal/min Well Volumes Purged: 5.47/3.65 Water Quality Meter ID: — Calibrated on: —

SAMPLING DATA

Sampling Method:

Sample Date: N/A Sample Time: N/A Analysis: N/A

COMMENTS:
DTB = 44.00/44.19 ft btoc prior to development
DTB = 44.09/44.28 ft btoc after development

WATER QUALITY PARAMETERS NOT COLLECTED PER URS SOP.

WATER VISUALLY SEDIMENT FREE? yes (yes / no)

TOTAL VOLUME OF WATER REMOVED: ~25 gallons

GROUNDWATER DEVELOPMENT/SAMPLING DATA SHEET

PROJECT NAME: Roxana PROJECT NUMBER: 21562851.07003
DATE: 9/10/13
WEATHER: Sunny
FIELD PERSONNEL: DMattingly, CWilliams
MONITORING WELL ID: MW-9

INITIAL DATA

Well Diameter: 2 in.
Total Depth of Well: 56.78 ft btoc 55.87
Depth to Water: 41.71 ft btoc soft
Height of Water Column: 15.07 ft
(0.163 gal/ft for 2-in well, 0.652 gal/ft for 4-in well, 1.468 gal/ft for 6-in well)

Gallons/Lin.Ft: 0.163 gal/ft
Vol. Of Water Column: 2.46 gallons
Min. Purge Volume: 12.28 gallons (5 volumes)
Depth to Top of Screen: 46.45 ft btoc

Water Added during Drilling: N/A gallons
Total Water to be Removed: 13 gallons
Ambient PID/FID Reading: 0.8 ppm
Wellbore PID/FID Reading: 0.8 ppm

PURGE DATA

Purge Method: water spout

Stabilized: +/- 0.2 +/- 1 °C +/- 10 % visually sediment free

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (µmhos/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)

Start Time: 1408 Purge Stop Time: 1420 Elapsed Time: 12 min Total Volume Purged: 15 gallons
Average Purge Rate (gallons/min): 1.25 gal/min Well Volumes Purged: 6 Water Quality Meter ID: — Calibrated on: —

SAMPLING DATA

Sampling Method:

Sample Date: N/A Sample Time: N/A Analysis: N/A

COMMENTS:
DTB = 55.87 ft btoc prior to development
DTB = 56.13 ft btoc after development

WATER QUALITY PARAMETERS NOT COLLECTED PER URS SOP.

WATER VISUALLY SEDIMENT FREE? yes (yes / no)

TOTAL VOLUME OF WATER REMOVED: 15 gallons

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathbun, D. Mattingly

DATE: 7/8/13 WEATHER: Cloudy 80°F

MONITORING WELL ID: MW-1 SAMPLE ID: MW1-ROX-070813

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 60.31 ft
Depth to Water (btoc): 39.50 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 49.98 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 20.75 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) = 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: 0.0 ppm
Wellbore PID/FID Reading: 0.5 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	09:44	39.57	clear	none	6.74	1.104	-10	0.71	25.08	19.34
1200	09:47	39.57	clear	none	6.74	1.082	-23	0.75	28.02	19.33
2000	09:49	39.57	clear	none	6.75	1.071	-30	0.87	28.22	19.29
3200	09:52	39.57	clear	none	6.76	1.068	-35	0.90	28.82	19.26

Start Time: 09:44 Elapsed Time (min): 8 Water Quality Meter ID & SN: TROLL 9500 - RH047

Stop Time: 09:52 Average Purge Rate (mL/min): 400 Date Calibrated: 7/8/13

SAMPLING DATA

Sample Date: 7/8/13 Sample Time: 09:55 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☑ Initials: LAR

COMMENTS:

Total Purge Volume: 3200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW | PROJECT NUMBER: 21562850.03003 | FIELD PERSONNEL: L. Rothrock, & D. Mattingly

DATE: 7/11/13 | WEATHER: Sunny 75°F

MONITORING WELL ID: MW-2 | SAMPLE ID: MW2-ROX-071113, MW2-ROX-071113-EB

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 61.65 ft
Depth to Water (btoc): 40.82 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 51.32 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 20.83 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: 0.0 ppm
Wellbore PID/FID Reading: 167.4 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	11:09	40.82	clear	strong	6.78	1.327	-97	0.25	24.36	21.17
1200	11:12	40.82	clear	strong	6.77	1.331	-99	0.16	29.24	21.216
2400	11:15	40.82	clear	strong	6.77	1.339	-100	0.13	31.27	21.47
3200	11:17	40.82	clear	strong	6.77	1.335	-102	0.07	17.72	21.71
4000	11:19	40.82	clear	strong	6.76	1.330	-102	0.06	19.38	21.68
5200	11:22	40.82	clear	strong	6.76	1.332	-103	0.06	22.40	21.77
6000	11:24	40.82	clear	strong	6.76	1.332	-104	0.02	11.39	21.83
7200	11:27	40.82	clear	strong	6.76	1.333	-104	0.01	11.60	21.81
8000	11:29	40.82	clear	strong	6.76	1.325	-104	0.01	10.25	21.69
9200	11:32	40.82	clear	strong	6.76	1.325	-104	0.02	10.90	21.96
10000	11:34	40.82	clear	strong	6.76	1.326	-105	-0.00	9.689	21.55

Start Time: 11:09 | Elapsed Time (min): 25 | Water Quality Meter ID & SN: TROLL 9500 -- R24047

Stop Time: 11:34 | Average Purge Rate (mL/min): 400 | Date Calibrated: 7/11/13

SAMPLING DATA

Sample Date: 7/11/13 | Sample Time: 11:35 | Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☑ Initials: [illegible]

COMMENTS:

Total Purge Volume: 10,000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: DMattingly, L Bathnow

DATE: 7/11/13 WEATHER: Sunny, 77°F

MONITORING WELL ID: MW-3 SAMPLE ID: MW3-ROX-071113

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 45.00 ft
Depth to Water (btoc): 26.32 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): 18.68 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) = 40.00 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: 0.9 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	1018	26.32	Cloudy	HC	6.97	1.084	-127	0.37	32.51	20.36
1200	1021	26.32	Cloudy	HC	6.97	1.092	-131	0.15	27.30	20.29
2000	1023	26.32	Cloudy	HC	6.97	1.093	-136	0.07	30.19	20.14
2800	1025	26.32	Clear	HC	6.98	1.093	-139	0.03	29.75	20.09
3600	1027	26.32	Clear	HC	6.98	1.086	-141	-0.00	16.51	20.08
4400	1029	26.32	Clear	HC	6.98	1.085	-142	-0.02	12.87	20.05
5600	1032	26.32	Clear	HC	6.99	1.084	-143	-0.02	8.730	20.05

DM

Start Time: 1018 Elapsed Time (min): Water Quality Meter ID & SN: TROLL 9500 - R24047

Stop Time: 1032 Average Purge Rate (mL/min): 400 mL/min Date Calibrated: 7/11/13

SAMPLING DATA

Sample Date: 7/11/13 Sample Time: 1035 Lab Analysis: VOC, SVOC

Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 400 mL/min QA/QCSamples: ~~DUP~~ DM EB

VOA Vials, No Headspace ☒ Initials: DM

COMMENTS:

Total Purge Volume: 5600 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathnow, D. Mattingly

DATE: 7/17/13 WEATHER: Sunny 80°F

MONITORING WELL ID: MW-4 SAMPLE ID: MW4-ROX-071713

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 56.39 ft
Depth to Water (btoc): 37.61 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 46.06 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 18.78 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) = 51.06 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: 142.7 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	08:54	37.63	cloudy	strong	6.60	1.476	-76	0.45	139.8	20.46
1200	08:57	37.63	cloudy	strong	6.68	1.488	-90	0.39	97.56	20.48
2000	08:59	37.63	cloudy	strong	6.71	1.491	-96	0.31	81.29	20.53
3200	09:02	37.63	cloudy	strong	6.73	1.490	-99	0.21	80.93	20.49
4000	09:04	37.63	cloudy	strong	6.73	1.489	-100	0.18	78.43	20.54
4800	09:06	37.63	cloudy	strong	6.74	1.484	-102	0.13	93.39	20.45
6000	09:09	37.63	cloudy	strong	6.74	1.483	-102	0.12	42.48	20.42
6800	09:11	37.63	cloudy	strong	6.75	1.485	-103	0.12	35.66	20.43
7600	09:13	37.63	cloudy	strong	6.75	1.486	-103	0.13	38.36	20.51
8800	09:16	37.63	cloudy	strong	6.75	1.485	-105	0.05	23.49	20.55
9600	09:18	37.63	cloudy	strong	6.75	1.482	-105	0.03	26.35	20.46
10400	09:20	37.63	clear	strong	6.75	1.481	-105	-0.00	17.15	20.38
11600	09:23	37.63	clear	strong	6.76	1.478	-105	-0.02	18.57	20.26
12400	09:25	37.63	clear	strong	6.76	1.477	-105	0.00	10.30	20.26
13200	09:27	37.63	clear	strong	6.76	1.481	-105	0.00	10.43	20.38
14400	09:30	37.63	clear	strong	6.76	1.481	-105	-0.02	8.030	20.36

Start Time: 08:54 Elapsed Time (min): 36 Water Quality Meter ID & SN: TROLL 9500 -- R24047

Stop Time: 09:30 Average Purge Rate (mL/min): 400 Date Calibrated: 7/17/13

SAMPLING DATA

Sample Date: 7/17/13 Sample Time: 09:35 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☒ Initials: ___

COMMENTS:

Total Purge Volume: 14400 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW **PROJECT NUMBER:** 21562850.03003 **FIELD PERSONNEL:** L. Rathnow, D. Mattingly

DATE: 7/9/13 **WEATHER:** Sunny 95F

MONITORING WELL ID: MW-5 **SAMPLE ID:** MW5-ROX-070913

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 44.30 ft
Depth to Water (btoc): 26.04 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 33.97 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 18.26 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) = 38.97 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

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	14:30	26.05	cloudy	none	6.82	0.9835	-111	0.49	113.0	20.81
400	14:32	26.05	cloudy	none	6.82	1.040	-116	0.15	99.78	20.65
1600	14:34	26.05	cloudy	none	6.83	1.070	-121	0.10	97.49	20.56
2800	14:37	26.05	cloudy	none	6.84	1.082	-123	0.05	90.83	20.46
3600	14:39	26.05	cloudy	none	6.84	1.090	-125	0.03	84.88	20.43
4400	14:41	26.05	cloudy	none	6.85	1.095	-126	0.02	86.23	20.34
5200	14:43	26.05	cloudy	none	6.84	1.097	-126	0.02	77.69	20.38
6000	14:45	26.05	cloudy	none	6.85	1.096	-127	0.04	60.25	20.34
6800	14:47	26.05	clear	none	6.85	1.099	-127	0.03	46.28	20.30
8000	14:50	26.05	clear	none	6.85	1.102	-127	0.02	38.18	20.34
8800	14:52	26.05	clear	none	6.85	1.102	-127	0.01	28.37	20.30
9600	14:54	26.05	clear	none	6.85	1.103	-127	0.01	28.36	20.30
10400	14:56	26.05	clear	none	6.85	1.099	-127	-0.00	24.57	20.24
11200	14:58	26.05	clear	none	6.85	1.095	-127	-0.01	19.97	20.20
12400	15:01	26.05	clear	none	6.85	1.099	-127	-0.01	18.55	20.25
13200	15:03	26.05	clear	none	6.85	1.103	-127	-0.02	18.38	20.34

Start Time: 14:30 Elapsed Time (min): 48 Water Quality Meter ID & SN: TROLL 9500 -- R24047

Stop Time: 15:18 Average Purge Rate (mL/min): 400 Date Calibrated: 7/9/13

SAMPLING DATA

Sample Date: 7/9/13 Sample Time: 15:20 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☒ Initials: AAR

COMMENTS:

Total Purge Volume: 19200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3313 GW **PROJECT NUMBER:** 215028580.03003 **FIELD PERSONNEL:** L. Rathbun, D. Mattingly

DATE: 7/9/13 **MONITORING WELL ID:** MW-5

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp. (°C)
14000	15:05	26.05	clear	none	6.85	1.103	-127	-0.02	77.32	20.26
14800	15:07	26.05	clear	none	6.85	1.107	-128	-0.02	40.06	20.34
15600	15:09	26.05	clear	none	6.85	1.106	-128	-0.03	22.54	20.39
16800	15:12	26.05	clear	none	6.85	1.107	-128	-0.03	16.66	20.41
17600	15:14	26.05	clear	none	6.85	1.109	-129	-0.03	14.15	20.42
18400	15:16	26.05	clear	none	6.85	1.110	-129	-0.03	13.44	20.51
19200	15:18	26.05	clear	none	6.85	1.113	-129	-0.02	12.87	20.57

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: DMattingly, LRathnow

DATE: 7/9/13 WEATHER: partly sunny

MONITORING WELL ID: MW-6A SAMPLE ID: MW6A-ROX-070913-FB

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 45.16 ft
Depth to Water (btoc): 28.25 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): 16.91 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) = 40.16 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: 0.5 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	1103	28.25	Cloudy	none	6.73	0.9082	-116	0.40	40.81	20.76
1200	1106	28.25	Cloudy	none	6.73	0.8982	-119	0.18	46.46	20.22
2000	1108	28.25	Cloudy	none	6.74	0.8984	-122	0.09	51.19	20.17
2800	1110	28.25	Cloudy	none	6.75	0.8921	-123	0.07	57.91	20.03
3600	1112	28.25	Cloudy	none	6.75	0.8903	-125	0.06	56.94	19.98
4800	1115	28.25	Cloudy	none	6.76	0.8910	-125	0.05	52.65	19.96
5600	1117	28.25	Cloudy	none	6.76	0.8933	-126	0.03	39.57	19.95
6400	1119	28.25	Cloudy	none	6.76	0.8959	-126	0.02	32.54	19.99
7600	1121	28.26	Clear	none	6.76	0.8992	-127	0.02	29.68	20.03
8800	1124	28.25	Clear	none	6.76	0.9039	-127	0.01	24.33	20.04
9600	1126	28.25	Clear	none	6.77	0.9107	-128	0.00	17.69	19.89
10800	1128	28.25	Clear	none	6.77	0.9168	-128	0.00	14.28	20.19
11200	1130	28.25	Clear	none	6.77	0.9234	-128	-0.00	12.12	20.18
12400	1133	28.25	Clear	none	6.77	0.9286	-128	-0.00	9.617	20.15

Start Time: 1103 Elapsed Time (min): 30 Water Quality Meter ID & SN: TROLL 9500 - R24047

Stop Time: 1133 Average Purge Rate (mL/min): 400mL/min Date Calibrated: 7/9/13

SAMPLING DATA

Sample Date: 7/9/13 Sample Time: 1135 Lab Analysis: VOC, SVOC

Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 400mL/min QA/QC Samples: EB

VOA Vials, No Headspace ☒ Initials: DM

COMMENTS:

Total Purge Volume: 12400 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L Rathnow, D Mattingly

DATE: 7/9/13 WEATHER: Sunny

MONITORING WELL ID: MW-6B SAMPLE ID: MW06B-ROX-070913

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 69.38 ft
Depth to Water (btoc): 28.25 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): 41.13 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) = 66.55 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

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	1016	28.26	clear	none	6.99	1.209	-72	1.51	18.16	20.16
1200	1019	28.26	clear	none	6.93	1.215	-75	0.660	19.93	19.92
2400	1022	28.26	clear	none	6.92	1.210	-80	0.35	19.92	19.72
3600	1025	28.26	clear	none	6.92	1.211	-83	0.29	15.51	19.72
4800	1027	28.26	clear	none	6.92	1.210	-84	0.24	14.26	19.73
5000	1030	28.26	clear	none	6.92	1.210	-85	0.19	9.922	19.68

DM

Start Time: 1016
Stop Time: 1031

Elapsed Time (min): 15 min
Average Purge Rate (mL/min): 400 mL/min

Water Quality Meter ID & SN: TROLL 9500 -- R24047
Date Calibrated: 7/9/13

SAMPLING DATA

Sample Date: 7/9/13
Sample Time: 1035
Lab Analysis: VOC, SVOC
Sample Method: Monsoon Pump / Low Flow
Sample Flow Rate (mL/min): 400 mL/min
QA/QCSamples: None
VOA Vials, No Headspace ☒ Initials: DM

COMMENTS:

Total Purge Volume: 5000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: DMahringly, L Rathbone

DATE: 7/9/13 WEATHER: Sunny

MONITORING WELL ID: MW-6C SAMPLE ID: MW6C-ROX-070913

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 90.28 ft
Depth to Water (btoc): 28.03 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): 62.25 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

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	0936	28.03	Cloudy	none	7.06	1.062	-98	1.98	52.68	19.89
1000	0939	28.03	cloudy	none	7.03	1.064	-110	0.57	51.38	19.42
2000	0941	28.03	cloudy	none	7.03	1.058	-118	0.20	41.16	19.32
3000	0944	28.03	clear	none	7.03	1.054	-121	0.15	26.41	19.27
4000	0948	28.03	clear	none	7.03	1.052	-122	0.12	16.04	19.26
5000	0951	28.03	clear	none	7.03	1.051	-123	0.12	10.27	19.26
6000	0954	28.03	clear	none	7.03	1.050	-124	0.10	6.298	19.24

Start Time: 0936 Elapsed Time (min): 18 min Water Quality Meter ID & SN: TROLL 9500 -- R24047

Stop Time: 0954 Average Purge Rate (mL/min): 400 mL/min Date Calibrated: 9/9/13

SAMPLING DATA

Sample Date: 7/9/13 Sample Time: 0955 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☒ Initials: DM

COMMENTS:

Total Purge Volume: 60000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: DMattingly, LRathnow

DATE: 7/9/13 WEATHER: partly Cloudy.

MONITORING WELL ID: MW-6D SAMPLE ID: MW6D-BOX-070913

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 110.05 ft
Depth to Water (btoc): 27.91 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): 82.14 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

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	0843	27.91	Cloudy	none	7.05	1.335	-127	-0.03	454.4	19.23
1200	0846	27.91	Cloudy	none	7.03	1.342	-131	0.06	407.8	18.86
2400	0850	27.91	Cloudy	none	7.03	1.344	-132	0.04	265.2	18.80
3600	0853	27.91	Cloudy	none	7.03	1.355	-133	0.02	141.2	18.72
4800	0856	27.91	Cloudy	none	7.04	1.365	-134	0.01	78.56	18.71
6000	0859	27.91	Cloudy	none	7.04	1.370	-134	0.00	44.12	18.66
7200	0902	27.91	Cloudy	none	7.04	1.373	-134	0.00	24.19	18.65
8400	0905	27.91	Clear	none	7.04	1.373	-134	0.01	13.85	18.62
9600	0909	27.91	Clear	none	7.04	1.373	-134	0.00	8.930	18.60

Start Time: 0843
Stop Time: 0909

Elapsed Time (min): 26 min
Average Purge Rate (mL/min): 400 mL/min

Water Quality Meter ID & SN: TROLL 9500 -- R24047
Date Calibrated: 7/9/13

SAMPLING DATA

Sample Date: 7/9/13
Sample Time: 0910
Lab Analysis: VOC, SVOC
Sample Method: Monsoon Pump / Low Flow
Sample Flow Rate (mL/min): 400mL/min
QA/QCSamples: none
VOA Vials, No Headspace ☒ Initials: DM

COMMENTS:

Total Purge Volume: 9000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathman, D. Mattingly

DATE: 7/17/13 WEATHER: Sunny 80°F

MONITORING WELL ID: MW-7 SAMPLE ID: MW7-ROX-071713

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 52.92 ft
Depth to Water (btoc): 39.60 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 42.92 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 13.32 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: 0.0 ppm
Wellbore PID/FID Reading: 66666.6 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	10:03	39.60	clear	strong	6.77	1.322	-70	0.54	22.41	20.31
1200	10:06	39.60	clear	strong	6.75	1.310	-75	0.26	24.60	20.00
2000	10:09	39.60	clear	strong	6.75	1.302	-80	0.16	38.86	19.93
2800	10:12	39.60	clear	strong	6.75	1.293	-83	0.11	38.97	20.05
4000	10:13	39.60	clear	strong	6.75	1.284	-85	0.08	38.61	19.95
4800	10:15	39.60	clear	strong	6.76	1.271	-90	0.12	35.10	19.81
5600	10:17	39.60	clear	strong	6.76	1.265	-87	0.11	30.07	19.76
6400	10:20	39.60	clear	strong	6.76	1.261	-88	0.11	25.51	19.72
7400	10:22	39.60	clear	strong	6.76	1.258	-89	0.10	23.48	19.72
8600	10:25	39.60	clear	strong	6.76	1.256	-90	0.10	22.95	19.76
9400	10:27	39.60	clear	strong	6.76	1.254	-91	0.09	21.67	19.76

Start Time: 10:03 Elapsed Time (min): 24 Water Quality Meter ID & SN: TROLL 9500 -- R24047

Stop Time: 10:27 Average Purge Rate (mL/min): 400 Date Calibrated: 7/17/13

SAMPLING DATA

Sample Date: 7/17/13 Sample Time: 10:30 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☒ Initials:

COMMENTS:

Total Purge Volume: 9400 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW **PROJECT NUMBER:** 21562850.03003 **FIELD PERSONNEL:** L. Rathbun, D. Mattingly

DATE: 7/17/13 **WEATHER:** Cloudy 85°F

MONITORING WELL ID: MW-8 **SAMPLE ID:** MW8-ROX-071713, MW8-ROX-071713-Dup

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 43.60 ft
Depth to Water (btoc): 30.43 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 33.60 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 13.17 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) = 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: 0.0 ppm
Wellbore PID/FID Reading: 20.6 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	10:58	30.46	clear	strong	6.63	2.154	-46	0.45	15.73	20.17
1200	11:01	30.46	clear	strong	6.60	2.162	-49	0.23	23.22	19.94
2000	11:03	30.46	clear	strong	6.59	2.150	-52	0.17	25.19	19.85
2400	11:05	30.46	clear	strong	6.59	2.139	-54	0.11	28.79	19.82
3600	11:07	30.46	clear	strong	6.58	2.127	-55	0.11	26.17	19.84
4400	11:09	30.46	clear	strong	6.58	2.117	-56	0.09	23.50	19.78
~~5200~~ 5600	11:12	30.46	clear	strong	6.58	2.111	-57	0.08	19.88	19.78
6400	11:14	30.46	clear	strong	6.58	2.106	-58	0.09	17.13	19.79
7200	11:16	30.46	clear	strong	6.57	2.106	-56	0.08	16.18	19.85
8000	11:18	30.46	clear	strong	6.57	2.105	-59	0.08	14.56	19.88
8800	11:20	30.46	clear	strong	6.57	2.101	-59	0.06	15.11	19.87
10000	11:23	30.46	clear	strong	6.57	2.096	-60	0.05	10.11	19.84
10800	11:25	30.46	clear	strong	6.57	2.092	-60	0.07	8.1646	19.86
					LAR					

Start Time: 10:58 **Elapsed Time (min):** 27 **Water Quality Meter ID & SN:** TROLL 9500 -- R24047

Stop Time: 11:25 **Average Purge Rate (mL/min):** 400 **Date Calibrated:** 7/17/13

SAMPLING DATA

Sample Date: 7/17/13 **Sample Time:** 11:30 **Lab Analysis:** VOC, SVOC

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

VOA Vials, No Headspace ☒ **Initials:** LAR

COMMENTS:

Total Purge Volume: 10800 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW | PROJECT NUMBER: 21562850.03003 | FIELD PERSONNEL: L. Rothrock, D. Mottinger

DATE: 7/8/13 | WEATHER: Cloudy 80°F

MONITORING WELL ID: MW-9 | SAMPLE ID: MW9-ROX-070813, MW9-ROX-070813-EB

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 56.78 ft
Depth to Water (btoc): 42.10 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 46.45 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 14.68 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) = 51.45 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: 0.0 ppm
Wellbore PID/FID Reading: 2.7 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	10:39	42.12	clear	none	6.75	1.231	-64	0.34	13.50	19.25
1200	10:42	42.12	clear	none	6.75	1.226	-70	0.16	11.93	19.02
2000	10:44	42.12	clear	none	6.75	1.223	-73	0.10	13.45	18.96
3200	10:47	42.12	clear	none	6.75	1.220	-75	0.10	14.58	18.93
4000	10:49	42.12	clear/bubbles	none	6.75	1.219	-76	0.09	90.93	18.95
5200	10:52	42.12	clear/bubbles	none	6.75	1.215	-76	0.11	109.7	18.83
6000	10:54	42.12	clear	none	6.75	1.213	-76	0.13	9.524	18.84

Start Time: 10:39 | Elapsed Time (min): 15 | Water Quality Meter ID & SN: TROLL 9500 -- R24047

Stop Time: 10:54 | Average Purge Rate (mL/min): 400 | Date Calibrated: 7/8/13

SAMPLING DATA

Sample Date: 7/8/13 | Sample Time: 11:00 | Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☒ Initials: [signature]

COMMENTS:

Total Purge Volume: 6000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathnow, A. Mottingly

DATE: ~~7/8/13~~ 7/8/13 WEATHER: Cloudy, 85°F

MONITORING WELL ID: MW-10 SAMPLE ID: MW10-ROX-070813

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 54.76 ft
Depth to Water (btoc): 42.27 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 44.43 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 12.52 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) = 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: 0.0 ppm
Wellbore PID/FID Reading: 0.10 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	12:55	42.29	clear	none	6.87	1.449	-113	1.93	44.69	21.64
1200	12:58	42.29	clear	none	6.86	1.440	-116	1.65	45.03	20.95
2000	13:00	42.29	clear	none	6.87	1.433	-119	1.84	48.58	20.99
3200	13:03	42.29	clear	none	6.87	1.433	-119	1.99	49.00	21.31
4000	13:05	42.29	clear	none	6.86	1.433	-121	2.02	48.41	21.46
4800	13:07	42.29	clear	none	6.88	1.417	-124	1.77	50.51	21.35
6000	13:10	42.29	clear	none	6.89	1.418	-125	1.45	45.72	21.18
6800	13:12	42.29	clear	none	6.89	1.385	-125	0.21	44.77	20.94
7600	13:14	42.29	clear	none	6.89	1.376	-126	0.08	26.20	20.65
8800	13:17	42.29	clear	none	6.89	1.375	-126	0.05	22.31	20.56
9600	13:19	42.29	clear	none	6.90	1.370	-127	0.05	26.74	20.42
10400	13:21	42.29	clear	none	6.90	1.368	-127	0.05	27.18	20.25
11600	13:24	42.29	clear	none	6.90	1.367	-127	0.05	53.14	20.19
12400	13:26	42.29	clear	none	6.90	1.357	-126	0.03	18.06	20.17
13600	13:29	42.29	clear	none	6.90	1.360	-127	0.02	9.754	20.11

Start Time: 12:55 Elapsed Time (min): 34 Water Quality Meter ID & SN: TROLL 9500 -- R24047

Stop Time: 13:29 Average Purge Rate (mL/min): 400 Date Calibrated: 7/8/13

SAMPLING DATA

Sample Date: 7/8/13 Sample Time: 1335 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☑ Initials: AAR

COMMENTS:

Total Purge Volume: 13600 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathnow, D. Mattingly

DATE: 7/8/13 WEATHER: Sunny, 85°F

MONITORING WELL ID: MW-11 SAMPLE ID: MW11-ROX070813

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 51.99 ft
Depth to Water (btoc): 39.24 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 41.66 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 12.75 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) = 41.99 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: 0.3 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	1403	39.25	Clear	odorless	6.78	1.372	-92	1.360	12.81	20.07
800	1406	39.25	Clear	odorless	6.78	1.357	-93	1.29	11.31	19.79
1600	1408	39.25	Clear	odorless	6.79	1.349	-93	0.817	12.45	19.71
3200	1410	39.25	Clear	odorless	6.78	1.348	-94	0.609	15.64	19.70
4000	1412	39.25	Clear	odorless	6.77	1.341	-94	0.260	10.72	19.69
4800	1415	39.25	Clear	odorless	6.78	1.342	-94	0.11	9.481	19.72
5600	1418	39.25	Clear	odorless	6.78	1.336	-94	0.08	10.06	19.55

Start Time: 1403
Stop Time: 1418

Elapsed Time (min): 15 min
Average Purge Rate (mL/min): 400 mL/min

Water Quality Meter ID & SN: TROLL 9500 -- R24047
Date Calibrated: 7/8/13

SAMPLING DATA

Sample Date: 7/8/13
Sample Time: 1420
Lab Analysis: VOC, SVOC
Sample Method: Monsoon Pump / Low Flow
Sample Flow Rate (mL/min): 400 mL/min
QA/QCSamples: None
VOA Vials, No Headspace ☒ Initials: DM

COMMENTS:

Total Purge Volume: 5000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: D. Mattingly, L. Rathbrow

DATE: 7/9/13 WEATHER: Sunny 95F

MONITORING WELL ID: MW-12 SAMPLE ID: MW12-ROX-070913

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 52.25 ft
Depth to Water (btoc): 39.28 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 41.92 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 46.92 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) = 12.97 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

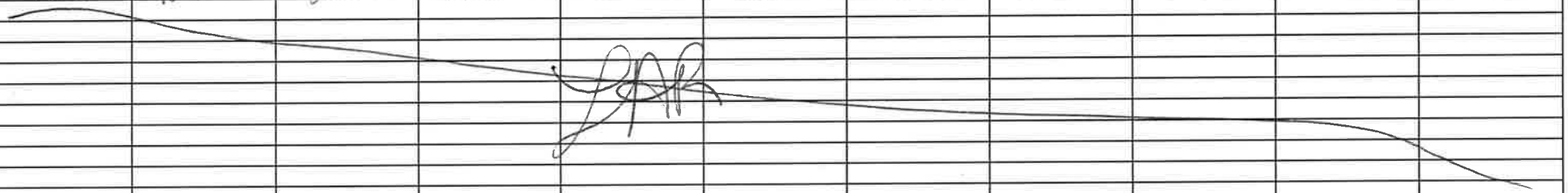
Volume of Flow Through Cell : 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	13:48	39.26	clear	none	6.89	1.033	246	0.61	33.29	21.39
800	13:50	39.29	clear	none	6.86	1.017	244	0.25	38.50	20.30
1600	13:52	39.24	clear	none	6.85	1.010	280	0.21	27.32	19.91
2400	13:55	39.26	clear	none	6.85	1.006	274	0.15	14.37	19.70
3100	13:57	39.28	clear	none	6.86	1.003	268	0.14	8.181	19.59
4400	13:59	39.26	clear	none	6.85	1.003	261	0.13	4.210	19.161



Start Time: 13:48 Elapsed Time (min): 11 Water Quality Meter ID & SN: TROLL 9500 – RO4047

Stop Time: 13:59 Average Purge Rate (mL/min): 400 Date Calibrated: 7/9/13

SAMPLING DATA

Sample Date: 7/9/13 Sample Time: 14:00 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☑ Initials: DAR

COMMENTS:

Total Purge Volume: 4400 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathnow, D. Mattingly

DATE: 7/12/13 WEATHER: Sunny 75°F

MONITORING WELL ID: MW-13 SAMPLE ID: MW13-ROX-071213

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 35.82 ft
Depth to Water (btoc): 25.67 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): 10.15 ~~30.57~~ 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) = 30.57 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: 6.7 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	09:04	25.70	cloudy	none	6.5	1.344	-98	0.45	97.52	20.48
800	09:06	25.70	cloudy	none	6.62	1.350	-104	0.27	89.53	20.50
1600	09:08	25.70	cloudy	none	6.64	1.350	-113	0.14	78.33	20.50
2400	09:10	25.70	cloudy	none	6.65	1.350	-116	0.15	59.55	20.52
3200	09:12	25.70	cloudy	none	6.66	1.351	-117	0.16	50.73	20.61
4000	09:15	25.70	clear	none	6.67	1.353	-119	0.18	33.18	20.65
5200	09:17	25.70	clear	none	6.67	1.352	-120	0.10	22.35	20.62
6000	09:19	25.70	clear	none	6.68	1.352	-121	0.09	18.65	20.61
6800	09:21	25.70	clear	none	6.68	1.353	-121	0.07	15.50	20.58
7600	09:23	25.70	clear	none	6.69	1.354	-122	0.06	14.13	20.58
8400	09:25	25.70	clear	none	6.69	1.355	-122	0.06	10.84	20.60
9200	09:27	25.70	clear	none	6.69	1.355	-122	0.04	9.262	20.60

Start Time: 09:04
Stop Time: 09:27
Elapsed Time (min): 23
Average Purge Rate (mL/min): 400
Water Quality Meter ID & SN: TROLL 9500 -- R24047
Date Calibrated: 7/12/13

SAMPLING DATA

Sample Date: 7/12/13
Sample Time: 09:30
Lab Analysis: VOC, SVOC
Sample Method: Monsoon Pump / Low Flow
Sample Flow Rate (mL/min): 400
QA/QCSamples: none
VOA Vials, No Headspace ☒ Initials: DMR

COMMENTS:

Total Purge Volume: 9200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L Rathman, D. Mattingly

DATE: 7/12/13 WEATHER: Sunny 75°F

MONITORING WELL ID: MW-14 SAMPLE ID: MW14-ROX-071213

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 44.00 ft
Depth to Water (btoc): 30.36 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 33.42 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 13.64 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) = 38.42 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: 73.9 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	10:12	30.36	clear	none	6.77	1.066	-102	0.55	4.754	20.16
900	10:14	30.36	clear	none	6.75	1.071	-108	0.48	6.039	20.14
11600	10:16	30.36	clear	none	6.74	1.075	-111	0.44	4.917	20.20
24300	10:19	30.36	clear	none	6.73	1.075	-112	0.33	4.162	20.22
36000	10:21	30.36	clear	none	6.73	1.076	-113	0.24	4.753	20.30

Start Time: 10:12 Elapsed Time (min): 9 Water Quality Meter ID & SN: TROLL 9500 – R24047

Stop Time: 10:21 Average Purge Rate (mL/min): 400 Date Calibrated: 7/12/13

SAMPLING DATA

Sample Date: 7/12/13 Sample Time: 10:25 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☒ Initials: LAR

COMMENTS:

Total Purge Volume: 36000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathnow, D. Mattingly

DATE: 7/8/13 WEATHER: Sunny 90°F

MONITORING WELL ID: MW-16 SAMPLE ID: MW16-ROX-070813

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 47.31 ft
Depth to Water (btoc): 40.62 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 37.43 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 6.69 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) = 42.43 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: 0.0 ppm
Wellbore PID/FID Reading: 0.3 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	14:53	40.62	cloudy	none	6.61	0.9276	-98	0.25	211.9	21.27
800	14:55	40.62	cloudy	none	6.61	0.9317	-94	0.18	202.1	21.08
1600	14:57	40.62	cloudy	none	6.60	0.9463	-87	0.18	165.8	21.04
2400	15:00	40.62	cloudy	none	6.60	0.9503	-83	0.17	176.1	21.06
3200	15:02	40.62	cloudy	none	6.59	0.9549	-81	0.16	161.9	21.07
4000	15:04	40.62	cloudy	none	6.59	0.9642	-79	0.14	156.0	21.39
4800	15:07	40.62	cloudy	none	6.59	0.9678	-78	0.12	102.9	21.48
5600	15:09	40.62	cloudy	none	6.59	0.9706	-77	0.15	78.74	21.69
6400	15:11	40.62	cloudy	none	6.58	0.9731	-76	0.14	91.13	21.70
7200	15:13 DK	40.62	cloudy	none	6.62	0.9565	-69	0.50	47.25	21.25
8000	15:20	40.62	cloudy	none	6.59	0.9631	-72	0.27	32.76	21.40
8800	15:22	40.62	clear	none	6.58	0.9669	-71	0.22	23.98	21.39
9600	15:25	40.62	clear	none	6.57	0.9700	-69	0.23	18.64	21.30
10400	15:27	40.62	clear	none	6.57	0.9753	-66	0.24	14.79	21.25
11200	15:29	40.62	clear	none	6.57	0.9787	-64	0.26	12.46	21.21
12000	15:32	40.62	clear	none	6.56	0.9827	-63	0.28	10.37	21.28

Start Time: 14:53
Stop Time: 15:34
Elapsed Time (min): ~~15:34~~ 41
Average Purge Rate (mL/min): 400
Water Quality Meter ID & SN: TROLL 9500 -- R24047
Date Calibrated: 7/8/13

SAMPLING DATA

Sample Date: 7/8/13
Sample Time: 15:40
Lab Analysis: VOC, SVOC
Sample Method: Monsoon Pump / Low Flow
Sample Flow Rate (mL/min): 400
QA/QCSamples: MS/MSD
VOA Vials, No Headspace ☒ Initials: DAR

COMMENTS: DK Took apart troll to drain out sediment.

Total Purge Volume: 11400 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW

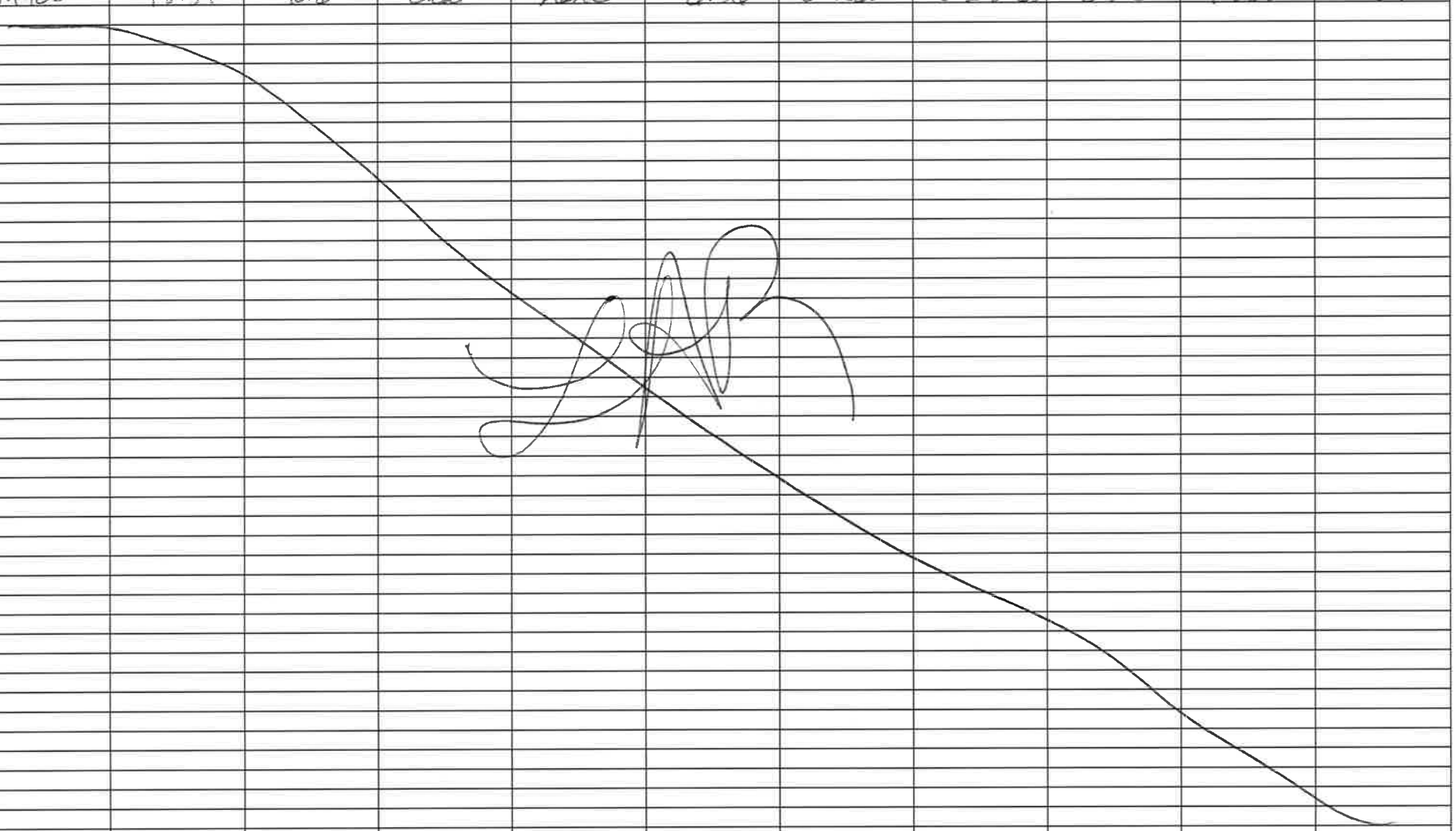
PROJECT NUMBER: 215628850.03003

FIELD PERSONNEL: L. Rathnow, D. Mattingly

DATE: 7/8/13

MONITORING WELL ID: MW-16

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp. (°C)
14400	15:34	40.62	clear	none	6.56	0.962	~~0.28~~ 163	0.28	9.330	21.37



LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rothrock, D. Mattingly

DATE: 7/11/13 WEATHER: Sunny, 85°F

MONITORING WELL ID: MW-22 SAMPLE ID: MW22-ROX-071113

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 48.13 ft
Depth to Water (btoc): 39.35 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 38.21 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 8.78 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) = 43.21 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

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	14:37	39.37	clear	strong	6.79	1.039	-101	0.32	17.34	22.41
800	14:39	39.39	clear	strong	6.78	1.052	-106	0.19	15.60	22.18
1600	14:41	39.37	clear	strong	6.77	1.0101	-108	0.10	16.67	21.88
2400	14:44	39.37	clear	strong	6.77	1.069	-108	0.07	18.07	21.65
3600	14:46	39.37	clear	strong	6.76	1.081	-108	0.05	16.14	21.61
4400	14:48	39.37	clear	strong	6.75	1.088	-107	0.03	17.44	21.53
5200	14:51	39.37	clear	strong	6.75	1.091	-107	0.03	19.41	21.47
6400	14:53	39.37	clear	strong	6.74	1.099	-105	0.03	20.10	21.47
7600	14:56	39.37	clear	strong	6.74	1.101	-105	0.01	21.29	21.40

Start Time: 14:37 Elapsed Time (min): 19 Water Quality Meter ID & SN: TROLL 9500 -- R24047

Stop Time: 14:56 Average Purge Rate (mL/min): 400 Date Calibrated: 7/11/13

SAMPLING DATA

Sample Date: 7/11/13 Sample Time: 15:00 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☒ Initials: LR

COMMENTS:

Total Purge Volume: 7600 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L Rathnow; D Mattingly

DATE: 7/11/13 WEATHER: Sunny, 70°F

MONITORING WELL ID: MW-24 SAMPLE ID: MW24-ROX-071113

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 49.14 ft
Depth to Water (btoc): 40.35 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 38.89 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 8.79 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) = 44.14 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: 88.4 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	0839	40.35	Cloudy	none	6.75	1.191	206	1.25	161.9	19.36
1200	0841	40.35	Cloudy	none	6.75	1.177	217	0.91	107.8	19.03
2400	0844	40.35	Cloudy	none	6.75	1.171	227	0.55	70.51	18.95
3200	0846	40.35	Cloudy	none	6.74	1.168	235	0.42	44.21	18.75
4000	0848	40.35	Cloudy	none	6.74	1.167	232	0.36	27.28	18.95
4800	0850	40.35	Clear	none	6.74	1.167	225	0.35	19.12	18.97
6000	0853	40.35	Clear	none	6.74	1.165	215	0.35	14.51	18.98
6800	0855	40.35	clear	none	6.74	1.167	209	0.34	12.75	18.01
7600	0857	40.35	clear	none	6.75	1.169	207	0.34	9.175	19.12

DM

Start Time: 0839
Stop Time: 0858

Elapsed Time (min): 19
Average Purge Rate (mL/min): 400 mL/min

Water Quality Meter ID & SN: TROLL 9500 -- R24047
Date Calibrated: 7/11/13

SAMPLING DATA

Sample Date: 7/11/13
Sample Method: Monsoon Pump / Low Flow
VOA Vials, No Headspace ☒ Initials: DM

Sample Time: 0900
Sample Flow Rate (mL/min): 400mL/min

Lab Analysis: VOC, SVOC
QA/QCSamples: none

COMMENTS:

Total Purge Volume: 7600 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rothnow, D. Mottingly

DATE: 7/11/13 WEATHER: Sunny 75F

MONITORING WELL ID: P-54 SAMPLE ID: P54-ROX-071113

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 63.00 ft
Depth to Water (btoc): 39.07 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 38.00 ft
Screen Length): 25 ft

Water Column Height (do not include LNAPL or DNAPL): 23.93 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) = 50.50 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

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	09:29	39.07	clear	none	6.83	1.109	265	4.88	16.95	18.60
1200	09:32	39.07	clear	none	6.81	1.108	271	4.84	15.89	18.60
2000	09:34	39.07	clear	none	6.81	1.105	276	4.84	16.16	18.50
2800	09:36	39.07	clear	none	6.81	1.101	281	4.77	15.31	18.46
4000	09:39	39.07	clear	none	6.80	1.097	285	4.68	14.07	18.37
4800	09:41	39.07	clear	none	6.80	1.096	289	4.54	12.89	18.41
6000	09:44	39.07	clear	none	6.80	1.094	292	4.39	10.02	18.45
6800	09:46	39.07	clear	none	6.80	1.091	293	4.22	8.161	18.42

Start Time: 09:29 Elapsed Time (min): 17 Water Quality Meter ID & SN: TROLL 9500 -- R24047

Stop Time: 09:46 Average Purge Rate (mL/min): 400 Date Calibrated: 7/11/13

SAMPLING DATA

Sample Date: 7/11/13 Sample Time: 09:50 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☒ Initials:

COMMENTS:

Total Purge Volume: 6800 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathnow, D. Mattingly

DATE: 7/16/13 WEATHER: Sunny/80°F

MONITORING WELL ID: P-55 SAMPLE ID: P55-ROX-071613

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 50.68 ft
Depth to Water (btoc): 40.06 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 40.85 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 10.62 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) = 45.85 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: 135.5 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	09:11	40.22	cloudy	none	6.82	0.7793	-112	0.29	286.3	21.36
400	09:13	40.22	cloudy	none	6.85	0.7815	-118	0.14	287.3	21.44
1600	09:15	40.22	cloudy	none	6.87	0.7838	-122	0.10	271.0	21.53
2400	09:17	40.22	cloudy	none	6.88	0.7856	-125	0.10	225.3	21.67
3600	09:20	40.22	cloudy	none	6.88	0.7882	-127	0.08	147.7	21.81
4400	09:22	40.22	cloudy	none	6.89	0.7904	-128	0.08	118.9	21.92
5200	09:24	40.22	cloudy	none	6.89	0.7906	-129	0.12	65.75	21.95
6400	09:27	40.22	cloudy	none	6.90	0.7899	-130	0.10	48.21	21.92
7200	09:29	40.22	cloudy	none	6.90	0.7906	-131	0.05	37.07	21.96
8000	09:31	40.22	clear	none	6.90	0.7899	-131	0.07	24.77	21.95
9200	09:34	40.22	clear	none	6.91	0.7886	-132	0.03	18.68	21.89
10000	09:36	40.22	clear	none	6.91	0.7871	-132	0.02	15.11	21.82
10800	09:38	40.22	clear	none	6.91	0.7867	-132	0.01	12.25	21.79
11600	09:40	40.22	clear	none	6.91	0.7864	-133	0.01	10.93	21.77
12800	09:43	40.22	clear	none	6.91	0.7849	-133	0.01	9.577	21.72

Start Time: 09:11 Elapsed Time (min): 32 Water Quality Meter ID & SN: TROLL 9500 -- R24047

Stop Time: 09:43 Average Purge Rate (mL/min): 400 Date Calibrated: 7/16/13

SAMPLING DATA

Sample Date: 7/16/13 Sample Time: 09:45 Lab Analysis: VOC, SVOC

Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 400 QA/QC Samples: none

VOA Vials, No Headspace ☑ Initials: DMR

COMMENTS:

Total Purge Volume: 12800 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathrow, D. Mattingly

DATE: 7/15/13 WEATHER: Cloudy 85°F

MONITORING WELL ID: P-56 SAMPLE ID: P56-ROX-071513

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 65.82 ft
Depth to Water (btoc): 43.25 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 40.82 ft
Screen Length): 25 ft

Water Column Height (do not include LNAPL or DNAPL): 22.57 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) = 53.32 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: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	13:09	43.25	clear	strong	6.71	1.455	-103	0.81	2.547	27.59
800	13:11	43.25	clear	strong	6.70	1.444	-106	0.29	2.533	26.79
1600	13:13	43.25	clear	strong	6.70	1.444	-110	0.14	4.084	26.58
2400	13:16	43.25	clear	strong	6.70	1.437	-112	0.11	2.194	26.38
4000	13:19	43.25	clear	strong	6.70	1.430	-114	0.08	2.341	26.17
4800	13:21	43.25	clear	strong	6.70	1.423	-114	0.06	2.911	26.01
6000	13:24	43.25	clear	strong	6.70	1.412	-115	0.05	4.793	25.86
6800	13:26	43.25	clear	strong	6.70	1.397	-115	0.04	4.546	25.55
8000	13:29	43.25	clear	strong	6.70	1.391	-115	0.03	7.592	25.42
8800	13:31	43.25	clear	strong	6.70	1.395	-116	0.02	6.561	25.57

Start Time: 13:09 Elapsed Time (min): 22 Water Quality Meter ID & SN: TROLL 9500 -- R24047

Stop Time: 13:31 Average Purge Rate (mL/min): 400 Date Calibrated: 7/15/13

SAMPLING DATA

Sample Date: 7/15/13 Sample Time: 13:35 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace [X] Initials: LAR

COMMENTS:

Total Purge Volume: 8800 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L Rothrow, D. Mattingly

DATE: 7/16/13 WEATHER: Sunny 98F

MONITORING WELL ID: P-57 SAMPLE ID: P57-ROX-071613

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 65.46 ft
Depth to Water (btoc): 43.38 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 40.46 ft
Screen Length): 25 ft

Water Column Height (do not include LNAPL or DNAPL): 22.08 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) = 52.96 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ≥ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell : 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

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	13:02	43.38	clear	strong	6.64	1.278	-94	-0.02	16.94	23.64
1200	13:05	43.38	clear	strong	6.61	1.278	-97	-0.04	9.389	23.23
2000	13:07	43.38	clear	strong	6.60	1.265	-101	-0.04	8.491	23.02
2400	13:09	43.38	clear	strong	6.59	1.257	-103	-0.04	8.389	22.78
4000	13:12	43.38	clear	strong	6.58	1.246	-105	-0.04	5.383	22.55
4400	13:14	43.38	clear	strong	6.59	1.242	-106	-0.04	5.794	22.43
6000	13:17	43.38	clear	strong	6.59	1.244	-107	-0.04	6.768	22.64
6400	13:19	43.38	clear	strong	6.59	1.238	-108	-0.04	6.9816	22.54
7600	13:21	43.38	clear	strong	6.59	1.235	-109	-0.04	8.905	22.45

Start Time: 13:02
Stop Time: 13:21
Elapsed Time (min): 19
Average Purge Rate (mL/min): 400
Water Quality Meter ID & SN: TROLL 9500 -- R24047
Date Calibrated: 7/16/13

SAMPLING DATA

Sample Date: 7/16/13
Sample Time: 13:25
Lab Analysis: VOC, SVOC
Sample Method: Monsoon Pump / Low Flow
Sample Flow Rate (mL/min): 400
QA/QCSamples: none
VOA Vials, No Headspace ☒ Initials:

COMMENTS:

Total Purge Volume: 7600 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathnow, D. Mattingly

DATE: 7/16/13 WEATHER: Sunny 90°F

MONITORING WELL ID: P-58 SAMPLE ID: P58-ROX-071613

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 65.21 ft
Depth to Water (btoc): 41.49 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 40.21 ft
Screen Length): 25 ft

Water Column Height (do not include LNAPL or DNAPL): 23.72 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) = 52.71 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: 0.7 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	13:55	41.62	clear	strong	6.58	1.199	-79	0.37	12.76	21.77
1200	13:56	41.62	clear	strong	6.56	1.198	-82	0.14	21.87	21.59
2400	14:01	41.62	clear	strong	6.55	1.208	-85	0.08	39.88	21.73
3200	14:03	41.62	clear	strong	6.53	1.201	-87	0.05	9.417	21.63

Start Time: 13:55
Stop Time: 14:03
Elapsed Time (min): 8
Average Purge Rate (mL/min): 400
Water Quality Meter ID & SN: TROLL 9500 -- R24047
Date Calibrated: 7/16/13

SAMPLING DATA

Sample Date: 7/16/13
Sample Time: 14:05
Lab Analysis: VOC, SVOC
Sample Method: Monsoon Pump / Low Flow
Sample Flow Rate (mL/min): 400
QA/QCSamples: none
VOA Vials, No Headspace ☒ Initials:

COMMENTS:

Total Purge Volume: 3200 mL

7 + 1.7'

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathnow, D. Mattingly

DATE: 7/16/13 WEATHER: Sunny 80F

MONITORING WELL ID: P-59 SAMPLE ID: P59-ROX-071613, P59-ROX-071613-EB

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 72.91 ft
Depth to Water (btoc): 44.13 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 47.91 ft
Screen Length): 25 ft

Water Column Height (do not include LNAPL or DNAPL): 28.78 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) = 100.41 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

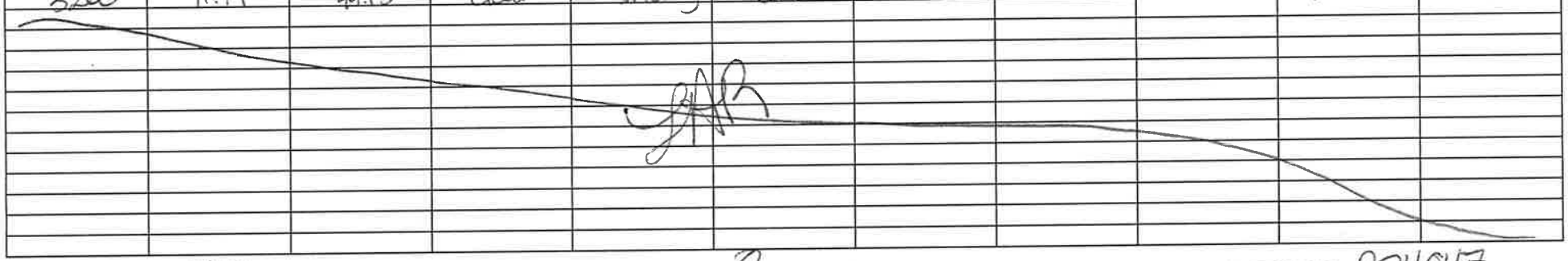
Volume of Flow Through Cell : 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 185.9 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	11:11	44.15	clear	strong	6.68	1.214	-98	0.43	4.394	21.44
1200	11:14	44.15	clear	strong	6.65	1.211	-102	0.15	2.817	21.44
2000	11:16	44.15	clear	strong	6.64	1.211	-105	0.08	3.137	21.49
3200	11:19	44.15	clear	strong	6.64	1.202	-107	0.05	3.305	21.34



Start Time: 11:11 Elapsed Time (min): 8 Water Quality Meter ID & SN: TROLL 9500 – R24047

Stop Time: 11:19 Average Purge Rate (mL/min): 400 Date Calibrated: 7/16/13

SAMPLING DATA

Sample Date: 7/16/13 Sample Time: 11:20 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☒ Initials: YAR

COMMENTS:

Total Purge Volume: 3200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathnow, D. Mattingly

DATE: 7/16/13 WEATHER: Sunny 95°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): 17.79 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 13.84 ft
Screen Length): 10 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: Geotech Peristaltic Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

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

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

SAMPLING DATA

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

COMMENTS: 23.84-17.79=6.05ft × 0.041 gal/ft = 0.25gal H2O
Not enough water to sample

Total Purge Volume: — mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathman, D. McHugh

DATE: 7/16/13 WEATHER: Sunny, 95°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): 16.85 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 10.00 ft
Screen Length): 10 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: Geotech Peristaltic Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

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

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

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

SAMPLING DATA

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

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

VOA Vials, No Headspace ☐ ~~Initials:~~ —

COMMENTS:

20 - 16.85 = 3.15 ft × 0.041 gal/ft ≈ 0.13 gal H_2O
Not enough water to sample

Total Purge Volume: — mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathnow, D. Mattingly

DATE: 7/12/13 WEATHER: Sunny 75°F

MONITORING WELL ID: P-66 SAMPLE ID: P66ROX07123

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 59.72 ft
Depth to Water (btoc): 33.20 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 34.72 ft
Screen Length): 25 ft

Water Column Height (do not include LNAPL or DNAPL): 26.52 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) = 47.22 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: 25.7 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	10:46	33.21	clear	strong	6.49	1.172	-66	0.85	15.54	21.07
1200	10:51	33.21	clear	strong	6.47	1.175	-72	0.81	14.42	20.99
2000	10:53	33.21	clear	strong	6.46	1.173	-75	0.68	24.54	20.91
3200	10:56	33.21	clear	strong	6.46	1.177	-77	0.57	32.36	20.90
4000	10:58	33.21	clear	strong	6.45	1.170	-79	0.14	10.41	20.81
4800	11:00	33.21	clear	strong	6.46	1.169	-80	0.04	8.796	20.71
5600	11:02	33.21	clear	strong	6.46	1.173	-81	0.04	8.989	20.78

Start Time: 10:46 Elapsed Time (min): 14 Water Quality Meter ID & SN: TROLL 9500 -- R24047

Stop Time: 11:02 Average Purge Rate (mL/min): 400 Date Calibrated: 7/12/13

SAMPLING DATA

Sample Date: 7/12/13 Sample Time: 11:05 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☒ Initials:

COMMENTS:

Total Purge Volume: 5600 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathrow, D. Mattingly

DATE: 7/5/13 WEATHER: Sunny

MONITORING WELL ID: P-68 SAMPLE ID: —

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 70.26 ft
Depth to Water (btoc): 43.12 ft
Depth to LNAPL/DNAPL (btoc): 43.05 ft
Depth to Top of Screen (btoc): 45.26 ft
Screen Length): 25 ft

Water Column Height (do not include LNAPL or DNAPL): 27.14 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: 197.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

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

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

SAMPLING DATA

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

COMMENTS: LNAPL in well. No sample taken.

Total Purge Volume: — mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathnow, D. Mattingly

DATE: 7/15/13 WEATHER: Cloudy 85°F

MONITORING WELL ID: P-74 SAMPLE ID: P74-ROX-071513

INITIAL DATA

Well Diameter): 4 in
Total Well Depth (btoc): 69.43 ft
Depth to Water (btoc): 40.11 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 44.43 ft
Screen Length): 25 ft

Water Column Height (do not include LNAPL or DNAPL): 29.32 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: 0.0 ppm
Wellbore PID/FID Reading: 0.1 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	14:01	40.52	clear	none	7.07	0.3189	-61	0.58	439.1	20.91
200	14:03	40.50	clear	none	6.97	0.3195	-77	0.27	58.59	20.75
2000	14:06	40.50	clear	none	6.95	0.3194	-87	0.17	44.42	20.61
2800	14:08	40.50	clear	none	6.94	0.3177	-95	0.15	38.85	20.42
4000	14:11	40.50	clear	none	6.94	0.3169	-100	0.10	35.62	20.33
5200	14:14	40.50	clear	none	6.93	0.3174	-104	0.07	29.90	20.45
6000	14:16	40.50	clear	none	6.93	0.32516	-108	0.07	25.58	21.38
7200	14:19	40.50	clear	none	6.93	0.3267	-111	0.06	22.33	21.75
8000	14:21	40.50	clear	none	6.92	0.3205	-112	0.06	18.12	20.95
9200	14:24	40.50	clear	none	6.92	0.3191	-114	0.04	17.11	20.76
10000	14:26	40.50	clear	none	6.92	0.3190	-115	0.05	15.45	20.76
11200	14:29	40.50	clear	none	6.92	0.3180	-117	0.04	13.54	20.68
12000	14:31	40.50	clear	none	6.92	0.3177	-119	0.04	12.10	20.67
13200	14:34	40.50	clear	none	6.92	0.3180	-121	0.04	10.70	20.74
14000	14:36	40.50	clear	none	6.92	0.3184	-122	0.04	9.990	20.80

Start Time: 14:01 Elapsed Time (min): 35 Water Quality Meter ID & SN: TROLL 9500 -- R24047

Stop Time: 14:36 Average Purge Rate (mL/min): 400 Date Calibrated: 7/15/13

SAMPLING DATA

Sample Date: 7/15/13 Sample Time: 14:40 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☒ Initials: LAR

COMMENTS:

Total Purge Volume: 14000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rothrock, D. Mattingly

DATE: 7/18/13 WEATHER: Sunny 85°F

MONITORING WELL ID: P-93A SAMPLE ID: P93A-ROX-071813

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 63.17 ft
Depth to Water (btoc): 43.25 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 48.17 ft
Screen Length): 15 ft

Water Column Height (do not include LNAPL or DNAPL): 19.92 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) = 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) = — 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: Dedicated Well Wizard

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	11:27	43.25	clear	none	6.82	1.568	-100	0.19	4.682	22.50
3200	11:35	43.25	clear	none	6.97	1.608	-95	3.03	25.12	22.96
6000	11:42	43.25	clear	none	~~7.01~~	1.629	-90	3.90	35.03	23.11
9400	11:49	43.25	clear	none	7.00	1.646	-86	4.16	35.94	23.18
12000	11:57	43.25	clear	none	6.99	1.654	-83	4.25	36.18	23.07

Start Time: 11:27 Elapsed Time (min): 30 Water Quality Meter ID & SN: TROLL 9500 -- A24047

Stop Time: 11:57 Average Purge Rate (mL/min): 400 Date Calibrated: 7/18/13

SAMPLING DATA

Sample Date: 7/18/13 Sample Time: 12:00 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☒ Initials: LAR

COMMENTS:

Total Purge Volume: 12000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathrow, D. Mattingly

DATE: 7/18/13 WEATHER: Sunny 80F

MONITORING WELL ID: P-93B SAMPLE ID: P93B-ROX-071813

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 76.60 ft
Depth to Water (btoc): 43.30 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 74.60 ft
Screen Length): 2 ft

Water Column Height (do not include LNAPL or DNAPL): 33.30 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) = 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: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Dedicated Well Wizard

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	09:44	43.30	clear	none	6.79	1.548	-107	0.58	4.725	20.72
4000	09:54	43.30	clear	none	6.77	1.720	-112	0.22	4.665	20.30
7600	10:03	43.30	clear	none	6.78	1.696	-114	0.18	1.625	20.10
11200	10:12	43.30	clear	none	6.79	1.692	-116	0.05	0.8897	20.01
11600	10:22	43.30	clear	none	6.80	1.644	-117	0.05	1.526	20.00

Start Time: 09:44 Elapsed Time (min): 38 Water Quality Meter ID & SN: TROLL 9500 -- R24047

Stop Time: 10:22 Average Purge Rate (mL/min): 400 Date Calibrated: 7/18/13

SAMPLING DATA

Sample Date: 7/18/13 Sample Time: 10:25 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☒ Initials: [illegible]

COMMENTS:

Total Purge Volume: 11,600 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathnow, D. Mattingly

DATE: 7/18/13 WEATHER: Sunny 80F

MONITORING WELL ID: P-93C SAMPLE ID: P93C-ROX-071813

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 96.26 ft
Depth to Water (btoc): 43.21 ft
Depth to LNAPL/DNAPL (btoc): N/E ft
Depth to Top of Screen (btoc): 94.26 ft
Screen Length): 2 ft

Water Column Height (do not include LNAPL or DNAPL): 53.05 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: Dedicated Well Wizard

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	10:40	43.21	clear	none	7.02	1.045	-75	0.54	0.1500	21.30
2400	10:48	43.21	clear	none	6.86	1.321	-72	0.22	3.3265	20.30
5000	10:54	43.21	clear	none	6.84	1.512	-78	0.13	0.2314	20.14
8400	11:02	43.21	clear	none	6.83	1.549	-80	0.09	0.5331	20.12
11600	11:09	43.21	clear	none	6.83	1.550	-81	0.08	0.1900	20.08

Start Time: 10:40
Stop Time: 11:09

Elapsed Time (min): 29
Average Purge Rate (mL/min): 400

Water Quality Meter ID & SN: TROLL 9500 -R24047
Date Calibrated: 7/18/13

SAMPLING DATA

Sample Date: 7/18/13
Sample Time: 11:10
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:

Total Purge Volume: 11600 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW | PROJECT NUMBER: 21562850.03003 | FIELD PERSONNEL: E. Arthur | D. Chase

DATE: 8-8-13 | WEATHER: 75°F partly cloudy

MONITORING WELL ID: P-93C | SAMPLE ID: P93C-ROX-080813

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 96.26 ft
Depth to Water (btoc): 43.31 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 94.26 ft
Screen Length): 2 ft

Water Column Height (do not include LNAPL or DNAPL): 52.95 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: Dedicated Well Wizard

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	1017	43.31	clear	none	6.77	1.388	-104	0.24	1.553	20.42
2,600	1030	43.31	clear	none	6.86	1.245	-106	0.23	0.5634	20.61
5,200	1043	43.31	clear	none	6.87	1.254	-109	0.15	1.212	20.43
8,000	1100	43.31	clear	none	6.87	1.270	-111	0.08	0.0271	20.60

Start Time: 1017 | Elapsed Time (min): 43 | Water Quality Meter ID & SN: TROLL 9500 --

Stop Time: 1100 | Average Purge Rate (mL/min): 200 | Date Calibrated: 8-8-13

SAMPLING DATA

Sample Date: 8-8-13 | Sample Time: 1105 | Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow | Sample Flow Rate (mL/min): 200 | QA/QCSamples: none

VOA Vials, No Headspace ☒ Initials: EA, DAC

COMMENTS: repeat sample event

Total Purge Volume: 8000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathnow, D. Mattingly

DATE: 7/12/13 WEATHER: Sunny 80°F

MONITORING WELL ID: P-93D SAMPLE ID: P93D-ROX-071213

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 128.00 ft
Depth to Water (btoc): 43.51 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 125.75 ft
Screen Length): 2 ft

Water Column Height (do not include LNAPL or DNAPL): 84.49 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) = 127.75 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: 1.2 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	13:11	43.51	clear	none	7.21	1.265	-127	0.94	5.412	22.34
1200	13:14	43.51	clear	none	7.09	1.303	-125	0.30	4.453	21.50
2400	13:18	43.51	clear	none	7.05	1.311	-122	0.25	2.826	21.39
4000	13:21	43.51	clear	none	7.04	1.309	-120	0.21	1.921	21.23
5600	13:25	43.51	clear	none	7.04	1.304	-120	0.17	1.457	21.05
7200	13:28	43.51	clear	none	7.04	1.302	-120	0.06	1.379	21.02
8400	13:32	43.51	clear	none	7.04	1.306	-120	0.12	1.207	21.16

Start Time: 13:11 Elapsed Time (min): 21 Water Quality Meter ID & SN: TROLL 9500 -- R24047

Stop Time: 13:32 Average Purge Rate (mL/min): 400 Date Calibrated: 7/12/13

SAMPLING DATA

Sample Date: 7/12/13 Sample Time: 13:35 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☒ Initials: LAR

COMMENTS:

Total Purge Volume: 8400 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathbone, D. Mattingly

DATE: 7/18/13 WEATHER: Sunny 90°F

MONITORING WELL ID: P-114 SAMPLE ID: P114-ROX-071813, P114-ROX-071813-DUP

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 52.67 ft
Depth to Water (btoc): 27.22 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 32.67 ft
Screen Length): 20 ft

Water Column Height (do not include LNAPL or DNAPL): 25.45 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: Dedicated Well Wizard

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	13:59	27.22	clear	none	8.25	1.020	-95	1.52	62.04	23.37
1600	14:05	27.22	clear	none	8.09	1.012	-85	1.68	34.65	22.81
3200	14:07	27.22	clear	none	7.93	1.020	-89	1.93	35.62	22.58
5200	14:12	27.22	clear	none	7.80	1.029	-92	2.11	34.77	22.37
6400	14:16	27.22	clear	none	7.69	1.045	-102	2.41	26.16	22.21
8400	14:20	27.22	clear	none	7.61	1.068	-105	2.60	21.01	22.49
10000	14:24	27.22	clear	none	7.54	1.078	-106	2.90	18.40	22.36
11600	14:28	27.22	clear	none	7.49	1.084	-104	2.98	17.52	22.11
13200	14:32	27.22	clear	none	7.45	1.095	-103	3.18	17.89	22.10

YAR

Start Time: 13:59 Elapsed Time (min): 33 Water Quality Meter ID & SN: TROLL 9500 -- R24047

Stop Time: 14:32 Average Purge Rate (mL/min): 400 Date Calibrated: 7/18/13

SAMPLING DATA

Sample Date: 7/18/13 Sample Time: 14:35 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☑ Initials: YAR

COMMENTS:

Total Purge Volume: 13200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: DMatting

DATE: 7/11/13 WEATHER: Sunny, 80°F

MONITORING WELL ID: ROST-3-MW SAMPLE ID: ROST-3MW-ROX-071113

INITIAL DATA

Well Diameter): 1 in
Total Well Depth (btoc): 48.06 ft
Depth to Water (btoc): 39.50 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 38.18 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 11.56 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) = 42.28 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: 109 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	1338	39.50	Cloudy	HC	6.96	0.8069	-114	0.31	205.4	19.19
1200	1341	39.53	Cloudy	HC	6.95	0.8014	-118	0.14	186.4	18.99
2000	1343	39.53	Cloudy	HC	6.95	0.7915	-121	0.03	142.1	18.80
2800	1345	39.53	Cloudy	HC	6.95	0.7856	-123	0.04	115.4	18.78
4000	1348	39.53	Cloudy	HC	6.95	0.7793	-124	0.03	94.37	18.63
4800	1350	39.53	Cloudy	HC	6.96	0.7746	-125	0.01	68.56	18.55
5600	1352	39.53	Cloudy	HC	6.95	0.7731	-126	0.06	51.30	18.49
6400	1354	39.53	Cloudy	HC	6.95	0.7732	-126	0.01	41.00	18.57
7600	1357	39.53	Cloudy	HC	6.95	0.7748	-127	0.01	34.73	18.67
8400	1359	39.53	Cloudy	HC	6.95	0.7747	-128	0.00	34.57	18.64
9200	1401	39.53	Clear	HC	6.95	0.7725	-128	-0.00	33.57	18.57

Start Time: 1338 Elapsed Time (min): Water Quality Meter ID & SN: TROLL 9500 -- R24047

Stop Time: 1402 Average Purge Rate (mL/min): 400 mL/min Date Calibrated: 7/11/13

SAMPLING DATA

Sample Date: 7/11/13 Sample Time: 1405 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☒ Initials: DM

COMMENTS:

Total Purge Volume: 9200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: DMattingly,

DATE: 7/11/13 WEATHER: Sunny, 79F

MONITORING WELL ID: ROST-4-PZ(C) SAMPLE ID: ROST-4-PZ(C)-ROX-071113

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 45.20 ft
Depth to Water (btoc): 40.18 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 34.95 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 5.02 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) = x 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) = 42.69 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

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	1301	40.18	Clear	HC	6.85	1.106	-100	1.17	6.994	21.85
1200	1304	40.51	Clear	HC	6.84	1.089	-106	0.33	4.049	20.35
2000	1306	40.44	Clear	HC	6.84	1.089	-108	0.16	6.310	19.90
2800	1308	40.44	Clear	HC	6.84	1.089	-110	0.12	6.265	19.85
4000	1311	40.44	Clear	HC	6.85	1.089	-111	0.13	3.997	20.00

DM

Start Time: 1301 Elapsed Time (min): ____ Water Quality Meter ID & SN: TROLL 9500 -- RZ4047

Stop Time: 1311 Average Purge Rate (mL/min): 400 mL/min Date Calibrated: 7/11/13

SAMPLING DATA

Sample Date: 7/11/13 Sample Time: 1315 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☒ Initials: DM

COMMENTS:

Total Purge Volume: 4000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L Rathrow, D. Mattingly

DATE: 7/8/13 WEATHER: Cloudy, 80°F

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): 22.92 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): — 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: Geotech Peristaltic Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

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

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

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

SAMPLING DATA

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

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

VOA Vials, No Headspace ☐ Initials: —

COMMENTS: Not enough water to sample

Total Purge Volume: — mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathman, S. Mattingly

DATE: 7/8/13 WEATHER: Cloudy, 60°F

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): 22.20 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): — 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: Geotech Peristaltic Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

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

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

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

SAMPLING DATA

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

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

VOA Vials, No Headspace ☐ Initials: —

COMMENTS: 30-22.20 = 7.8ft x 0.041 gal/ft = 0.32 gallons
Not enough water to sample

Total Purge Volume: — mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathman, D. Mattingly

DATE: 7/8/13 WEATHER: Cloudy 80°F

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): NE ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 10.00 ft
Screen Length): 10 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: Geotech Peristaltic Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

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

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

SAMPLING DATA

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

COMMENTS: Well is Dry

Total Purge Volume: — mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathman, D. Mattingly

DATE: 7/8/13 WEATHER: Cloudy, 80°F

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): 18.44 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): — 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: Geotech Peristaltic Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

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

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

SAMPLING DATA

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

COMMENTS: Not enough water in well to sample

Total Purge Volume: — mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathrow, D. Mattingly

DATE: 7/16/13 WEATHER: Sunny 80°F

MONITORING WELL ID: T-12 SAMPLE ID: T12-ROX-071613

INITIAL DATA

Well Diameter): 6 in
Total Well Depth (btoc): 72.46 ft
Depth to Water (btoc): 42.33 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 46.46 ft
Screen Length): 26 ft

Water Column Height (do not include LNAPL or DNAPL): 30.13 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) = 59.46? ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ≥ 4ft,
Place Pump at: Total Well Depth – (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell : 973 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2919 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.6 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	10:16	42.35	clear	none	7.05	1.212	-151	0.27	9.402	20.92
1200	10:19	42.35	clear	none	7.06	1.203	-157	0.15	8.199	20.66
2000	10:21	42.35	clear	none	7.06	1.203	-161	0.07	9.1646	20.43
3200	10:24	42.35	clear	none	7.06	1.198	-163	0.03	6.805	20.28
4000	10:26	42.35	clear	none	7.06	1.200	-164	0.01	5.385	20.34

Start Time: 10:16
Stop Time: 10:26

Elapsed Time (min): 10
Average Purge Rate (mL/min): 400

Water Quality Meter ID & SN: TROLL 9500 – R24047
Date Calibrated: 7/16/13

SAMPLING DATA

Sample Date: 7/16/13
Sample Method: Monsoon Pump / Low Flow
VOA Vials, No Headspace ☒ Initials: LMR

Sample Time: 10:30
Sample Flow Rate (mL/min): 400

Lab Analysis: VOC, SVOC
QA/QCSamples: none

COMMENTS:

Total Purge Volume: 4000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 3Q13 GW PROJECT NUMBER: 21562850.03003 FIELD PERSONNEL: L. Rathbun, D. Mattingly

DATE: 7/8/13 WEATHER: Cloudy 80°F

MONITORING WELL ID: MW-1 SAMPLE ID: MW1-ROX-070813

INITIAL DATA

Well Diameter): 2 in
Total Well Depth (btoc): 60.31 ft
Depth to Water (btoc): 39.50 ft
Depth to LNAPL/DNAPL (btoc): NE ft
Depth to Top of Screen (btoc): 49.98 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 20.75 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) = 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: 0.0 ppm
Wellbore PID/FID Reading: 0.5 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

	STABLE: (over 3 readings)	+/- 0.2	+/-3%	+/-20	+/-0.2 mg /L or +/-10%	<10 or +/-10%	+/- 0.2 °C

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Cond. (mS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTUs)	Temp (°C)
0	09:44	39.57	clear	none	6.74	1.104	-10	0.71	25.08	19.34
1200	09:47	39.57	clear	none	6.74	1.082	-23	0.75	28.02	19.33
2000	09:49	39.57	clear	none	6.75	1.071	-30	0.87	28.22	19.29
3200	09:52	39.57	clear	none	6.76	1.068	-35	0.90	28.82	19.26

Start Time: 09:44 Elapsed Time (min): 8 Water Quality Meter ID & SN: TROLL 9500 - RH047

Stop Time: 09:52 Average Purge Rate (mL/min): 400 Date Calibrated: 7/8/13

SAMPLING DATA

Sample Date: 7/8/13 Sample Time: 09:55 Lab Analysis: VOC, SVOC

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

VOA Vials, No Headspace ☑ Initials: LAR

COMMENTS:

Total Purge Volume: 3200 mL

Roxana Groundwater Quarterly – 3rd Quarter 2013 Data Review

Laboratory SDG: MC22534

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 8/16/2013

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

Sample Identification	Sample Identification
MW1-ROX-070813	MW9-ROX-070813-EB
MW9-ROX-070813	MW10-ROX-070813
MW11-ROX-070813	MW16-ROX-070813
TB-ROX-070813-HCL	TB-ROX-070813-ST

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 sample MW9-ROX-070813 was re-extracted for SVOCs outside holding time criteria. VOC LCS/LCSD and SVOC LCS recoveries were outside evaluation criteria. SVOC surrogates 2-fluorophenol, phenol-d_5, and 2,4,6-tribromophenol were outside evaluation criteria in Run #1 for sample MW9-ROX-070813. VOC and SVOC MS/MSD recoveries were outside evaluation criteria in sample MW16-ROX-070813. Although not indicated in the laboratory case narrative, analytes were detected in the equipment blank and method blank. Additionally, the initial calibration verification for acrolein exceeded 50 percent difference (%D). Professional judgment was used to qualify the common laboratory contaminant methylene chloride in several samples. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated that one of two coolers was 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?

No, sample MW9-ROX-070813 was re-extracted for SVOCs seven days outside the seven day holding time criteria for extraction.

Sample ID	Parameter	Analyte	Qualification
MW9-ROX-070813-Run#2	SVOCs	Benzoic acid	**R**
MW9-ROX-070813-Run#2	SVOCs	2-Chloropnenol	**R**
MW9-ROX-070813-Run#2	SVOCs	4-Chloro-3-methyl phenol	**R**
MW9-ROX-070813-Run#2	SVOCs	2,4-Dichlorophenol	**R**

Sample ID	Parameter	Analyte	Qualification
MW9-ROX-070813-Run#2	SVOCs	2,4-Dimethylphenol	**R**
MW9-ROX-070813-Run#2	SVOCs	2,4-Dinitrophenol	**R**
MW9-ROX-070813-Run#2	SVOCs	4,6-Dinitro-o-cresol	**R**
MW9-ROX-070813-Run#2	SVOCs	2-Methylphenol	**R**
MW9-ROX-070813-Run#2	SVOCs	3&4-Methylphenol	**R**
MW9-ROX-070813-Run#2	SVOCs	2-Nitrolphenol	**R**
MW9-ROX-070813-Run#2	SVOCs	4-Nitrophenol	**R**
MW9-ROX-070813-Run#2	SVOCs	Pentachlorophenol	**R**
MW9-ROX-070813-Run#2	SVOCs	Phenol	**R**
MW9-ROX-070813-Run#2	SVOCs	2,4,5-Trichlorophenol	**R**
MW9-ROX-070813-Run#2	SVOCs	2,4,6-Trichlorophenol	**R**

4.0 Blank Contamination

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

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MW9-ROX-070813-EB	VOCs	Benzene	3.6 ug/L
MW9-ROX-070813-EB	SVOCs	bis(2-Ethylhexyl)phthalate	2.4 ug/L
MW9-ROX-070813-EB	PAHs	Phenanthrene	0.022 ug/L
OP33941-MB	SVOCs	bis(2-Ethylhexyl)phthalate	2.4 ug/L
OP33942-MB	PAHs	Acenaphthene	0.065 ug/L
OP33942-MB	PAHs	Acenaphthylene	0.026 ug/L
OP33942-MB	PAHs	Fluorene	0.50 ug/L
OP33942-MB	PAHs	2-Methylnaphthalene	0.087 ug/L
OP33942-MB	PAHs	Phenanthrene	0.027 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 required qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
MW1-ROX-070813	SVOCs	bis(2-Ethylhexyl)phthalate	2.4 ug/L	**U**
MW1-ROX-070813	PAHs	Acenaphthene	-	**U**
MW1-ROX-070813	PAHs	Phenanthrene	-	**U**
MW9-ROX-070813	PAHs	Phenanthrene	-	**U**
MW10-ROX-070813	SVOCs	bis(2-Ethylhexyl)phthalate	2.7 ug/L	**U**
MW10-ROX-070813	PAHs	Phenanthrene	-	**U**
MW11-ROX-070813	SVOCs	bis(2-Ethylhexyl)phthalate	5.2 ug/L	**U**
MW16-ROX-070813	VOCs	Benzene	0.62 ug/L	**U**
MW16-ROX-070813	PAHs	Phenanthrene	-	**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
MSN2937-BS	VOCs	Acetone	**60**	NA	70-130
MSN2937-BS	VOCs	Vinyl acetate	**64**	NA	70-130
MSN2937-BS1	VOCs	Acrolein	**151**	NA	70-130
MSN2939-BS/BSD	VOCs	Acrolein	**151/155**	3	70-130/25
OP33941-BS	SVOCs	Hexachlorocyclopentadiene	**27**	NA	40-140
OP33941-BS	SVOCs	Hexachloroethane	**39**	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 MSN2937-BS was associated with the trip blank and equipment blank. OP33941-BS was associated with the equipment blank. Trip blanks and equipment blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
MW1-ROX-070813	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW1-ROX-070813	SVOCs	Hexachloroethane	**UJ**
MW9-ROX-070813	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW9-ROX-070813	SVOCs	Hexachloroethane	**UJ**
MW10-ROX-070813	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW10-ROX-070813	SVOCs	Hexachloroethane	**UJ**
MW11-ROX-070813	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW11-ROX-070813	SVOCs	Hexachloroethane	**UJ**
MW16-ROX-070813	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW16-ROX-070813	SVOCs	Hexachloroethane	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
MW9-ROX-070813 Run#1	SVOCs	2-Fluorophenol	**2**	15-110
MW9-ROX-070813 Run#1	SVOCs	Phenol-d_5	**1**	15-110
MW9-ROX-070813 Run#1	SVOCs	2,4,6-Tribromophenol	**4**	15-110

Analytical data associated with acid fraction surrogate recoveries less than ten percent (10%) were reported from re-analysis runs. The associated re-analysis data was previously qualified in Section 3.0 of this review due to holding time criteria; no further

qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

Yes, sample MW16-ROX-070813 was spiked and analyzed for VOCs, SVOCs, and PAHs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
MW16-ROX-070813	VOCs	Acetone	**46/50**	9	70-130/30
MW16-ROX-070813	VOCs	Acrolein	129/**132**	2	70-130/30
MW16-ROX-070813	VOCs	2-Butanone (MEK)	**63**/70	10	70-130/30
MW16-ROX-070813	VOCs	2-Hexanone	**68**/74	9	70-130/30
MW16-ROX-070813	VOCs	Vinyl acetate	**68**/71	4	70-130/30
MW16-ROX-070813	SVOCs	Hexachlorocyclopentadiene	**37/34**	8	40-140/20
MW16-ROX-070813	SVOCs	Hexachloroethane	49/**39**	**24**	40-140/20

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 for acrolein exceeded 50 percent difference (%D). Analytes in associated samples were qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW16-ROX-070813	VOCs	Acrolein	**UJ**

Additionally, professional judgment was used to qualify the common laboratory contaminant methylene chloride reported at concentrations less than two times (<2X) the reporting limit (RL), since methylene chloride is not representative of site conditions.

Sample ID	Analyte	New RL	Qualification	Comment
MW1-ROX-070813	Methylene chloride	-	**U**	Professional Judgment
MW9-ROX-070813	Methylene chloride	-	**U**	Professional Judgment
MW10-ROX-070813	Methylene chloride	-	**U**	Professional Judgment
MW11-ROX-070813	Methylene chloride	-	**U**	Professional Judgment

New England ACCUTEST LABORATORIES

09/10/13

Technical Report for

Shell Oil

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana,

Accutest Job Number: MC22534

Sampling Date: 07/08/13

Report to:

URS Corporation

Melissa.mansker@urs.com

ATTN: Melissa Mansker

Total number of pages in report: **117**

Reviewed on 9/10/13

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: Matthew Morrell 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)

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6 7 8

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Summary of Hits **6**
Section 4: Sample Results **8**
4.1: MC22534-1: MW1-ROX-070813 9
4.2: MC22534-2: MW9-ROX-070813-EB 16
4.3: MC22534-3: MW9-ROX-070813 23
4.4: MC22534-4: MW10-ROX-070813 30
4.5: MC22534-5: MW11-ROX-070813 37
4.6: MC22534-6: MW16-ROX-070813 44
4.7: MC22534-7: TB-ROX-070813-HCL 51
4.8: MC22534-8: TB-ROX-0708136-ST 54
Section 5: Misc. Forms **55**
5.1: Chain of Custody 56
5.2: Sample Tracking Chronicle 58
5.3: Internal Chain of Custody 60
Section 6: GC/MS Volatiles - QC Data Summaries **64**
6.1: Method Blank Summary 65
6.2: Blank Spike Summary 74
6.3: Blank Spike/Blank Spike Duplicate Summary 80
6.4: Matrix Spike/Matrix Spike Duplicate Summary 83
6.5: Internal Standard Area Summaries 89
6.6: Surrogate Recovery Summaries 91
Section 7: GC/MS Semi-volatiles - QC Data Summaries **92**
7.1: Method Blank Summary 93
7.2: Blank Spike Summary 97
7.3: Matrix Spike/Matrix Spike Duplicate Summary 101
7.4: Internal Standard Area Summaries 105
7.5: Surrogate Recovery Summaries 109
Section 8: GC Volatiles - QC Data Summaries **111**
8.1: Method Blank Summary 112
8.2: Blank Spike Summary 113
8.3: Matrix Spike/Matrix Spike Duplicate Summary 114
8.4: Surrogate Recovery Summaries 115
8.5: GC Surrogate Retention Time Summaries 116

Sample Summary

Shell Oil

Job No: MC22534

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC22534-1	07/08/13	09:55	LRDM	07/09/13	AQ	Ground Water	MW1-ROX-070813
MC22534-2	07/08/13	10:10	LRDM	07/09/13	AQ	Equipment Blank	MW9-ROX-070813-EB
MC22534-3	07/08/13	11:00	LRDM	07/09/13	AQ	Ground Water	MW9-ROX-070813
MC22534-4	07/08/13	13:35	LRDM	07/09/13	AQ	Ground Water	MW10-ROX-070813
MC22534-5	07/08/13	14:20	LRDM	07/09/13	AQ	Ground Water	MW11-ROX-070813
MC22534-6	07/08/13	15:40	LRDM	07/09/13	AQ	Ground Water	MW16-ROX-070813
MC22534-6D	07/08/13	15:40	LRDM	07/09/13	AQ	Water Dup/MSD	MW16-ROX-070813
MC22534-6S	07/08/13	15:40	LRDM	07/09/13	AQ	Water Matrix Spike	MW16-ROX-070813
MC22534-7	07/08/13	00:00	LRDM	07/09/13	AQ	Trip Blank Water	TB-ROX-070813-HCL
MC22534-8	07/08/13	00:00	LRDM	07/09/13	AQ	Trip Blank Water	TB-ROX-0708136-ST

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	**Job No**	MC22534
Site:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central	**Report Date**	7/24/2013 5:59:30 PM

6 Sample(s) and 2 Trip Blank(s) were collected on 07/08/2013 and were received at Accutest on 07/09/2013 properly preserved, at 2.4 Deg. C and intact. These Samples received an Accutest job number of MC22534. 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:** MSN2937

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22534-6MS, MC22534-6MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MSN2937-BS Recovery(s) for Acetone, Vinyl Acetate are outside control limits. Blank Spike meets program technical requirements.
- MSN2937-BS1 Recovery(s) for Acrolein are outside control limits. Blank Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for 2-Butanone (MEK), 2-Hexanone, Acetone, Vinyl Acetate are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for Acetone, Acrolein are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Initial calibration verification standard MSN2927-ICV2927 for Acrolein exceeds 50% Difference. (Results biased high). Associated samples are non-detect for these compounds.

Matrix AQ **Batch ID:** MSN2939

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22559-1MS, MC22559-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MSN2939-BS/BSD Recovery(s) for Acrolein are outside control limits. Blank Spike meets program technical requirements.
- MC22559-1MS/MSD Recovery(s) for 2-Butanone (MEK), Acetone, Acrolein are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.

Extractables by GCMS By Method SW846 8270C

Matrix AQ	Batch ID: OP33941

- 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) MC22534-6MS, MC22534-6MSD were used as the QC samples indicated.
- OP33941-BS/MSD for Hexachlorocyclopentadiene, Hexachloroethane are outside control limits. Blank Spike meets program technical requirements.
- OP33941-MS for Hexachlorocyclopentadiene are outside control limits. Blank Spike meets program technical requirements.
- RPD(s) for MSD for Hexachloroethane are outside control limits for sample OP33941-MSD. Blank Spike meets program technical requirements.
- MC22534-3 for Phenol-d5, 2,4,6-Tribromophenol, 2-Fluorophenol: Outside control limits. Sample re-extracted/reanalyzed.

Matrix AQ	Batch ID: OP34082

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- MC22534-3: Sample re-extracted beyond recommended holding time.
- Sample(s) MC22900-3MS, MC22900-3MSD were used as the QC samples indicated.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix AQ	Batch ID: OP33942

- All samples were extracted within the recommended method holding time.
- MC22534-1, 2, 3, 4, 6 has compound reported with a "B" qualifier, indicating analyte is found in the associated method blank.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC22534-6MS, MC22534-6MSD were used as the QC samples indicated.

Volatiles by GC By Method SW846 8011

Matrix AQ	Batch ID: OP33961

- 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) MC22534-6MS, MC22534-6MSD 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(MC22534).

Summary of Hits

Job Number: MC22534
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/08/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC22534-1	MW1-ROX-070813					
Methyl Tert Butyl Ether		4.9	1.0	0.43	ug/l	SW846 8260B
Methylene chloride		0.97 J	2.0	0.41	ug/l	SW846 8260B
bis(2-Ethylhexyl)phthalate		2.4	2.0	0.50	ug/l	SW846 8270C
Acenaphthene		0.026 JB	0.10	0.014	ug/l	SW846 8270C BY SIM
Benzo(b)fluoranthene		0.027 J	0.051	0.024	ug/l	SW846 8270C BY SIM
Fluoranthene		0.033 J	0.10	0.033	ug/l	SW846 8270C BY SIM
Phenanthrene		0.043 JB	0.051	0.013	ug/l	SW846 8270C BY SIM
MC22534-2	MW9-ROX-070813-EB					
Benzene		3.6	0.50	0.45	ug/l	SW846 8260B
bis(2-Ethylhexyl)phthalate		2.4	2.1	0.51	ug/l	SW846 8270C
Phenanthrene		0.022 JB	0.053	0.013	ug/l	SW846 8270C BY SIM
MC22534-3	MW9-ROX-070813					
Methylene chloride		1.5 J	2.0	0.41	ug/l	SW846 8260B
Benzo(b)fluoranthene		0.035 J	0.056	0.026	ug/l	SW846 8270C BY SIM
Phenanthrene		0.028 JB	0.056	0.014	ug/l	SW846 8270C BY SIM
MC22534-4	MW10-ROX-070813					
Methylene chloride		1.6 J	2.0	0.41	ug/l	SW846 8260B
Total TIC, Volatile		49 J			ug/l	
bis(2-Ethylhexyl)phthalate		2.7	2.2	0.54	ug/l	SW846 8270C
Phenanthrene		0.021 JB	0.056	0.014	ug/l	SW846 8270C BY SIM
MC22534-5	MW11-ROX-070813					
Methylene chloride		1.0 J	2.0	0.41	ug/l	SW846 8260B
bis(2-Ethylhexyl)phthalate		5.2	2.2	0.53	ug/l	SW846 8270C
MC22534-6	MW16-ROX-070813					
Benzene		0.62	0.50	0.45	ug/l	SW846 8260B
Phenanthrene		0.018 JB	0.056	0.014	ug/l	SW846 8270C BY SIM
MC22534-7	TB-ROX-070813-HCL					

No hits reported in this sample.

Summary of Hits

Job Number: MC22534
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/08/13

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC22534-8	TB-ROX-0708136-ST					

No hits reported in this sample.

New England ACCUTEST LABORATORIES

4

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW1-ROX-070813		
Lab Sample ID:	MC22534-1	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78303.D	1	07/17/13	JB	n/a	n/a	MSN2939
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	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070813		
Lab Sample ID:	MC22534-1	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	4.9	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	~~0.97~~ U	2.0	0.41	ug/l	J U
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	MW1-ROX-070813		
Lab Sample ID:	MC22534-1	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	101%		70-130%

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070813		
Lab Sample ID:	MC22534-1	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32156.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173
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	0.39	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.50	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.33	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	2.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	1.2	ug/l	
95-48-7	2-Methylphenol	ND	10	1.3	ug/l	
	3&4-Methylphenol	ND	10	2.1	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.51	ug/l	
100-02-7	4-Nitrophenol	ND	20	0.60	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.1	0.52	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.58	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.32	ug/l	
62-53-3	Aniline	ND	10	0.65	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.1	0.21	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.1	0.87	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.59	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.1	0.94	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.26	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.1	0.21	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.1	0.24	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.1	0.14	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.1	0.20	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.1	0.67	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.69	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.65	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.1	0.51	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.16	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.1	0.40	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.1	0.44	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070813		
Lab Sample ID:	MC22534-1	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.51	ug/l	
131-11-3	Dimethyl phthalate	ND	5.1	0.51	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	~~2.4~~ u	~~2.0~~ 2.4	0.50	ug/l	u
118-74-1	Hexachlorobenzene	ND	5.1	0.30	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	2.6	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.1	0.45	ug/l	UJ
78-59-1	Isophorone	ND	5.1	0.20	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.51	ug/l	
100-01-6	4-Nitroaniline	ND	10	4.4	ug/l	
98-95-3	Nitrobenzene	ND	5.1	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.1	0.51	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.1	0.82	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.1	0.55	ug/l	
110-86-1	Pyridine	ND	10	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	41%		15-110%
4165-62-2	Phenol-d5	33%		15-110%
118-79-6	2,4,6-Tribromophenol	82%		15-110%
4165-60-0	Nitrobenzene-d5	80%		30-130%
321-60-8	2-Fluorobiphenyl	85%		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:	MW1-ROX-070813		
Lab Sample ID:	MC22534-1	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I84761A.D	1	07/12/13	WK	07/09/13	OP33942	MSI3152
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	~~0.026~~ U	0.10	0.014	ug/l	JB 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	0.051	0.031	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.018	ug/l	
205-99-2	Benzo(b)fluoranthene	0.027	0.051	0.024	ug/l	J
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	0.033	0.10	0.033	ug/l	J
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	~~0.043~~ U	0.051	0.013	ug/l	JB U
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	87%		30-130%
321-60-8	2-Fluorobiphenyl	88%		30-130%
1718-51-0	Terphenyl-d14	97%		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-070813		
Lab Sample ID:	MC22534-1	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK26675.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
Run #2							

	Initial Volume	Final Volume
Run #1	36.6 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	0.014	0.0043	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0092	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	128%		36-173%
460-00-4	Bromofluorobenzene (S)	126%		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:	MW9-ROX-070813-EB		
Lab Sample ID:	MC22534-2	Date Sampled:	07/08/13
Matrix:	AQ - Equipment Blank	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78256.D	1	07/16/13	JB	n/a	n/a	MSN2937
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	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	3.6	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070813-EB		
Lab Sample ID:	MC22534-2	Date Sampled:	07/08/13
Matrix:	AQ - Equipment Blank	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	MW9-ROX-070813-EB		
Lab Sample ID:	MC22534-2	Date Sampled:	07/08/13
Matrix:	AQ - Equipment Blank	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	90%		70-130%
2037-26-5	Toluene-D8	102%		70-130%
460-00-4	4-Bromofluorobenzene	98%		70-130%

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070813-EB		
Lab Sample ID:	MC22534-2	Date Sampled:	07/08/13
Matrix:	AQ - Equipment Blank	Date Received:	07/09/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32157.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173
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	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.52	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.35	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	2.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	
	3&4-Methylphenol	ND	11	2.1	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.53	ug/l	
100-02-7	4-Nitrophenol	ND	21	0.61	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.3	ug/l	
108-95-2	Phenol	ND	5.3	0.54	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.60	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.33	ug/l	
62-53-3	Aniline	ND	11	0.67	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.3	0.21	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.3	0.90	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.61	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.3	0.97	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.26	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.3	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.3	0.24	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.3	0.14	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.3	0.21	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.3	0.69	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.71	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.68	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.3	0.53	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.16	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.3	0.41	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.3	0.46	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070813-EB		
Lab Sample ID:	MC22534-2	Date Sampled:	07/08/13
Matrix:	AQ - Equipment Blank	Date Received:	07/09/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.53	ug/l	
131-11-3	Dimethyl phthalate	ND	5.3	0.53	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	2.4	2.1	0.51	ug/l	
118-74-1	Hexachlorobenzene	ND	5.3	0.31	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.6	ug/l	
67-72-1	Hexachloroethane	ND	5.3	0.46	ug/l	
78-59-1	Isophorone	ND	5.3	0.21	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.29	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.53	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.6	ug/l	
98-95-3	Nitrobenzene	ND	5.3	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.3	0.53	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.3	0.85	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.3	0.57	ug/l	
110-86-1	Pyridine	ND	11	0.54	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	45%		15-110%
4165-62-2	Phenol-d5	30%		15-110%
118-79-6	2,4,6-Tribromophenol	87%		15-110%
4165-60-0	Nitrobenzene-d5	76%		30-130%
321-60-8	2-Fluorobiphenyl	78%		30-130%
1718-51-0	Terphenyl-d14	97%		30-130%

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070813-EB		
Lab Sample ID:	MC22534-2	Date Sampled:	07/08/13
Matrix:	AQ - Equipment Blank	Date Received:	07/09/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I84762A.D	1	07/12/13	WK	07/09/13	OP33942	MSI3152
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	0.022	0.053	0.013	ug/l	JB
129-00-0	Pyrene	ND	0.11	0.037	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	85%		30-130%
321-60-8	2-Fluorobiphenyl	80%		30-130%
1718-51-0	Terphenyl-d14	106%		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-070813-EB		
Lab Sample ID:	MC22534-2	Date Sampled:	07/08/13
Matrix:	AQ - Equipment Blank	Date Received:	07/09/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK26676.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
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	0.0045	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.0097	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	137%		36-173%
460-00-4	Bromofluorobenzene (S)	138%		36-173%

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

Report of Analysis

Client Sample ID:	MW9-ROX-070813		
Lab Sample ID:	MC22534-3	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78304.D	1	07/17/13	JB	n/a	n/a	MSN2939
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	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070813		
Lab Sample ID:	MC22534-3	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	~~1.5~~ 4	2.0	0.41	ug/l	J 5
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	MW9-ROX-070813		
Lab Sample ID:	MC22534-3	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	102%		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-070813		
Lab Sample ID:	MC22534-3	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32159.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173
Run #2 [a]	R32336.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2	920 ml	1.0 ml

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND [b]	11	1.4	ug/l	
95-57-8	2-Chlorophenol	ND [b]	5.4	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND [b]	11	0.53	ug/l	
120-83-2	2,4-Dichlorophenol	ND [b]	11	0.36	ug/l	
105-67-9	2,4-Dimethylphenol	ND [b]	11	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND [b]	22	2.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND [b]	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND [b]	11	1.4	ug/l	
	3&4-Methylphenol	ND [b]	11	2.2	ug/l	
88-75-5	2-Nitrophenol	ND [b]	11	0.54	ug/l	
100-02-7	4-Nitrophenol	ND [b]	22	0.63	ug/l	
87-86-5	Pentachlorophenol	ND [b]	11	1.4	ug/l	
108-95-2	Phenol	ND [b]	5.4	0.56	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND [b]	11	0.62	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND [b]	11	0.34	ug/l	
62-53-3	Aniline	ND	11	0.71	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.6	0.23	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.6	0.95	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.64	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.6	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.28	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.6	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.6	0.26	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.6	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.6	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.6	0.72	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.75	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.71	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.6	0.56	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.6	0.43	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.6	0.48	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070813		
Lab Sample ID:	MC22534-3	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.56	ug/l	
131-11-3	Dimethyl phthalate	ND	5.6	0.56	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.54	ug/l	
118-74-1	Hexachlorobenzene	ND	5.6	0.33	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.8	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.6	0.49	ug/l	UJ
78-59-1	Isophorone	ND	5.6	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.31	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.56	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.8	ug/l	
98-95-3	Nitrobenzene	ND	5.6	0.28	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.6	0.56	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.6	0.90	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.6	0.60	ug/l	
110-86-1	Pyridine	ND	11	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	2% c	28%	15-110%
4165-62-2	Phenol-d5	1% c	20%	15-110%
118-79-6	2,4,6-Tribromophenol	4% c	48%	15-110%
4165-60-0	Nitrobenzene-d5	85%	70%	30-130%
321-60-8	2-Fluorobiphenyl	90%	85%	30-130%
1718-51-0	Terphenyl-d14	103%	80%	30-130%

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

(a) Sample re-extracted beyond recommended holding time.
(b) Result is from Run# 2
(c) Outside control limits. Sample re-extracted/reanalyzed.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070813		
Lab Sample ID:	MC22534-3	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I84763A.D	1	07/12/13	WK	07/09/13	OP33942	MSI3152
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	0.035	0.056	0.026	ug/l	J
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	~~0.028~~ U	0.056	0.014	ug/l	JB U
129-00-0	Pyrene	ND	0.11	0.039	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	96%		30-130%
321-60-8	2-Fluorobiphenyl	92%		30-130%
1718-51-0	Terphenyl-d14	111%		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-070813		
Lab Sample ID:	MC22534-3	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK26677.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
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	0.0046	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.0099	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	159%		36-173%
460-00-4	Bromofluorobenzene (S)	153%		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:	MW10-ROX-070813		
Lab Sample ID:	MC22534-4	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78305.D	1	07/17/13	JB	n/a	n/a	MSN2939
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	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070813		
Lab Sample ID:	MC22534-4	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	~~1.6~~ U	2.0	0.41	ug/l	J U
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	MW10-ROX-070813		
Lab Sample ID:	MC22534-4	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		70-130%
2037-26-5	Toluene-D8	101%		70-130%
460-00-4	4-Bromofluorobenzene	101%		70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
78-78-4	Butane, 2-methyl-	5.82	49	ug/l	JN
	Total TIC, Volatile		49	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-070813		
Lab Sample ID:	MC22534-4	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32160.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173
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	0.43	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.55	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.36	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	1.3	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.8	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	
	3&4-Methylphenol	ND	11	2.3	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.56	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.65	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	ND	5.6	0.57	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.64	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.35	ug/l	
62-53-3	Aniline	ND	11	0.71	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.6	0.23	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.6	0.95	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.64	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.6	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.28	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.6	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.6	0.26	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.6	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.6	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.6	0.72	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.75	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.71	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.6	0.56	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.6	0.43	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.6	0.48	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070813		
Lab Sample ID:	MC22534-4	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.56	ug/l	
131-11-3	Dimethyl phthalate	ND	5.6	0.56	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	~~2.7~~ 4	~~2.2~~ 2.7	0.54	ug/l	4
118-74-1	Hexachlorobenzene	ND	5.6	0.33	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.8	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.6	0.49	ug/l	UJ
78-59-1	Isophorone	ND	5.6	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.31	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.56	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.8	ug/l	
98-95-3	Nitrobenzene	ND	5.6	0.28	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.6	0.56	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.6	0.90	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.6	0.60	ug/l	
110-86-1	Pyridine	ND	11	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	47%		15-110%
4165-62-2	Phenol-d5	39%		15-110%
118-79-6	2,4,6-Tribromophenol	91%		15-110%
4165-60-0	Nitrobenzene-d5	86%		30-130%
321-60-8	2-Fluorobiphenyl	88%		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:	MW10-ROX-070813		
Lab Sample ID:	MC22534-4	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I84764A.D	1	07/12/13	WK	07/09/13	OP33942	MSI3152
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	~~0.021~~ J	0.056	0.014	ug/l	JB U
129-00-0	Pyrene	ND	0.11	0.039	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	96%		30-130%
321-60-8	2-Fluorobiphenyl	90%		30-130%
1718-51-0	Terphenyl-d14	111%		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:	MW10-ROX-070813		
Lab Sample ID:	MC22534-4	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK26678.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
Run #2							

	Initial Volume	Final Volume
Run #1	33.4 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.016	0.0047	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.016	0.010	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	155%		36-173%
460-00-4	Bromofluorobenzene (S)	155%		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-070813		
Lab Sample ID:	MC22534-5	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78306.D	1	07/17/13	JB	n/a	n/a	MSN2939
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	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070813		
Lab Sample ID:	MC22534-5	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	~~1.0~~ U	2.0	0.41	ug/l	J U
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	MW11-ROX-070813		
Lab Sample ID:	MC22534-5	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		70-130%
2037-26-5	Toluene-D8	102%		70-130%
460-00-4	4-Bromofluorobenzene	104%		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-070813		
Lab Sample ID:	MC22534-5	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32162.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173
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	
95-57-8	2-Chlorophenol	ND	5.4	0.41	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.53	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.35	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	
	3&4-Methylphenol	ND	11	2.2	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.54	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.63	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.3	ug/l	
108-95-2	Phenol	ND	5.4	0.55	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.62	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.34	ug/l	
62-53-3	Aniline	ND	11	0.69	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.22	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	0.92	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.62	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	0.99	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.27	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	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.14	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.21	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.70	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.73	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.69	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.54	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.4	0.42	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	0.47	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070813		
Lab Sample ID:	MC22534-5	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.54	ug/l	
131-11-3	Dimethyl phthalate	ND	5.4	0.54	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	~~5.2~~ 5.2	~~2.2~~ 5.2	0.53	ug/l	u
118-74-1	Hexachlorobenzene	ND	5.4	0.32	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.7	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.4	0.47	ug/l	UJ
78-59-1	Isophorone	ND	5.4	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.30	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.54	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.7	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.54	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.87	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.58	ug/l	
110-86-1	Pyridine	ND	11	0.55	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	26%		15-110%
4165-62-2	Phenol-d5	23%		15-110%
118-79-6	2,4,6-Tribromophenol	47%		15-110%
4165-60-0	Nitrobenzene-d5	83%		30-130%
321-60-8	2-Fluorobiphenyl	94%		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	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070813		
Lab Sample ID:	MC22534-5	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I84765A.D	1	07/12/13	WK	07/09/13	OP33942	MSI3152
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	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	0.032	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.054	0.025	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.041	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.063	ug/l	
218-01-9	Chrysene	ND	0.11	0.078	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.045	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.035	ug/l	
86-73-7	Fluorene	ND	0.11	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.049	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.22	0.056	ug/l	
85-01-8	Phenanthrene	ND	0.054	0.014	ug/l	
129-00-0	Pyrene	ND	0.11	0.038	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	92%		30-130%
321-60-8	2-Fluorobiphenyl	98%		30-130%
1718-51-0	Terphenyl-d14	109%		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-070813		
Lab Sample ID:	MC22534-5	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK26679.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
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	0.0045	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.0096	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	135%		36-173%
460-00-4	Bromofluorobenzene (S)	133%		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:	MW16-ROX-070813		
Lab Sample ID:	MC22534-6	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78302.D	1	07/17/13	JB	n/a	n/a	MSN2937
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	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	~~0.62~~	~~0.50~~ 0.62	0.45	ug/l	U
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

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

Report of Analysis

Client Sample ID:	MW16-ROX-070813		
Lab Sample ID:	MC22534-6	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	MW16-ROX-070813		
Lab Sample ID:	MC22534-6	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	101%		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:	MW16-ROX-070813		
Lab Sample ID:	MC22534-6	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32154.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173
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	0.43	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.55	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.36	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	1.3	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.8	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	
	3&4-Methylphenol	ND	11	2.3	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.56	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.65	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	ND	5.6	0.57	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.64	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.35	ug/l	
62-53-3	Aniline	ND	11	0.71	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.6	0.23	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.6	0.95	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.64	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.6	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.28	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.6	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.6	0.26	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.6	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.6	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.6	0.72	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.75	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.71	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.6	0.56	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.6	0.43	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.6	0.48	ug/l	

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

Report of Analysis

Client Sample ID:	MW16-ROX-070813		
Lab Sample ID:	MC22534-6	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.56	ug/l	
131-11-3	Dimethyl phthalate	ND	5.6	0.56	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.54	ug/l	
118-74-1	Hexachlorobenzene	ND	5.6	0.33	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.8	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.6	0.49	ug/l	UJ
78-59-1	Isophorone	ND	5.6	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.31	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.56	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.8	ug/l	
98-95-3	Nitrobenzene	ND	5.6	0.28	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.6	0.56	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.6	0.90	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.6	0.60	ug/l	
110-86-1	Pyridine	ND	11	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	54%		15-110%
4165-62-2	Phenol-d5	49%		15-110%
118-79-6	2,4,6-Tribromophenol	93%		15-110%
4165-60-0	Nitrobenzene-d5	83%		30-130%
321-60-8	2-Fluorobiphenyl	96%		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	

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

Report of Analysis

Client Sample ID:	MW16-ROX-070813		
Lab Sample ID:	MC22534-6	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I84760A.D	1	07/12/13	WK	07/09/13	OP33942	MSI3152
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	~~0.018~~ U	0.056	0.014	ug/l	JB U
129-00-0	Pyrene	ND	0.11	0.039	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	93%		30-130%
321-60-8	2-Fluorobiphenyl	98%		30-130%
1718-51-0	Terphenyl-d14	104%		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:	MW16-ROX-070813		
Lab Sample ID:	MC22534-6	Date Sampled:	07/08/13
Matrix:	AQ - Ground Water	Date Received:	07/09/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK26680.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
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	0.0046	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.0099	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	171%		36-173%
460-00-4	Bromofluorobenzene (S)	166%		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-ROX-070813-HCL		
Lab Sample ID:	MC22534-7	Date Sampled:	07/08/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78255.D	1	07/16/13	JB	n/a	n/a	MSN2937
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	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070813-HCL		
Lab Sample ID:	MC22534-7	Date Sampled:	07/08/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	TB-ROX-070813-HCL		
Lab Sample ID:	MC22534-7	Date Sampled:	07/08/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		70-130%
2037-26-5	Toluene-D8	102%		70-130%
460-00-4	4-Bromofluorobenzene	97%		70-130%

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-0708136-ST		
Lab Sample ID:	MC22534-8	Date Sampled:	07/08/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/09/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK26682.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
Run #2							

	Initial Volume	Final Volume
Run #1	33.9 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.0047	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)	161%		36-173%
460-00-4	Bromofluorobenzene (S)	148%		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: Bob Billman
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: 7/8/13
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): Elizabeth Kunkel, Wendy Pennington, Bob Billman
TELEPHONE: 314-429-0100
FAX: 314-429-0462
Bill To Contact E-MAIL: bob.billman@urs.com; elizabeth.kunkel@urs.com; Wendy.pennington@urs.com
SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA
State: IL
GLOBAL ID NO:
CONSULTANT PROJECT NO.: Roxana Quarterly GW / 21662860.03003
FOR DELIVERABLE TO (Name, Company, Office Location):
PHONE NO:
E-MAIL:
SAMPLER NAME(S) (Print): L. Rathnow, D. Mottinger
LAB USE ONLY: MC22534

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	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	MW1-ROX-070813	7/8/13	0955	Water	2			2	2	6	X	X	X	X	0	
-2	MW9-ROX-070813-EB		1010		2			2	2	6	X	X	X	X		
-3	MW8-ROX-070813		1100		2			2	2	6	X	X	X	X		
-4	MW10-ROX-070813		1335		2			2	2	6	X	X	X	X		
-5	MW11-ROX-070813		1420		2			2	2	6	X	X	X	X		
-6	MW12-ROX-070813		1540		2			2	2	6	X	X	X	X		
-6S	MW12-ROX-070813-MS		1540		2			2	2	6	X	X	X	X		17K, 4K2
-6SD	MW12-ROX-070813-MSD		1540		2			2	2	6	X	X	X	X		
-7	TB-ROX-070813-HCL		00:00		2					2	X					
-8	TB-ROX-070813-ST	↓	00:00	↓					2	2		X			↓	2.4°, 1.1°

Relinquished by (Signature)	Received by (Signature)	Date	Time
Linda Rathnow	FED EX	7/8/13	
Fedex		7/9/13	9:00

05/2006 Revision

MC22534: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC22534 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 7/9/2013 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900 SO 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 Preservation	Y or N	N/A
1. Trip Blank present / cooler:	☐ ☐	☑
2. Trip Blank listed on COC:	☐ ☐	☑
3. Samples preserved properly:	☑ ☐	
4. VOCs headspace free:	☐ ☐	☑

Sample Integrity - Documentation	Y or N
1. Sample labels present on bottles:	☑ ☐
2. Container labeling complete:	☑ ☐
3. Sample container label / COC agree:	☑ ☐

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

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

Comments

5.1
5

MC22534: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC22534

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC22534-1 Collected: 08-JUL-13 09:55 By: LRDM Received: 09-JUL-13 By: MW1-ROX-070813						
MC22534-1	SW846 8011	11-JUL-13 17:48	NK	11-JUL-13	NK	V8011SL
MC22534-1	SW846 8270C	12-JUL-13 11:53	KR	09-JUL-13	PA	AB8270SL+
MC22534-1	SW846 8270C BY SIM	12-JUL-13 13:21	WK	09-JUL-13	PA	B8270SIMSL
MC22534-1	SW846 8260B	17-JUL-13 12:30	JB			V8260SL+
MC22534-2 Collected: 08-JUL-13 10:10 By: LRDM Received: 09-JUL-13 By: MW9-ROX-070813-EB						
MC22534-2	SW846 8011	11-JUL-13 18:11	NK	11-JUL-13	NK	V8011SL
MC22534-2	SW846 8270C	12-JUL-13 12:16	KR	09-JUL-13	PA	AB8270SL+
MC22534-2	SW846 8270C BY SIM	12-JUL-13 16:29	WK	09-JUL-13	PA	B8270SIMSL
MC22534-2	SW846 8260B	16-JUL-13 10:04	JB			V8260SL+
MC22534-3 Collected: 08-JUL-13 11:00 By: LRDM Received: 09-JUL-13 By: MW9-ROX-070813						
MC22534-3	SW846 8011	11-JUL-13 18:33	NK	11-JUL-13	NK	V8011SL
MC22534-3	SW846 8270C	12-JUL-13 13:02	KR	09-JUL-13	PA	AB8270SL+
MC22534-3	SW846 8270C BY SIM	12-JUL-13 16:51	WK	09-JUL-13	PA	B8270SIMSL
MC22534-3	SW846 8260B	17-JUL-13 12:58	JB			V8260SL+
MC22534-3	SW846 8270C	23-JUL-13 16:42	KR	22-JUL-13	PA	AB8270SL+
MC22534-4 Collected: 08-JUL-13 13:35 By: LRDM Received: 09-JUL-13 By: MW10-ROX-070813						
MC22534-4	SW846 8011	11-JUL-13 18:56	NK	11-JUL-13	NK	V8011SL
MC22534-4	SW846 8270C	12-JUL-13 13:25	KR	09-JUL-13	PA	AB8270SL+
MC22534-4	SW846 8270C BY SIM	12-JUL-13 17:12	WK	09-JUL-13	PA	B8270SIMSL
MC22534-4	SW846 8260B	17-JUL-13 13:27	JB			V8260SL+
MC22534-5 Collected: 08-JUL-13 14:20 By: LRDM Received: 09-JUL-13 By: MW11-ROX-070813						
MC22534-5	SW846 8011	11-JUL-13 19:19	NK	11-JUL-13	NK	V8011SL
MC22534-5	SW846 8270C	12-JUL-13 14:11	KR	09-JUL-13	PA	AB8270SL+
MC22534-5	SW846 8270C BY SIM	12-JUL-13 17:34	WK	09-JUL-13	PA	B8270SIMSL
MC22534-5	SW846 8260B	17-JUL-13 13:55	JB			V8260SL+

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC22534

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC22534-6 Collected: 08-JUL-13 15:40 By: LRDM Received: 09-JUL-13 By: MW16-ROX-070813						
MC22534-6	SW846 8011	11-JUL-13 19:42	NK	11-JUL-13	NK	V8011SL
MC22534-6	SW846 8270C	12-JUL-13 11:07	KR	09-JUL-13	PA	AB8270SL+
MC22534-6	SW846 8270C BY SIM	12-JUL-13 13:00	WK	09-JUL-13	PA	B8270SIMSL
MC22534-6	SW846 8260B	17-JUL-13 12:02	JB			V8260SL+
MC22534-7 Collected: 08-JUL-13 00:00 By: LRDM Received: 09-JUL-13 By: TB-ROX-070813-HCL						
MC22534-7	SW846 8260B	16-JUL-13 09:36	JB			V8260SL+
MC22534-8 Collected: 08-JUL-13 00:00 By: LRDM Received: 09-JUL-13 By: TB-ROX-0708136-ST						
MC22534-8	SW846 8011	11-JUL-13 20:27	NK	11-JUL-13	NK	V8011SL

Accutest Internal Chain of Custody

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/09/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22534-1.2	Walk In Ref #22	Bijan Jafari	07/09/13 13:11	Retrieve from Storage
MC22534-1.2	Bijan Jafari		07/11/13 10:33	Depleted
MC22534-1.3	VOC Ref #4	Jaclyn Bergeron	07/16/13 08:11	Retrieve from Storage
MC22534-1.3	Jaclyn Bergeron	GCMSN	07/16/13 08:11	Load on Instrument
MC22534-1.3	GCMSN	Jaclyn Bergeron	07/17/13 09:41	Unload from Instrument
MC22534-1.3	Jaclyn Bergeron	VOC Ref #4	07/17/13 09:41	Return to Storage
MC22534-1.4	VOC Ref #4	Kerry Ryan	07/12/13 14:49	Retrieve from Storage
MC22534-1.4	Kerry Ryan	GCMSL	07/12/13 14:49	Load on Instrument
MC22534-1.4	GCMSL	Kerry Ryan	07/15/13 09:01	Unload from Instrument
MC22534-1.4	Kerry Ryan	VOC Ref #4	07/15/13 09:01	Return to Storage
MC22534-1.4	VOC Ref #4	Jaclyn Bergeron	07/17/13 09:43	Retrieve from Storage
MC22534-1.4	Jaclyn Bergeron	GCMSN	07/17/13 09:43	Load on Instrument
MC22534-1.4	GCMSN	Jaclyn Bergeron	07/18/13 08:25	Unload from Instrument
MC22534-1.4	Jaclyn Bergeron	VOC Ref #4	07/18/13 08:26	Return to Storage
MC22534-1.5	VOC Ref #4	Bijan Jafari	07/11/13 08:24	Retrieve from Storage
MC22534-1.5	Bijan Jafari		07/11/13 10:33	Depleted
MC22534-2.2	Walk In Ref #22	Bijan Jafari	07/09/13 13:11	Retrieve from Storage
MC22534-2.2	Bijan Jafari		07/11/13 10:33	Depleted
MC22534-2.4	VOC Ref #4	Jaclyn Bergeron	07/16/13 08:11	Retrieve from Storage
MC22534-2.4	Jaclyn Bergeron	GCMSN	07/16/13 08:11	Load on Instrument
MC22534-2.4	GCMSN	Jaclyn Bergeron	07/17/13 09:41	Unload from Instrument
MC22534-2.4	Jaclyn Bergeron	VOC Ref #4	07/17/13 09:41	Return to Storage
MC22534-2.5	VOC Ref #4	Bijan Jafari	07/11/13 08:24	Retrieve from Storage
MC22534-2.5	Bijan Jafari		07/11/13 10:33	Depleted
MC22534-3.1	Walk In Ref #22	Bijan Jafari	07/09/13 13:11	Retrieve from Storage
MC22534-3.1	Bijan Jafari		07/11/13 10:33	Depleted
MC22534-3.2	Walk In Ref #22	Thomas Abruzzise	07/22/13 15:39	Retrieve from Storage
MC22534-3.2	Thomas Abruzzise		07/30/13 14:35	Depleted
MC22534-3.3	VOC Ref #4	Jaclyn Bergeron	07/16/13 08:11	Retrieve from Storage
MC22534-3.3	Jaclyn Bergeron	GCMSN	07/16/13 08:11	Load on Instrument
MC22534-3.3	GCMSN	Jaclyn Bergeron	07/17/13 09:41	Unload from Instrument
MC22534-3.3	Jaclyn Bergeron	VOC Ref #4	07/17/13 09:41	Return to Storage
MC22534-3.4	VOC Ref #4	Kerry Ryan	07/12/13 14:49	Retrieve from Storage
MC22534-3.4	Kerry Ryan	GCMSL	07/12/13 14:49	Load on Instrument

Accutest Internal Chain of Custody

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/09/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22534-3.4	GCMSL	Kerry Ryan	07/15/13 09:01	Unload from Instrument
MC22534-3.4	Kerry Ryan	VOC Ref #4	07/15/13 09:01	Return to Storage
MC22534-3.4	VOC Ref #4	Jaclyn Bergeron	07/17/13 09:43	Retrieve from Storage
MC22534-3.4	Jaclyn Bergeron	GCMSN	07/17/13 09:43	Load on Instrument
MC22534-3.4	GCMSN	Jaclyn Bergeron	07/18/13 08:25	Unload from Instrument
MC22534-3.4	Jaclyn Bergeron	VOC Ref #4	07/18/13 08:26	Return to Storage
MC22534-3.5	VOC Ref #4	Bijan Jafari	07/11/13 08:24	Retrieve from Storage
MC22534-3.5	Bijan Jafari		07/11/13 10:33	Depleted
MC22534-4.2	Walk In Ref #22	Bijan Jafari	07/09/13 13:11	Retrieve from Storage
MC22534-4.2	Bijan Jafari		07/11/13 10:33	Depleted
MC22534-4.3	VOC Ref #4	Jaclyn Bergeron	07/16/13 08:11	Retrieve from Storage
MC22534-4.3	Jaclyn Bergeron	GCMSN	07/16/13 08:11	Load on Instrument
MC22534-4.3	GCMSN	Jaclyn Bergeron	07/17/13 09:41	Unload from Instrument
MC22534-4.3	Jaclyn Bergeron	VOC Ref #4	07/17/13 09:41	Return to Storage
MC22534-4.4	VOC Ref #4	Kerry Ryan	07/12/13 14:49	Retrieve from Storage
MC22534-4.4	Kerry Ryan	GCMSL	07/12/13 14:49	Load on Instrument
MC22534-4.4	GCMSL	Kerry Ryan	07/15/13 09:01	Unload from Instrument
MC22534-4.4	Kerry Ryan	VOC Ref #4	07/15/13 09:01	Return to Storage
MC22534-4.4	VOC Ref #4	Jaclyn Bergeron	07/17/13 11:26	Retrieve from Storage
MC22534-4.4	Jaclyn Bergeron	GCMSN	07/17/13 11:26	Load on Instrument
MC22534-4.4	GCMSN	Jaclyn Bergeron	07/18/13 08:25	Unload from Instrument
MC22534-4.4	Jaclyn Bergeron	VOC Ref #4	07/18/13 08:26	Return to Storage
MC22534-4.6	VOC Ref #4	Bijan Jafari	07/11/13 08:24	Retrieve from Storage
MC22534-4.6	Bijan Jafari		07/11/13 10:33	Depleted
MC22534-5.1	Walk In Ref #22	Bijan Jafari	07/09/13 13:11	Retrieve from Storage
MC22534-5.1	Bijan Jafari		07/11/13 10:33	Depleted
MC22534-5.3	VOC Ref #4	Kerry Ryan	07/12/13 14:49	Retrieve from Storage
MC22534-5.3	Kerry Ryan	GCMSL	07/12/13 14:49	Load on Instrument
MC22534-5.3	GCMSL	Kerry Ryan	07/15/13 09:01	Unload from Instrument
MC22534-5.3	Kerry Ryan	VOC Ref #4	07/15/13 09:01	Return to Storage
MC22534-5.3	VOC Ref #4	Jaclyn Bergeron	07/17/13 09:43	Retrieve from Storage
MC22534-5.3	Jaclyn Bergeron	GCMSN	07/17/13 09:43	Load on Instrument
MC22534-5.3	GCMSN	Jaclyn Bergeron	07/18/13 08:25	Unload from Instrument
MC22534-5.3	Jaclyn Bergeron	VOC Ref #4	07/18/13 08:26	Return to Storage
MC22534-5.4	VOC Ref #4	Jaclyn Bergeron	07/16/13 08:11	Retrieve from Storage
MC22534-5.4	Jaclyn Bergeron	GCMSN	07/16/13 08:11	Load on Instrument

Accutest Internal Chain of Custody

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/09/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22534-5.4	GCMSN	Jaclyn Bergeron	07/17/13 09:41	Unload from Instrument
MC22534-5.4	Jaclyn Bergeron	VOC Ref #4	07/17/13 09:41	Return to Storage
MC22534-5.5	VOC Ref #4	Bijan Jafari	07/11/13 08:24	Retrieve from Storage
MC22534-5.5	Bijan Jafari		07/11/13 10:33	Depleted
MC22534-6.1	Walk In Ref #22	Bijan Jafari	07/09/13 13:11	Retrieve from Storage
MC22534-6.1	Bijan Jafari		07/11/13 10:33	Depleted
MC22534-6.4	Walk In Ref #22	Bijan Jafari	07/09/13 13:11	Retrieve from Storage
MC22534-6.4	Bijan Jafari		07/11/13 10:33	Depleted
MC22534-6.5	Walk In Ref #22	Bijan Jafari	07/09/13 13:11	Retrieve from Storage
MC22534-6.5	Bijan Jafari		07/11/13 10:33	Depleted
MC22534-6.7	VOC Ref #4	Kerry Ryan	07/12/13 14:49	Retrieve from Storage
MC22534-6.7	Kerry Ryan	GCMSL	07/12/13 14:49	Load on Instrument
MC22534-6.7	GCMSL	Kerry Ryan	07/15/13 09:01	Unload from Instrument
MC22534-6.7	Kerry Ryan	VOC Ref #4	07/15/13 09:01	Return to Storage
MC22534-6.8	VOC Ref #4	Jaclyn Bergeron	07/16/13 08:11	Retrieve from Storage
MC22534-6.8	Jaclyn Bergeron	GCMSN	07/16/13 08:11	Load on Instrument
MC22534-6.8	GCMSN	Jaclyn Bergeron	07/17/13 09:41	Unload from Instrument
MC22534-6.8	Jaclyn Bergeron	VOC Ref #4	07/17/13 09:41	Return to Storage
MC22534-6.9	VOC Ref #4	Jaclyn Bergeron	07/16/13 08:11	Retrieve from Storage
MC22534-6.9	Jaclyn Bergeron	GCMSN	07/16/13 08:11	Load on Instrument
MC22534-6.9	GCMSN	Jaclyn Bergeron	07/17/13 09:41	Unload from Instrument
MC22534-6.9	Jaclyn Bergeron	VOC Ref #4	07/17/13 09:41	Return to Storage
MC22534-6.10	VOC Ref #4	Jaclyn Bergeron	07/17/13 09:43	Retrieve from Storage
MC22534-6.10	Jaclyn Bergeron	GCMSN	07/17/13 09:43	Load on Instrument
MC22534-6.10	GCMSN	Jaclyn Bergeron	07/18/13 08:25	Unload from Instrument
MC22534-6.10	Jaclyn Bergeron	VOC Ref #4	07/18/13 08:26	Return to Storage
MC22534-6.11	VOC Ref #4	Jaclyn Bergeron	07/16/13 08:11	Retrieve from Storage
MC22534-6.11	Jaclyn Bergeron	GCMSN	07/16/13 08:11	Load on Instrument
MC22534-6.11	GCMSN	Jaclyn Bergeron	07/17/13 09:41	Unload from Instrument
MC22534-6.11	Jaclyn Bergeron	VOC Ref #4	07/17/13 09:41	Return to Storage
MC22534-6.12	VOC Ref #4	Jaclyn Bergeron	07/16/13 08:11	Retrieve from Storage
MC22534-6.12	Jaclyn Bergeron	GCMSN	07/16/13 08:11	Load on Instrument
MC22534-6.12	GCMSN	Jaclyn Bergeron	07/17/13 09:41	Unload from Instrument
MC22534-6.12	Jaclyn Bergeron	VOC Ref #4	07/17/13 09:41	Return to Storage

Accutest Internal Chain of Custody

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/09/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22534-6.14	VOC Ref #4	Bijan Jafari	07/11/13 08:24	Retrieve from Storage
MC22534-6.14	Bijan Jafari		07/11/13 10:33	Depleted
MC22534-6.15	VOC Ref #4	Bijan Jafari	07/11/13 08:24	Retrieve from Storage
MC22534-6.15	Bijan Jafari		07/11/13 10:33	Depleted
MC22534-6.17	VOC Ref #4	Bijan Jafari	07/11/13 08:24	Retrieve from Storage
MC22534-6.17	Bijan Jafari		07/11/13 10:33	Depleted
MC22534-7.2	VOC Ref #4	Jaclyn Bergeron	07/16/13 08:11	Retrieve from Storage
MC22534-7.2	Jaclyn Bergeron	GCMSN	07/16/13 08:11	Load on Instrument
MC22534-7.2	GCMSN	Jaclyn Bergeron	07/17/13 09:41	Unload from Instrument
MC22534-7.2	Jaclyn Bergeron	VOC Ref #4	07/17/13 09:41	Return to Storage
MC22534-8.1	VOC Ref #4	Bijan Jafari	07/11/13 08:24	Retrieve from Storage
MC22534-8.1	Bijan Jafari		07/11/13 10:33	Depleted

New England ACCUTEST LABORATORIES

GC/MS Volatiles

6

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: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2937-MB	N78247.D	1	07/16/13	JB	n/a	n/a	MSN2937

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

MC22534-2, MC22534-7

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	

Method Blank Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2937-MB	N78247.D	1	07/16/13	JB	n/a	n/a	MSN2937

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

MC22534-2, MC22534-7

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	ug/l	

Method Blank Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2937-MB	N78247.D	1	07/16/13	JB	n/a	n/a	MSN2937

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

MC22534-2, MC22534-7

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	91%	70-130%
2037-26-5	Toluene-D8	101%	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: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2939-MB	N78298.D	1	07/17/13	JB	n/a	n/a	MSN2939

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

MC22534-1, MC22534-3, MC22534-4, MC22534-5

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	

Method Blank Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2939-MB	N78298.D	1	07/17/13	JB	n/a	n/a	MSN2939

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

MC22534-1, MC22534-3, MC22534-4, MC22534-5

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	ug/l	

Method Blank Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2939-MB	N78298.D	1	07/17/13	JB	n/a	n/a	MSN2939

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

MC22534-1, MC22534-3, MC22534-4, MC22534-5

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

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

Method Blank Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2937-MB1	N78298.D	1	07/17/13	JB	n/a	n/a	MSN2937

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

MC22534-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	

Method Blank Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2937-MB1	N78298.D	1	07/17/13	JB	n/a	n/a	MSN2937

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

MC22534-6

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	ug/l	

Method Blank Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2937-MB1	N78298.D	1	07/17/13	JB	n/a	n/a	MSN2937

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

MC22534-6

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

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

6.1.3

6

Blank Spike Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2937-BS	N78244.D	1	07/16/13	JB	n/a	n/a	MSN2937

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

MC22534-2, MC22534-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	30.2	60* a	70-130
107-02-8	Acrolein	250	326	130	70-130
107-13-1	Acrylonitrile	50	49.4	99	70-130
71-43-2	Benzene	50	52.0	104	70-130
108-86-1	Bromobenzene	50	49.1	98	70-130
74-97-5	Bromochloromethane	50	51.0	102	70-130
75-27-4	Bromodichloromethane	50	55.6	111	70-130
75-25-2	Bromoform	50	46.6	93	70-130
74-83-9	Bromomethane	50	42.9	86	70-130
78-93-3	2-Butanone (MEK)	50	35.9	72	70-130
104-51-8	n-Butylbenzene	50	50.7	101	70-130
135-98-8	sec-Butylbenzene	50	53.5	107	70-130
98-06-6	tert-Butylbenzene	50	52.8	106	70-130
75-15-0	Carbon disulfide	50	48.8	98	70-130
56-23-5	Carbon tetrachloride	50	51.8	104	70-130
108-90-7	Chlorobenzene	50	54.2	108	70-130
75-00-3	Chloroethane	50	49.9	100	70-130
110-75-8	2-Chloroethyl vinyl ether	50	49.8	100	70-130
67-66-3	Chloroform	50	51.9	104	70-130
74-87-3	Chloromethane	50	54.4	109	70-130
95-49-8	o-Chlorotoluene	50	50.2	100	70-130
106-43-4	p-Chlorotoluene	50	53.3	107	70-130
124-48-1	Dibromochloromethane	50	48.3	97	70-130
95-50-1	1,2-Dichlorobenzene	50	55.5	111	70-130
541-73-1	1,3-Dichlorobenzene	50	52.8	106	70-130
106-46-7	1,4-Dichlorobenzene	50	51.8	104	70-130
75-71-8	Dichlorodifluoromethane	50	45.3	91	70-130
75-34-3	1,1-Dichloroethane	50	51.3	103	70-130
107-06-2	1,2-Dichloroethane	50	54.6	109	70-130
75-35-4	1,1-Dichloroethene	50	47.4	95	70-130
156-59-2	cis-1,2-Dichloroethene	50	49.8	100	70-130
156-60-5	trans-1,2-Dichloroethene	50	50.6	101	70-130
78-87-5	1,2-Dichloropropane	50	50.0	100	70-130
142-28-9	1,3-Dichloropropane	50	51.8	104	70-130
594-20-7	2,2-Dichloropropane	50	45.8	92	70-130
563-58-6	1,1-Dichloropropene	50	52.8	106	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2937-BS	N78244.D	1	07/16/13	JB	n/a	n/a	MSN2937

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

MC22534-2, MC22534-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	46.1	92	70-130
10061-02-6	trans-1,3-Dichloropropene	50	48.5	97	70-130
123-91-1	1,4-Dioxane	250	237	95	70-130
97-63-2	Ethyl methacrylate	50	49.8	100	77-137
100-41-4	Ethylbenzene	50	49.9	100	70-130
87-68-3	Hexachlorobutadiene	50	51.6	103	70-130
591-78-6	2-Hexanone	50	41.2	82	70-130
98-82-8	Isopropylbenzene	50	51.8	104	70-130
99-87-6	p-Isopropyltoluene	50	53.4	107	70-130
1634-04-4	Methyl Tert Butyl Ether	50	48.3	97	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	48.5	97	70-130
74-95-3	Methylene bromide	50	53.4	107	70-130
75-09-2	Methylene chloride	50	49.1	98	70-130
91-20-3	Naphthalene	50	50.9	102	70-130
103-65-1	n-Propylbenzene	50	51.1	102	70-130
100-42-5	Styrene	50	49.2	98	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	49.9	100	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	50.1	100	70-130
127-18-4	Tetrachloroethene	50	51.1	102	70-130
108-88-3	Toluene	50	53.0	106	70-130
87-61-6	1,2,3-Trichlorobenzene	50	54.2	108	70-130
120-82-1	1,2,4-Trichlorobenzene	50	53.4	107	70-130
71-55-6	1,1,1-Trichloroethane	50	51.9	104	70-130
79-00-5	1,1,2-Trichloroethane	50	53.4	107	70-130
79-01-6	Trichloroethene	50	51.5	103	70-130
75-69-4	Trichlorofluoromethane	50	46.2	92	70-130
96-18-4	1,2,3-Trichloropropane	50	46.5	93	70-130
95-63-6	1,2,4-Trimethylbenzene	50	48.8	98	70-130
108-67-8	1,3,5-Trimethylbenzene	50	47.3	95	70-130
108-05-4	Vinyl Acetate	50	31.9	64* a	70-130
75-01-4	Vinyl chloride	50	38.0	76	70-130
	m,p-Xylene	100	106	106	70-130
95-47-6	o-Xylene	50	56.6	113	70-130
1330-20-7	Xylene (total)	150	163	109	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2937-BS	N78244.D	1	07/16/13	JB	n/a	n/a	MSN2937

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

MC22534-2, MC22534-7

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	92%	70-130%
2037-26-5	Toluene-D8	101%	70-130%
460-00-4	4-Bromofluorobenzene	92%	70-130%

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

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2937-BS1	N78295.D	1	07/17/13	JB	n/a	n/a	MSN2937

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

MC22534-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	42.2	84	70-130
107-02-8	Acrolein	250	378	151* a	70-130
107-13-1	Acrylonitrile	50	48.0	96	70-130
71-43-2	Benzene	50	53.4	107	70-130
108-86-1	Bromobenzene	50	52.0	104	70-130
74-97-5	Bromochloromethane	50	52.5	105	70-130
75-27-4	Bromodichloromethane	50	56.2	112	70-130
75-25-2	Bromoform	50	42.9	86	70-130
74-83-9	Bromomethane	50	51.6	103	70-130
78-93-3	2-Butanone (MEK)	50	43.1	86	70-130
104-51-8	n-Butylbenzene	50	53.8	108	70-130
135-98-8	sec-Butylbenzene	50	57.1	114	70-130
98-06-6	tert-Butylbenzene	50	56.0	112	70-130
75-15-0	Carbon disulfide	50	51.4	103	70-130
56-23-5	Carbon tetrachloride	50	49.8	100	70-130
108-90-7	Chlorobenzene	50	53.3	107	70-130
75-00-3	Chloroethane	50	52.1	104	70-130
110-75-8	2-Chloroethyl vinyl ether	50	52.7	105	70-130
67-66-3	Chloroform	50	53.4	107	70-130
74-87-3	Chloromethane	50	54.4	109	70-130
95-49-8	o-Chlorotoluene	50	54.0	108	70-130
106-43-4	p-Chlorotoluene	50	56.9	114	70-130
124-48-1	Dibromochloromethane	50	46.3	93	70-130
95-50-1	1,2-Dichlorobenzene	50	57.6	115	70-130
541-73-1	1,3-Dichlorobenzene	50	54.3	109	70-130
106-46-7	1,4-Dichlorobenzene	50	54.6	109	70-130
75-71-8	Dichlorodifluoromethane	50	49.7	99	70-130
75-34-3	1,1-Dichloroethane	50	53.7	107	70-130
107-06-2	1,2-Dichloroethane	50	55.9	112	70-130
75-35-4	1,1-Dichloroethene	50	53.5	107	70-130
156-59-2	cis-1,2-Dichloroethene	50	50.4	101	70-130
156-60-5	trans-1,2-Dichloroethene	50	52.3	105	70-130
78-87-5	1,2-Dichloropropane	50	52.8	106	70-130
142-28-9	1,3-Dichloropropane	50	50.0	100	70-130
594-20-7	2,2-Dichloropropane	50	47.3	95	70-130
563-58-6	1,1-Dichloropropene	50	56.0	112	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2937-BS1	N78295.D	1	07/17/13	JB	n/a	n/a	MSN2937

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

MC22534-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	43.7	87	70-130
10061-02-6	trans-1,3-Dichloropropene	50	43.8	88	70-130
123-91-1	1,4-Dioxane	250	226	90	70-130
97-63-2	Ethyl methacrylate	50	48.0	96	77-137
100-41-4	Ethylbenzene	50	50.9	102	70-130
87-68-3	Hexachlorobutadiene	50	52.2	104	70-130
591-78-6	2-Hexanone	50	43.9	88	70-130
98-82-8	Isopropylbenzene	50	55.3	111	70-130
99-87-6	p-Isopropyltoluene	50	56.5	113	70-130
1634-04-4	Methyl Tert Butyl Ether	50	41.2	82	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	48.5	97	70-130
74-95-3	Methylene bromide	50	53.4	107	70-130
75-09-2	Methylene chloride	50	50.1	100	70-130
91-20-3	Naphthalene	50	42.6	85	70-130
103-65-1	n-Propylbenzene	50	55.0	110	70-130
100-42-5	Styrene	50	47.8	96	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	48.3	97	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	50.1	100	70-130
127-18-4	Tetrachloroethene	50	53.1	106	70-130
108-88-3	Toluene	50	54.1	108	70-130
87-61-6	1,2,3-Trichlorobenzene	50	50.1	100	70-130
120-82-1	1,2,4-Trichlorobenzene	50	50.3	101	70-130
71-55-6	1,1,1-Trichloroethane	50	52.4	105	70-130
79-00-5	1,1,2-Trichloroethane	50	53.2	106	70-130
79-01-6	Trichloroethene	50	55.2	110	70-130
75-69-4	Trichlorofluoromethane	50	53.5	107	70-130
96-18-4	1,2,3-Trichloropropane	50	44.2	88	70-130
95-63-6	1,2,4-Trimethylbenzene	50	51.4	103	70-130
108-67-8	1,3,5-Trimethylbenzene	50	50.8	102	70-130
108-05-4	Vinyl Acetate	50	39.9	80	70-130
75-01-4	Vinyl chloride	50	41.1	82	70-130
	m,p-Xylene	100	105	105	70-130
95-47-6	o-Xylene	50	56.8	114	70-130
1330-20-7	Xylene (total)	150	162	108	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2937-BS1	N78295.D	1	07/17/13	JB	n/a	n/a	MSN2937

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

MC22534-6

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	94%	70-130%
2037-26-5	Toluene-D8	103%	70-130%
460-00-4	4-Bromofluorobenzene	92%	70-130%

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

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2939-BS	N78295.D	1	07/17/13	JB	n/a	n/a	MSN2939
MSN2939-BSD	N78296.D	1	07/17/13	JB	n/a	n/a	MSN2939

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

MC22534-1, MC22534-3, MC22534-4, MC22534-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	42.2	84	49.4	99	16	70-130/25
107-02-8	Acrolein	250	378	151* a	388	155* a	3	70-130/25
107-13-1	Acrylonitrile	50	48.0	96	48.5	97	1	70-130/25
71-43-2	Benzene	50	53.4	107	52.6	105	2	70-130/25
108-86-1	Bromobenzene	50	52.0	104	51.5	103	1	70-130/25
74-97-5	Bromochloromethane	50	52.5	105	52.0	104	1	70-130/25
75-27-4	Bromodichloromethane	50	56.2	112	55.5	111	1	70-130/25
75-25-2	Bromoform	50	42.9	86	44.0	88	3	70-130/25
74-83-9	Bromomethane	50	51.6	103	54.0	108	5	70-130/25
78-93-3	2-Butanone (MEK)	50	43.1	86	49.2	98	13	70-130/25
104-51-8	n-Butylbenzene	50	53.8	108	51.9	104	4	70-130/25
135-98-8	sec-Butylbenzene	50	57.1	114	55.9	112	2	70-130/25
98-06-6	tert-Butylbenzene	50	56.0	112	54.2	108	3	70-130/25
75-15-0	Carbon disulfide	50	51.4	103	51.0	102	1	70-130/25
56-23-5	Carbon tetrachloride	50	49.8	100	49.5	99	1	70-130/25
108-90-7	Chlorobenzene	50	53.3	107	53.7	107	1	70-130/25
75-00-3	Chloroethane	50	52.1	104	51.6	103	1	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	52.7	105	50.3	101	5	70-130/25
67-66-3	Chloroform	50	53.4	107	53.3	107	0	70-130/25
74-87-3	Chloromethane	50	54.4	109	55.5	111	2	70-130/25
95-49-8	o-Chlorotoluene	50	54.0	108	53.0	106	2	70-130/25
106-43-4	p-Chlorotoluene	50	56.9	114	55.3	111	3	70-130/25
124-48-1	Dibromochloromethane	50	46.3	93	46.4	93	0	70-130/25
95-50-1	1,2-Dichlorobenzene	50	57.6	115	55.5	111	4	70-130/25
541-73-1	1,3-Dichlorobenzene	50	54.3	109	52.6	105	3	70-130/25
106-46-7	1,4-Dichlorobenzene	50	54.6	109	52.5	105	4	70-130/25
75-71-8	Dichlorodifluoromethane	50	49.7	99	48.1	96	3	70-130/25
75-34-3	1,1-Dichloroethane	50	53.7	107	53.1	106	1	70-130/25
107-06-2	1,2-Dichloroethane	50	55.9	112	54.4	109	3	70-130/25
75-35-4	1,1-Dichloroethene	50	53.5	107	52.7	105	2	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	50.4	101	49.9	100	1	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	52.3	105	52.1	104	0	70-130/25
78-87-5	1,2-Dichloropropane	50	52.8	106	50.5	101	4	70-130/25
142-28-9	1,3-Dichloropropane	50	50.0	100	50.1	100	0	70-130/25
594-20-7	2,2-Dichloropropane	50	47.3	95	45.6	91	4	70-130/25
563-58-6	1,1-Dichloropropene	50	56.0	112	56.0	112	0	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2939-BS	N78295.D	1	07/17/13	JB	n/a	n/a	MSN2939
MSN2939-BSD	N78296.D	1	07/17/13	JB	n/a	n/a	MSN2939

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

MC22534-1, MC22534-3, MC22534-4, MC22534-5

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	43.7	87	42.9	86	2	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	43.8	88	43.2	86	1	70-130/25
123-91-1	1,4-Dioxane	250	226	90	225	90	0	70-130/25
97-63-2	Ethyl methacrylate	50	48.0	96	47.3	95	1	77-137/25
100-41-4	Ethylbenzene	50	50.9	102	50.6	101	1	70-130/25
87-68-3	Hexachlorobutadiene	50	52.2	104	51.4	103	2	70-130/25
591-78-6	2-Hexanone	50	43.9	88	45.9	92	4	70-130/25
98-82-8	Isopropylbenzene	50	55.3	111	55.1	110	0	70-130/25
99-87-6	p-Isopropyltoluene	50	56.5	113	54.7	109	3	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	41.2	82	43.5	87	5	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	48.5	97	47.0	94	3	70-130/25
74-95-3	Methylene bromide	50	53.4	107	53.4	107	0	70-130/25
75-09-2	Methylene chloride	50	50.1	100	50.4	101	1	70-130/25
91-20-3	Naphthalene	50	42.6	85	43.1	86	1	70-130/25
103-65-1	n-Propylbenzene	50	55.0	110	54.6	109	1	70-130/25
100-42-5	Styrene	50	47.8	96	47.9	96	0	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	48.3	97	48.4	97	0	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	50.1	100	50.9	102	2	70-130/25
127-18-4	Tetrachloroethene	50	53.1	106	53.8	108	1	70-130/25
108-88-3	Toluene	50	54.1	108	54.0	108	0	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	50.1	100	49.3	99	2	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	50.3	101	51.9	104	3	70-130/25
71-55-6	1,1,1-Trichloroethane	50	52.4	105	51.8	104	1	70-130/25
79-00-5	1,1,2-Trichloroethane	50	53.2	106	53.3	107	0	70-130/25
79-01-6	Trichloroethene	50	55.2	110	53.3	107	4	70-130/25
75-69-4	Trichlorofluoromethane	50	53.5	107	51.4	103	4	70-130/25
96-18-4	1,2,3-Trichloropropane	50	44.2	88	45.3	91	2	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	51.4	103	50.6	101	2	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	50.8	102	50.1	100	1	70-130/25
108-05-4	Vinyl Acetate	50	39.9	80	39.7	79	1	70-130/25
75-01-4	Vinyl chloride	50	41.1	82	41.3	83	0	70-130/25
	m,p-Xylene	100	105	105	106	106	1	70-130/25
95-47-6	o-Xylene	50	56.8	114	56.2	112	1	70-130/25
1330-20-7	Xylene (total)	150	162	108	162	108	0	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2939-BS	N78295.D	1	07/17/13	JB	n/a	n/a	MSN2939
MSN2939-BSD	N78296.D	1	07/17/13	JB	n/a	n/a	MSN2939

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

MC22534-1, MC22534-3, MC22534-4, MC22534-5

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	94%	94%	70-130%
2037-26-5	Toluene-D8	103%	101%	70-130%
460-00-4	4-Bromofluorobenzene	92%	94%	70-130%

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

6.3.1

6

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22534-6MS	N78265.D	1	07/16/13	JB	n/a	n/a	MSN2937
MC22534-6MSD	N78266.D	1	07/16/13	JB	n/a	n/a	MSN2937
MC22534-6	N78302.D	1	07/17/13	JB	n/a	n/a	MSN2937

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

MC22534-2, MC22534-6, MC22534-7

CAS No.	Compound	MC22534-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		50	22.8	46* a	25.0	50* a	9	70-130/30
107-02-8	Acrolein	ND		250	322	129	329	132* a	2	70-130/30
107-13-1	Acrylonitrile	ND		50	41.8	84	44.4	89	6	70-130/30
71-43-2	Benzene	0.62		50	50.2	99	50.0	99	0	70-130/30
108-86-1	Bromobenzene	ND		50	49.1	98	49.3	99	0	70-130/30
74-97-5	Bromochloromethane	ND		50	49.0	98	50.9	102	4	70-130/30
75-27-4	Bromodichloromethane	ND		50	49.3	99	50.5	101	2	70-130/30
75-25-2	Bromoform	ND		50	40.8	82	42.7	85	5	70-130/30
74-83-9	Bromomethane	ND		50	35.3	71	47.6	95	30	70-130/30
78-93-3	2-Butanone (MEK)	ND		50	31.6	63* a	35.1	70	10	70-130/30
104-51-8	n-Butylbenzene	ND		50	50.0	100	50.2	100	0	70-130/30
135-98-8	sec-Butylbenzene	ND		50	52.6	105	53.2	106	1	70-130/30
98-06-6	tert-Butylbenzene	ND		50	51.0	102	51.0	102	0	70-130/30
75-15-0	Carbon disulfide	ND		50	47.0	94	48.1	96	2	70-130/30
56-23-5	Carbon tetrachloride	ND		50	48.6	97	47.8	96	2	70-130/30
108-90-7	Chlorobenzene	ND		50	50.6	101	51.0	102	1	70-130/30
75-00-3	Chloroethane	ND		50	48.5	97	50.0	100	3	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		50	47.3	95	47.5	95	0	70-130/30
67-66-3	Chloroform	ND		50	47.8	96	48.7	97	2	70-130/30
74-87-3	Chloromethane	ND		50	44.4	89	46.8	94	5	70-130/30
95-49-8	o-Chlorotoluene	ND		50	50.0	100	50.6	101	1	70-130/30
106-43-4	p-Chlorotoluene	ND		50	52.0	104	52.4	105	1	70-130/30
124-48-1	Dibromochloromethane	ND		50	42.9	86	44.8	90	4	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		50	52.3	105	54.1	108	3	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		50	50.5	101	51.1	102	1	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		50	49.1	98	49.9	100	2	70-130/30
75-71-8	Dichlorodifluoromethane	ND		50	43.6	87	44.4	89	2	70-130/30
75-34-3	1,1-Dichloroethane	ND		50	48.9	98	49.6	99	1	70-130/30
107-06-2	1,2-Dichloroethane	ND		50	47.7	95	48.2	96	1	70-130/30
75-35-4	1,1-Dichloroethene	ND		50	49.0	98	49.2	98	0	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		50	47.4	95	47.7	95	1	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		50	49.2	98	49.8	100	1	70-130/30
78-87-5	1,2-Dichloropropane	ND		50	47.5	95	47.7	95	0	70-130/30
142-28-9	1,3-Dichloropropane	ND		50	46.7	93	47.8	96	2	70-130/30
594-20-7	2,2-Dichloropropane	ND		50	49.9	100	50.1	100	0	70-130/30
563-58-6	1,1-Dichloropropene	ND		50	52.0	104	51.5	103	1	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22534-6MS	N78265.D	1	07/16/13	JB	n/a	n/a	MSN2937
MC22534-6MSD	N78266.D	1	07/16/13	JB	n/a	n/a	MSN2937
MC22534-6	N78302.D	1	07/17/13	JB	n/a	n/a	MSN2937

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

MC22534-2, MC22534-6, MC22534-7

CAS No.	Compound	MC22534-6 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	43.8	88	43.8	88	0	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		50	44.9	90	45.9	92	2	70-130/30
123-91-1	1,4-Dioxane	ND		250	196	78	223	89	13	70-130/30
97-63-2	Ethyl methacrylate	ND		50	45.9	92	48.2	96	5	72-139/30
100-41-4	Ethylbenzene	ND		50	47.3	95	48.0	96	1	70-130/30
87-68-3	Hexachlorobutadiene	ND		50	45.2	90	45.9	92	2	70-130/30
591-78-6	2-Hexanone	ND		50	33.9	68* a	37.1	74	9	70-130/30
98-82-8	Isopropylbenzene	ND		50	52.4	105	52.1	104	1	70-130/30
99-87-6	p-Isopropyltoluene	ND		50	51.3	103	52.1	104	2	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		50	43.3	87	45.4	91	5	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		50	40.3	81	42.9	86	6	70-130/30
74-95-3	Methylene bromide	ND		50	46.6	93	47.3	95	1	70-130/30
75-09-2	Methylene chloride	ND		50	46.8	94	48.3	97	3	70-130/30
91-20-3	Naphthalene	ND		50	43.7	87	47.8	96	9	70-130/30
103-65-1	n-Propylbenzene	ND		50	51.6	103	52.2	104	1	70-130/30
100-42-5	Styrene	ND		50	45.2	90	46.2	92	2	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		50	44.8	90	46.6	93	4	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		50	46.9	94	48.7	97	4	70-130/30
127-18-4	Tetrachloroethene	ND		50	50.3	101	51.1	102	2	70-130/30
108-88-3	Toluene	ND		50	49.4	99	49.6	99	0	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		50	47.3	95	49.9	100	5	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		50	48.6	97	51.2	102	5	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		50	47.6	95	48.2	96	1	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		50	48.2	96	49.8	100	3	70-130/30
79-01-6	Trichloroethene	ND		50	47.8	96	48.4	97	1	70-130/30
75-69-4	Trichlorofluoromethane	ND		50	45.5	91	46.1	92	1	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		50	44.4	89	46.7	93	5	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		50	47.2	94	48.0	96	2	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		50	47.1	94	47.2	94	0	70-130/30
108-05-4	Vinyl Acetate	ND		50	33.9	68* a	35.3	71	4	70-130/30
75-01-4	Vinyl chloride	ND		50	38.2	76	39.5	79	3	70-130/30
	m,p-Xylene	ND		100	100	100	101	101	1	70-130/30
95-47-6	o-Xylene	ND		50	53.3	107	53.4	107	0	70-130/30
1330-20-7	Xylene (total)	ND		150	153	102	155	103	1	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22534-6MS	N78265.D	1	07/16/13	JB	n/a	n/a	MSN2937
MC22534-6MSD	N78266.D	1	07/16/13	JB	n/a	n/a	MSN2937
MC22534-6	N78302.D	1	07/17/13	JB	n/a	n/a	MSN2937

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

MC22534-2, MC22534-6, MC22534-7

CAS No.	Surrogate Recoveries	MS	MSD	MC22534-6	Limits
1868-53-7	Dibromofluoromethane	91%	91%	95%	70-130%
2037-26-5	Toluene-D8	100%	99%	101%	70-130%
460-00-4	4-Bromofluorobenzene	94%	94%	105%	70-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22559-1MS	N78318.D	5	07/17/13	JB	n/a	n/a	MSN2939
MC22559-1MSD	N78319.D	5	07/17/13	JB	n/a	n/a	MSN2939
MC22559-1	N78301.D	1	07/17/13	JB	n/a	n/a	MSN2939

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

MC22534-1, MC22534-3, MC22534-4, MC22534-5

CAS No.	Compound	MC22559-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	144	58* [a]	140	56* [a]	3	70-130/30
107-02-8	Acrolein	ND		1250	1770	142* [a]	1710	137* [a]	3	70-130/30
107-13-1	Acrylonitrile	ND		250	246	98	243	97	1	70-130/30
71-43-2	Benzene	ND		250	262	105	262	105	0	70-130/30
108-86-1	Bromobenzene	ND		250	255	102	254	102	0	70-130/30
74-97-5	Bromochloromethane	ND		250	261	104	260	104	0	70-130/30
75-27-4	Bromodichloromethane	ND		250	280	112	282	113	1	70-130/30
75-25-2	Bromoform	ND		250	214	86	216	86	1	70-130/30
74-83-9	Bromomethane	ND		250	277	111	304	122	9	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	163	65* [a]	172	69* [a]	5	70-130/30
104-51-8	n-Butylbenzene	ND		250	238	95	241	96	1	70-130/30
135-98-8	sec-Butylbenzene	ND		250	279	112	277	111	1	70-130/30
98-06-6	tert-Butylbenzene	ND		250	277	111	274	110	1	70-130/30
75-15-0	Carbon disulfide	ND		250	247	99	241	96	2	70-130/30
56-23-5	Carbon tetrachloride	ND		250	253	101	263	105	4	70-130/30
108-90-7	Chlorobenzene	ND		250	265	106	262	105	1	70-130/30
75-00-3	Chloroethane	ND		250	248	99	241	96	3	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	254	102	254	102	0	70-130/30
67-66-3	Chloroform	9.1		250	281	109	273	106	3	70-130/30
74-87-3	Chloromethane	ND		250	263	105	273	109	4	70-130/30
95-49-8	o-Chlorotoluene	ND		250	264	106	262	105	1	70-130/30
106-43-4	p-Chlorotoluene	ND		250	277	111	276	110	0	70-130/30
124-48-1	Dibromochloromethane	ND		250	227	91	226	90	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	273	109	274	110	0	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	261	104	264	106	1	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	256	102	255	102	0	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	230	92	221	88	4	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	269	108	264	106	2	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	281	112	274	110	3	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	264	106	252	101	5	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	253	101	248	99	2	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	265	106	258	103	3	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	254	102	255	102	0	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	245	98	246	98	0	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	202	81	212	85	5	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	280	112	276	110	1	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22559-1MS	N78318.D	5	07/17/13	JB	n/a	n/a	MSN2939
MC22559-1MSD	N78319.D	5	07/17/13	JB	n/a	n/a	MSN2939
MC22559-1	N78301.D	1	07/17/13	JB	n/a	n/a	MSN2939

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

MC22534-1, MC22534-3, MC22534-4, MC22534-5

CAS No.	Compound	MC22559-1 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	203	81	208	83	2	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	204	82	208	83	2	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1060	85	1050	84	1	70-130/30
97-63-2	Ethyl methacrylate	ND		250	222	89	224	90	1	72-139/30
100-41-4	Ethylbenzene	ND		250	252	101	248	99	2	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	238	95	248	99	4	70-130/30
591-78-6	2-Hexanone	ND		250	180	72	183	73	2	70-130/30
98-82-8	Isopropylbenzene	ND		250	277	111	273	109	1	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	269	108	266	106	1	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		250	215	86	222	89	3	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	231	92	233	93	1	70-130/30
74-95-3	Methylene bromide	ND		250	261	104	264	106	1	70-130/30
75-09-2	Methylene chloride	ND		250	256	102	250	100	2	70-130/30
91-20-3	Naphthalene	ND		250	174	70	191	76	9	70-130/30
103-65-1	n-Propylbenzene	ND		250	273	109	267	107	2	70-130/30
100-42-5	Styrene	ND		250	234	94	231	92	1	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	242	97	239	96	1	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	248	99	242	97	2	70-130/30
127-18-4	Tetrachloroethene	ND		250	267	107	260	104	3	70-130/30
108-88-3	Toluene	ND		250	284	114	284	114	0	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	211	84	230	92	9	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	220	88	228	91	4	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	258	103	263	105	2	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	260	104	258	103	1	70-130/30
79-01-6	Trichloroethene	ND		250	264	106	265	106	0	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	259	104	253	101	2	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	217	87	211	84	3	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	249	100	248	99	0	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	251	100	247	99	2	70-130/30
108-05-4	Vinyl Acetate	ND		250	197	79	188	75	5	70-130/30
75-01-4	Vinyl chloride	ND		250	200	80	195	78	3	70-130/30
	m,p-Xylene	ND		500	524	105	527	105	1	70-130/30
95-47-6	o-Xylene	ND		250	279	112	276	110	1	70-130/30
1330-20-7	Xylene (total)	ND		750	803	107	803	107	0	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22559-1MS	N78318.D	5	07/17/13	JB	n/a	n/a	MSN2939
MC22559-1MSD	N78319.D	5	07/17/13	JB	n/a	n/a	MSN2939
MC22559-1	N78301.D	1	07/17/13	JB	n/a	n/a	MSN2939

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

MC22534-1, MC22534-3, MC22534-4, MC22534-5

CAS No.	Surrogate Recoveries	MS	MSD	MC22559-1	Limits
1868-53-7	Dibromofluoromethane	95%	93%	96%	70-130%
2037-26-5	Toluene-D8	102%	101%	99%	70-130%
460-00-4	4-Bromofluorobenzene	96%	94%	103%	70-130%

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

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSN2937-CC2927	Injection Date:	07/16/13
Lab File ID:	N78243.D	Injection Time:	03:58
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	176762	9.01	278666	9.88	149277	13.13	135227	15.69	70792	6.56
Upper Limit [a]	353524	9.51	557332	10.38	298554	13.63	270454	16.19	141584	7.06
Lower Limit [b]	88381	8.51	139333	9.38	74639	12.63	67614	15.19	35396	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
MSN2937-BS	177347	9.01	272845	9.87	145758	13.13	135569	15.69	68526	6.57
MSN2937-MB	187441	9.01	280929	9.88	142350	13.13	122082	15.69	71806	6.58
ZZZZZZ	178484	9.01	277711	9.87	140119	13.13	122929	15.69	67591	6.57
ZZZZZZ	178730	9.01	279365	9.88	139796	13.13	119026	15.69	67258	6.57
ZZZZZZ	177578	9.01	272821	9.88	139608	13.13	116507	15.69	71673	6.57
ZZZZZZ	181156	9.01	279952	9.88	143535	13.13	119088	15.69	71518	6.57
ZZZZZZ	178088	9.01	272065	9.88	138239	13.13	116196	15.69	68294	6.58
ZZZZZZ	175160	9.01	272604	9.88	139499	13.13	116943	15.69	66184	6.58
ZZZZZZ	175413	9.01	264509	9.88	137043	13.13	114226	15.69	65714	6.58
MC22534-7	173972	9.01	267936	9.87	135385	13.13	114522	15.69	63482	6.58
MC22534-2	177988	9.01	271492	9.88	138954	13.13	115737	15.69	67015	6.58
ZZZZZZ	176750	9.01	270113	9.88	138031	13.13	113912	15.69	66779	6.57
ZZZZZZ	173501	9.01	266651	9.88	151324	13.13	139653	15.69	85801	6.56
ZZZZZZ	215334	9.01	327559	9.87	166069	13.13	168815	15.69	95444	6.56
MC22534-6MS	222326	9.01	344582	9.88	182382	13.13	157042	15.69	77294	6.57
MC22534-6MSD	216725	9.01	342118	9.87	179107	13.13	156004	15.69	88224	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: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSN2939-CC2927	Injection Date:	07/17/13
Lab File ID:	N78294.D	Injection Time:	08:17
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	145057	9.01	228316	9.88	124617	13.13	108642	15.69	68668	6.56
Upper Limit [a]	290114	9.51	456632	10.38	249234	13.63	217284	16.19	137336	7.06
Lower Limit [b]	72529	8.51	114158	9.38	62309	12.63	54321	15.19	34334	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
MSN2937-BS1	174076	9.01	266327	9.88	146503	13.13	127714	15.69	70275	6.57
MSN2939-BS	174076	9.01	266327	9.88	146503	13.13	127714	15.69	70275	6.57
MSN2939-BSD	182577	9.01	284110	9.87	152743	13.13	132142	15.69	74802	6.57
MSN2937-MB1	162220	9.01	254521	9.88	127646	13.13	99734	15.69	62973	6.58
MSN2939-MB	162220	9.01	254521	9.88	127646	13.13	99734	15.69	62973	6.58
ZZZZZZ	173587	9.01	266472	9.88	136158	13.13	112836	15.69	62564	6.58
ZZZZZZ	180942	9.01	271354	9.88	137014	13.13	111260	15.69	71713	6.58
MC22559-1	169389	9.01	267462	9.88	137067	13.13	109657	15.69	69290	6.58
MC22534-6	151773	9.01	232478	9.88	117960	13.13	92592	15.69	64349	6.58
MC22534-1	171908	9.01	267874	9.88	136528	13.13	108624	15.69	66583	6.57
MC22534-3	168247	9.01	257796	9.88	127761	13.13	103688	15.69	65739	6.58
MC22534-4	169469	9.01	256044	9.88	131275	13.13	105961	15.69	65244	6.58
MC22534-5	165683	9.01	252866	9.88	130880	13.13	103583	15.69	65531	6.58
ZZZZZZ	169885	9.01	261944	9.87	133060	13.13	108399	15.69	66594	6.58
ZZZZZZ	164255	9.01	253282	9.88	130708	13.13	105979	15.69	64027	6.57
ZZZZZZ	169296	9.01	258112	9.88	132598	13.13	100533	15.69	68087	6.58
ZZZZZZ	145000	9.01	221376	9.88	115016	13.13	87805	15.69	61278	6.59
ZZZZZZ	168124	9.01	257100	9.88	129421	13.13	100582	15.69	60490	6.59
ZZZZZZ	165941	9.01	254996	9.88	127686	13.13	100903	15.69	57137	6.58
ZZZZZZ	164210	9.01	257299	9.88	129905	13.13	99449	15.69	65859	6.58
ZZZZZZ	144863	9.01	224823	9.87	114460	13.13	90889	15.69	57253	6.58
ZZZZZZ	164818	9.01	253305	9.88	129671	13.13	98754	15.69	64615	6.59
ZZZZZZ	160500	9.01	249776	9.88	128150	13.13	96304	15.69	65587	6.58
ZZZZZZ	159965	9.01	246780	9.87	127554	13.13	109602	15.69	69234	6.57
MC22559-1MS	165242	9.01	259384	9.88	141937	13.13	121819	15.69	68958	6.57
MC22559-1MSD	171746	9.01	265180	9.88	143819	13.13	124629	15.69	67315	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: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22534-1	N78303.D	93.0	99.0	101.0
MC22534-2	N78256.D	90.0	102.0	98.0
MC22534-3	N78304.D	93.0	99.0	102.0
MC22534-4	N78305.D	93.0	101.0	101.0
MC22534-5	N78306.D	94.0	102.0	104.0
MC22534-6	N78302.D	95.0	101.0	105.0
MC22534-7	N78255.D	92.0	102.0	97.0
MC22534-6MS	N78265.D	91.0	100.0	94.0
MC22534-6MSD	N78266.D	91.0	99.0	94.0
MC22559-1MS	N78318.D	95.0	102.0	96.0
MC22559-1MSD	N78319.D	93.0	101.0	94.0
MSN2937-BS	N78244.D	92.0	101.0	92.0
MSN2937-BS1	N78295.D	94.0	103.0	92.0
MSN2937-MB	N78247.D	91.0	101.0	95.0
MSN2937-MB1	N78298.D	94.0	99.0	101.0
MSN2939-BS	N78295.D	94.0	103.0	92.0
MSN2939-BSD	N78296.D	94.0	101.0	94.0
MSN2939-MB	N78298.D	94.0	99.0	101.0

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

6.6.1

6

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: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33941-MB	R32146.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173

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

MC22534-1, MC22534-2, MC22534-3, MC22534-4, MC22534-5, MC22534-6

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	0.38	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.49	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.33	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	1.1	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	2.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	1.2	ug/l	
95-48-7	2-Methylphenol	ND	10	1.3	ug/l	
	3&4-Methylphenol	ND	10	2.0	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.50	ug/l	
100-02-7	4-Nitrophenol	ND	20	0.58	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.0	0.51	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.57	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.32	ug/l	
62-53-3	Aniline	ND	10	0.64	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.20	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.85	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.57	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.92	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.25	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.21	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.23	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.13	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.20	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.65	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.68	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.64	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.50	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.16	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.39	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.43	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.50	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.50	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	2.4	2.0	0.49	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.30	ug/l	

7.1.1

7

Method Blank Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33941-MB	R32146.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173

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

MC22534-1, MC22534-2, MC22534-3, MC22534-4, MC22534-5, MC22534-6

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	2.5	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.44	ug/l	
78-59-1	Isophorone	ND	5.0	0.20	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.50	ug/l	
100-01-6	4-Nitroaniline	ND	10	4.3	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.50	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.81	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.54	ug/l	
110-86-1	Pyridine	ND	10	0.52	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	49%	15-110%
4165-62-2	Phenol-d5	32%	15-110%
118-79-6	2,4,6-Tribromophenol	91%	15-110%
4165-60-0	Nitrobenzene-d5	81%	30-130%
321-60-8	2-Fluorobiphenyl	85%	30-130%
1718-51-0	Terphenyl-d14	97%	30-130%

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

7.1.1

Method Blank Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34082-MB	R32331.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179

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

MC22534-3

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	0.38	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.49	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.33	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	1.1	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	2.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	1.2	ug/l	
95-48-7	2-Methylphenol	ND	10	1.3	ug/l	
	3&4-Methylphenol	ND	10	2.0	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.50	ug/l	
100-02-7	4-Nitrophenol	ND	20	0.58	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.0	0.51	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.57	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.32	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	48%	15-110%
4165-62-2	Phenol-d5	18%	15-110%
118-79-6	2,4,6-Tribromophenol	73%	15-110%
4165-60-0	Nitrobenzene-d5	67%	30-130%
321-60-8	2-Fluorobiphenyl	77%	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: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33942-MB	I84754A.D	1	07/12/13	WK	07/09/13	OP33942	MSI3152

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

MC22534-1, MC22534-2, MC22534-3, MC22534-4, MC22534-5, MC22534-6

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.065	0.10	0.014	ug/l	J
208-96-8	Acenaphthylene	0.026	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	0.50	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	0.087	0.20	0.052	ug/l	J
85-01-8	Phenanthrene	0.027	0.050	0.013	ug/l	J
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	51%	15-110%
4165-62-2	Phenol-d5	33%	15-110%
118-79-6	2,4,6-Tribromophenol	86%	15-110%
4165-60-0	Nitrobenzene-d5	89%	30-130%
321-60-8	2-Fluorobiphenyl	89%	30-130%
1718-51-0	Terphenyl-d14	105%	30-130%

Blank Spike Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33941-BS	R32147.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173

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

MC22534-1, MC22534-2, MC22534-3, MC22534-4, MC22534-5, MC22534-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	50	21.8	44	30-130
95-57-8	2-Chlorophenol	50	41.1	82	30-130
59-50-7	4-Chloro-3-methyl phenol	50	44.4	89	30-130
120-83-2	2,4-Dichlorophenol	50	47.5	95	30-130
105-67-9	2,4-Dimethylphenol	50	42.3	85	30-130
51-28-5	2,4-Dinitrophenol	50	48.0	96	30-130
534-52-1	4,6-Dinitro-o-cresol	50	49.9	100	30-130
95-48-7	2-Methylphenol	50	36.8	74	30-130
	3&4-Methylphenol	100	67.4	67	30-130
88-75-5	2-Nitrophenol	50	48.7	97	30-130
100-02-7	4-Nitrophenol	50	18.2	36	30-130
87-86-5	Pentachlorophenol	50	46.8	94	30-130
108-95-2	Phenol	50	18.9	38	30-130
95-95-4	2,4,5-Trichlorophenol	50	50.9	102	30-130
88-06-2	2,4,6-Trichlorophenol	50	49.6	99	30-130
62-53-3	Aniline	50	36.0	72	40-140
101-55-3	4-Bromophenyl phenyl ether	50	51.4	103	40-140
85-68-7	Butyl benzyl phthalate	50	52.0	104	40-140
100-51-6	Benzyl Alcohol	50	37.2	74	40-140
91-58-7	2-Chloronaphthalene	50	43.2	86	40-140
106-47-8	4-Chloroaniline	50	46.4	93	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	48.2	96	40-140
111-44-4	bis(2-Chloroethyl)ether	50	44.8	90	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	47.4	95	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	51.9	104	40-140
122-66-7	1,2-Diphenylhydrazine	50	46.2	92	40-140
121-14-2	2,4-Dinitrotoluene	50	56.2	112	40-140
606-20-2	2,6-Dinitrotoluene	50	53.8	108	40-140
91-94-1	3,3'-Dichlorobenzidine	50	45.9	92	40-140
132-64-9	Dibenzofuran	50	48.3	97	40-140
84-74-2	Di-n-butyl phthalate	50	51.5	103	40-140
117-84-0	Di-n-octyl phthalate	50	56.8	114	40-140
84-66-2	Diethyl phthalate	50	43.9	88	40-140
131-11-3	Dimethyl phthalate	50	25.9	52	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	52.1	104	40-140
118-74-1	Hexachlorobenzene	50	51.2	102	40-140

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33941-BS	R32147.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173

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

MC22534-1, MC22534-2, MC22534-3, MC22534-4, MC22534-5, MC22534-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	13.4	27* [a]	40-140
67-72-1	Hexachloroethane	50	19.7	39* [a]	40-140
78-59-1	Isophorone	50	47.0	94	40-140
88-74-4	2-Nitroaniline	50	58.2	116	40-140
99-09-2	3-Nitroaniline	50	52.9	106	40-140
100-01-6	4-Nitroaniline	50	55.3	111	40-140
98-95-3	Nitrobenzene	50	43.8	88	40-140
62-75-9	n-Nitrosodimethylamine	50	26.4	53	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	46.6	93	40-140
86-30-6	N-Nitrosodiphenylamine	50	50.1	100	40-140
110-86-1	Pyridine	50	22.6	45	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	53%	15-110%
4165-62-2	Phenol-d5	35%	15-110%
118-79-6	2,4,6-Tribromophenol	99%	15-110%
4165-60-0	Nitrobenzene-d5	90%	30-130%
321-60-8	2-Fluorobiphenyl	96%	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

7

Blank Spike Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34082-BS	R32332.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179

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

MC22534-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	50	20.7	41	30-130
95-57-8	2-Chlorophenol	50	42.4	85	30-130
59-50-7	4-Chloro-3-methyl phenol	50	43.2	86	30-130
120-83-2	2,4-Dichlorophenol	50	42.4	85	30-130
105-67-9	2,4-Dimethylphenol	50	39.3	79	30-130
51-28-5	2,4-Dinitrophenol	50	41.1	82	30-130
534-52-1	4,6-Dinitro-o-cresol	50	45.1	90	30-130
95-48-7	2-Methylphenol	50	39.3	79	30-130
	3&4-Methylphenol	100	72.2	72	30-130
88-75-5	2-Nitrophenol	50	44.1	88	30-130
100-02-7	4-Nitrophenol	50	18.0	36	30-130
87-86-5	Pentachlorophenol	50	43.7	87	30-130
108-95-2	Phenol	50	19.6	39	30-130
95-95-4	2,4,5-Trichlorophenol	50	46.9	94	30-130
88-06-2	2,4,6-Trichlorophenol	50	45.7	91	30-130

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	57%	15-110%
4165-62-2	Phenol-d5	21%	15-110%
118-79-6	2,4,6-Tribromophenol	93%	15-110%
4165-60-0	Nitrobenzene-d5	76%	30-130%
321-60-8	2-Fluorobiphenyl	87%	30-130%
1718-51-0	Terphenyl-d14	80%	30-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33942-BS	I84755A.D	1	07/12/13	WK	07/09/13	OP33942	MSI3152

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

MC22534-1, MC22534-2, MC22534-3, MC22534-4, MC22534-5, MC22534-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	48.9	98	40-140
208-96-8	Acenaphthylene	50	41.1	82	40-140
120-12-7	Anthracene	50	50.0	100	40-140
56-55-3	Benzo(a)anthracene	50	63.9	128	40-140
50-32-8	Benzo(a)pyrene	50	52.1	104	40-140
205-99-2	Benzo(b)fluoranthene	50	56.0	112	40-140
191-24-2	Benzo(g,h,i)perylene	50	54.4	109	40-140
207-08-9	Benzo(k)fluoranthene	50	58.4	117	40-140
218-01-9	Chrysene	50	59.3	119	40-140
53-70-3	Dibenzo(a,h)anthracene	50	57.7	115	40-140
206-44-0	Fluoranthene	50	57.6	115	40-140
86-73-7	Fluorene	50	52.8	106	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	56.9	114	40-140
90-12-0	1-Methylnaphthalene	50	42.3	85	40-140
91-57-6	2-Methylnaphthalene	50	57.2	114	40-140
85-01-8	Phenanthrene	50	53.5	107	40-140
129-00-0	Pyrene	50	55.3	111	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	58%	15-110%
4165-62-2	Phenol-d5	35%	15-110%
118-79-6	2,4,6-Tribromophenol	97%	15-110%
4165-60-0	Nitrobenzene-d5	99%	30-130%
321-60-8	2-Fluorobiphenyl	96%	30-130%
1718-51-0	Terphenyl-d14	111%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33941-MS	R32152.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173
OP33941-MSD	R32153.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173
MC22534-6	R32154.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173

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

MC22534-1, MC22534-2, MC22534-3, MC22534-4, MC22534-5, MC22534-6

7.3.1

7

CAS No.	Compound	MC22534-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		55.6	24.8	45	24.5	44	1	30-130/20
95-57-8	2-Chlorophenol	ND		55.6	45.4	82	43.5	78	4	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		55.6	48.1	87	48.0	86	0	30-130/20
120-83-2	2,4-Dichlorophenol	ND		55.6	49.7	89	48.3	87	3	30-130/20
105-67-9	2,4-Dimethylphenol	ND		55.6	44.4	80	45.7	82	3	30-130/20
51-28-5	2,4-Dinitrophenol	ND		55.6	52.0	94	54.4	98	5	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		55.6	53.4	96	53.9	97	1	30-130/20
95-48-7	2-Methylphenol	ND		55.6	42.3	76	43.4	78	3	30-130/20
	3&4-Methylphenol	ND		111	79.1	71	77.3	70	2	30-130/20
88-75-5	2-Nitrophenol	ND		55.6	51.8	93	50.9	92	2	30-130/20
100-02-7	4-Nitrophenol	ND		55.6	21.1	38	21.9	39	4	30-130/20
87-86-5	Pentachlorophenol	ND		55.6	51.9	93	52.2	94	1	30-130/20
108-95-2	Phenol	ND		55.6	21.8	39	22.1	40	1	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		55.6	54.6	98	55.1	99	1	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		55.6	51.7	93	53.5	96	3	30-130/20
62-53-3	Aniline	ND		55.6	36.8	66	37.1	67	1	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		55.6	55.1	99	57.6	104	4	40-140/20
85-68-7	Butyl benzyl phthalate	ND		55.6	56.7	102	57.8	104	2	40-140/20
100-51-6	Benzyl Alcohol	ND		55.6	36.5	66	35.7	64	2	40-140/20
91-58-7	2-Chloronaphthalene	ND		55.6	50.3	91	50.1	90	0	40-140/20
106-47-8	4-Chloroaniline	ND		55.6	46.7	84	47.4	85	1	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		55.6	49.8	90	50.1	90	1	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		55.6	47.5	86	47.0	85	1	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		55.6	50.8	91	49.1	88	3	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		55.6	57.1	103	59.2	107	4	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		55.6	49.4	89	50.5	91	2	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		55.6	57.6	104	61.0	110	6	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		55.6	56.8	102	59.6	107	5	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		55.6	45.8	82	47.9	86	4	40-140/20
132-64-9	Dibenzofuran	ND		55.6	52.9	95	54.0	97	2	40-140/20
84-74-2	Di-n-butyl phthalate	ND		55.6	55.8	100	57.2	103	2	40-140/20
117-84-0	Di-n-octyl phthalate	ND		55.6	59.5	107	61.7	111	4	40-140/20
84-66-2	Diethyl phthalate	ND		55.6	56.4	102	59.4	107	5	40-140/20
131-11-3	Dimethyl phthalate	ND		55.6	55.6	100	57.6	104	4	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND		55.6	55.2	99	57.3	103	4	40-140/20
118-74-1	Hexachlorobenzene	ND		55.6	54.7	98	55.6	100	2	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33941-MS	R32152.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173
OP33941-MSD	R32153.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173
MC22534-6	R32154.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173

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

MC22534-1, MC22534-2, MC22534-3, MC22534-4, MC22534-5, MC22534-6

CAS No.	Compound	MC22534-6 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	20.6	37* a	19.1	34* a	8	40-140/20
67-72-1	Hexachloroethane	ND		55.6	27.3	49	21.5	39* a	24* a	40-140/20
78-59-1	Isophorone	ND		55.6	48.9	88	48.8	88	0	40-140/20
88-74-4	2-Nitroaniline	ND		55.6	61.2	110	64.6	116	5	40-140/20
99-09-2	3-Nitroaniline	ND		55.6	53.1	96	56.6	102	6	40-140/20
100-01-6	4-Nitroaniline	ND		55.6	57.2	103	60.5	109	6	40-140/20
98-95-3	Nitrobenzene	ND		55.6	45.9	83	45.6	82	1	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		55.6	28.9	52	29.5	53	2	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		55.6	48.1	87	47.6	86	1	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		55.6	52.8	95	54.8	99	4	40-140/20
110-86-1	Pyridine	ND		55.6	22.9	41	23.3	42	2	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC22534-6	Limits
367-12-4	2-Fluorophenol	52%	52%	54%	15-110%
4165-62-2	Phenol-d5	39%	38%	49%	15-110%
118-79-6	2,4,6-Tribromophenol	96%	95%	93%	15-110%
4165-60-0	Nitrobenzene-d5	84%	85%	83%	30-130%
321-60-8	2-Fluorobiphenyl	92%	94%	96%	30-130%
1718-51-0	Terphenyl-d14	98%	101%	98%	30-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34082-MS	R32333.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179
OP34082-MSD	R32334.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179
MC22900-3	R32335.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179

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

MC22534-3

CAS No.	Compound	MC22900-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		50	22.6	45	21.9	44	3	30-130/20
95-57-8	2-Chlorophenol	ND		50	43.8	88	41.4	83	6	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		50	45.7	91	43.7	87	4	30-130/20
120-83-2	2,4-Dichlorophenol	ND		50	45.6	91	43.8	88	4	30-130/20
105-67-9	2,4-Dimethylphenol	ND		50	41.5	83	39.1	78	6	30-130/20
51-28-5	2,4-Dinitrophenol	ND		50	44.6	89	43.4	87	3	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		50	46.9	94	45.8	92	2	30-130/20
95-48-7	2-Methylphenol	ND		50	40.3	81	39.1	78	3	30-130/20
	3&4-Methylphenol	ND		100	74.8	75	73.0	73	2	30-130/20
88-75-5	2-Nitrophenol	ND		50	46.2	92	44.3	89	4	30-130/20
100-02-7	4-Nitrophenol	ND		50	20.0	40	19.0	38	5	30-130/20
87-86-5	Pentachlorophenol	ND		50	46.7	93	43.9	88	6	30-130/20
108-95-2	Phenol	ND		50	20.2	40	19.3	39	5	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		50	49.8	100	48.4	97	3	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		50	48.2	96	46.7	93	3	30-130/20

CAS No.	Surrogate Recoveries	MS	MSD	MC22900-3	Limits
367-12-4	2-Fluorophenol	57%	54%	55%	15-110%
4165-62-2	Phenol-d5	21%	21%	20%	15-110%
118-79-6	2,4,6-Tribromophenol	92%	89%	83%	15-110%
4165-60-0	Nitrobenzene-d5	80%	79%	74%	30-130%
321-60-8	2-Fluorobiphenyl	91%	92%	87%	30-130%
1718-51-0	Terphenyl-d14	81%	82%	85%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33942-MS	I84758A.D	1	07/12/13	WK	07/09/13	OP33942	MSI3152
OP33942-MSD	I84759A.D	1	07/12/13	WK	07/09/13	OP33942	MSI3152
MC22534-6	I84760A.D	1	07/12/13	WK	07/09/13	OP33942	MSI3152

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

MC22534-1, MC22534-2, MC22534-3, MC22534-4, MC22534-5, MC22534-6

7.3.3

7

CAS No.	Compound	MC22534-6 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	53.3	96	53.3	96	0	40-140/20
208-96-8	Acenaphthylene	ND		55.6	44.4	80	44.0	79	1	40-140/20
120-12-7	Anthracene	ND		55.6	53.3	96	55.2	99	4	40-140/20
56-55-3	Benzo(a)anthracene	ND		55.6	67.2	121	70.7	127	5	40-140/20
50-32-8	Benzo(a)pyrene	ND		55.6	53.8	97	56.7	102	5	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		55.6	60.4	109	65.8	118	9	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND		55.6	55.8	100	59.0	106	6	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		55.6	59.9	108	60.4	109	1	40-140/20
218-01-9	Chrysene	ND		55.6	62.5	112	66.0	119	5	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		55.6	59.1	106	62.0	112	5	40-140/20
206-44-0	Fluoranthene	ND		55.6	60.3	109	62.9	113	4	40-140/20
86-73-7	Fluorene	ND		55.6	57.1	103	58.1	105	2	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		55.6	57.9	104	61.3	110	6	40-140/20
90-12-0	1-Methylnaphthalene	ND		55.6	48.0	86	46.0	83	4	40-140/20
91-57-6	2-Methylnaphthalene	ND		55.6	64.4	116	62.4	112	3	40-140/20
85-01-8	Phenanthrene	0.018	JB	55.6	55.5	100	56.7	102	2	40-140/20
129-00-0	Pyrene	ND		55.6	57.9	104	60.3	109	4	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC22534-6	Limits
367-12-4	2-Fluorophenol	55%	56%		15-110%
4165-62-2	Phenol-d5	37%	37%		15-110%
118-79-6	2,4,6-Tribromophenol	91%	92%		15-110%
4165-60-0	Nitrobenzene-d5	93%	95%	93%	30-130%
321-60-8	2-Fluorobiphenyl	94%	92%	98%	30-130%
1718-51-0	Terphenyl-d14	106%	112%	104%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSI3152-CC3096	Injection Date:	07/12/13
Lab File ID:	I84747.D	Injection Time:	08:19
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	160769	2.95	404065	3.92	236061	5.30	433349	6.49	388210	9.13	705621	10.53
Upper Limit [a]	321538	3.45	808130	4.42	472122	5.80	866698	6.99	776420	9.63	1411242	11.03
Lower Limit [b]	80385	2.45	202033	3.42	118031	4.80	216675	5.99	194105	8.63	352811	10.03
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
OP33953-MB	138804	2.96	353617	3.92	201736	5.30	370160	6.49	325578	9.13	600801	10.52
ZZZZZZ	159571	2.96	410358	3.92	230671	5.30	411664	6.48	371136	9.13	672284	10.52
ZZZZZZ	137024	2.96	348303	3.92	202069	5.30	367414	6.49	328450	9.12	594616	10.52
ZZZZZZ	148945	2.96	378162	3.92	215816	5.30	391578	6.49	349653	9.13	639204	10.52
ZZZZZZ	145564	2.96	367860	3.92	214103	5.30	383227	6.49	348792	9.12	628856	10.52
ZZZZZZ	137936	2.96	354284	3.92	203012	5.30	365674	6.49	326953	9.13	601372	10.52
OP33942-MB	150294	2.95	382046	3.92	217857	5.30	391488	6.49	354336	9.13	661162	10.52
OP33942-BS	141570	2.95	363614	3.92	211098	5.30	380950	6.49	343335	9.13	629719	10.53
ZZZZZZ	130135	2.95	334762	3.92	192292	5.30	352422	6.49	317818	9.12	585137	10.52
ZZZZZZ	123163	2.95	315839	3.92	181251	5.30	330480	6.49	304537	9.12	561813	10.52
OP33942-MS	131484	2.95	336330	3.92	191583	5.30	347163	6.49	313207	9.13	564843	10.52
OP33942-MSD	136279	2.95	349284	3.92	199925	5.30	365662	6.49	335217	9.13	602715	10.53
MC22534-6	136666	2.95	349978	3.92	197343	5.30	355355	6.49	317991	9.13	594323	10.52
MC22534-1	161737	2.95	413063	3.92	237904	5.30	428486	6.49	386742	9.13	703148	10.53
MC22534-2	135553	2.95	339947	3.92	191149	5.30	337515	6.49	311390	9.13	569434	10.52
MC22534-3	141246	2.95	360945	3.92	206460	5.30	374025	6.48	340479	9.12	622997	10.52
MC22534-4	140394	2.95	359377	3.92	208373	5.30	372219	6.48	336344	9.13	614506	10.52
MC22534-5	133602	2.95	342866	3.92	196776	5.30	363090	6.49	327081	9.13	597009	10.52
ZZZZZZ	131515	2.95	343265	3.92	195825	5.30	355216	6.49	326223	9.13	592053	10.52
ZZZZZZ	131498	2.95	340366	3.92	194417	5.30	359167	6.49	324630	9.13	601980	10.52
ZZZZZZ	124835	2.95	320143	3.92	184740	5.30	339733	6.49	310860	9.13	583406	10.53
ZZZZZZ	135371	2.95	349667	3.92	201856	5.30	364241	6.48	334666	9.13	614540	10.52
ZZZZZZ	118375	2.95	307495	3.92	174665	5.30	320380	6.49	300127	9.13	564845	10.53
ZZZZZZ	125404	2.95	326601	3.92	186493	5.30	332963	6.49	311366	9.13	588102	10.53

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

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

7.4.1

7

Semivolatile Internal Standard Area Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSR1173-CC1159	Injection Date:	07/12/13
Lab File ID:	R32145.D	Injection Time:	07:40
Instrument ID:	GCMSR	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	74370	4.37	275712	5.42	172561	6.97	306570	8.39	334149	11.38	310767	12.98
Upper Limit [a]	148740	4.87	551424	5.92	345122	7.47	613140	8.89	668298	11.88	621534	13.48
Lower Limit [b]	37185	3.87	137856	4.92	86281	6.47	153285	7.89	167075	10.88	155384	12.48
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
OP33941-MB	81437	4.37	301571	5.42	183920	6.96	325983	8.38	362209	11.38	347476	12.98
OP33941-BS	79153	4.37	285823	5.42	177077	6.96	318295	8.39	350935	11.38	327189	12.98
OP33976-MB	83313	4.37	307011	5.42	187369	6.96	334845	8.38	373490	11.38	347706	12.98
OP33976-BS	79025	4.37	287531	5.42	173182	6.96	300792	8.38	334043	11.38	309196	12.98
ZZZZZZ	78393	4.37	288409	5.42	171785	6.96	305337	8.38	331413	11.38	306388	12.98
ZZZZZZ	71667	4.36	264072	5.42	157559	6.96	276928	8.38	300699	11.38	283550	12.98
OP33941-MS	76133	4.37	278047	5.42	172119	6.97	303708	8.39	338691	11.38	322554	12.98
OP33941-MSD	80897	4.37	291666	5.42	173294	6.97	313735	8.39	347763	11.38	320283	12.98
MC22534-6	83267	4.37	303682	5.42	181097	6.96	326505	8.38	356271	11.38	335021	12.98
ZZZZZZ	69550	4.37	255194	5.42	156195	6.96	274444	8.38	314388	11.38	284388	12.98
MC22534-1	83223	4.37	300272	5.42	183689	6.96	331568	8.38	367598	11.38	343693	12.98
MC22534-2	78499	4.37	292673	5.42	179186	6.96	316589	8.38	353277	11.38	333289	12.98
MC22534-3	77832	4.37	284577	5.42	170241	6.96	307767	8.38	344342	11.38	318528	12.98
MC22534-4	78950	4.37	281573	5.42	169642	6.96	304455	8.38	332346	11.38	312747	12.98
ZZZZZZ	69661	4.37	258279	5.42	155901	6.96	278975	8.38	319765	11.38	290768	12.98
MC22534-5	78274	4.37	289482	5.42	174560	6.96	315689	8.38	344441	11.38	317833	12.98
ZZZZZZ	77062	4.36	285713	5.42	169903	6.96	305340	8.38	336117	11.38	308235	12.98
ZZZZZZ	73125	4.37	270939	5.42	163138	6.96	293175	8.38	327857	11.38	302553	12.98
ZZZZZZ	73418	4.36	273393	5.42	165104	6.96	298172	8.38	328378	11.38	304561	12.98
ZZZZZZ	73394	4.36	265579	5.42	161121	6.96	293804	8.38	319679	11.38	297642	12.98
ZZZZZZ	83463	4.36	304089	5.42	183880	6.96	329210	8.38	363747	11.38	335266	12.98
ZZZZZZ	83502	4.36	305904	5.42	183540	6.96	325363	8.38	356205	11.38	323974	12.98
ZZZZZZ	80030	4.36	294961	5.42	178995	6.96	319582	8.38	354085	11.38	324632	12.98
ZZZZZZ	77532	4.37	284989	5.42	171562	6.96	305335	8.38	335733	11.38	305689	12.98
ZZZZZZ	85606	4.37	314032	5.42	190830	6.96	334658	8.38	379988	11.38	346232	12.98
ZZZZZZ	77755	4.36	281505	5.42	173089	6.96	305724	8.38	337408	11.38	315318	12.98

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

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

7.4.2

7

Semivolatile Internal Standard Area Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSR1173-CC1159	Injection Date:	07/12/13
Lab File ID:	R32145.D	Injection Time:	07:40
Instrument ID:	GCMSR	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

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

7.4.2

7

Semivolatile Internal Standard Area Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSR1179-CC1159	Injection Date:	07/23/13
Lab File ID:	R32324.D	Injection Time:	11:40
Instrument ID:	GCMSR	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	76980	4.31	284275	5.37	178259	6.91	309710	8.32	356647	11.31	330501	12.90
Upper Limit [a]	153960	4.81	568550	5.87	356518	7.41	619420	8.82	713294	11.81	661002	13.40
Lower Limit [b]	38490	3.81	142138	4.87	89130	6.41	154855	7.82	178324	10.81	165251	12.40
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	90139	4.31	332191	5.37	199647	6.91	359456	8.32	413652	11.31	388344	12.90
ZZZZZZ	97620	4.31	366536	5.37	218947	6.91	393783	8.32	433912	11.31	405931	12.90
ZZZZZZ	111842	4.31	420997	5.37	258497	6.91	477849	8.32	537374	11.31	498751	12.90
OP34082-MB	101685	4.31	392549	5.37	241136	6.91	448433	8.32	502615	11.31	463400	12.90
OP34082-BS	97361	4.31	376246	5.37	228589	6.91	413741	8.32	468013	11.31	429704	12.90
OP34082-MS	97244	4.31	367656	5.37	222273	6.91	410899	8.32	458195	11.31	423812	12.90
OP34082-MSD	91413	4.31	351479	5.37	213138	6.91	393915	8.32	440020	11.31	401259	12.90
MC22900-3	93519	4.31	359279	5.37	216730	6.91	409341	8.32	456193	11.31	422669	12.90
MC22534-3 [c]	100825	4.31	380769	5.37	232915	6.91	428455	8.32	483203	11.31	447809	12.90
OP34083-MB	99233	4.31	372747	5.37	229869	6.91	422841	8.32	463738	11.31	400551	12.90
OP34083-BS	88760	4.31	333984	5.37	204423	6.91	373144	8.32	407105	11.31	360533	12.90
ZZZZZZ	90436	4.31	347779	5.37	215813	6.91	389451	8.32	428320	11.31	380729	12.90
ZZZZZZ	81259	4.31	314145	5.37	188126	6.90	347518	8.32	386157	11.31	353482	12.90
ZZZZZZ	84804	4.31	319554	5.37	194654	6.91	358864	8.32	396199	11.31	367243	12.90

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) Sample re-extracted beyond recommended holding time.

7.4.3

7

Semivolatile Surrogate Recovery Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22534-1	R32156.D	41.0	33.0	82.0	80.0	85.0	89.0
MC22534-2	R32157.D	45.0	30.0	87.0	76.0	78.0	97.0
MC22534-3	R32336.D	28.0	20.0	48.0	70.0	85.0	80.0
MC22534-3	R32159.D	2.0* [a]	1.0* [a]	4.0* [a]	85.0	90.0	103.0
MC22534-4	R32160.D	47.0	39.0	91.0	86.0	88.0	104.0
MC22534-5	R32162.D	26.0	23.0	47.0	83.0	94.0	101.0
MC22534-6	R32154.D	54.0	49.0	93.0	83.0	96.0	98.0
OP33941-BS	R32147.D	53.0	35.0	99.0	90.0	96.0	104.0
OP33941-MB	R32146.D	49.0	32.0	91.0	81.0	85.0	97.0
OP33941-MS	R32152.D	52.0	39.0	96.0	84.0	92.0	98.0
OP33941-MSD	R32153.D	52.0	38.0	95.0	85.0	94.0	101.0
OP34082-BS	R32332.D	57.0	21.0	93.0	76.0	87.0	80.0
OP34082-MB	R32331.D	48.0	18.0	73.0	67.0	77.0	77.0
OP34082-MS	R32333.D	57.0	21.0	92.0	80.0	91.0	81.0
OP34082-MSD	R32334.D	54.0	21.0	89.0	79.0	92.0	82.0

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. Sample re-extracted/reanalyzed.

Semivolatile Surrogate Recovery Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22534-1	I84761A.D	87.0	88.0	97.0
MC22534-2	I84762A.D	85.0	80.0	106.0
MC22534-3	I84763A.D	96.0	92.0	111.0
MC22534-4	I84764A.D	96.0	90.0	111.0
MC22534-5	I84765A.D	92.0	98.0	109.0
MC22534-6	I84760A.D	93.0	98.0	104.0
OP33942-BS	I84755A.D	99.0	96.0	111.0
OP33942-MB	I84754A.D	89.0	89.0	105.0
OP33942-MS	I84758A.D	93.0	94.0	106.0
OP33942-MSD	I84759A.D	95.0	92.0	112.0

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: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33961-MB	BK26671.D	1	07/11/13	NK	07/11/13	OP33961	GBK917

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

MC22534-1, MC22534-2, MC22534-3, MC22534-4, MC22534-5, MC22534-6, MC22534-8

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.0045	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.0097	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	121%	36-173%
460-00-4	Bromofluorobenzene (S)	121%	36-173%

8.1.1

Blank Spike Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33961-BS	BK26672.D	1	07/11/13	NK	07/11/13	OP33961	GBK917

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

MC22534-1, MC22534-2, MC22534-3, MC22534-4, MC22534-5, MC22534-6, MC22534-8

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	0.075	106	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	124%	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: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33961-MS	BK26673.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
OP33961-MSD	BK26674.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
MC22534-6	BK26680.D	1	07/11/13	NK	07/11/13	OP33961	GBK917

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

MC22534-1, MC22534-2, MC22534-3, MC22534-4, MC22534-5, MC22534-6, MC22534-8

CAS No.	Compound	MC22534-6 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		0.0708	0.080	113	0.087	122	8	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.0708	0.068	96	0.071	99	4	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC22534-6	Limits
460-00-4	Bromofluorobenzene (S)	123%	132%	171%	36-173%
460-00-4	Bromofluorobenzene (S)	121%	132%	166%	36-173%

* = Outside of Control Limits.

8.3.1

8

Volatile Surrogate Recovery Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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]
MC22534-1	BK26675.D	128.0	126.0
MC22534-2	BK26676.D	137.0	138.0
MC22534-3	BK26677.D	159.0	153.0
MC22534-4	BK26678.D	155.0	155.0
MC22534-5	BK26679.D	135.0	133.0
MC22534-6	BK26680.D	171.0	166.0
MC22534-8	BK26682.D	161.0	148.0
OP33961-BS	BK26672.D	124.0	123.0
OP33961-MB	BK26671.D	121.0	121.0
OP33961-MS	BK26673.D	123.0	121.0
OP33961-MSD	BK26674.D	132.0	132.0

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

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

8.4.1

GC Surrogate Retention Time Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	GBK917-ICC917	Injection Date:	07/11/13
Lab File ID:	BK26666.D	Injection Time:	14:22
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.60	4.97

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK26669A.D	07/11/13	15:31	4.60	4.97
OP33961-MB	BK26671.D	07/11/13	16:17	4.60	4.97
OP33961-BS	BK26672.D	07/11/13	16:40	4.60	4.97
OP33961-MS	BK26673.D	07/11/13	17:02	4.60	4.97
OP33961-MSD	BK26674.D	07/11/13	17:25	4.60	4.97
MC22534-1	BK26675.D	07/11/13	17:48	4.60	4.97
MC22534-2	BK26676.D	07/11/13	18:11	4.60	4.97
MC22534-3	BK26677.D	07/11/13	18:33	4.60	4.97
MC22534-4	BK26678.D	07/11/13	18:56	4.60	4.97
MC22534-5	BK26679.D	07/11/13	19:19	4.60	4.97
MC22534-6	BK26680.D	07/11/13	19:42	4.60	4.97

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC22534
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	GBK917-CC917	Injection Date:	07/11/13
Lab File ID:	BK26681.D	Injection Time:	20:04
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.60	4.97

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
MC22534-8	BK26682.D	07/11/13	20:27	4.60	4.97
ZZZZZZ	BK26683.D	07/11/13	20:49	4.60	4.97
ZZZZZZ	BK26684.D	07/11/13	21:12	4.60	4.97
ZZZZZZ	BK26685.D	07/11/13	21:35	4.60	4.97
ZZZZZZ	BK26686.D	07/11/13	21:57	4.60	4.97
ZZZZZZ	BK26687.D	07/11/13	22:20	4.60	4.97
ZZZZZZ	BK26688.D	07/11/13	22:43	4.60	4.97
ZZZZZZ	BK26689.D	07/11/13	23:06	4.60	4.97
ZZZZZZ	BK26690.D	07/11/13	23:29	4.60	4.97
ZZZZZZ	BK26691.D	07/11/13	23:52	4.60	4.97

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

8.5.2

Roxana Groundwater Quarterly – 3rd Quarter 2013 Data Review

Laboratory SDG: MC22567

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 8/19/2013

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

Sample Identification	Sample Identification
MW6D-ROX-070913	MW6C-ROX-070913
MW6B-ROX-070913	MW6A-ROX-070913-EB
MW6A-ROX-070913	MW6A-ROX-070913-Dup
MW12-ROX-070913	MW5-ROX-070913
TB-ROX-070913-HCL	TB-ROX-070913-ST

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. The 8011 VOC surrogate bromofluorobenzene was outside evaluation criteria in sample MW6A-ROX-070913. Although not indicated in the laboratory case narrative, benzene was detected in the equipment blank. SVOCs and PAHs were detected in the method blank. Additionally, the initial calibration verification for acrolein exceeded 50 percent difference (%D). These issues are addressed further in the appropriate sections below.

No problems were indicated in the cooler receipt form.

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
MW6A-ROX-070913-EB	VOCs	Benzene	0.86 ug/L
OP33941-MB	SVOCs	bis(2-Ethylhexyl)phthalate	2.4 ug/L
OP33942-MB	PAHs	Acenaphthene	0.065 ug/L
OP33942-MB	PAHs	Acenaphthylene	0.026 ug/L
OP33942-MB	PAHs	Fluorene	0.50 ug/L

Blank ID	Parameter	Analyte	Concentration/ Amount
OP33942-MB	PAHs	2-Methylnaphthalene	0.087 ug/L
OP33942-MB	PAHs	Phenanthrene	0.027 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 required qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
MW5-ROX-070913	PAHs	Fluorene	0.99 ug/L	**U**
MW5-ROX-070913	PAHs	Phenanthrene	0.074 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
MSN2939-BS/BSD	VOCs	Acrolein	**151**/**155**	3	70-130/25
OP33941-BS	SVOCs	Hexachlorocyclopentadiene	**27**/NA	NA	40-140/NA
OP33941-BS	SVOCs	Hexachloroethane	**39**/NA	NA	40-140/NA

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 OP33941-BS was associated with the equipment blank is not qualified.

Sample ID	Parameter	Analyte	Qualification
MW6D-ROX-070913	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW6D-ROX-070913	SVOCs	Hexachloroethane	**UJ**
MW6C-ROX-070913	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW6C-ROX-070913	SVOCs	Hexachloroethane	**UJ**
MW6B-ROX-070913	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW6B-ROX-070913	SVOCs	Hexachloroethane	**UJ**
MW6A-ROX-070913	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW6A-ROX-070913	SVOCs	Hexachloroethane	**UJ**
MW6A-ROX-070913-Dup	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW6A-ROX-070913-Dup	SVOCs	Hexachloroethane	**UJ**
MW12-ROX-070913	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW12-ROX-070913	SVOCs	Hexachloroethane	**UJ**
MW5-ROX-070913	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW5-ROX-070913	SVOCs	Hexachloroethane	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
MW6A-ROX-070913	8011 VOCs	Bromofluorobenzene	**178**	36-173

Analytical data reported as non-detect and associated with surrogate recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. 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?

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
MW6A-ROX-070913	MW6A-ROX-070913-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?

No, although the initial calibration verification for acrolein exceeded 50 percent difference (%D). Acrolein in associated samples was qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW6D-ROX-070913	VOCs	Acrolein	**UJ**
MW6C-ROX-070913	VOCs	Acrolein	**UJ**

Sample ID	Parameter	Analyte	Qualification
MW6B-ROX-070913	VOCs	Acrolein	**UJ**
MW6A-ROX-070913	VOCs	Acrolein	**UJ**
MW6A-ROX-070913-Dup	VOCs	Acrolein	**UJ**
MW12-ROX-070913	VOCs	Acrolein	**UJ**
MW5-ROX-070913	VOCs	Acrolein	**UJ**

1.0 VALIDATION OF EDB/DBCP DATA – SDG MC22567

This section describes the validation for seven investigative groundwater samples which were prepared and analyzed for 1,2-dibromoethane (EDB) and 1,2-dibromo-3-chloropropane (DBCP) by USEPA SW-846 Method 8011. The samples were analyzed by Accutest Laboratories of Marlborough, Massachusetts and submitted as part of the sample delivery group (SDG) MC22567. The samples included as part of this validation are listed below.

Sample Identification	Sample Identification
MW6D-ROX-070913	MW6C-ROX-070913
MW6B-ROX-070913	MW6A-ROX-070913-Dup
MW6A-ROX-070913	MW5-ROX-070913
MW12-ROX-070913	

Evaluation of the analytical data followed procedures outlined in the USEPA Contract Laboratory National Functional Guidelines for Superfund Organic Methods Data Review (EPA 2008).

Criteria evaluated included the following method performance criteria:

- Data package completeness
- Laboratory case narrative/cooler receipt form
- Holding times and sample preservation
- GC/MS instrument performance
- Initial calibration
- Calibration verification
- Blank samples
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) samples
- Internal standards
- Laboratory control spike (LCS) samples
- Target compound identification and quantification
- Overall data assessment

1.1 Data Package Completeness

The data package was reviewed to make certain that it contained the data contractually required in the deliverable. This included checking the data package for the results of each analyte requested for each field sample submitted in the analytical batch, along with requested QC documentation for the respective methods.

1.2 Laboratory Case Narrative/Cooler Receipt Form

The laboratory case narrative indicated the surrogate bromofluorobenzene was outside evaluation criteria in sample MW6A-ROX-070913. This issue is discussed further in Section 1.7.

No problems were indicated in the cooler receipt form.

1.3 Holding Times and Sample Preservation

Review of the sample collection and analysis dates involved comparing the sample chain-of-custody, the summary forms, the raw data forms, and the chromatograms for accuracy, consistency, and holding time compliance. The samples were received and maintained at approximately $4^{o}C \pm 2^{o}C$. In addition, the samples were analyzed within 14 days of collection. No qualifications to the data were required based on holding times and sample preservation.

1.4 Initial Calibration

An initial calibration (ICAL) was established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data for EDB/DBCP analyses. Validated samples included in SDG MC22567 were analyzed using instrument GCBK. The ICAL for instrument GCBK was established on 7/11/2013. At least five standard concentrations were used to establish the ICAL curve as required by Method 8011.

Review of the initial calibration summary forms indicated percent relative standard deviations (%RSDs) were ≤ 15% for target analytes. A recalculation of the %RSDs was performed from the raw data and no errors in calculation were noted; therefore, no qualification of data was required.

Review of the sample chromatograms indicated that a second source calibration was performed immediately following the initial calibration. Review of ICV summary forms indicated percent difference (%D) ≤ 15% for target analytes. Recalculation of the percent recoveries was completed and no errors in calculation were noted.

1.5 Calibration Verification

Review of the sample chromatograms indicated that all calibration verifications (CVs) were performed before the start of sample analysis. Percent differences (%Ds) met the evaluation criteria of ≤ 20% for target analytes. Recalculations of the %Ds for target compounds were completed for each CV, and no errors in calculation were noted; therefore, no qualifications of data were required.

1.6 Blank Samples

The purpose of the method blank samples is to evaluate the existence and magnitude of contamination problems emanating from laboratory activities. Method blank samples were analyzed with each analytical batch as required by USEPA SW-846 Method 8011. Also, trip blanks were analyzed to evaluate the existence and magnitude of contamination problems emanating during sample shipment to the laboratory. Equipment blank samples are used to evaluate the efficiency of the decontamination of sampling equipment. All target compounds were reported as non-detect. No qualification of data was required.

1.7 Surrogate Spike Recoveries

Surrogate compounds were used to evaluate the overall laboratory sample preparation efficiency on a per sample basis. Surrogate recoveries were within the method acceptance criteria for the validated samples with the exception included in the table below. No qualification of data was required.

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
MW6A-ROX-070913	8011 VOCs	Bromofluorobenzene	**178**	36-173

Analytical data reported as non-detect and associated with surrogate recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. No qualification of data was required.

Approximately 10% of the recoveries were recalculated and no calculation or transcription errors were noted.

1.8 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

MS/MSD samples are analyzed to assess potential matrix effects. Although not analyzed as part of SDG MC22567, sample MW16-ROX-070813 (SDG MC22534) was spiked and analyzed for VOCs.

All MS/MSD recoveries were within the method acceptance criteria for the validated samples.

Approximately 10% of the recoveries were recalculated and no calculation or transcription errors were noted. No qualification of data was required.

1.9 Laboratory Control Spike (LCS) Samples

Laboratory control samples were analyzed with each analytical batch to assess the accuracy of the analytical process. All LCS data were within evaluation criteria. Approximately 10% of spiking compound recoveries for the LCS were recalculated and verified using the LCS summary forms, and no calculation or transcription errors were noted.

1.10 Target Compound Identification and Quantification

For validation of the compound identification, chromatograms were reviewed to verify the major peaks were identified, and the relative retention time was no greater than 0.06 different from the associated CV retention times. Approximately 10% of the detected target analytes were verified. No anomalies were noted with the identification of the target compounds in the samples.

For the validation of compound quantitation, the matrix spike results were recalculated from the raw data since all target analytes were non-detect, and no calculation errors were noted. Additionally, the reporting limits were verified to determine if reporting limits (RLs) were adjusted for dilutions. No qualification of the data was required and review of the data indicated the correct RLs were reported.

1.11 Overall Data Assessment

Based on the criteria outlined, it is recommended that the results reported for these analyses are accepted for their intended use. Acceptable levels of accuracy and precision, based on LCS and surrogate data were achieved for this SDG.

1.0 VALIDATION OF VOC DATA – SDG MC22567

This section describes the validation for seven groundwater samples which were prepared by USEPA SW-846 Method 5030B and analyzed for volatile organic compounds (VOCs) by USEPA SW-846 Method 8260B. The samples were analyzed by Accutest Laboratories of Marlborough, Massachusetts and submitted as part of the sample delivery group (SDG) MC22567. The samples included as part of this validation are listed below.

Sample Identification	Sample Identification
MW6D-ROX-070913	MW6C-ROX-070913
MW6B-ROX-070913	MW6A-ROX-070913
MW6A-ROX-070913-Dup	MW12-ROX-070913
MW5-ROX-070913	

Evaluation of the analytical data followed procedures outlined in the USEPA Contract Laboratory National Functional Guidelines for Superfund Organic Methods Data Review (EPA 2008).

Criteria evaluated included the following method performance criteria:

- Data package completeness
- Laboratory case narrative/cooler receipt form
- Holding times and sample preservation
- GC/MS instrument performance
- Initial calibration
- Calibration verification
- Blank samples
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) samples
- Internal standards
- Laboratory control spike (LCS) samples
- Target compound identification and quantification
- Overall data assessment

1.1 Data Package Completeness

The data package was reviewed to make certain that it contained the data contractually required in the deliverable. This included checking the data package for the results of each analyte requested for each field sample submitted in the analytical batch, along with requested QC documentation for the respective methods.

1.2 Laboratory Case Narrative/Cooler Receipt Form

The laboratory case narrative indicated VOC LCS/LCSD recoveries were outside evaluation criteria. Initial calibration relative response factors were outside evaluation criteria. The initial calibration response factor for 1,4-dioxane was outside evaluation criteria. Initial

calibration verification percent differences (%D) were outside evaluation criteria for acrolein, acetone, and vinyl acetate. Continuing calibration verification for 1,4-dioxane was outside evaluation criteria. These issues are addressed further in the appropriate sections below.

No problems were indicated in the cooler receipt form.

1.3 Holding Times and Sample Preservation

Review of the sample collection and analysis dates involved comparing the sample chain-of-custody, the summary forms, the raw data forms, and the chromatograms for accuracy, consistency, and holding time compliance. The samples were received and maintained at approximately $4^{o}C \pm 2^{o}$ C. In addition, the samples were analyzed within 14 days of collection at a pH < 2. No qualifications to the data were required based on holding times and sample preservation.

1.4 GC/MS Instrument Performance

GC/MS instrument performance checks were performed to ensure mass resolution, identification, and instrument sensitivity. Criteria for evaluation of instrument performance included possible transcription/calculation errors, adherence to instrument tuning frequency requirements, mass assignments, and ion abundance criteria. Instrument performance check samples were evaluated against criteria established in USEPA SW-846 Method 8260B.

Based on the summary forms, the ion abundance criteria were within evaluation criteria for all masses. No qualifications to the data were required based on instrument performance criteria.

1.5 Initial Calibration

An initial calibration (ICAL) was established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data for volatiles analyses. Validated samples included in SDG MC22567 were analyzed using instrument MSN. The ICAL for instrument MSN was established on 7/8/2013. At least five standard concentrations were used to establish the ICAL curve as required by Method 8260B. For the ICAL, the response factors (RFs) were reviewed and were greater than 0.10 for chloromethane, 1,1-dichloroethane and bromoform, greater than 0.30 for chlorobenzene and 1,1,2,2-tetrachloroethane, and greater than 0.05 for all other target analytes with the exception of the poor performer, 1,4-dioxane (0.003) analyzed using instrument MSN.

Qualifications of data due to ICAL RRF are summarized in the following table.

Sample ID	Analyte	Qualification
MW6D-ROX-070913	1,4-Dioxane	**R**
MW6C-ROX-070913	1,4-Dioxane	**R**
MW6B-ROX-070913	1,4-Dioxane	**R**
MW6A-ROX-070913	1,4-Dioxane	**R**
MW6A-ROX-070913-Dup	1,4-Dioxane	**R**
MW12-ROX-070913	1,4-Dioxane	**R**
MW5-ROX-070913	1,4-Dioxane	**R**

Review of the initial calibration summary forms indicated percent relative standard deviations (%RSDs) were $\leq$ 30% for calibration check compounds (CCCs) [1,1-

dichloroethene, toluene, chloroform, ethylbenzene, 1,2-dichloropropane, and vinyl chloride], and $\leq$ 15% for non-CCCs with some exceptions. The initial calibration for compounds with %RSD values outside evaluation criteria was determined using least square linear regression: correlation coefficients (r) were greater than 0.990.

A second source verification, initial calibration verification (ICV) was analyzed following the initial calibration. Percent difference (%D) values from comparing ICV RF to the average ICAL RFs were less than 20% for target compounds with the exception of acrolein (-57.1%), acetone (-22.0%), and vinyl acetate (23.4%).

Qualifications of data due to ICV %D are summarized in the following table. The results for acetone in the validated samples associated with marginal increases in %D, indicating a potential high bias, were non-detect and did not require qualification.

Sample ID	Analyte	Qualifications
MW6D-ROX-070913	Acrolein	**UJ**
MW6D-ROX-070913	Vinyl acetate	**UJ**
MW6C-ROX-070913	Acrolein	**UJ**
MW6C-ROX-070913	Vinyl acetate	**UJ**
MW6B-ROX-070913	Acrolein	**UJ**
MW6B-ROX-070913	Vinyl acetate	**UJ**
MW6A-ROX-070913	Acrolein	**UJ**
MW6A-ROX-070913	Vinyl acetate	**UJ**
MW6A-ROX-070913-Dup	Acrolein	**UJ**
MW6A-ROX-070913-Dup	Vinyl acetate	**UJ**
MW12-ROX-070913	Acrolein	**UJ**
MW12-ROX-070913	Vinyl acetate	**UJ**
MW5-ROX-070913	Acrolein	**UJ**
MW5-ROX-070913	Vinyl acetate	**UJ**

Recalculation of the %RSDs and RFs for a compound associated with each internal standard was performed from the raw data and no errors in calculation were noted; therefore, no qualification of data was required.

1.6 Calibration Verification

Review of the sample chromatograms indicated that all calibration verifications (CVs) were performed before the start of sample analysis. Review of CV summary forms indicated RFs met the evaluation criteria of greater than 0.10 (chloromethane, 1,1-dichloroethane and bromoform), 0.30 (chlorobenzene and 1,1,2,2-tetrachloroethane) and greater than 0.05 for all other target analytes with the exception of 1,4-dioxane (for which associated results were previously rejected); therefore, no further qualification of data was required.

In addition, percent differences (%Ds) met the evaluation criteria of ≤ 30% for CCCs and ≤20% for all other target analytes with exception included in the following table.

CV (Date/Time)	Analyte	%D
7/17/2013 8:17	1,4-Dioxane	**-33.3**

Results for the compound 1,4-dioxane were previously rejected due to ICAL RRF. No further qualification of data was required.

Recalculations of the RFs and %Ds for two target compounds were completed for each CV, and no errors in calculation were noted; therefore, no qualifications of data were required.

1.7 Blank Samples

The purpose of the method blank samples is to evaluate the existence and magnitude of contamination problems emanating from laboratory activities. Method blank samples were analyzed with each analytical batch as required by USEPA SW-846 Method 8260B. VOC target compounds were reported as non-detect in the method blank. No qualification of data was required.

1.8 Surrogate Spike Recoveries

Surrogate compounds were used to evaluate the overall laboratory sample preparation efficiency on a per sample basis. All surrogate recoveries were within the method acceptance criteria for the validated samples. Approximately 10% of the recoveries were recalculated and no calculation or transcription errors were noted.

1.9 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

MS/MSD samples are analyzed to assess potential matrix effects. Although not analyzed as part of SDG MC22567, sample MW16-ROX-070813 (SDG MC22534) was spiked and analyzed for VOCs.

All MS/MSD recoveries were within the method acceptance criteria for the validated samples with the exception of those summarized in the table below.

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
MW16-ROX-070813	VOCs	Acetone	**46/50**	9	70-130/30
MW16-ROX-070813	VOCs	Acrolein	129/**132**	2	70-130/30
MW16-ROX-070813	VOCs	2-Butanone (MEK)	**63**/70	10	70-130/30
MW16-ROX-070813	VOCs	2-Hexanone	**68**/74	9	70-130/30
MW16-ROX-070813	VOCs	Vinyl acetate	**68**/71	4	70-130/30

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 the data review for SDG MC22534. No further qualification of data was required.

Approximately 10% of the MS/MSD spiking recoveries were verified using the MS/MSD summary forms, and no errors were noted.

1.10 Internal Standards

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during each analytical run. IS areas must be within -50% to +100%, and the IS retention times must be within 30 seconds of the IS continuing calibration retention time. IS areas and retention times for the validated samples in this SDG were within evaluation criteria. The summary forms versus the raw data were verified and no transcription errors were noted. No qualifications to the data were required based on internal standard areas or retention times.

1.11 Laboratory Control Spike (LCS) Samples

Laboratory control samples were analyzed with each analytical batch to assess the accuracy of the analytical process. LCS data were within evaluation criteria, with the exception of those summarized in the following table.

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSN2939-BS/BSD	VOCs	Acrolein	**151/155**	3	70-130/25

Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Approximately 10% of spiking compound recoveries for the LCS were recalculated and verified using the LCS summary forms, and no calculation or transcription errors were noted.

1.12 Target Compound Identification and Quantification

For validation of the compound identification, chromatograms were reviewed to verify the major peaks were identified, and the relative retention time was no greater than 0.06 different from the associated CV retention times. Approximately 10% of the detected target analytes were verified. No anomalies were noted with the identification of the target compounds in the samples.

For the validation of compound quantitation, approximately 10% of the detected target analytes were recalculated from the raw data, and no calculation errors were noted. Additionally, the reporting limits were verified to determine if reporting limits (RLs) were adjusted for dilutions. No qualification of the data was required and review of the data indicated the correct RLs were reported.

1.13 Overall Data Assessment

Based on the criteria outlined, it is recommended that the results, other than those rejected, for these analyses are accepted for their intended use. Acceptable levels of accuracy and precision, based on LCS and data were achieved for this SDG.

1.0 VALIDATION OF SVOC DATA – SDG MC22567

This section describes the validation for seven groundwater samples which were prepared by USEPA SW-846 Method 3520C and analyzed for semi-volatile organic compounds (SVOCs) by USEPA SW-846 Method 8270C and for polycyclic aromatic hydrocarbons (PAHs) by USEPA SW-846 Method 8270C SIM. Samples were analyzed by Accutest Laboratories of Marlborough, Massachusetts, and submitted as part of sample delivery group (SDG) MC22567. Samples included as part of this validation are listed below:

Sample Identification	Sample Identification
MW6D-ROX-070913	MW6C-ROX-070913
MW6B-ROX-070913	MW6A-ROX-070913-Dup
MW6A-ROX-070913	MW5-ROX-070913
MW12-ROX-070913	

Evaluation of the analytical data followed procedures outlined in the USEPA Contract Laboratory National Functional Guidelines for Superfund Organic Methods Data Review (EPA 2008).

Criteria evaluated included the following method performance criteria:

- Data package completeness
- Laboratory case narrative/cooler receipt form
- Holding times and sample preservation
- Instrument performance
- Initial calibration
- Calibration verification
- Blank samples
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) samples
- Internal standard areas
- Laboratory control sample (LCS)
- Target compound identification and quantitation
- Overall data assessment

1.0 Data Package Completeness

The data package was reviewed to make certain that it contained the data contractually required in the deliverable. This included checking the data package for the results of each analyte requested for each field sample submitted in the analytical batch, along with requested QC documentation for the respective methods. The data package was complete.

1.2 Laboratory Case Narrative/Cooler Receipt Form

Yes, the laboratory case narrative indicated that SVOC LCS recoveries were outside evaluation criteria. Although not indicated in the laboratory case narrative, SVOCs and PAHs were detected in the method blank. Initial calibration verification and continuing calibration

verification percent differences were outside evaluation criteria. These issues are addressed further in the appropriate sections below.

No problems were indicated in the cooler receipt form.

1.3 Holding Times and Sample Preservation

Review of the sample collection and analysis dates involved comparing the chain-of-custody, the summary forms, the raw data forms, and the chromatograms for accuracy, consistency, and holding time compliance. The validated samples were received at $4^{o}C \pm 2^{o}C$, and were extracted within seven days of collection and analyzed within 40 days of extraction. No qualification of data was required due to sample preservation or holding time criteria.

1.4 GC/MS Instrument Performance

GC/MS instrument performance checks were performed to ensure mass resolution, identification, and instrument sensitivity. Criteria for evaluation of instrument performance included possible transcription/calculation errors, adherence to instrument tuning frequency requirements, mass assignments, and ion abundance criteria. Instrument performance check samples were evaluated against the laboratory tuning criteria established in Method 8270C.

Based on the raw data, the ion abundance criteria were within evaluation criteria for all masses, therefore; no qualification of the data was required. The raw data forms were checked against the summary forms and no calculation or transcription errors were noted.

1.5 Initial Calibration

An Initial calibration (ICAL) was established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data for semi-volatile analysis. SVOC samples as part of SDG MC22567 were analyzed using instrument MSR, and PAH samples were analyzed using instrument MSI. The ICAL for instrument MSR was established on 7/8/2013, and the ICAL for instrument MSI was established on 5/15/2013 prior to sample analysis and using at least five concentration standards to establish the initial calibration curve as required by Method 8270C and 8270C SIM. An average response factor (RF) was determined for each target analyte, and the RFs were reviewed and verified as greater than 0.05 for all target analytes.

Review of the initial calibration summary forms for SVOCs and PAHs indicated calibration check compounds (CCCs) had percent relative standard deviations (%RSDs) $\leq$ 30%. All other target analytes had %RSDs less than 15% CCCs with some exceptions. The initial calibration for compounds with %RSD values outside evaluation criteria was determined using least square linear regression and the correlation coefficients (r) were greater than 0.990.

Initial calibration verifications (ICVs) for SVOCs and PAHs were analyzed following the initial calibrations. Percent difference (%D) values comparing ICV RF to the average ICAL RFs were less than 20% for target compounds with the exceptions of bis(2-chloroisopropyl)ether (-23.2%), 4-chloroaniline (21.7%), hexachlorocyclopentadiene (51.8%), 3-nitroaniline (24.8%), and 3,3'-dichlorobenzidine (28.6%).

Qualifications of SVOC data due to ICV %D are summarized in the following table. The results for bis(2-chloroisopropyl)ether in the validated samples associated with marginal increases in %D, indicating a potential high bias, were non-detect and did not require qualification.

Sample ID	Analyte	Qualifications
MW6D-ROX-070913	4-chloroaniline	**UJ**
MW6D-ROX-070913	hexachlorocyclopentadiene	**UJ**
MW6D-ROX-070913	3-nitroaniline	**UJ**
MW6D-ROX-070913	3,3'-dichlorobenzidine	**UJ**
MW6C-ROX-070913	4-chloroaniline	**UJ**
MW6C-ROX-070913	hexachlorocyclopentadiene	**UJ**
MW6C-ROX-070913	3-nitroaniline	**UJ**
MW6C-ROX-070913	3,3'-dichlorobenzidine	**UJ**
MW6B-ROX-070913	4-chloroaniline	**UJ**
MW6B-ROX-070913	hexachlorocyclopentadiene	**UJ**
MW6B-ROX-070913	3-nitroaniline	**UJ**
MW6B-ROX-070913	3,3'-dichlorobenzidine	**UJ**
MW6A-ROX-070913-Dup	4-chloroaniline	**UJ**
MW6A-ROX-070913-Dup	hexachlorocyclopentadiene	**UJ**
MW6A-ROX-070913-Dup	3-nitroaniline	**UJ**
MW6A-ROX-070913-Dup	3,3'-dichlorobenzidine	**UJ**
MW6A-ROX-070913	4-chloroaniline	**UJ**
MW6A-ROX-070913	hexachlorocyclopentadiene	**UJ**
MW6A-ROX-070913	3-nitroaniline	**UJ**
MW6A-ROX-070913	3,3'-dichlorobenzidine	**UJ**
MW5-ROX-070913	4-chloroaniline	**UJ**
MW5-ROX-070913	hexachlorocyclopentadiene	**UJ**
MW5-ROX-070913	3-nitroaniline	**UJ**
MW5-ROX-070913	3,3'-dichlorobenzidine	**UJ**
MW12-ROX-070913	4-chloroaniline	**UJ**
MW12-ROX-070913	hexachlorocyclopentadiene	**UJ**
MW12-ROX-070913	3-nitroaniline	**UJ**
MW12-ROX-070913	3,3'-dichlorobenzidine	**UJ**

Recalculations of the RFs and %RSD for one compound per internal standard were performed, and no errors in calculation were noted.

1.6 Calibration Verification

Review of sample chromatograms indicated the calibration verifications (CVs) were performed prior to sample analysis. Review of continuing calibration summary forms for SVOCs and PAHs indicated all RFs met the evaluation criteria of greater than 0.05 for all target analytes. In addition, percent differences (%Ds) met the evaluation criteria of less than or equal to 20% for CCCs and target analytes that were quantitated using linear calibration (response factor) with the exceptions summarized in the following table.

CV (Date/Time)	Analyte	%D
7/12/2013 8:19	2-Methylnaphthalene	**-26.9**
7/12/2013 8:19	Benzo[a]anthracene	**-20.8**

Analytical data that required qualification based on continuing calibration %Ds are included in the table below. Analytical data reported as non-detect and associated with continuing calibration %Ds recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Analyte	Qualifications
MW5-ROX-070913	Benzo[a]anthracene	**J**
MW5-ROX-070913	2-Methylnaphthalene	**J**
MW12-ROX-070913	Benzo[a]anthracene	**J**

Recalculations of the RFs and %RSD for one compound per internal standard were performed, and no errors in calculation were noted.

1.7 Blank Samples

The purpose of method blank samples is to evaluate the existence and magnitude of contamination problems emanating from laboratory activities. Method blank samples were analyzed with each analytical batch as required by USEPA SW-846 Method 8270C. Target compounds in the blank samples were reported as non-detect with exceptions summarized in the following table.

Blank ID	Parameter	Analyte	Concentration/ Amount
OP33941-MB	SVOCs	bis(2-Ethylhexyl)phthalate	2.4 ug/L
OP33942-MB	PAHs	Acenaphthene	0.065 ug/L
OP33942-MB	PAHs	Acenaphthylene	0.026 ug/L
OP33942-MB	PAHs	Fluorene	0.50 ug/L
OP33942-MB	PAHs	2-Methylnaphthalene	0.087 ug/L
OP33942-MB	PAHs	Phenanthrene	0.027 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 required qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
MW5-ROX-070913	PAHs	Fluorene	0.99 ug/L	**U**
MW5-ROX-070913	PAHs	Phenanthrene	0.074 ug/L	**U**

1.8 Surrogate Spike Recoveries

Surrogate compounds were used to evaluate the overall laboratory sample preparation efficiency on a per-sample basis. Surrogate recoveries were within the method acceptance criteria for all validated samples.

Approximately 10% of the surrogate recoveries were recalculated, and the summary forms versus the raw data were verified. No calculation or transcription errors were noted.

1.9 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

MS/MSD samples are analyzed to assess potential matrix effects. Although not analyzed as part of SDG MC22567, sample MW16-ROX-070813 (SDG MC22534) was spiked and analyzed for SVOCs.

All MS/MSD recoveries were within the method acceptance criteria for the validated samples with the exception of those summarized in the table below.

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
MW16-ROX-070813	SVOCs	Hexachlorocyclopentadiene	**37/34**	8	40-140/20
MW16-ROX-070813	SVOCs	Hexachloroethane	49/**39**	**24**	40-140/20

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 the data review for SDG MC22534. No further qualification of data was required.

Approximately 10% of the MS/MSD spiking recoveries were recalculated and verified using MS/MSD summary forms, and no calculation or transcription errors were noted,

1.10 Internal Standards

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during each analytical run. Following Method 8270C, the IS areas for the samples and CVs must be within –50% to +100% and retention times must be within 30 seconds of the IS area and retention time of the midpoint of the ICAL.

The IS areas for the CVs and the validated samples in this SDG were within evaluation criteria.

1.11 Laboratory Control Spike (LCS) Samples

Laboratory control samples were analyzed with each analytical batch to assess the accuracy of the analytical process. LCS recoveries were within evaluation criteria with the exceptions summarized in the following table.

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
OP33941-BS	SVOCs	Hexachlorocyclopentadiene	**27**/NA	NA	40-140/NA
OP33941-BS	SVOCs	Hexachloroethane	**39**/NA	NA	40-140/NA

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 OP33941-BS was associated with the equipment blank is not qualified.

Sample ID	Parameter	Analyte	Qualification
MW6D-ROX-070913	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW6D-ROX-070913	SVOCs	Hexachloroethane	**UJ**
MW6C-ROX-070913	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW6C-ROX-070913	SVOCs	Hexachloroethane	**UJ**
MW6B-ROX-070913	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW6B-ROX-070913	SVOCs	Hexachloroethane	**UJ**
MW6A-ROX-070913	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW6A-ROX-070913	SVOCs	Hexachloroethane	**UJ**
MW6A-ROX-070913-Dup	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW6A-ROX-070913-Dup	SVOCs	Hexachloroethane	**UJ**
MW12-ROX-070913	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW12-ROX-070913	SVOCs	Hexachloroethane	**UJ**
MW5-ROX-070913	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW5-ROX-070913	SVOCs	Hexachloroethane	**UJ**

Approximately 10% of the spiking compound recoveries for the LCS were recalculated from the raw data and verified using the LCS summary forms, and no calculation or transcription errors were noted.

1.12 Target Compound Identification and Quantification

For validation of the compound identification, chromatograms were reviewed to verify the major peaks were identified, the spectra of the identified compounds were verified against the library spectra, and the relative retention time was no greater than 0.06 different from the associated CV retention times. A minimum of 10% of the detected target analytes and spiking compounds were verified. No anomalies were noted with the identification of the target compounds in the samples.

For the validation of compound quantitation, 10% of the target analytes were recalculated from the raw data, and no calculation errors were noted. Additionally, the reporting limits were verified to determine if reporting limits (RLs) were adjusted for dilutions. No qualification of the data was required and review of the data indicated the correct RLs were reported.

1.13 Overall Data Assessment

Based on the criteria outlined, it is recommended that the results reported for these analyses are accepted for their intended use. Acceptable levels of accuracy and precision, based on LCS and surrogate data were achieved for this SDG.

New England ACCUTEST LABORATORIES

07/29/13

Technical Report for

Shell Oil

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana,

Accutest Job Number: MC22567

Sampling Date: 07/09/13

Report to:

URS Corporation

elizabeth.kunkel@URS.com

ATTN: Elizabeth Kunkel

Total number of pages in report: **111**

Reviewed
on
7/29/2013

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: Matthew Morrell 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)

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6 7 8

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Summary of Hits 6
Section 4: Sample Results **8**
4.1: MC22567-1: MW6D-ROX-070913 9
4.2: MC22567-2: MW6C-ROX-070913 16
4.3: MC22567-3: MW6B-ROX-070913 23
4.4: MC22567-4: MW6A-ROX-070913-EB 30
4.5: MC22567-5: MW6A-ROX-070913 37
4.6: MC22567-6: MW6A-ROX-070913-DUP 44
4.7: MC22567-7: MW12-ROX-070913 51
4.8: MC22567-8: MW5-ROX-070913 58
4.9: MC22567-9: TB-ROX-070913-HCL 65
4.10: MC22567-10: TB-ROX-070913-ST 68
Section 5: Misc. Forms **69**
5.1: Chain of Custody 70
5.2: Sample Tracking Chronicle 72
5.3: Internal Chain of Custody 74
Section 6: GC/MS Volatiles - QC Data Summaries 77
6.1: Method Blank Summary 78
6.2: Blank Spike/Blank Spike Duplicate Summary 81
6.3: Matrix Spike/Matrix Spike Duplicate Summary 84
6.4: Internal Standard Area Summaries 87
6.5: Surrogate Recovery Summaries 88
Section 7: GC/MS Semi-volatiles - QC Data Summaries **89**
7.1: Method Blank Summary 90
7.2: Blank Spike Summary 93
7.3: Matrix Spike/Matrix Spike Duplicate Summary 96
7.4: Internal Standard Area Summaries 99
7.5: Surrogate Recovery Summaries 103
Section 8: GC Volatiles - QC Data Summaries **105**
8.1: Method Blank Summary 106
8.2: Blank Spike Summary 107
8.3: Matrix Spike/Matrix Spike Duplicate Summary 108
8.4: Surrogate Recovery Summaries 109
8.5: GC Surrogate Retention Time Summaries 110

Sample Summary

Shell Oil

Job No: MC22567

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC22567-1	07/09/13	09:10	LRDM	07/10/13	AQ	Ground Water	MW6D-ROX-070913
MC22567-2	07/09/13	09:55	LRDM	07/10/13	AQ	Ground Water	MW6C-ROX-070913
MC22567-3	07/09/13	10:35	LRDM	07/10/13	AQ	Ground Water	MW6B-ROX-070913
MC22567-4	07/09/13	10:55	LRDM	07/10/13	AQ	Equipment Blank	MW6A-ROX-070913-EB
MC22567-5	07/09/13	11:35	LRDM	07/10/13	AQ	Ground Water	MW6A-ROX-070913
MC22567-6	07/09/13	11:35	LRDM	07/10/13	AQ	Ground Water	MW6A-ROX-070913-DUP
MC22567-7	07/09/13	14:00	LRDM	07/10/13	AQ	Ground Water	MW12-ROX-070913
MC22567-8	07/09/13	15:20	LRDM	07/10/13	AQ	Ground Water	MW5-ROX-070913
MC22567-9	07/09/13	00:00	LRDM	07/10/13	AQ	Trip Blank Water	TB-ROX-070913-HCL
MC22567-10	07/09/13	00:00	LRDM	07/10/13	AQ	Trip Blank Water	TB-ROX-070913-ST

ACCUTEST Laboratories

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Shell Oil **Job No** MC22567

Site: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central **Report Date** 7/24/2013 12:46:05 PM

8 Sample(s), 2 Trip Blank(s) and 0 Field Blank(s) were collected on 07/09/2013 and were received at Accutest on 07/10/2013 properly preserved, at 3.1 Deg. C and intact. These Samples received an Accutest job number of MC22567. 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:** MSN2939

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22559-1MS, MC22559-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MSN2939-BS/BSD for Acrolein are outside control limits. Blank Spike meets program technical requirements.
- MC22559-1MS/MSD for 2-Butanone (MEK), Acetone, Acrolein are outside control limits due to possible matrix interference. Refer to Blank Spike.
- Initial calibration verification standard MSN2927-ICV2927 for Acrolein exceeds 50% Difference. (Results biased high). Associated samples are non-detect for these compounds.

Extractables by GCMS By Method SW846 8270C

Matrix: AQ **Batch ID:** OP33941

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22534-6MS, MC22534-6MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- OP33941-BS for Hexachlorocyclopentadiene, Hexachloroethane are outside control limits. Blank Spike meets program technical requirements.
- OP33941-MS for Hexachlorocyclopentadiene are outside control limits. Blank Spike meets program technical requirements.
- OP33941-MSD for Hexachlorocyclopentadiene, Hexachloroethane are outside control limits. Blank Spike meets program technical requirements.
- RPD(s) for OP33941-MSD for Hexachloroethane are outside control limits. Blank Spike meets program technical requirements.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix: AQ **Batch ID:** OP33942

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- MC22567-8 reported with a "B" qualifier, indicating analyte is found in the associated method blank.
- Sample(s) MC22534-6MS, MC22534-6MSD were used as the QC samples indicated.

Volatiles by GC By Method SW846 8011

Matrix: AQ	Batch ID: OP33961

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22534-6MS, MC22534-6MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MC22567-5 for Bromofluorobenzene (S): Outside control limits due to possible matrix interference.

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(MC22567).

Summary of Hits

Job Number: MC22567
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/09/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC22567-1	MW6D-ROX-070913					
No hits reported in this sample.						
MC22567-2	MW6C-ROX-070913					
No hits reported in this sample.						
MC22567-3	MW6B-ROX-070913					
Methyl Tert Butyl Ether		6.9	1.0		ug/l	SW846 8260B
MC22567-4	MW6A-ROX-070913-EB					
Benzene		0.86	0.50		ug/l	SW846 8260B
MC22567-5	MW6A-ROX-070913					
Methyl Tert Butyl Ether		2.7	1.0		ug/l	SW846 8260B
MC22567-6	MW6A-ROX-070913-DUP					
Methyl Tert Butyl Ether		2.5	1.0		ug/l	SW846 8260B
MC22567-7	MW12-ROX-070913					
Benzo(a)anthracene		0.12	0.055		ug/l	SW846 8270C BY SIM
MC22567-8	MW5-ROX-070913					
Benzene		7.5	0.50		ug/l	SW846 8260B
tert-Butylbenzene		8.5	5.0		ug/l	SW846 8260B
Isopropylbenzene		26.8	5.0		ug/l	SW846 8260B
Methyl Tert Butyl Ether		12.1	1.0		ug/l	SW846 8260B
n-Propylbenzene		13.2	5.0		ug/l	SW846 8260B
Toluene		2.9	1.0		ug/l	SW846 8260B
1,1,2-Trichloroethane		1.8	1.0		ug/l	SW846 8260B
m,p-Xylene		7.9	1.0		ug/l	SW846 8260B
o-Xylene		1.8	1.0		ug/l	SW846 8260B
Xylene (total)		9.7	1.0		ug/l	SW846 8260B
Benzo(a)anthracene		0.10	0.050		ug/l	SW846 8270C BY SIM
Fluorene		0.99	0.10		ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		1.5	0.20		ug/l	SW846 8270C BY SIM
Phenanthrene		0.074 B	0.050		ug/l	SW846 8270C BY SIM

Summary of Hits

Job Number: MC22567
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/09/13

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC22567-9	TB-ROX-070913-HCL					
No hits reported in this sample.						
MC22567-10	TB-ROX-070913-ST					
No hits reported in this sample.						

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW6D-ROX-070913		
Lab Sample ID:	MC22567-1	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78311.D	1	07/17/13	JB	n/a	n/a	MSN2939
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-1	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-1	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		70-130%
2037-26-5	Toluene-D8	100%		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
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates 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-070913		
Lab Sample ID:	MC22567-1	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32163.D	1	07/12/13	KR	07/10/13	OP33941	MSR1173
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic Acid	ND	11	ug/l	
95-57-8	2-Chlorophenol	ND	5.5	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	ug/l	
95-48-7	2-Methylphenol	ND	11	ug/l	
	3&4-Methylphenol	ND	11	ug/l	
88-75-5	2-Nitrophenol	ND	11	ug/l	
100-02-7	4-Nitrophenol	ND	22	ug/l	
87-86-5	Pentachlorophenol	ND	11	ug/l	
108-95-2	Phenol	ND	5.5	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	ug/l	
62-53-3	Aniline	ND	11	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.5	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.5	ug/l	
100-51-6	Benzyl Alcohol	ND	11	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.5	ug/l	
106-47-8	4-Chloroaniline	ND	11	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.5	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.5	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.5	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.5	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.5	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.5	ug/l	UJ
132-64-9	Dibenzofuran	ND	2.2	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.5	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.5	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-1	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	Units	Q
84-66-2	Diethyl phthalate	ND	5.5	ug/l	
131-11-3	Dimethyl phthalate	ND	5.5	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	ug/l	
118-74-1	Hexachlorobenzene	ND	5.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.5	ug/l	UJ
78-59-1	Isophorone	ND	5.5	ug/l	
88-74-4	2-Nitroaniline	ND	11	ug/l	
99-09-2	3-Nitroaniline	ND	11	ug/l	UJ
100-01-6	4-Nitroaniline	ND	11	ug/l	
98-95-3	Nitrobenzene	ND	5.5	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.5	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.5	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.5	ug/l	
110-86-1	Pyridine	ND	11	ug/l	

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	54%		15-110%
4165-60-0	Nitrobenzene-d5	48%		30-130%
321-60-8	2-Fluorobiphenyl	54%		30-130%
1718-51-0	Terphenyl-d14	36%		30-130%

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-1	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I84766A.D	1	07/12/13	WK	07/10/13	OP33942	MSI3152
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	0.11	ug/l	
208-96-8	Acenaphthylene	ND	0.11	ug/l	
120-12-7	Anthracene	ND	0.11	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.055	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.055	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	ug/l	
218-01-9	Chrysene	ND	0.11	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	ug/l	
206-44-0	Fluoranthene	ND	0.11	ug/l	
86-73-7	Fluorene	ND	0.11	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.22	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.22	ug/l	
85-01-8	Phenanthrene	ND	0.055	ug/l	
129-00-0	Pyrene	ND	0.11	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	54%		30-130%
321-60-8	2-Fluorobiphenyl	57%		30-130%
1718-51-0	Terphenyl-d14	41%		30-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-1	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK26683.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
Run #2							

	Initial Volume	Final Volume
Run #1	35.5 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	132%		36-173%
460-00-4	Bromofluorobenzene (S)	129%		36-173%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-2	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78312.D	1	07/17/13	JB	n/a	n/a	MSN2939
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-2	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-2	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		70-130%
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	103%		70-130%

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

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

J = Indicates 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-070913		
Lab Sample ID:	MC22567-2	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32164.D	1	07/12/13	KR	07/10/13	OP33941	MSR1173
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic Acid	ND	11	ug/l	
95-57-8	2-Chlorophenol	ND	5.6	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	ug/l	
95-48-7	2-Methylphenol	ND	11	ug/l	
	3&4-Methylphenol	ND	11	ug/l	
88-75-5	2-Nitrophenol	ND	11	ug/l	
100-02-7	4-Nitrophenol	ND	22	ug/l	
87-86-5	Pentachlorophenol	ND	11	ug/l	
108-95-2	Phenol	ND	5.6	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	ug/l	
62-53-3	Aniline	ND	11	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.6	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.6	ug/l	
100-51-6	Benzyl Alcohol	ND	11	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.6	ug/l	
106-47-8	4-Chloroaniline	ND	11	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.6	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.6	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.6	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.6	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.6	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.6	ug/l	UJ
132-64-9	Dibenzofuran	ND	2.2	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.6	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.6	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-2	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	Units	Q
84-66-2	Diethyl phthalate	ND	5.6	ug/l	
131-11-3	Dimethyl phthalate	ND	5.6	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	ug/l	
118-74-1	Hexachlorobenzene	ND	5.6	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.6	ug/l	UJ
78-59-1	Isophorone	ND	5.6	ug/l	
88-74-4	2-Nitroaniline	ND	11	ug/l	
99-09-2	3-Nitroaniline	ND	11	ug/l	UJ
100-01-6	4-Nitroaniline	ND	11	ug/l	
98-95-3	Nitrobenzene	ND	5.6	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.6	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.6	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.6	ug/l	
110-86-1	Pyridine	ND	11	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	48%		15-110%
4165-62-2	Phenol-d5	34%		15-110%
118-79-6	2,4,6-Tribromophenol	83%		15-110%
4165-60-0	Nitrobenzene-d5	72%		30-130%
321-60-8	2-Fluorobiphenyl	77%		30-130%
1718-51-0	Terphenyl-d14	79%		30-130%

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-2	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I84767A.D	1	07/12/13	WK	07/10/13	OP33942	MSI3152
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	0.11	ug/l	
208-96-8	Acenaphthylene	ND	0.11	ug/l	
120-12-7	Anthracene	ND	0.11	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.056	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.056	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	ug/l	
218-01-9	Chrysene	ND	0.11	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	ug/l	
206-44-0	Fluoranthene	ND	0.11	ug/l	
86-73-7	Fluorene	ND	0.11	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.22	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.22	ug/l	
85-01-8	Phenanthrene	ND	0.056	ug/l	
129-00-0	Pyrene	ND	0.11	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	80%		30-130%
321-60-8	2-Fluorobiphenyl	81%		30-130%
1718-51-0	Terphenyl-d14	86%		30-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-2	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK26684.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
Run #2							

	Initial Volume	Final Volume
Run #1	34.8 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	166%		36-173%
460-00-4	Bromofluorobenzene (S)	153%		36-173%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-3	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78313.D	1	07/17/13	JB	n/a	n/a	MSN2939
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-3	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	25	ug/l	R
97-63-2	Ethyl methacrylate	ND	5.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	6.9	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-3	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		70-130%
2037-26-5	Toluene-D8	100%		70-130%
460-00-4	4-Bromofluorobenzene	106%		70-130%

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

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

J = Indicates 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-070913		
Lab Sample ID:	MC22567-3	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32165.D	1	07/12/13	KR	07/10/13	OP33941	MSR1173
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic Acid	ND	11	ug/l	
95-57-8	2-Chlorophenol	ND	5.6	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	ug/l	
95-48-7	2-Methylphenol	ND	11	ug/l	
	3&4-Methylphenol	ND	11	ug/l	
88-75-5	2-Nitrophenol	ND	11	ug/l	
100-02-7	4-Nitrophenol	ND	22	ug/l	
87-86-5	Pentachlorophenol	ND	11	ug/l	
108-95-2	Phenol	ND	5.6	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	ug/l	
62-53-3	Aniline	ND	11	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.6	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.6	ug/l	
100-51-6	Benzyl Alcohol	ND	11	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.6	ug/l	
106-47-8	4-Chloroaniline	ND	11	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.6	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.6	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.6	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.6	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.6	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.6	ug/l	UJ
132-64-9	Dibenzofuran	ND	2.2	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.6	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.6	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-3	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	Units	Q
84-66-2	Diethyl phthalate	ND	5.6	ug/l	
131-11-3	Dimethyl phthalate	ND	5.6	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	ug/l	
118-74-1	Hexachlorobenzene	ND	5.6	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.6	ug/l	UJ
78-59-1	Isophorone	ND	5.6	ug/l	
88-74-4	2-Nitroaniline	ND	11	ug/l	
99-09-2	3-Nitroaniline	ND	11	ug/l	UJ
100-01-6	4-Nitroaniline	ND	11	ug/l	
98-95-3	Nitrobenzene	ND	5.6	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.6	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.6	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.6	ug/l	
110-86-1	Pyridine	ND	11	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	50%		15-110%
4165-62-2	Phenol-d5	41%		15-110%
118-79-6	2,4,6-Tribromophenol	80%		15-110%
4165-60-0	Nitrobenzene-d5	72%		30-130%
321-60-8	2-Fluorobiphenyl	77%		30-130%
1718-51-0	Terphenyl-d14	79%		30-130%

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-3	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I84768A.D	1	07/12/13	WK	07/10/13	OP33942	MSI3152
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	0.11	ug/l	
208-96-8	Acenaphthylene	ND	0.11	ug/l	
120-12-7	Anthracene	ND	0.11	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.056	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.056	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	ug/l	
218-01-9	Chrysene	ND	0.11	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	ug/l	
206-44-0	Fluoranthene	ND	0.11	ug/l	
86-73-7	Fluorene	ND	0.11	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.22	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.22	ug/l	
85-01-8	Phenanthrene	ND	0.056	ug/l	
129-00-0	Pyrene	ND	0.11	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	81%		30-130%
321-60-8	2-Fluorobiphenyl	81%		30-130%
1718-51-0	Terphenyl-d14	85%		30-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-3	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK26685.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
Run #2							

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

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	145%		36-173%
460-00-4	Bromofluorobenzene (S)	134%		36-173%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913-EB		
Lab Sample ID:	MC22567-4	Date Sampled:	07/09/13
Matrix:	AQ - Equipment Blank	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78300.D	1	07/17/13	JB	n/a	n/a	MSN2939
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
107-02-8	Acrolein	ND	25	ug/l	
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	0.86	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
74-97-5	Bromochloromethane	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913-EB		
Lab Sample ID:	MC22567-4	Date Sampled:	07/09/13
Matrix:	AQ - Equipment Blank	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913-EB		
Lab Sample ID:	MC22567-4	Date Sampled:	07/09/13
Matrix:	AQ - Equipment Blank	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		70-130%
2037-26-5	Toluene-D8	100%		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
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates 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-070913-EB		
Lab Sample ID:	MC22567-4	Date Sampled:	07/09/13
Matrix:	AQ - Equipment Blank	Date Received:	07/10/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32166.D	1	07/12/13	KR	07/10/13	OP33941	MSR1173
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic Acid	ND	11	ug/l	
95-57-8	2-Chlorophenol	ND	5.5	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	ug/l	
95-48-7	2-Methylphenol	ND	11	ug/l	
	3&4-Methylphenol	ND	11	ug/l	
88-75-5	2-Nitrophenol	ND	11	ug/l	
100-02-7	4-Nitrophenol	ND	22	ug/l	
87-86-5	Pentachlorophenol	ND	11	ug/l	
108-95-2	Phenol	ND	5.5	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	ug/l	
62-53-3	Aniline	ND	11	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.5	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.5	ug/l	
100-51-6	Benzyl Alcohol	ND	11	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.5	ug/l	
106-47-8	4-Chloroaniline	ND	11	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.5	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.5	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.5	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.5	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.5	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.5	ug/l	
132-64-9	Dibenzofuran	ND	2.2	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.5	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.5	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913-EB		
Lab Sample ID:	MC22567-4	Date Sampled:	07/09/13
Matrix:	AQ - Equipment Blank	Date Received:	07/10/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	Units	Q
84-66-2	Diethyl phthalate	ND	5.5	ug/l	
131-11-3	Dimethyl phthalate	ND	5.5	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	ug/l	
118-74-1	Hexachlorobenzene	ND	5.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	ug/l	
67-72-1	Hexachloroethane	ND	5.5	ug/l	
78-59-1	Isophorone	ND	5.5	ug/l	
88-74-4	2-Nitroaniline	ND	11	ug/l	
99-09-2	3-Nitroaniline	ND	11	ug/l	
100-01-6	4-Nitroaniline	ND	11	ug/l	
98-95-3	Nitrobenzene	ND	5.5	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.5	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.5	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.5	ug/l	
110-86-1	Pyridine	ND	11	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	46%		15-110%
4165-62-2	Phenol-d5	31%		15-110%
118-79-6	2,4,6-Tribromophenol	81%		15-110%
4165-60-0	Nitrobenzene-d5	67%		30-130%
321-60-8	2-Fluorobiphenyl	69%		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
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913-EB		
Lab Sample ID:	MC22567-4	Date Sampled:	07/09/13
Matrix:	AQ - Equipment Blank	Date Received:	07/10/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I84769A.D	1	07/12/13	WK	07/10/13	OP33942	MSI3152
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	0.11	ug/l	
208-96-8	Acenaphthylene	ND	0.11	ug/l	
120-12-7	Anthracene	ND	0.11	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.055	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.055	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	ug/l	
218-01-9	Chrysene	ND	0.11	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	ug/l	
206-44-0	Fluoranthene	ND	0.11	ug/l	
86-73-7	Fluorene	ND	0.11	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.22	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.22	ug/l	
85-01-8	Phenanthrene	ND	0.055	ug/l	
129-00-0	Pyrene	ND	0.11	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	74%		30-130%
321-60-8	2-Fluorobiphenyl	72%		30-130%
1718-51-0	Terphenyl-d14	96%		30-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913-EB		
Lab Sample ID:	MC22567-4	Date Sampled:	07/09/13
Matrix:	AQ - Equipment Blank	Date Received:	07/10/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK26686.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
Run #2							

	Initial Volume	Final Volume
Run #1	34.8 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	168%		36-173%
460-00-4	Bromofluorobenzene (S)	160%		36-173%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-5	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78314.D	1	07/17/13	JB	n/a	n/a	MSN2939
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-5	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	25	ug/l	R
97-63-2	Ethyl methacrylate	ND	5.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.7	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-5	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	99%		70-130%
460-00-4	4-Bromofluorobenzene	101%		70-130%

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-5	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32167.D	1	07/12/13	KR	07/10/13	OP33941	MSR1173
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic Acid	ND	11	ug/l	
95-57-8	2-Chlorophenol	ND	5.5	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	ug/l	
95-48-7	2-Methylphenol	ND	11	ug/l	
	3&4-Methylphenol	ND	11	ug/l	
88-75-5	2-Nitrophenol	ND	11	ug/l	
100-02-7	4-Nitrophenol	ND	22	ug/l	
87-86-5	Pentachlorophenol	ND	11	ug/l	
108-95-2	Phenol	ND	5.5	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	ug/l	
62-53-3	Aniline	ND	11	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.5	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.5	ug/l	
100-51-6	Benzyl Alcohol	ND	11	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.5	ug/l	
106-47-8	4-Chloroaniline	ND	11	ug/l	uJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.5	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.5	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.5	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.5	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.5	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.5	ug/l	uJ
132-64-9	Dibenzofuran	ND	2.2	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.5	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.5	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-5	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	Units	Q
84-66-2	Diethyl phthalate	ND	5.5	ug/l	
131-11-3	Dimethyl phthalate	ND	5.5	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	ug/l	
118-74-1	Hexachlorobenzene	ND	5.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.5	ug/l	UJ
78-59-1	Isophorone	ND	5.5	ug/l	
88-74-4	2-Nitroaniline	ND	11	ug/l	
99-09-2	3-Nitroaniline	ND	11	ug/l	UJ
100-01-6	4-Nitroaniline	ND	11	ug/l	
98-95-3	Nitrobenzene	ND	5.5	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.5	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.5	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.5	ug/l	
110-86-1	Pyridine	ND	11	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	46%		15-110%
4165-62-2	Phenol-d5	33%		15-110%
118-79-6	2,4,6-Tribromophenol	80%		15-110%
4165-60-0	Nitrobenzene-d5	72%		30-130%
321-60-8	2-Fluorobiphenyl	70%		30-130%
1718-51-0	Terphenyl-d14	72%		30-130%

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-5	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I84770A.D	1	07/12/13	WK	07/10/13	OP33942	MSI3152
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	0.11	ug/l	
208-96-8	Acenaphthylene	ND	0.11	ug/l	
120-12-7	Anthracene	ND	0.11	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.055	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.055	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	ug/l	
218-01-9	Chrysene	ND	0.11	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	ug/l	
206-44-0	Fluoranthene	ND	0.11	ug/l	
86-73-7	Fluorene	ND	0.11	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.22	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.22	ug/l	
85-01-8	Phenanthrene	ND	0.055	ug/l	
129-00-0	Pyrene	ND	0.11	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	79%		30-130%
321-60-8	2-Fluorobiphenyl	73%		30-130%
1718-51-0	Terphenyl-d14	79%		30-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-5	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK26687.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
Run #2							

	Initial Volume	Final Volume
Run #1	35.6 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	178% [a]		36-173%
460-00-4	Bromofluorobenzene (S)	154%		36-173%

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913-DUP		
Lab Sample ID:	MC22567-6	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78315.D	1	07/17/13	JB	n/a	n/a	MSN2939
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913-DUP		
Lab Sample ID:	MC22567-6	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	25	ug/l	R
97-63-2	Ethyl methacrylate	ND	5.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.5	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913-DUP		
Lab Sample ID:	MC22567-6	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	100%		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
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates 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-070913-DUP		
Lab Sample ID:	MC22567-6	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32168.D	1	07/12/13	KR	07/10/13	OP33941	MSR1173
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic Acid	ND	11	ug/l	
95-57-8	2-Chlorophenol	ND	5.5	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	ug/l	
95-48-7	2-Methylphenol	ND	11	ug/l	
	3&4-Methylphenol	ND	11	ug/l	
88-75-5	2-Nitrophenol	ND	11	ug/l	
100-02-7	4-Nitrophenol	ND	22	ug/l	
87-86-5	Pentachlorophenol	ND	11	ug/l	
108-95-2	Phenol	ND	5.5	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	ug/l	
62-53-3	Aniline	ND	11	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.5	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.5	ug/l	
100-51-6	Benzyl Alcohol	ND	11	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.5	ug/l	
106-47-8	4-Chloroaniline	ND	11	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.5	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.5	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.5	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.5	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.5	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.5	ug/l	UJ
132-64-9	Dibenzofuran	ND	2.2	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.5	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.5	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913-DUP		
Lab Sample ID:	MC22567-6	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	Units	Q
84-66-2	Diethyl phthalate	ND	5.5	ug/l	
131-11-3	Dimethyl phthalate	ND	5.5	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	ug/l	
118-74-1	Hexachlorobenzene	ND	5.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.5	ug/l	UJ
78-59-1	Isophorone	ND	5.5	ug/l	
88-74-4	2-Nitroaniline	ND	11	ug/l	
99-09-2	3-Nitroaniline	ND	11	ug/l	UJ
100-01-6	4-Nitroaniline	ND	11	ug/l	
98-95-3	Nitrobenzene	ND	5.5	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.5	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.5	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.5	ug/l	
110-86-1	Pyridine	ND	11	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	47%		15-110%
4165-62-2	Phenol-d5	34%		15-110%
118-79-6	2,4,6-Tribromophenol	83%		15-110%
4165-60-0	Nitrobenzene-d5	68%		30-130%
321-60-8	2-Fluorobiphenyl	77%		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	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913-DUP		
Lab Sample ID:	MC22567-6	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I84771A.D	1	07/12/13	WK	07/10/13	OP33942	MSI3152
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	0.11	ug/l	
208-96-8	Acenaphthylene	ND	0.11	ug/l	
120-12-7	Anthracene	ND	0.11	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.055	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.055	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	ug/l	
218-01-9	Chrysene	ND	0.11	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	ug/l	
206-44-0	Fluoranthene	ND	0.11	ug/l	
86-73-7	Fluorene	ND	0.11	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.22	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.22	ug/l	
85-01-8	Phenanthrene	ND	0.055	ug/l	
129-00-0	Pyrene	ND	0.11	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	77%		30-130%
321-60-8	2-Fluorobiphenyl	80%		30-130%
1718-51-0	Terphenyl-d14	83%		30-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913-DUP		
Lab Sample ID:	MC22567-6	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK26688.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
Run #2							

	Initial Volume	Final Volume
Run #1	34.8 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	151%		36-173%
460-00-4	Bromofluorobenzene (S)	134%		36-173%

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

J = Indicates 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-070913		
Lab Sample ID:	MC22567-7	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78316.D	1	07/17/13	JB	n/a	n/a	MSN2939
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-7	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-7	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	99%		70-130%
460-00-4	4-Bromofluorobenzene	108%		70-130%

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

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

J = Indicates 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-070913		
Lab Sample ID:	MC22567-7	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32169.D	1	07/12/13	KR	07/10/13	OP33941	MSR1173
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic Acid	ND	11	ug/l	
95-57-8	2-Chlorophenol	ND	5.5	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	ug/l	
95-48-7	2-Methylphenol	ND	11	ug/l	
	3&4-Methylphenol	ND	11	ug/l	
88-75-5	2-Nitrophenol	ND	11	ug/l	
100-02-7	4-Nitrophenol	ND	22	ug/l	
87-86-5	Pentachlorophenol	ND	11	ug/l	
108-95-2	Phenol	ND	5.5	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	ug/l	
62-53-3	Aniline	ND	11	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.5	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.5	ug/l	
100-51-6	Benzyl Alcohol	ND	11	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.5	ug/l	
106-47-8	4-Chloroaniline	ND	11	ug/l	U J
111-91-1	bis(2-Chloroethoxy)methane	ND	5.5	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.5	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.5	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.5	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.5	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.5	ug/l	U J
132-64-9	Dibenzofuran	ND	2.2	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.5	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.5	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-7	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

ABN Special List

CAS No.	Compound	Result	RL	Units	Q
84-66-2	Diethyl phthalate	ND	5.5	ug/l	
131-11-3	Dimethyl phthalate	ND	5.5	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	ug/l	
118-74-1	Hexachlorobenzene	ND	5.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.5	ug/l	UJ
78-59-1	Isophorone	ND	5.5	ug/l	
88-74-4	2-Nitroaniline	ND	11	ug/l	
99-09-2	3-Nitroaniline	ND	11	ug/l	UJ
100-01-6	4-Nitroaniline	ND	11	ug/l	
98-95-3	Nitrobenzene	ND	5.5	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.5	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.5	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.5	ug/l	
110-86-1	Pyridine	ND	11	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	47%		15-110%
4165-62-2	Phenol-d5	43%		15-110%
118-79-6	2,4,6-Tribromophenol	72%		15-110%
4165-60-0	Nitrobenzene-d5	70%		30-130%
321-60-8	2-Fluorobiphenyl	75%		30-130%
1718-51-0	Terphenyl-d14	81%		30-130%

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-7	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14084.D	1	07/22/13	KR	07/10/13	OP33942	MSW637
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	0.11	ug/l	
208-96-8	Acenaphthylene	ND	0.11	ug/l	
120-12-7	Anthracene	ND	0.11	ug/l	
56-55-3	Benzo(a)anthracene	0.12	0.055	ug/l	J
50-32-8	Benzo(a)pyrene	ND	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.055	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	ug/l	
218-01-9	Chrysene	ND	0.11	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	ug/l	
206-44-0	Fluoranthene	ND	0.11	ug/l	
86-73-7	Fluorene	ND	0.11	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.22	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.22	ug/l	
85-01-8	Phenanthrene	ND	0.055	ug/l	
129-00-0	Pyrene	ND	0.11	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	77%		30-130%
321-60-8	2-Fluorobiphenyl	72%		30-130%
1718-51-0	Terphenyl-d14	83%		30-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-7	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK26689.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
Run #2							

	Initial Volume	Final Volume
Run #1	36.3 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	127%		36-173%
460-00-4	Bromofluorobenzene (S)	115%		36-173%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-8	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78317.D	1	07/17/13	JB	n/a	n/a	MSN2939
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
107-02-8	Acrolein	ND	25	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	ug/l	
71-43-2	Benzene	7.5	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
74-97-5	Bromochloromethane	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	8.5	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-8	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

4.8
4

VOA Special List

CAS No.	Compound	Result	RL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	25	ug/l	R
97-63-2	Ethyl methacrylate	ND	5.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	26.8	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	12.1	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	13.2	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	2.9	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	1.8	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	7.9	1.0	ug/l	
95-47-6	o-Xylene	1.8	1.0	ug/l	
1330-20-7	Xylene (total)	9.7	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-8	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		70-130%
2037-26-5	Toluene-D8	102%		70-130%
460-00-4	4-Bromofluorobenzene	102%		70-130%

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

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

J = Indicates 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-070913		
Lab Sample ID:	MC22567-8	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32170.D	1	07/12/13	KR	07/10/13	OP33941	MSR1173
Run #2							

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

ABN Special List

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-8	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

4.8
4

ABN Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	53%		15-110%
4165-62-2	Phenol-d5	40%		15-110%
118-79-6	2,4,6-Tribromophenol	86%		15-110%
4165-60-0	Nitrobenzene-d5	76%		30-130%
321-60-8	2-Fluorobiphenyl	80%		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	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913		
Lab Sample ID:	MC22567-8	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14071.D	1	07/22/13	KR	07/10/13	OP33942	MSW637
Run #2							

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

BN Special List

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	0.10	ug/l	
208-96-8	Acenaphthylene	ND	0.10	ug/l	
120-12-7	Anthracene	ND	0.10	ug/l	
56-55-3	Benzo(a)anthracene	0.10	0.050	ug/l	J
50-32-8	Benzo(a)pyrene	ND	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	ug/l	
218-01-9	Chrysene	ND	0.10	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	ug/l	
206-44-0	Fluoranthene	ND	0.10	ug/l	
86-73-7	Fluorene	~~0.99~~ U	~~0.10~~ 0.99	ug/l	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	ug/l	
90-12-0	1-Methylnaphthalene	1.5	0.20	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.20	ug/l	
85-01-8	Phenanthrene	~~0.074~~ U	~~0.050~~ 0.074	ug/l	B U
129-00-0	Pyrene	ND	0.10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	79%		30-130%
321-60-8	2-Fluorobiphenyl	78%		30-130%
1718-51-0	Terphenyl-d14	87%		30-130%

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

J = Indicates 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-070913		
Lab Sample ID:	MC22567-8	Date Sampled:	07/09/13
Matrix:	AQ - Ground Water	Date Received:	07/10/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK26690.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
Run #2							

	Initial Volume	Final Volume
Run #1	35.0 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	138%		36-173%
460-00-4	Bromofluorobenzene (S)	125%		36-173%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913-HCL		
Lab Sample ID:	MC22567-9	Date Sampled:	07/09/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78299.D	1	07/17/13	JB	n/a	n/a	MSN2939
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913-HCL		
Lab Sample ID:	MC22567-9	Date Sampled:	07/09/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

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

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-070913-HCL		
Lab Sample ID:	MC22567-9	Date Sampled:	07/09/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/10/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		70-130%
2037-26-5	Toluene-D8	101%		70-130%
460-00-4	4-Bromofluorobenzene	99%		70-130%

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

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

J = Indicates 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-070913-ST		
Lab Sample ID:	MC22567-10	Date Sampled:	07/09/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/10/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK26691.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
Run #2							

	Initial Volume	Final Volume
Run #1	35.7 ml	2.0 ml
Run #2		

VOA Special List

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	120%		36-173%
460-00-4	Bromofluorobenzene (S)	113%		36-173%

ND = Not detected
RL = Reporting Limit
E = Indicates 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: Bob Billman

PO #

INCIDENT # (ENV SERVICES): 9 7 2 1 5 6 4 0

SAP #: 3 4 0 0 6 1

☐ CHECK IF NO INCIDENT # APPLIES

DATE: 7/9/13

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 / 21562850.03003

PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Wendy Pennington, Bob Billman

TELEPHONE: 314-429-0100

FAX: 314-429-0462

Bill To Contact E-MAIL:

SAMPLER NAME(S) (PRINT): L. Rathnow, D Mattingly

LAB USE ONLY: MC22567

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

REQUESTED ANALYSIS

☐ 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 1 EDD DISK

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	MW6D-ROX-070913	7/9/13	0910	water	2			2	2	6	X	X	X	X	0	
-2	MW6C-ROX-070913		0955		2			2	2	6	X	X	X	X		
-3	MW6B-ROX-070913		1035		2			2	2	6	X	X	X	X		
-4	MW6A-ROX-070913-EB		1055		2			2	2	6	X	X	X	X		
-5	MW6A-ROX-070913		1135		2			2	2	6	X	X	X	X		
-6	MW6A-ROX-070913-DUP		1135		2			2	2	6	X	X	X	X		
-7	MW12-ROX-070913		1400		2			2	2	6	X	X	X	X		
-8	MW5-ROX-070913		1520		2			2	2	6	X	X	X	X		4L4, 18C
-9	TB-ROX-070913-HCL		00:00		2					2	X					
-10	TB-ROX-070913-ST	↓	00:00	↓					2	2		X			↓	

Relinquished by (Signature)	Received by (Signature)	Date	Time
	FED EX	7/9/13	
F K	B Kaczmarski	7-10-13	930

2.9c
3.1c

5.1
5

MC22567: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC22567 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 7/10/2013 **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 Preservation	Y or N	N/A
1. Trip Blank present / cooler:	☑ ☐	☐
2. Trip Blank listed on COC:	☑ ☐	☐
3. Samples preserved properly:	☑ ☐	
4. VOCs headspace free:	☑ ☐	☐

Sample Integrity - Documentation	Y or N
1. Sample labels present on bottles:	☑ ☐
2. Container labeling complete:	☑ ☐
3. Sample container label / COC agree:	☑ ☐

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

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

Comments

5.1

MC22567: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC22567

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC22567-1 Collected: 09-JUL-13 09:10 By: LRDM Received: 10-JUL-13 By: MW6D-ROX-070913						
MC22567-1	SW846 8011	11-JUL-13 20:49	NK	11-JUL-13	NK	V8011SL
MC22567-1	SW846 8270C	12-JUL-13 14:34	KR	10-JUL-13	AF	AB8270SL+
MC22567-1	SW846 8270C BY SIM	12-JUL-13 17:55	WK	10-JUL-13	AF	B8270SIMSL
MC22567-1	SW846 8260B	17-JUL-13 16:15	JB			V8260SL+
MC22567-2 Collected: 09-JUL-13 09:55 By: LRDM Received: 10-JUL-13 By: MW6C-ROX-070913						
MC22567-2	SW846 8011	11-JUL-13 21:12	NK	11-JUL-13	NK	V8011SL
MC22567-2	SW846 8270C	12-JUL-13 14:57	KR	10-JUL-13	AF	AB8270SL+
MC22567-2	SW846 8270C BY SIM	12-JUL-13 18:16	WK	10-JUL-13	AF	B8270SIMSL
MC22567-2	SW846 8260B	17-JUL-13 16:44	JB			V8260SL+
MC22567-3 Collected: 09-JUL-13 10:35 By: LRDM Received: 10-JUL-13 By: MW6B-ROX-070913						
MC22567-3	SW846 8011	11-JUL-13 21:35	NK	11-JUL-13	NK	V8011SL
MC22567-3	SW846 8270C	12-JUL-13 15:20	KR	10-JUL-13	AF	AB8270SL+
MC22567-3	SW846 8270C BY SIM	12-JUL-13 18:38	WK	10-JUL-13	AF	B8270SIMSL
MC22567-3	SW846 8260B	17-JUL-13 17:12	JB			V8260SL+
MC22567-4 Collected: 09-JUL-13 10:55 By: LRDM Received: 10-JUL-13 By: MW6A-ROX-070913-EB						
MC22567-4	SW846 8011	11-JUL-13 21:57	NK	11-JUL-13	NK	V8011SL
MC22567-4	SW846 8270C	12-JUL-13 15:43	KR	10-JUL-13	AF	AB8270SL+
MC22567-4	SW846 8270C BY SIM	12-JUL-13 18:59	WK	10-JUL-13	AF	B8270SIMSL
MC22567-4	SW846 8260B	17-JUL-13 11:06	JB			V8260SL+
MC22567-5 Collected: 09-JUL-13 11:35 By: LRDM Received: 10-JUL-13 By: MW6A-ROX-070913						
MC22567-5	SW846 8011	11-JUL-13 22:20	NK	11-JUL-13	NK	V8011SL
MC22567-5	SW846 8270C	12-JUL-13 16:06	KR	10-JUL-13	AF	AB8270SL+
MC22567-5	SW846 8270C BY SIM	12-JUL-13 19:21	WK	10-JUL-13	AF	B8270SIMSL
MC22567-5	SW846 8260B	17-JUL-13 17:40	JB			V8260SL+

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC22567

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC22567-6 Collected: 09-JUL-13 11:35 By: LRDM Received: 10-JUL-13 By: MW6A-ROX-070913-DUP						
MC22567-6	SW846 8011	11-JUL-13 22:43	NK	11-JUL-13	NK	V8011SL
MC22567-6	SW846 8270C	12-JUL-13 16:29	KR	10-JUL-13	AF	AB8270SL+
MC22567-6	SW846 8270C BY SIM	12-JUL-13 19:43	WK	10-JUL-13	AF	B8270SIMSL
MC22567-6	SW846 8260B	17-JUL-13 18:08	JB			V8260SL+
MC22567-7 Collected: 09-JUL-13 14:00 By: LRDM Received: 10-JUL-13 By: MW12-ROX-070913						
MC22567-7	SW846 8011	11-JUL-13 23:06	NK	11-JUL-13	NK	V8011SL
MC22567-7	SW846 8270C	12-JUL-13 16:52	KR	10-JUL-13	AF	AB8270SL+
MC22567-7	SW846 8260B	17-JUL-13 18:36	JB			V8260SL+
MC22567-7	SW846 8270C BY SIM	22-JUL-13 15:28	KR	10-JUL-13	AF	B8270SIMSL
MC22567-8 Collected: 09-JUL-13 15:20 By: LRDM Received: 10-JUL-13 By: MW5-ROX-070913						
MC22567-8	SW846 8011	11-JUL-13 23:29	NK	11-JUL-13	NK	V8011SL
MC22567-8	SW846 8270C	12-JUL-13 17:15	KR	10-JUL-13	AF	AB8270SL+
MC22567-8	SW846 8260B	17-JUL-13 19:04	JB			V8260SL+
MC22567-8	SW846 8270C BY SIM	22-JUL-13 10:50	KR	10-JUL-13	AF	B8270SIMSL
MC22567-9 Collected: 09-JUL-13 00:00 By: LRDM Received: 10-JUL-13 By: TB-ROX-070913-HCL						
MC22567-9	SW846 8260B	17-JUL-13 10:38	JB			V8260SL+
MC22567-10 Collected: 09-JUL-13 00:00 By: LRDM Received: 10-JUL-13 By: TB-ROX-070913-ST						
MC22567-10	SW846 8011	11-JUL-13 23:52	NK	11-JUL-13	NK	V8011SL

Accutest Internal Chain of Custody

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/10/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22567-1.1	Walk In Ref #22	Thomas Abruzzise	07/10/13 16:56	Retrieve from Storage
MC22567-1.1	Thomas Abruzzise		07/17/13 14:48	Depleted
MC22567-1.3	VOC Ref #4	Kerry Ryan	07/12/13 14:49	Retrieve from Storage
MC22567-1.3	Kerry Ryan	GCMSL	07/12/13 14:49	Load on Instrument
MC22567-1.3	GCMSL	Kerry Ryan	07/15/13 09:01	Unload from Instrument
MC22567-1.3	Kerry Ryan	VOC Ref #4	07/15/13 09:01	Return to Storage
MC22567-1.4	VOC Ref #4	Jaclyn Bergeron	07/17/13 09:43	Retrieve from Storage
MC22567-1.4	Jaclyn Bergeron	GCMSN	07/17/13 09:43	Load on Instrument
MC22567-1.4	GCMSN	Jaclyn Bergeron	07/18/13 08:25	Unload from Instrument
MC22567-1.4	Jaclyn Bergeron	VOC Ref #4	07/18/13 08:26	Return to Storage
MC22567-1.5	VOC Ref #4	Bijan Jafari	07/11/13 08:24	Retrieve from Storage
MC22567-1.5	Bijan Jafari		07/11/13 10:33	Depleted
MC22567-2.1	Walk In Ref #22	Thomas Abruzzise	07/10/13 16:56	Retrieve from Storage
MC22567-2.1	Thomas Abruzzise		07/17/13 14:48	Depleted
MC22567-2.3	VOC Ref #4	Kerry Ryan	07/12/13 14:49	Retrieve from Storage
MC22567-2.3	Kerry Ryan	GCMSL	07/12/13 14:49	Load on Instrument
MC22567-2.3	GCMSL	Kerry Ryan	07/15/13 09:01	Unload from Instrument
MC22567-2.3	Kerry Ryan	VOC Ref #4	07/15/13 09:01	Return to Storage
MC22567-2.3	VOC Ref #4	Jaclyn Bergeron	07/17/13 09:43	Retrieve from Storage
MC22567-2.3	Jaclyn Bergeron	GCMSN	07/17/13 09:43	Load on Instrument
MC22567-2.3	GCMSN	Jaclyn Bergeron	07/18/13 08:25	Unload from Instrument
MC22567-2.3	Jaclyn Bergeron	VOC Ref #4	07/18/13 08:26	Return to Storage
MC22567-2.6	VOC Ref #4	Bijan Jafari	07/11/13 08:24	Retrieve from Storage
MC22567-2.6	Bijan Jafari		07/11/13 10:33	Depleted
MC22567-3.1	Walk In Ref #22	Thomas Abruzzise	07/10/13 16:56	Retrieve from Storage
MC22567-3.1	Thomas Abruzzise		07/17/13 14:48	Depleted
MC22567-3.3	VOC Ref #4	Jaclyn Bergeron	07/17/13 09:43	Retrieve from Storage
MC22567-3.3	Jaclyn Bergeron	GCMSN	07/17/13 09:43	Load on Instrument
MC22567-3.3	GCMSN	Jaclyn Bergeron	07/18/13 08:25	Unload from Instrument
MC22567-3.3	Jaclyn Bergeron	VOC Ref #4	07/18/13 08:26	Return to Storage
MC22567-3.4	VOC Ref #4	Kerry Ryan	07/12/13 14:49	Retrieve from Storage
MC22567-3.4	Kerry Ryan	GCMSL	07/12/13 14:49	Load on Instrument
MC22567-3.4	GCMSL	Kerry Ryan	07/15/13 09:01	Unload from Instrument
MC22567-3.4	Kerry Ryan	VOC Ref #4	07/15/13 09:01	Return to Storage

5.3
5

Accutest Internal Chain of Custody

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/10/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22567-3.5	VOC Ref #4	Bijan Jafari	07/11/13 08:24	Retrieve from Storage
MC22567-3.5	Bijan Jafari		07/11/13 10:33	Depleted
MC22567-4.1	Walk In Ref #22	Thomas Abruzzise	07/10/13 16:56	Retrieve from Storage
MC22567-4.1	Thomas Abruzzise		07/17/13 14:48	Depleted
MC22567-4.4	VOC Ref #4	Jaclyn Bergeron	07/17/13 09:43	Retrieve from Storage
MC22567-4.4	Jaclyn Bergeron	GCMSN	07/17/13 09:43	Load on Instrument
MC22567-4.4	GCMSN	Jaclyn Bergeron	07/18/13 08:25	Unload from Instrument
MC22567-4.4	Jaclyn Bergeron	VOC Ref #4	07/18/13 08:26	Return to Storage
MC22567-4.6	VOC Ref #4	Bijan Jafari	07/11/13 08:24	Retrieve from Storage
MC22567-4.6	Bijan Jafari		07/11/13 10:33	Depleted
MC22567-5.1	Walk In Ref #22	Thomas Abruzzise	07/10/13 16:56	Retrieve from Storage
MC22567-5.1	Thomas Abruzzise		07/17/13 14:48	Depleted
MC22567-5.4	VOC Ref #4	Kerry Ryan	07/12/13 14:49	Retrieve from Storage
MC22567-5.4	Kerry Ryan	GCMSL	07/12/13 14:49	Load on Instrument
MC22567-5.4	GCMSL	Kerry Ryan	07/15/13 09:01	Unload from Instrument
MC22567-5.4	Kerry Ryan	VOC Ref #4	07/15/13 09:01	Return to Storage
MC22567-5.5	VOC Ref #4	Bijan Jafari	07/11/13 08:24	Retrieve from Storage
MC22567-5.5	Bijan Jafari		07/11/13 10:33	Depleted
MC22567-6.1	Walk In Ref #22	Thomas Abruzzise	07/10/13 16:56	Retrieve from Storage
MC22567-6.1	Thomas Abruzzise		07/17/13 14:48	Depleted
MC22567-6.3	VOC Ref #4	Kerry Ryan	07/12/13 14:49	Retrieve from Storage
MC22567-6.3	Kerry Ryan	GCMSL	07/12/13 14:49	Load on Instrument
MC22567-6.3	GCMSL	Kerry Ryan	07/15/13 09:01	Unload from Instrument
MC22567-6.3	Kerry Ryan	VOC Ref #4	07/15/13 09:01	Return to Storage
MC22567-6.4	VOC Ref #4	Jaclyn Bergeron	07/17/13 09:43	Retrieve from Storage
MC22567-6.4	Jaclyn Bergeron	GCMSN	07/17/13 09:43	Load on Instrument
MC22567-6.4	GCMSN	Jaclyn Bergeron	07/18/13 08:25	Unload from Instrument
MC22567-6.4	Jaclyn Bergeron	VOC Ref #4	07/18/13 08:26	Return to Storage
MC22567-6.5	VOC Ref #4	Bijan Jafari	07/11/13 08:24	Retrieve from Storage
MC22567-6.5	Bijan Jafari		07/11/13 10:33	Depleted
MC22567-7.1	Walk In Ref #22	Thomas Abruzzise	07/10/13 16:56	Retrieve from Storage
MC22567-7.1	Thomas Abruzzise		07/17/13 14:48	Depleted

5.3

Accutest Internal Chain of Custody

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/10/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22567-7.3	VOC Ref #4	Kerry Ryan	07/12/13 14:49	Retrieve from Storage
MC22567-7.3	Kerry Ryan	GCMSL	07/12/13 14:49	Load on Instrument
MC22567-7.3	GCMSL	Kerry Ryan	07/15/13 09:01	Unload from Instrument
MC22567-7.3	Kerry Ryan	VOC Ref #4	07/15/13 09:01	Return to Storage
MC22567-7.4	VOC Ref #4	Jaclyn Bergeron	07/17/13 09:43	Retrieve from Storage
MC22567-7.4	Jaclyn Bergeron	GCMSN	07/17/13 09:43	Load on Instrument
MC22567-7.4	GCMSN	Jaclyn Bergeron	07/18/13 08:25	Unload from Instrument
MC22567-7.4	Jaclyn Bergeron	VOC Ref #4	07/18/13 08:26	Return to Storage
MC22567-7.5	VOC Ref #4	Bijan Jafari	07/11/13 08:24	Retrieve from Storage
MC22567-7.5	Bijan Jafari		07/11/13 10:33	Depleted
MC22567-8.1	Walk In Ref #22	Thomas Abruzzise	07/10/13 16:56	Retrieve from Storage
MC22567-8.1	Thomas Abruzzise		07/17/13 14:48	Depleted
MC22567-8.3	VOC Ref #4	Kerry Ryan	07/12/13 14:49	Retrieve from Storage
MC22567-8.3	Kerry Ryan	GCMSL	07/12/13 14:49	Load on Instrument
MC22567-8.3	GCMSL	Kerry Ryan	07/15/13 09:01	Unload from Instrument
MC22567-8.3	Kerry Ryan	VOC Ref #4	07/15/13 09:01	Return to Storage
MC22567-8.4	VOC Ref #4	Jaclyn Bergeron	07/17/13 09:43	Retrieve from Storage
MC22567-8.4	Jaclyn Bergeron	GCMSN	07/17/13 09:43	Load on Instrument
MC22567-8.4	GCMSN	Jaclyn Bergeron	07/18/13 08:25	Unload from Instrument
MC22567-8.4	Jaclyn Bergeron	VOC Ref #4	07/18/13 08:26	Return to Storage
MC22567-8.6	VOC Ref #4	Bijan Jafari	07/11/13 08:24	Retrieve from Storage
MC22567-8.6	Bijan Jafari		07/11/13 10:33	Depleted
MC22567-9.1	VOC Ref #4	Jaclyn Bergeron	07/17/13 09:43	Retrieve from Storage
MC22567-9.1	Jaclyn Bergeron	GCMSN	07/17/13 09:43	Load on Instrument
MC22567-9.1	GCMSN	Jaclyn Bergeron	07/18/13 08:25	Unload from Instrument
MC22567-9.1	Jaclyn Bergeron	VOC Ref #4	07/18/13 08:26	Return to Storage
MC22567-10.2	VOC Ref #4	Bijan Jafari	07/11/13 08:24	Retrieve from Storage
MC22567-10.2	Bijan Jafari		07/11/13 10:33	Depleted

5.3
5

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: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2939-MB	N78298.D	1	07/17/13	JB	n/a	n/a	MSN2939

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8, MC22567-9

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

Method Blank Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2939-MB	N78298.D	1	07/17/13	JB	n/a	n/a	MSN2939

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8, MC22567-9

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

Method Blank Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2939-MB	N78298.D	1	07/17/13	JB	n/a	n/a	MSN2939

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8, MC22567-9

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

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

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2939-BS	N78295.D	1	07/17/13	JB	n/a	n/a	MSN2939
MSN2939-BSD	N78296.D	1	07/17/13	JB	n/a	n/a	MSN2939

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8, MC22567-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	42.2	84	49.4	99	16	70-130/25
107-02-8	Acrolein	250	378	151* a	388	155* a	3	70-130/25
107-13-1	Acrylonitrile	50	48.0	96	48.5	97	1	70-130/25
71-43-2	Benzene	50	53.4	107	52.6	105	2	70-130/25
108-86-1	Bromobenzene	50	52.0	104	51.5	103	1	70-130/25
74-97-5	Bromochloromethane	50	52.5	105	52.0	104	1	70-130/25
75-27-4	Bromodichloromethane	50	56.2	112	55.5	111	1	70-130/25
75-25-2	Bromoform	50	42.9	86	44.0	88	3	70-130/25
74-83-9	Bromomethane	50	51.6	103	54.0	108	5	70-130/25
78-93-3	2-Butanone (MEK)	50	43.1	86	49.2	98	13	70-130/25
104-51-8	n-Butylbenzene	50	53.8	108	51.9	104	4	70-130/25
135-98-8	sec-Butylbenzene	50	57.1	114	55.9	112	2	70-130/25
98-06-6	tert-Butylbenzene	50	56.0	112	54.2	108	3	70-130/25
75-15-0	Carbon disulfide	50	51.4	103	51.0	102	1	70-130/25
56-23-5	Carbon tetrachloride	50	49.8	100	49.5	99	1	70-130/25
108-90-7	Chlorobenzene	50	53.3	107	53.7	107	1	70-130/25
75-00-3	Chloroethane	50	52.1	104	51.6	103	1	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	52.7	105	50.3	101	5	70-130/25
67-66-3	Chloroform	50	53.4	107	53.3	107	0	70-130/25
74-87-3	Chloromethane	50	54.4	109	55.5	111	2	70-130/25
95-49-8	o-Chlorotoluene	50	54.0	108	53.0	106	2	70-130/25
106-43-4	p-Chlorotoluene	50	56.9	114	55.3	111	3	70-130/25
124-48-1	Dibromochloromethane	50	46.3	93	46.4	93	0	70-130/25
95-50-1	1,2-Dichlorobenzene	50	57.6	115	55.5	111	4	70-130/25
541-73-1	1,3-Dichlorobenzene	50	54.3	109	52.6	105	3	70-130/25
106-46-7	1,4-Dichlorobenzene	50	54.6	109	52.5	105	4	70-130/25
75-71-8	Dichlorodifluoromethane	50	49.7	99	48.1	96	3	70-130/25
75-34-3	1,1-Dichloroethane	50	53.7	107	53.1	106	1	70-130/25
107-06-2	1,2-Dichloroethane	50	55.9	112	54.4	109	3	70-130/25
75-35-4	1,1-Dichloroethene	50	53.5	107	52.7	105	2	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	50.4	101	49.9	100	1	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	52.3	105	52.1	104	0	70-130/25
78-87-5	1,2-Dichloropropane	50	52.8	106	50.5	101	4	70-130/25
142-28-9	1,3-Dichloropropane	50	50.0	100	50.1	100	0	70-130/25
594-20-7	2,2-Dichloropropane	50	47.3	95	45.6	91	4	70-130/25
563-58-6	1,1-Dichloropropene	50	56.0	112	56.0	112	0	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2939-BS	N78295.D	1	07/17/13	JB	n/a	n/a	MSN2939
MSN2939-BSD	N78296.D	1	07/17/13	JB	n/a	n/a	MSN2939

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8, MC22567-9

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	43.7	87	42.9	86	2	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	43.8	88	43.2	86	1	70-130/25
123-91-1	1,4-Dioxane	250	226	90	225	90	0	70-130/25
97-63-2	Ethyl methacrylate	50	48.0	96	47.3	95	1	77-137/25
100-41-4	Ethylbenzene	50	50.9	102	50.6	101	1	70-130/25
87-68-3	Hexachlorobutadiene	50	52.2	104	51.4	103	2	70-130/25
591-78-6	2-Hexanone	50	43.9	88	45.9	92	4	70-130/25
98-82-8	Isopropylbenzene	50	55.3	111	55.1	110	0	70-130/25
99-87-6	p-Isopropyltoluene	50	56.5	113	54.7	109	3	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	41.2	82	43.5	87	5	70-130/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	48.5	97	47.0	94	3	70-130/25
74-95-3	Methylene bromide	50	53.4	107	53.4	107	0	70-130/25
75-09-2	Methylene chloride	50	50.1	100	50.4	101	1	70-130/25
91-20-3	Naphthalene	50	42.6	85	43.1	86	1	70-130/25
103-65-1	n-Propylbenzene	50	55.0	110	54.6	109	1	70-130/25
100-42-5	Styrene	50	47.8	96	47.9	96	0	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	48.3	97	48.4	97	0	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	50.1	100	50.9	102	2	70-130/25
127-18-4	Tetrachloroethene	50	53.1	106	53.8	108	1	70-130/25
108-88-3	Toluene	50	54.1	108	54.0	108	0	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	50.1	100	49.3	99	2	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	50.3	101	51.9	104	3	70-130/25
71-55-6	1,1,1-Trichloroethane	50	52.4	105	51.8	104	1	70-130/25
79-00-5	1,1,2-Trichloroethane	50	53.2	106	53.3	107	0	70-130/25
79-01-6	Trichloroethene	50	55.2	110	53.3	107	4	70-130/25
75-69-4	Trichlorofluoromethane	50	53.5	107	51.4	103	4	70-130/25
96-18-4	1,2,3-Trichloropropane	50	44.2	88	45.3	91	2	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	51.4	103	50.6	101	2	70-130/25
108-67-8	1,3,5-Trimethylbenzene	50	50.8	102	50.1	100	1	70-130/25
108-05-4	Vinyl Acetate	50	39.9	80	39.7	79	1	70-130/25
75-01-4	Vinyl chloride	50	41.1	82	41.3	83	0	70-130/25
	m,p-Xylene	100	105	105	106	106	1	70-130/25
95-47-6	o-Xylene	50	56.8	114	56.2	112	1	70-130/25
1330-20-7	Xylene (total)	150	162	108	162	108	0	70-130/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2939-BS	N78295.D	1	07/17/13	JB	n/a	n/a	MSN2939
MSN2939-BSD	N78296.D	1	07/17/13	JB	n/a	n/a	MSN2939

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8, MC22567-9

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	94%	94%	70-130%
2037-26-5	Toluene-D8	103%	101%	70-130%
460-00-4	4-Bromofluorobenzene	92%	94%	70-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22559-1MS	N78318.D	5	07/17/13	JB	n/a	n/a	MSN2939
MC22559-1MSD	N78319.D	5	07/17/13	JB	n/a	n/a	MSN2939
MC22559-1	N78301.D	1	07/17/13	JB	n/a	n/a	MSN2939

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8, MC22567-9

CAS No.	Compound	MC22559-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	144	58* [a]	140	56* [a]	3	70-130/30
107-02-8	Acrolein	ND		1250	1770	142* [a]	1710	137* [a]	3	70-130/30
107-13-1	Acrylonitrile	ND		250	246	98	243	97	1	70-130/30
71-43-2	Benzene	ND		250	262	105	262	105	0	70-130/30
108-86-1	Bromobenzene	ND		250	255	102	254	102	0	70-130/30
74-97-5	Bromochloromethane	ND		250	261	104	260	104	0	70-130/30
75-27-4	Bromodichloromethane	ND		250	280	112	282	113	1	70-130/30
75-25-2	Bromoform	ND		250	214	86	216	86	1	70-130/30
74-83-9	Bromomethane	ND		250	277	111	304	122	9	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	163	65* [a]	172	69* [a]	5	70-130/30
104-51-8	n-Butylbenzene	ND		250	238	95	241	96	1	70-130/30
135-98-8	sec-Butylbenzene	ND		250	279	112	277	111	1	70-130/30
98-06-6	tert-Butylbenzene	ND		250	277	111	274	110	1	70-130/30
75-15-0	Carbon disulfide	ND		250	247	99	241	96	2	70-130/30
56-23-5	Carbon tetrachloride	ND		250	253	101	263	105	4	70-130/30
108-90-7	Chlorobenzene	ND		250	265	106	262	105	1	70-130/30
75-00-3	Chloroethane	ND		250	248	99	241	96	3	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	254	102	254	102	0	70-130/30
67-66-3	Chloroform	9.1		250	281	109	273	106	3	70-130/30
74-87-3	Chloromethane	ND		250	263	105	273	109	4	70-130/30
95-49-8	o-Chlorotoluene	ND		250	264	106	262	105	1	70-130/30
106-43-4	p-Chlorotoluene	ND		250	277	111	276	110	0	70-130/30
124-48-1	Dibromochloromethane	ND		250	227	91	226	90	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	273	109	274	110	0	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	261	104	264	106	1	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	256	102	255	102	0	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	230	92	221	88	4	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	269	108	264	106	2	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	281	112	274	110	3	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	264	106	252	101	5	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	253	101	248	99	2	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	265	106	258	103	3	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	254	102	255	102	0	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	245	98	246	98	0	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	202	81	212	85	5	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	280	112	276	110	1	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22559-1MS	N78318.D	5	07/17/13	JB	n/a	n/a	MSN2939
MC22559-1MSD	N78319.D	5	07/17/13	JB	n/a	n/a	MSN2939
MC22559-1	N78301.D	1	07/17/13	JB	n/a	n/a	MSN2939

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8, MC22567-9

6.3.1

6

CAS No.	Compound	MC22559-1 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	203	81	208	83	2	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	204	82	208	83	2	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1060	85	1050	84	1	70-130/30
97-63-2	Ethyl methacrylate	ND		250	222	89	224	90	1	72-139/30
100-41-4	Ethylbenzene	ND		250	252	101	248	99	2	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	238	95	248	99	4	70-130/30
591-78-6	2-Hexanone	ND		250	180	72	183	73	2	70-130/30
98-82-8	Isopropylbenzene	ND		250	277	111	273	109	1	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	269	108	266	106	1	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		250	215	86	222	89	3	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	231	92	233	93	1	70-130/30
74-95-3	Methylene bromide	ND		250	261	104	264	106	1	70-130/30
75-09-2	Methylene chloride	ND		250	256	102	250	100	2	70-130/30
91-20-3	Naphthalene	ND		250	174	70	191	76	9	70-130/30
103-65-1	n-Propylbenzene	ND		250	273	109	267	107	2	70-130/30
100-42-5	Styrene	ND		250	234	94	231	92	1	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	242	97	239	96	1	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	248	99	242	97	2	70-130/30
127-18-4	Tetrachloroethene	ND		250	267	107	260	104	3	70-130/30
108-88-3	Toluene	ND		250	284	114	284	114	0	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	211	84	230	92	9	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	220	88	228	91	4	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	258	103	263	105	2	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	260	104	258	103	1	70-130/30
79-01-6	Trichloroethene	ND		250	264	106	265	106	0	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	259	104	253	101	2	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	217	87	211	84	3	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	249	100	248	99	0	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	251	100	247	99	2	70-130/30
108-05-4	Vinyl Acetate	ND		250	197	79	188	75	5	70-130/30
75-01-4	Vinyl chloride	ND		250	200	80	195	78	3	70-130/30
	m,p-Xylene	ND		500	524	105	527	105	1	70-130/30
95-47-6	o-Xylene	ND		250	279	112	276	110	1	70-130/30
1330-20-7	Xylene (total)	ND		750	803	107	803	107	0	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22559-1MS	N78318.D	5	07/17/13	JB	n/a	n/a	MSN2939
MC22559-1MSD	N78319.D	5	07/17/13	JB	n/a	n/a	MSN2939
MC22559-1	N78301.D	1	07/17/13	JB	n/a	n/a	MSN2939

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8, MC22567-9

CAS No.	Surrogate Recoveries	MS	MSD	MC22559-1	Limits
1868-53-7	Dibromofluoromethane	95%	93%	96%	70-130%
2037-26-5	Toluene-D8	102%	101%	99%	70-130%
460-00-4	4-Bromofluorobenzene	96%	94%	103%	70-130%

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

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSN2939-CC2927	Injection Date:	07/17/13
Lab File ID:	N78294.D	Injection Time:	08:17
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	145057	9.01	228316	9.88	124617	13.13	108642	15.69	68668	6.56
Upper Limit [a]	290114	9.51	456632	10.38	249234	13.63	217284	16.19	137336	7.06
Lower Limit [b]	72529	8.51	114158	9.38	62309	12.63	54321	15.19	34334	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
MSN2937-BS1	174076	9.01	266327	9.88	146503	13.13	127714	15.69	70275	6.57
MSN2939-BS	174076	9.01	266327	9.88	146503	13.13	127714	15.69	70275	6.57
MSN2939-BSD	182577	9.01	284110	9.87	152743	13.13	132142	15.69	74802	6.57
MSN2937-MB1	162220	9.01	254521	9.88	127646	13.13	99734	15.69	62973	6.58
MSN2939-MB	162220	9.01	254521	9.88	127646	13.13	99734	15.69	62973	6.58
MC22567-9	173587	9.01	266472	9.88	136158	13.13	112836	15.69	62564	6.58
MC22567-4	180942	9.01	271354	9.88	137014	13.13	111260	15.69	71713	6.58
MC22559-1	169389	9.01	267462	9.88	137067	13.13	109657	15.69	69290	6.58
MC22534-6	151773	9.01	232478	9.88	117960	13.13	92592	15.69	64349	6.58
ZZZZZZ	171908	9.01	267874	9.88	136528	13.13	108624	15.69	66583	6.57
ZZZZZZ	168247	9.01	257796	9.88	127761	13.13	103688	15.69	65739	6.58
ZZZZZZ	169469	9.01	256044	9.88	131275	13.13	105961	15.69	65244	6.58
ZZZZZZ	165683	9.01	252866	9.88	130880	13.13	103583	15.69	65531	6.58
ZZZZZZ	169885	9.01	261944	9.87	133060	13.13	108399	15.69	66594	6.58
ZZZZZZ	164255	9.01	253282	9.88	130708	13.13	105979	15.69	64027	6.57
ZZZZZZ	169296	9.01	258112	9.88	132598	13.13	100533	15.69	68087	6.58
ZZZZZZ	145000	9.01	221376	9.88	115016	13.13	87805	15.69	61278	6.59
MC22567-1	168124	9.01	257100	9.88	129421	13.13	100582	15.69	60490	6.59
MC22567-2	165941	9.01	254996	9.88	127686	13.13	100903	15.69	57137	6.58
MC22567-3	164210	9.01	257299	9.88	129905	13.13	99449	15.69	65859	6.58
MC22567-5	144863	9.01	224823	9.87	114460	13.13	90889	15.69	57253	6.58
MC22567-6	164818	9.01	253305	9.88	129671	13.13	98754	15.69	64615	6.59
MC22567-7	160500	9.01	249776	9.88	128150	13.13	96304	15.69	65587	6.58
MC22567-8	159965	9.01	246780	9.87	127554	13.13	109602	15.69	69234	6.57
MC22559-1MS	165242	9.01	259384	9.88	141937	13.13	121819	15.69	68958	6.57
MC22559-1MSD	171746	9.01	265180	9.88	143819	13.13	124629	15.69	67315	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: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22567-1	N78311.D	94.0	100.0	105.0
MC22567-2	N78312.D	92.0	98.0	103.0
MC22567-3	N78313.D	94.0	100.0	106.0
MC22567-4	N78300.D	91.0	100.0	100.0
MC22567-5	N78314.D	95.0	99.0	101.0
MC22567-6	N78315.D	95.0	100.0	105.0
MC22567-7	N78316.D	95.0	99.0	108.0
MC22567-8	N78317.D	93.0	102.0	102.0
MC22567-9	N78299.D	93.0	101.0	99.0
MC22559-1MS	N78318.D	95.0	102.0	96.0
MC22559-1MSD	N78319.D	93.0	101.0	94.0
MSN2939-BS	N78295.D	94.0	103.0	92.0
MSN2939-BSD	N78296.D	94.0	101.0	94.0
MSN2939-MB	N78298.D	94.0	99.0	101.0

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: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33941-MB	R32146.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic Acid	ND	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	ug/l	
95-48-7	2-Methylphenol	ND	10	ug/l	
	3&4-Methylphenol	ND	10	ug/l	
88-75-5	2-Nitrophenol	ND	10	ug/l	
100-02-7	4-Nitrophenol	ND	20	ug/l	
87-86-5	Pentachlorophenol	ND	10	ug/l	
108-95-2	Phenol	ND	5.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	ug/l	
62-53-3	Aniline	ND	10	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	ug/l	
100-51-6	Benzyl Alcohol	ND	10	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	ug/l	
106-47-8	4-Chloroaniline	ND	10	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	ug/l	
132-64-9	Dibenzofuran	ND	2.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	2.4	2.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	ug/l	

Method Blank Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33941-MB	R32146.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8

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

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	49%	15-110%
4165-62-2	Phenol-d5	32%	15-110%
118-79-6	2,4,6-Tribromophenol	91%	15-110%
4165-60-0	Nitrobenzene-d5	81%	30-130%
321-60-8	2-Fluorobiphenyl	85%	30-130%
1718-51-0	Terphenyl-d14	97%	30-130%

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

Method Blank Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33942-MB	I84754A.D	1	07/12/13	WK	07/09/13	OP33942	MSI3152

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	0.065	0.10	ug/l	J
208-96-8	Acenaphthylene	0.026	0.10	ug/l	J
120-12-7	Anthracene	ND	0.10	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.050	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.050	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	ug/l	
218-01-9	Chrysene	ND	0.10	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	ug/l	
206-44-0	Fluoranthene	ND	0.10	ug/l	
86-73-7	Fluorene	0.50	0.10	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.20	ug/l	
91-57-6	2-Methylnaphthalene	0.087	0.20	ug/l	J
85-01-8	Phenanthrene	0.027	0.050	ug/l	J
129-00-0	Pyrene	ND	0.10	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	51%	15-110%
4165-62-2	Phenol-d5	33%	15-110%
118-79-6	2,4,6-Tribromophenol	86%	15-110%
4165-60-0	Nitrobenzene-d5	89%	30-130%
321-60-8	2-Fluorobiphenyl	89%	30-130%
1718-51-0	Terphenyl-d14	105%	30-130%

Blank Spike Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33941-BS	R32147.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	50	21.8	44	30-130
95-57-8	2-Chlorophenol	50	41.1	82	30-130
59-50-7	4-Chloro-3-methyl phenol	50	44.4	89	30-130
120-83-2	2,4-Dichlorophenol	50	47.5	95	30-130
105-67-9	2,4-Dimethylphenol	50	42.3	85	30-130
51-28-5	2,4-Dinitrophenol	50	48.0	96	30-130
534-52-1	4,6-Dinitro-o-cresol	50	49.9	100	30-130
95-48-7	2-Methylphenol	50	36.8	74	30-130
	3&4-Methylphenol	100	67.4	67	30-130
88-75-5	2-Nitrophenol	50	48.7	97	30-130
100-02-7	4-Nitrophenol	50	18.2	36	30-130
87-86-5	Pentachlorophenol	50	46.8	94	30-130
108-95-2	Phenol	50	18.9	38	30-130
95-95-4	2,4,5-Trichlorophenol	50	50.9	102	30-130
88-06-2	2,4,6-Trichlorophenol	50	49.6	99	30-130
62-53-3	Aniline	50	36.0	72	40-140
101-55-3	4-Bromophenyl phenyl ether	50	51.4	103	40-140
85-68-7	Butyl benzyl phthalate	50	52.0	104	40-140
100-51-6	Benzyl Alcohol	50	37.2	74	40-140
91-58-7	2-Chloronaphthalene	50	43.2	86	40-140
106-47-8	4-Chloroaniline	50	46.4	93	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	48.2	96	40-140
111-44-4	bis(2-Chloroethyl)ether	50	44.8	90	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	47.4	95	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	51.9	104	40-140
122-66-7	1,2-Diphenylhydrazine	50	46.2	92	40-140
121-14-2	2,4-Dinitrotoluene	50	56.2	112	40-140
606-20-2	2,6-Dinitrotoluene	50	53.8	108	40-140
91-94-1	3,3'-Dichlorobenzidine	50	45.9	92	40-140
132-64-9	Dibenzofuran	50	48.3	97	40-140
84-74-2	Di-n-butyl phthalate	50	51.5	103	40-140
117-84-0	Di-n-octyl phthalate	50	56.8	114	40-140
84-66-2	Diethyl phthalate	50	43.9	88	40-140
131-11-3	Dimethyl phthalate	50	25.9	52	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	52.1	104	40-140
118-74-1	Hexachlorobenzene	50	51.2	102	40-140

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33941-BS	R32147.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	13.4	27* a	40-140
67-72-1	Hexachloroethane	50	19.7	39* a	40-140
78-59-1	Isophorone	50	47.0	94	40-140
88-74-4	2-Nitroaniline	50	58.2	116	40-140
99-09-2	3-Nitroaniline	50	52.9	106	40-140
100-01-6	4-Nitroaniline	50	55.3	111	40-140
98-95-3	Nitrobenzene	50	43.8	88	40-140
62-75-9	n-Nitrosodimethylamine	50	26.4	53	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	46.6	93	40-140
86-30-6	N-Nitrosodiphenylamine	50	50.1	100	40-140
110-86-1	Pyridine	50	22.6	45	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	53%	15-110%
4165-62-2	Phenol-d5	35%	15-110%
118-79-6	2,4,6-Tribromophenol	99%	15-110%
4165-60-0	Nitrobenzene-d5	90%	30-130%
321-60-8	2-Fluorobiphenyl	96%	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

7

Blank Spike Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33942-BS	I84755A.D	1	07/12/13	WK	07/09/13	OP33942	MSI3152

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	48.9	98	40-140
208-96-8	Acenaphthylene	50	41.1	82	40-140
120-12-7	Anthracene	50	50.0	100	40-140
56-55-3	Benzo(a)anthracene	50	63.9	128	40-140
50-32-8	Benzo(a)pyrene	50	52.1	104	40-140
205-99-2	Benzo(b)fluoranthene	50	56.0	112	40-140
191-24-2	Benzo(g,h,i)perylene	50	54.4	109	40-140
207-08-9	Benzo(k)fluoranthene	50	58.4	117	40-140
218-01-9	Chrysene	50	59.3	119	40-140
53-70-3	Dibenzo(a,h)anthracene	50	57.7	115	40-140
206-44-0	Fluoranthene	50	57.6	115	40-140
86-73-7	Fluorene	50	52.8	106	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	56.9	114	40-140
90-12-0	1-Methylnaphthalene	50	42.3	85	40-140
91-57-6	2-Methylnaphthalene	50	57.2	114	40-140
85-01-8	Phenanthrene	50	53.5	107	40-140
129-00-0	Pyrene	50	55.3	111	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	58%	15-110%
4165-62-2	Phenol-d5	35%	15-110%
118-79-6	2,4,6-Tribromophenol	97%	15-110%
4165-60-0	Nitrobenzene-d5	99%	30-130%
321-60-8	2-Fluorobiphenyl	96%	30-130%
1718-51-0	Terphenyl-d14	111%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33941-MS	R32152.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173
OP33941-MSD	R32153.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173
MC22534-6	R32154.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8

7.3.1

7

CAS No.	Compound	MC22534-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		55.6	24.8	45	24.5	44	1	30-130/20
95-57-8	2-Chlorophenol	ND		55.6	45.4	82	43.5	78	4	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		55.6	48.1	87	48.0	86	0	30-130/20
120-83-2	2,4-Dichlorophenol	ND		55.6	49.7	89	48.3	87	3	30-130/20
105-67-9	2,4-Dimethylphenol	ND		55.6	44.4	80	45.7	82	3	30-130/20
51-28-5	2,4-Dinitrophenol	ND		55.6	52.0	94	54.4	98	5	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		55.6	53.4	96	53.9	97	1	30-130/20
95-48-7	2-Methylphenol	ND		55.6	42.3	76	43.4	78	3	30-130/20
	3&4-Methylphenol	ND		111	79.1	71	77.3	70	2	30-130/20
88-75-5	2-Nitrophenol	ND		55.6	51.8	93	50.9	92	2	30-130/20
100-02-7	4-Nitrophenol	ND		55.6	21.1	38	21.9	39	4	30-130/20
87-86-5	Pentachlorophenol	ND		55.6	51.9	93	52.2	94	1	30-130/20
108-95-2	Phenol	ND		55.6	21.8	39	22.1	40	1	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		55.6	54.6	98	55.1	99	1	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		55.6	51.7	93	53.5	96	3	30-130/20
62-53-3	Aniline	ND		55.6	36.8	66	37.1	67	1	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		55.6	55.1	99	57.6	104	4	40-140/20
85-68-7	Butyl benzyl phthalate	ND		55.6	56.7	102	57.8	104	2	40-140/20
100-51-6	Benzyl Alcohol	ND		55.6	36.5	66	35.7	64	2	40-140/20
91-58-7	2-Chloronaphthalene	ND		55.6	50.3	91	50.1	90	0	40-140/20
106-47-8	4-Chloroaniline	ND		55.6	46.7	84	47.4	85	1	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		55.6	49.8	90	50.1	90	1	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		55.6	47.5	86	47.0	85	1	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		55.6	50.8	91	49.1	88	3	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		55.6	57.1	103	59.2	107	4	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		55.6	49.4	89	50.5	91	2	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		55.6	57.6	104	61.0	110	6	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		55.6	56.8	102	59.6	107	5	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		55.6	45.8	82	47.9	86	4	40-140/20
132-64-9	Dibenzofuran	ND		55.6	52.9	95	54.0	97	2	40-140/20
84-74-2	Di-n-butyl phthalate	ND		55.6	55.8	100	57.2	103	2	40-140/20
117-84-0	Di-n-octyl phthalate	ND		55.6	59.5	107	61.7	111	4	40-140/20
84-66-2	Diethyl phthalate	ND		55.6	56.4	102	59.4	107	5	40-140/20
131-11-3	Dimethyl phthalate	ND		55.6	55.6	100	57.6	104	4	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND		55.6	55.2	99	57.3	103	4	40-140/20
118-74-1	Hexachlorobenzene	ND		55.6	54.7	98	55.6	100	2	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33941-MS	R32152.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173
OP33941-MSD	R32153.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173
MC22534-6	R32154.D	1	07/12/13	KR	07/09/13	OP33941	MSR1173

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8

7.3.1

7

CAS No.	Compound	MC22534-6 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	20.6	37* [a]	19.1	34* [a]	8	40-140/20
67-72-1	Hexachloroethane	ND		55.6	27.3	49	21.5	39* [a]	24* [a]	40-140/20
78-59-1	Isophorone	ND		55.6	48.9	88	48.8	88	0	40-140/20
88-74-4	2-Nitroaniline	ND		55.6	61.2	110	64.6	116	5	40-140/20
99-09-2	3-Nitroaniline	ND		55.6	53.1	96	56.6	102	6	40-140/20
100-01-6	4-Nitroaniline	ND		55.6	57.2	103	60.5	109	6	40-140/20
98-95-3	Nitrobenzene	ND		55.6	45.9	83	45.6	82	1	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		55.6	28.9	52	29.5	53	2	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		55.6	48.1	87	47.6	86	1	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		55.6	52.8	95	54.8	99	4	40-140/20
110-86-1	Pyridine	ND		55.6	22.9	41	23.3	42	2	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC22534-6	Limits
367-12-4	2-Fluorophenol	52%	52%	54%	15-110%
4165-62-2	Phenol-d5	39%	38%	49%	15-110%
118-79-6	2,4,6-Tribromophenol	96%	95%	93%	15-110%
4165-60-0	Nitrobenzene-d5	84%	85%	83%	30-130%
321-60-8	2-Fluorobiphenyl	92%	94%	96%	30-130%
1718-51-0	Terphenyl-d14	98%	101%	98%	30-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33942-MS	I84758A.D	1	07/12/13	WK	07/09/13	OP33942	MSI3152
OP33942-MSD	I84759A.D	1	07/12/13	WK	07/09/13	OP33942	MSI3152
MC22534-6	I84760A.D	1	07/12/13	WK	07/09/13	OP33942	MSI3152

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8

7.3.2

7

CAS No.	Compound	MC22534-6 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	53.3	96	53.3	96	0	40-140/20
208-96-8	Acenaphthylene	ND		55.6	44.4	80	44.0	79	1	40-140/20
120-12-7	Anthracene	ND		55.6	53.3	96	55.2	99	4	40-140/20
56-55-3	Benzo(a)anthracene	ND		55.6	67.2	121	70.7	127	5	40-140/20
50-32-8	Benzo(a)pyrene	ND		55.6	53.8	97	56.7	102	5	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		55.6	60.4	109	65.8	118	9	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND		55.6	55.8	100	59.0	106	6	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		55.6	59.9	108	60.4	109	1	40-140/20
218-01-9	Chrysene	ND		55.6	62.5	112	66.0	119	5	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		55.6	59.1	106	62.0	112	5	40-140/20
206-44-0	Fluoranthene	ND		55.6	60.3	109	62.9	113	4	40-140/20
86-73-7	Fluorene	ND		55.6	57.1	103	58.1	105	2	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		55.6	57.9	104	61.3	110	6	40-140/20
90-12-0	1-Methylnaphthalene	ND		55.6	48.0	86	46.0	83	4	40-140/20
91-57-6	2-Methylnaphthalene	ND		55.6	64.4	116	62.4	112	3	40-140/20
85-01-8	Phenanthrene	0.018	JB	55.6	55.5	100	56.7	102	2	40-140/20
129-00-0	Pyrene	ND		55.6	57.9	104	60.3	109	4	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC22534-6	Limits
367-12-4	2-Fluorophenol	55%	56%		15-110%
4165-62-2	Phenol-d5	37%	37%		15-110%
118-79-6	2,4,6-Tribromophenol	91%	92%		15-110%
4165-60-0	Nitrobenzene-d5	93%	95%	93%	30-130%
321-60-8	2-Fluorobiphenyl	94%	92%	98%	30-130%
1718-51-0	Terphenyl-d14	106%	112%	104%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSI3152-CC3096	Injection Date:	07/12/13
Lab File ID:	I84747.D	Injection Time:	08:19
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	160769	2.95	404065	3.92	236061	5.30	433349	6.49	388210	9.13	705621	10.53
Upper Limit [a]	321538	3.45	808130	4.42	472122	5.80	866698	6.99	776420	9.63	1411242	11.03
Lower Limit [b]	80385	2.45	202033	3.42	118031	4.80	216675	5.99	194105	8.63	352811	10.03
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
OP33953-MB	138804	2.96	353617	3.92	201736	5.30	370160	6.49	325578	9.13	600801	10.52
ZZZZZZ	159571	2.96	410358	3.92	230671	5.30	411664	6.48	371136	9.13	672284	10.52
ZZZZZZ	137024	2.96	348303	3.92	202069	5.30	367414	6.49	328450	9.12	594616	10.52
ZZZZZZ	148945	2.96	378162	3.92	215816	5.30	391578	6.49	349653	9.13	639204	10.52
ZZZZZZ	145564	2.96	367860	3.92	214103	5.30	383227	6.49	348792	9.12	628856	10.52
ZZZZZZ	137936	2.96	354284	3.92	203012	5.30	365674	6.49	326953	9.13	601372	10.52
OP33942-MB	150294	2.95	382046	3.92	217857	5.30	391488	6.49	354336	9.13	661162	10.52
OP33942-BS	141570	2.95	363614	3.92	211098	5.30	380950	6.49	343335	9.13	629719	10.53
ZZZZZZ	130135	2.95	334762	3.92	192292	5.30	352422	6.49	317818	9.12	585137	10.52
ZZZZZZ	123163	2.95	315839	3.92	181251	5.30	330480	6.49	304537	9.12	561813	10.52
OP33942-MS	131484	2.95	336330	3.92	191583	5.30	347163	6.49	313207	9.13	564843	10.52
OP33942-MSD	136279	2.95	349284	3.92	199925	5.30	365662	6.49	335217	9.13	602715	10.53
MC22534-6	136666	2.95	349978	3.92	197343	5.30	355355	6.49	317991	9.13	594323	10.52
ZZZZZZ	161737	2.95	413063	3.92	237904	5.30	428486	6.49	386742	9.13	703148	10.53
ZZZZZZ	135553	2.95	339947	3.92	191149	5.30	337515	6.49	311390	9.13	569434	10.52
ZZZZZZ	141246	2.95	360945	3.92	206460	5.30	374025	6.48	340479	9.12	622997	10.52
ZZZZZZ	140394	2.95	359377	3.92	208373	5.30	372219	6.48	336344	9.13	614506	10.52
ZZZZZZ	133602	2.95	342866	3.92	196776	5.30	363090	6.49	327081	9.13	597009	10.52
MC22567-1	131515	2.95	343265	3.92	195825	5.30	355216	6.49	326223	9.13	592053	10.52
MC22567-2	131498	2.95	340366	3.92	194417	5.30	359167	6.49	324630	9.13	601980	10.52
MC22567-3	124835	2.95	320143	3.92	184740	5.30	339733	6.49	310860	9.13	583406	10.53
MC22567-4	135371	2.95	349667	3.92	201856	5.30	364241	6.48	334666	9.13	614540	10.52
MC22567-5	118375	2.95	307495	3.92	174665	5.30	320380	6.49	300127	9.13	564845	10.53
MC22567-6	125404	2.95	326601	3.92	186493	5.30	332963	6.49	311366	9.13	588102	10.53

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

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

7.4.1

7

Semivolatile Internal Standard Area Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSR1173-CC1159	Injection Date:	07/12/13
Lab File ID:	R32145.D	Injection Time:	07:40
Instrument ID:	GCMSR	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	74370	4.37	275712	5.42	172561	6.97	306570	8.39	334149	11.38	310767	12.98
Upper Limit [a]	148740	4.87	551424	5.92	345122	7.47	613140	8.89	668298	11.88	621534	13.48
Lower Limit [b]	37185	3.87	137856	4.92	86281	6.47	153285	7.89	167075	10.88	155384	12.48
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
OP33941-MB	81437	4.37	301571	5.42	183920	6.96	325983	8.38	362209	11.38	347476	12.98
OP33941-BS	79153	4.37	285823	5.42	177077	6.96	318295	8.39	350935	11.38	327189	12.98
OP33976-MB	83313	4.37	307011	5.42	187369	6.96	334845	8.38	373490	11.38	347706	12.98
OP33976-BS	79025	4.37	287531	5.42	173182	6.96	300792	8.38	334043	11.38	309196	12.98
ZZZZZZ	78393	4.37	288409	5.42	171785	6.96	305337	8.38	331413	11.38	306388	12.98
ZZZZZZ	71667	4.36	264072	5.42	157559	6.96	276928	8.38	300699	11.38	283550	12.98
OP33941-MS	76133	4.37	278047	5.42	172119	6.97	303708	8.39	338691	11.38	322554	12.98
OP33941-MSD	80897	4.37	291666	5.42	173294	6.97	313735	8.39	347763	11.38	320283	12.98
MC22534-6	83267	4.37	303682	5.42	181097	6.96	326505	8.38	356271	11.38	335021	12.98
ZZZZZZ	69550	4.37	255194	5.42	156195	6.96	274444	8.38	314388	11.38	284388	12.98
ZZZZZZ	83223	4.37	300272	5.42	183689	6.96	331568	8.38	367598	11.38	343693	12.98
ZZZZZZ	78499	4.37	292673	5.42	179186	6.96	316589	8.38	353277	11.38	333289	12.98
ZZZZZZ	77832	4.37	284577	5.42	170241	6.96	307767	8.38	344342	11.38	318528	12.98
ZZZZZZ	78950	4.37	281573	5.42	169642	6.96	304455	8.38	332346	11.38	312747	12.98
ZZZZZZ	69661	4.37	258279	5.42	155901	6.96	278975	8.38	319765	11.38	290768	12.98
ZZZZZZ	78274	4.37	289482	5.42	174560	6.96	315689	8.38	344441	11.38	317833	12.98
MC22567-1	77062	4.36	285713	5.42	169903	6.96	305340	8.38	336117	11.38	308235	12.98
MC22567-2	73125	4.37	270939	5.42	163138	6.96	293175	8.38	327857	11.38	302553	12.98
MC22567-3	73418	4.36	273393	5.42	165104	6.96	298172	8.38	328378	11.38	304561	12.98
MC22567-4	73394	4.36	265579	5.42	161121	6.96	293804	8.38	319679	11.38	297642	12.98
MC22567-5	83463	4.36	304089	5.42	183880	6.96	329210	8.38	363747	11.38	335266	12.98
MC22567-6	83502	4.36	305904	5.42	183540	6.96	325363	8.38	356205	11.38	323974	12.98
MC22567-7	80030	4.36	294961	5.42	178995	6.96	319582	8.38	354085	11.38	324632	12.98
MC22567-8	77532	4.37	284989	5.42	171562	6.96	305335	8.38	335733	11.38	305689	12.98
ZZZZZZ	85606	4.37	314032	5.42	190830	6.96	334658	8.38	379988	11.38	346232	12.98
ZZZZZZ	77755	4.36	281505	5.42	173089	6.96	305724	8.38	337408	11.38	315318	12.98

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

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

7.4.2

Semivolatile Internal Standard Area Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSR1173-CC1159	Injection Date:	07/12/13
Lab File ID:	R32145.D	Injection Time:	07:40
Instrument ID:	GCMSR	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

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

7.4.2

7

Semivolatile Internal Standard Area Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSW637-CC633	Injection Date:	07/22/13
Lab File ID:	W14066.D	Injection Time:	09:03
Instrument ID:	GCMSW	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	133254	3.62	352206	4.61	173510	6.03	281181	7.30	186120	10.08	446899	11.50
Upper Limit [a]	266508	4.12	704412	5.11	347020	6.53	562362	7.80	372240	10.58	893798	12.00
Lower Limit [b]	66627	3.12	176103	4.11	86755	5.53	140591	6.80	93060	9.58	223450	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
OP34077-MB	153456	3.62	402245	4.61	196504	6.03	310626	7.30	209121	10.08	501933	11.50
OP34077-BS	141132	3.62	366923	4.61	179074	6.03	284659	7.30	189105	10.08	454113	11.50
ZZZZZZ	135010	3.62	352775	4.61	170678	6.03	272022	7.30	186351	10.08	446036	11.50
MC22567-8	75715	3.62	199493	4.60	97995	6.03	154759	7.30	104053	10.07	249960	11.50
ZZZZZZ	126987	3.62	335139	4.60	165183	6.03	265984	7.30	179567	10.08	425637	11.50
ZZZZZZ	123114	3.62	326176	4.61	158518	6.03	255942	7.30	173331	10.08	418623	11.50
OP34066-BS	159495	3.63	416476	4.61	201549	6.03	316740	7.30	203101	10.08	475412	11.50
OP34066-MB	143023	3.62	370027	4.61	179901	6.03	290664	7.30	190994	10.08	459338	11.50
OP34066-MS	125502	3.62	322721	4.61	155785	6.03	248696	7.30	162494	10.08	389353	11.50
OP34066-MSD	125967	3.62	325710	4.61	160472	6.03	256640	7.30	173505	10.08	416762	11.50
MC22815-2A	117818	3.62	305167	4.61	148409	6.03	241896	7.30	160990	10.08	389815	11.50
ZZZZZZ	136054	3.62	355123	4.61	173524	6.03	275461	7.30	185354	10.08	437746	11.50
ZZZZZZ	131001	3.62	339800	4.61	165540	6.03	259676	7.30	173950	10.08	411717	11.51
ZZZZZZ	145984	3.62	377530	4.61	185814	6.03	295737	7.30	196869	10.08	470361	11.51
ZZZZZZ	157856	3.62	411318	4.61	204133	6.03	323037	7.30	214688	10.08	509690	11.51
ZZZZZZ	123095	3.63	318963	4.61	155566	6.03	244555	7.30	162011	10.08	381678	11.51
MC22567-7	74240	3.63	193981	4.61	97153	6.03	156543	7.30	104326	10.08	250941	11.50
ZZZZZZ	169498	3.62	437000	4.61	214328	6.03	341323	7.30	226865	10.08	537562	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.

7.4.3

Semivolatile Surrogate Recovery Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22567-1	R32163.D	34.0	23.0	54.0	48.0	54.0	36.0
MC22567-2	R32164.D	48.0	34.0	83.0	72.0	77.0	79.0
MC22567-3	R32165.D	50.0	41.0	80.0	72.0	77.0	79.0
MC22567-4	R32166.D	46.0	31.0	81.0	67.0	69.0	90.0
MC22567-5	R32167.D	46.0	33.0	80.0	72.0	70.0	72.0
MC22567-6	R32168.D	47.0	34.0	83.0	68.0	77.0	77.0
MC22567-7	R32169.D	47.0	43.0	72.0	70.0	75.0	81.0
MC22567-8	R32170.D	53.0	40.0	86.0	76.0	80.0	87.0
OP33941-BS	R32147.D	53.0	35.0	99.0	90.0	96.0	104.0
OP33941-MB	R32146.D	49.0	32.0	91.0	81.0	85.0	97.0
OP33941-MS	R32152.D	52.0	39.0	96.0	84.0	92.0	98.0
OP33941-MSD	R32153.D	52.0	38.0	95.0	85.0	94.0	101.0

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: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22567-1	I84766A.D	54.0	57.0	41.0
MC22567-2	I84767A.D	80.0	81.0	86.0
MC22567-3	I84768A.D	81.0	81.0	85.0
MC22567-4	I84769A.D	74.0	72.0	96.0
MC22567-5	I84770A.D	79.0	73.0	79.0
MC22567-6	I84771A.D	77.0	80.0	83.0
MC22567-7	W14084.D	77.0	72.0	83.0
MC22567-8	W14071.D	79.0	78.0	87.0
OP33942-BS	I84755A.D	99.0	96.0	111.0
OP33942-MB	I84754A.D	89.0	89.0	105.0
OP33942-MS	I84758A.D	93.0	94.0	106.0
OP33942-MSD	I84759A.D	95.0	92.0	112.0

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

7.5.2

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: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33961-MB	BK26671.D	1	07/11/13	NK	07/11/13	OP33961	GBK917

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8, MC22567-10

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

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	121%	36-173%
460-00-4	Bromofluorobenzene (S)	121%	36-173%

8.1.1

8

Blank Spike Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33961-BS	BK26672.D	1	07/11/13	NK	07/11/13	OP33961	GBK917

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8, MC22567-10

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	0.075	106	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	124%	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: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP33961-MS	BK26673.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
OP33961-MSD	BK26674.D	1	07/11/13	NK	07/11/13	OP33961	GBK917
MC22534-6	BK26680.D	1	07/11/13	NK	07/11/13	OP33961	GBK917

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

MC22567-1, MC22567-2, MC22567-3, MC22567-4, MC22567-5, MC22567-6, MC22567-7, MC22567-8, MC22567-10

CAS No.	Compound	MC22534-6 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		0.0708	0.080	113	0.087	122	8	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.0708	0.068	96	0.071	99	4	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC22534-6	Limits
460-00-4	Bromofluorobenzene (S)	123%	132%	171%	36-173%
460-00-4	Bromofluorobenzene (S)	121%	132%	166%	36-173%

* = Outside of Control Limits.

8.3.1

Volatile Surrogate Recovery Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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]
MC22567-1	BK26683.D	132.0	129.0
MC22567-2	BK26684.D	166.0	153.0
MC22567-3	BK26685.D	145.0	134.0
MC22567-4	BK26686.D	168.0	160.0
MC22567-5	BK26687.D	178.0* [c]	154.0
MC22567-6	BK26688.D	151.0	134.0
MC22567-7	BK26689.D	127.0	115.0
MC22567-8	BK26690.D	138.0	125.0
MC22567-10	BK26691.D	120.0	113.0
OP33961-BS	BK26672.D	124.0	123.0
OP33961-MB	BK26671.D	121.0	121.0
OP33961-MS	BK26673.D	123.0	121.0
OP33961-MSD	BK26674.D	132.0	132.0

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

(a) Recovery from GC signal #2
(b) Recovery from GC signal #1
(c) Outside control limits due to possible matrix interference.

8.4.1

8

GC Surrogate Retention Time Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	GBK917-ICC917	Injection Date:	07/11/13
Lab File ID:	BK26666.D	Injection Time:	14:22
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.60	4.97

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK26669A.D	07/11/13	15:31	4.60	4.97
OP33961-MB	BK26671.D	07/11/13	16:17	4.60	4.97
OP33961-BS	BK26672.D	07/11/13	16:40	4.60	4.97
OP33961-MS	BK26673.D	07/11/13	17:02	4.60	4.97
OP33961-MSD	BK26674.D	07/11/13	17:25	4.60	4.97
ZZZZZZ	BK26675.D	07/11/13	17:48	4.60	4.97
ZZZZZZ	BK26676.D	07/11/13	18:11	4.60	4.97
ZZZZZZ	BK26677.D	07/11/13	18:33	4.60	4.97
ZZZZZZ	BK26678.D	07/11/13	18:56	4.60	4.97
ZZZZZZ	BK26679.D	07/11/13	19:19	4.60	4.97
MC22534-6	BK26680.D	07/11/13	19:42	4.60	4.97

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC22567
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	GBK917-CC917	Injection Date:	07/11/13
Lab File ID:	BK26681.D	Injection Time:	20:04
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.60	4.97

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK26682.D	07/11/13	20:27	4.60	4.97
MC22567-1	BK26683.D	07/11/13	20:49	4.60	4.97
MC22567-2	BK26684.D	07/11/13	21:12	4.60	4.97
MC22567-3	BK26685.D	07/11/13	21:35	4.60	4.97
MC22567-4	BK26686.D	07/11/13	21:57	4.60	4.97
MC22567-5	BK26687.D	07/11/13	22:20	4.60	4.97
MC22567-6	BK26688.D	07/11/13	22:43	4.60	4.97
MC22567-7	BK26689.D	07/11/13	23:06	4.60	4.97
MC22567-8	BK26690.D	07/11/13	23:29	4.60	4.97
MC22567-10	BK26691.D	07/11/13	23:52	4.60	4.97

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

Roxana Groundwater Quarterly – 3rd Quarter 2013 Data Review

Laboratory SDG: MC22664

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 8/12/2013

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

Sample Identification	Sample Identification
MW24-ROX-071113	P54-ROX-071113
MW3-ROX-071113	MW2-ROX-071113-EB
MW2-ROX-071113	ROST4PZ-ROX-071113
ROST3MW-ROX-071113	MW22-ROX-071113
MW22-ROX-071113-Dup	TB-ROX-071113-HCL
TB-ROX-071113-ST	

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 MW24-ROX-071113 and ROST3MW-ROX-071113 were re-extracted for SVOCs outside holding time criteria. VOC and SVOC LCS recoveries were outside evaluation criteria. VOC and SVOC LCS recoveries were outside evaluation criteria. SVOC surrogates 2-flourophenol and phenol-d_5 were outside evaluation criteria for samples ROST3MW-ROX-071113 and MW24-ROX-071113. Although not indicated in the laboratory case narrative, VOCs and PAHs were detected in the method blank, and PAHs were detected in the equipment blank. Sample MW2-ROX-071113 and field duplicate pair MW22-ROX-071113/MW22-ROX-071113-Dup were diluted due to high levels of VOC target analytes. Additionally, the initial calibration verification for acrolein exceeded 50 percent difference (%D). Professional judgment was used to qualify the common laboratory contaminant acetone in sample MW24-ROX-071113. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated two of two coolers were received by the laboratory at temperatures of 0.6ºC and 0.4ºC, which are 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, samples MW24-ROX-071113 and ROST3MW-ROX-071113 were re-extracted for SVOCs five days outside the seven day holding time criteria for extraction. Holding time exceedances were not greater than two times (2X) holding time criteria; data requiring qualification is summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW24-ROX-071113-Run#2	SVOCs	Benzoic acid	**UJ**
MW24-ROX-071113-Run#2	SVOCs	2-Chlorophenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	4-Chloro-3-methyl phenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	2,4-Dichlorophenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	2,4-Dimethylphenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	2,4-Dinitrophenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	4,6-Dinitro-o-cresol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	2-Methylphenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	3&4-Methylphenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	2-Nitrolphenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	4-Nitrophenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	Pentachlorophenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	Phenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	2,4,5-Trichlorophenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	2,4,6-Trichlorophenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	Benzoic acid	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	2-Chlorophenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	4-Chloro-3-methyl phenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	2,4-Dichlorophenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	2,4-Dimethylphenol	**J**
ROST3MW-ROX-071113-Run#2	SVOCs	2,4-Dinitrophenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	4,6-Dinitro-o-cresol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	2-Methylphenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	3&4-Methylphenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	2-Nitrolphenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	4-Nitrophenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	Pentachlorophenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	Phenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	2,4,5-Trichlorophenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	2,4,6-Trichlorophenol	**UJ**

4.0 Blank Contamination

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

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MW2-ROX-071113-EB	PAHs	Phenanthrene	0.033 ug/L
MW2-ROX-071113-EB	PAHs	Pyrene	0.065 ug/L
MSN2949-MB	VOCs	Ethylbenzene	0.87 ug/L
MSN2949-MB	VOCs	m,p-Xylene	2.0 ug/L
MSN2949-MB	VOCs	Xylene (total)	2.0 ug/L
OP34010-MB	PAHs	Phenanthrene	0.030 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 required qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
MW24-ROX-071113	PAHs	Phenanthrene	-	**U**
P54-ROX-071113	PAHs	Phenanthrene	-	**U**
MW3-ROX-071113	PAHs	Phenanthrene	-	**U**
MW3-ROX-071113	PAHs	Pyrene	-	**U**
MW2-ROX-071113	PAHs	Phenanthrene	-	**U**
ROST4PZC-ROX-071113	PAHs	Pyrene	-	**U**
ROST3MW-ROX-071113	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
MSN2948-BS	VOCs	Acrolein	**138**	NA	70-130
MSN2948-BS	VOCs	Dichlorodifluoromethane	**131**	NA	70-130
OP34009-BS	SVOCs	Benzoic acid	**26**	NA	30-130
OP34009-BS	SVOCs	Phenol	**26**	NA	30-130
OP34009-BS	SVOCs	Hexachlorocyclopentadiene	**26**	NA	40-140
OP34009-BS	SVOCs	Hexachloroethane	**36**	NA	40-140
OP34009-BS	SVOCs	Pyridine	**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 OP34009-BS was associated with the equipment blank. Equipment blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
MW24-ROX-071113	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW24-ROX-071113	SVOCs	Hexachloroethane	**UJ**
MW24-ROX-071113	SVOCs	Pyridine	**UJ**
P54-ROX-071113	SVOCs	Benzoic acid	**UJ**
P54-ROX-071113	SVOCs	Phenol	**UJ**
P54-ROX-071113	SVOCs	Hexachlorocyclopentadiene	**UJ**
P54-ROX-071113	SVOCs	Hexachloroethane	**UJ**
P54-ROX-071113	SVOCs	Pyridine	**UJ**
MW3-ROX-071113	SVOCs	Benzoic acid	**UJ**
MW3-ROX-071113	SVOCs	Phenol	**UJ**
MW3-ROX-071113	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW3-ROX-071113	SVOCs	Hexachloroethane	**UJ**

Sample ID	Parameter	Analyte	Qualification
MW3-ROX-071113	SVOCs	Pyridine	**UJ**
MW2-ROX-071113	SVOCs	Benzoic acid	**UJ**
MW2-ROX-071113	SVOCs	Phenol	**UJ**
MW2-ROX-071113	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW2-ROX-071113	SVOCs	Hexachloroethane	**UJ**
MW2-ROX-071113	SVOCs	Pyridine	**UJ**
ROST4PZ-ROX-071113	SVOCs	Benzoic acid	**UJ**
ROST4PZ-ROX-071113	SVOCs	Phenol	**J**
ROST4PZ-ROX-071113	SVOCs	Hexachlorocyclopentadiene	**UJ**
ROST4PZ-ROX-071113	SVOCs	Hexachloroethane	**UJ**
ROST4PZ-ROX-071113	SVOCs	Pyridine	**UJ**
ROST3MW-ROX-071113	SVOCs	Hexachlorocyclopentadiene	**UJ**
ROST3MW-ROX-071113	SVOCs	Hexachloroethane	**UJ**
ROST3MW-ROX-071113	SVOCs	Pyridine	**UJ**
MW22-ROX-071113	SVOCs	Benzoic acid	**UJ**
MW22-ROX-071113	SVOCs	Phenol	**J**
MW22-ROX-071113	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW22-ROX-071113	SVOCs	Hexachloroethane	**UJ**
MW22-ROX-071113	SVOCs	Pyridine	**UJ**
MW22-ROX-071113-Dup	SVOCs	Benzoic acid	**UJ**
MW22-ROX-071113-Dup	SVOCs	Phenol	**J**
MW22-ROX-071113-Dup	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW22-ROX-071113-Dup	SVOCs	Hexachloroethane	**UJ**
MW22-ROX-071113-Dup	SVOCs	Pyridine	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
MW24-ROX-071113 Run#1	SVOCs	2-Fluorophenol	**7**	15-110
MW24-ROX-071113 Run#1	SVOCs	Phenol-d_5	**6**	15-110
ROST3MW-ROX-071113 Run#1	SVOCs	2-Fluorophenol	**2**	15-110
ROST3MW-ROX-071113 Run#1	SVOCs	Phenol-d_5	**1**	15-110
ROST3MW-ROX-071113 Run#2	SVOCs	Phenol-d_5	**14**	15-110

Analytical data associated with acid fraction surrogate recoveries less than ten percent (10%) were reported from re-analysis runs. The associated re-analysis data was previously qualified in Section 3.0 of this review due to holding time criteria; no further 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?

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
MW22-ROX-071113	MW22-ROX-071113-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 for acrolein exceeded 50 percent difference (%D). Acrolein in associated samples was qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW24-ROX-071113	VOCs	Acrolein	**UJ**
P54-ROX-071113	VOCs	Acrolein	**UJ**
MW3-ROX-071113	VOCs	Acrolein	**UJ**
MW2-ROX-071113	VOCs	Acrolein	**UJ**
ROST4PZC-ROX-071113	VOCs	Acrolein	**UJ**
ROST3MW-ROX-071113	VOCs	Acrolein	**UJ**
MW22-ROX-071113	VOCs	Acrolein	**UJ**
MW22-ROX-071113-Dup	VOCs	Acrolein	**UJ**

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

Sample ID	Analyte	New RL	Qualification	Comment
MW24-ROX-071113	Acetone	15.7 ug/L	**U**	Professional Judgment

1.0 VALIDATION OF EDB/DBCP DATA – SDG MC22664

This section describes the validation for nine investigative groundwater samples which were prepared and analyzed for 1,2-dibromoethane (EDB) and 1,2-dibromo-3-chloropropane (DBCP) by USEPA SW-846 Method 8011. The samples were analyzed by Accutest Laboratories of Marlborough, Massachusetts and submitted as part of the sample delivery group (SDG) MC22664. The samples included as part of this validation are listed below.

Sample Identification	Sample Identification
MW24-ROX-071113	P54-ROX-071113
MW3-ROX-071113	MW2-ROX-071113-EB
MW2-ROX-071113	ROST4PZ-ROX-071113
ROST3MW-ROX-071113	MW22-ROX-071113
MW22-ROX-071113-Dup	

Evaluation of the analytical data followed procedures outlined in the USEPA Contract Laboratory National Functional Guidelines for Superfund Organic Methods Data Review (EPA 2008).

Criteria evaluated included the following method performance criteria:

- Data package completeness
- Laboratory case narrative/cooler receipt form
- Holding times and sample preservation
- GC/MS instrument performance
- Initial calibration
- Calibration verification
- Blank samples
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) samples
- Internal standards
- Laboratory control spike (LCS) samples
- Target compound identification and quantification
- Overall data assessment

1.1 Data Package Completeness

The data package was reviewed to make certain that it contained the data contractually required in the deliverable. This included checking the data package for the results of each analyte requested for each field sample submitted in the analytical batch, along with requested QC documentation for the respective methods.

1.2 Laboratory Case Narrative/Cooler Receipt Form

No problems were indicated in the laboratory case narrative for the validated samples.

The cooler receipt form indicated samples were received by the laboratory at temperatures of 0.6ºC and 0.4ºC, which are outside the 4ºC ± 2ºC criteria. Samples were received in good condition; therefore, no qualification of data was required.

1.3 Holding Times and Sample Preservation

Review of the sample collection and analysis dates involved comparing the sample chain-of-custody, the summary forms, the raw data forms, and the chromatograms for accuracy, consistency, and holding time compliance. The samples were received and maintained at approximately $4^{o}C \pm 2^{o}C$. In addition, the samples were analyzed within 14 days of collection. No qualifications to the data were required based on holding times and sample preservation.

1.4 Initial Calibration

An initial calibration (ICAL) was established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data for EDB/DBCP analyses. Validated samples included in SDG MC22664 were analyzed using instrument GCBK. The ICAL for instrument GCBK was established on 7/24/2013. At least five standard concentrations were used to establish the ICAL curve as required by Method 8011.

Review of the initial calibration summary forms indicated percent relative standard deviations (%RSDs) were ≤ 15% for target analytes. A recalculation of the %RSDs was performed from the raw data and no errors in calculation were noted; therefore, no qualification of data was required.

Review of the sample chromatograms indicated that a second source calibration was performed immediately following the initial calibration. Review of ICV summary forms indicated percent differences (%Ds) ≤15% for target analytes. Recalculation of the percent recoveries was completed and no errors in calculation were noted.

1.5 Calibration Verification

Review of the sample chromatograms indicated that all calibration verifications (CVs) were performed before the start of sample analysis. Percent differences (%Ds) met the evaluation criteria of ≤ 20% for target analytes. Recalculations of the %Ds for target compounds were completed for each CV, and no errors in calculation were noted; therefore, no qualifications of data were required.

1.6 Blank Samples

The purpose of the method blank samples is to evaluate the existence and magnitude of contamination problems emanating from laboratory activities. Method blank samples were analyzed with each analytical batch as required by USEPA SW-846 Method 8011. Also, trip blanks were analyzed to evaluate the existence and magnitude of contamination problems emanating during sample shipment to the laboratory. All target compounds were reported as non-detect. No qualification of data was required.

1.7 Surrogate Spike Recoveries

Surrogate compounds were used to evaluate the overall laboratory sample preparation efficiency on a per sample basis. Surrogate recoveries were within the method acceptance criteria for the validated samples. No qualification of data was required.

Approximately 10% of the recoveries were recalculated and no calculation or transcription errors were noted.

1.8 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

MS/MSD samples are analyzed to assess potential matrix effects. MS/MSD analyses were not performed on the validated samples in this SDG.

1.9 Laboratory Control Spike (LCS) Samples

Laboratory control samples were analyzed with each analytical batch to assess the accuracy of the analytical process. All LCS data were within evaluation criteria. Approximately 10% of spiking compound recoveries for the LCS were recalculated and verified using the LCS summary forms, and no calculation or transcription errors were noted.

1.10 Target Compound Identification and Quantification

For validation of the compound identification, chromatograms were reviewed to verify the major peaks were identified, and the relative retention time was no greater than 0.06 different from the associated CV retention times. Approximately 10% of the detected target analytes were verified. No anomalies were noted with the identification of the target compounds in the samples.

For the validation of compound quantitation, the matrix spike results were recalculated from the raw data since all target analytes were non-detect, and no calculation errors were noted. Additionally, the reporting limits were verified to determine if reporting limits (RLs) were adjusted for dilutions. No qualification of the data was required and review of the data indicated the correct RLs were reported.

1.11 Overall Data Assessment

Based on the criteria outlined, it is recommended that the results reported for these analyses are accepted for their intended use. Acceptable levels of accuracy and precision, based on LCS and surrogate data were achieved for this SDG.

1.0 VALIDATION OF VOC DATA – SDG MC22664

This section describes the validation for nine groundwater samples which were prepared by USEPA SW-846 Method 5030B and analyzed for volatile organic compounds (VOCs) by USEPA SW-846 Method 8260B. The samples were analyzed by Accutest Laboratories of Marlborough, Massachusetts and submitted as part of the sample delivery group (SDG) MC22664. The samples included as part of this validation are listed below.

Sample Identification	Sample Identification
MW24-ROX-071113	P54-ROX-07113
MW3-ROX-071113	MW2-ROX-071113-EB
MW2-ROX-071113	ROST4PZ-ROX-07113
ROST3MW-ROX-071113	MW22-ROX-071113
MW22-ROX-071113-Dup	

Evaluation of the analytical data followed procedures outlined in the USEPA Contract Laboratory National Functional Guidelines for Superfund Organic Methods Data Review (EPA 2008).

Criteria evaluated included the following method performance criteria:

- Data package completeness
- Laboratory case narrative/cooler receipt form
- Holding times and sample preservation
- GC/MS instrument performance
- Initial calibration
- Calibration verification
- Blank samples
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) samples
- Internal standards
- Laboratory control spike (LCS) samples
- Target compound identification and quantification
- Overall data assessment

1.1 Data Package Completeness

The data package was reviewed to make certain that it contained the data contractually required in the deliverable. This included checking the data package for the results of each analyte requested for each field sample submitted in the analytical batch, along with requested QC documentation for the respective methods.

1.2 Laboratory Case Narrative/Cooler Receipt Form

The laboratory case narrative indicated that VOC LCS recoveries were outside evaluation criteria. Although not indicated in the laboratory case narrative, VOCs were detected in the method blank. Sample MW2-ROX-071113 and field duplicate pair MW22-ROX-071113/MW22-ROX-071113-Dup were diluted due to high levels of VOC target analytes. The initial calibration response factor for 1,4-dioxane was outside evaluation criteria. Initial calibration verification percent differences (%Ds) for acrolein, acetone, and vinyl acetate were outside evaluation criteria. Continuing calibration (%Ds) were outside evaluation criteria. These issues are addressed further in the appropriate sections below.

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

Sample ID	Analyte	New RL	Qualification	Comment
MW24-ROX-071113	Acetone	15.7 ug/L	**U**	Professional Judgment

The cooler receipt form indicated two of two coolers were received by the laboratory at temperatures of 0.6ºC and 0.4ºC, which are outside the 4ºC ± 2ºC criteria. Samples were received in good condition; therefore, no qualification of data was required.

1.3 Holding Times and Sample Preservation

Review of the sample collection and analysis dates involved comparing the sample chain-of-custody, the summary forms, the raw data forms, and the chromatograms for accuracy, consistency, and holding time compliance. The samples were received and maintained at approximately $4^{o}C \pm 2^{o}$ C. In addition, the samples were analyzed within 14 days of collection at a pH < 2. No qualifications to the data were required based on holding times and sample preservation.

1.4 GC/MS Instrument Performance

GC/MS instrument performance checks were performed to ensure mass resolution, identification, and instrument sensitivity. Criteria for evaluation of instrument performance included possible transcription/calculation errors, adherence to instrument tuning frequency requirements, mass assignments, and ion abundance criteria. Instrument performance check samples were evaluated against criteria established in USEPA SW-846 Method 8260B.

Based on the summary forms, the ion abundance criteria were within evaluation criteria for all masses. No qualifications to the data were required based on instrument performance criteria.

1.5 Initial Calibration

An initial calibration (ICAL) was established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data for volatiles analyses. Validated samples included in SDG MC22664 were analyzed using instrument MSN. The ICAL for instrument MSN was established on 7/8/2013. At least five standard concentrations were used to establish the ICAL curve as required by Method 8260B. For the ICAL, the response factors (RFs) were reviewed and were greater than 0.10 for chloromethane, 1,1-dichloroethane and bromoform, greater than 0.30 for chlorobenzene and 1,1,2,2-

tetrachloroethane, and greater than 0.05 for all other target analytes with the exception of poor performer, 1,4-dioxane (0.003) analyzed using instrument MSN.

Qualifications of data due to ICAL RRF are summarized in the following table.

Sample ID	Analyte	Qualification
MW24-ROX-071113	1,4-Dioxane	**R**
P54-ROX-07113	1,4-Dioxane	**R**
MW3-ROX-071113	1,4-Dioxane	**R**
MW2-ROX-071113-EB	1,4-Dioxane	**R**
MW2-ROX-071113	1,4-Dioxane	**R**
ROST4PZ-ROX-07113	1,4-Dioxane	**R**
ROST3MW-ROX-071113	1,4-Dioxane	**R**
MW22-ROX-071113	1,4-Dioxane	**R**
MW22-ROX-071113-Dup	1,4-Dioxane	**R**

Review of the initial calibration summary forms indicated %RSDs were $\leq$ 30% for calibration check compounds (CCCs) [1,1-dichloroethene, toluene, chloroform, ethylbenzene, 1,2-dichloropropane, and vinyl chloride], and $\leq$ 15% for non-CCCs with some exceptions. The initial calibration for compounds with %RSD values outside evaluation criteria was determined using least square linear regression: correlation coefficients (r) were greater than 0.990.

Initial calibration verification (ICV) was analyzed following the initial calibration. Percent difference (%D) values from comparing ICV RF to the average ICAL RFs were less than 20% for target compounds with the exceptions of acrolein (-57.1%), acetone (-22.0%), and vinyl acetate (23.4%).

Qualifications of data due to ICV %D are summarized in the following table. The results for acetone in the validated samples associated with marginal increases in %D, indicating a potential high bias, were non-detect and did not require qualification.

Sample ID	Analyte	Qualification
MW24-ROX-071113	Acrolein	**UJ**
MW24-ROX-071113	Vinyl acetate	**UJ**
P54-ROX-07113	Acrolein	**UJ**
P54-ROX-07113	Vinyl acetate	**UJ**
MW3-ROX-071113	Acrolein	**UJ**
MW3-ROX-071113	Vinyl acetate	**UJ**
MW2-ROX-071113	Acrolein	**UJ**
MW2-ROX-071113	Vinyl acetate	**UJ**
ROST4PZ-ROX-07113	Acrolein	**UJ**
ROST4PZ-ROX-07113	Vinyl acetate	**UJ**
ROST3MW-ROX-071113	Acrolein	**UJ**
ROST3MW-ROX-071113	Vinyl acetate	**UJ**
MW22-ROX-071113	Acrolein	**UJ**
MW22-ROX-071113	Vinyl acetate	**UJ**
MW22-ROX-071113-Dup	Acrolein	**UJ**

Sample ID	Analyte	Qualification
MW22-ROX-071113-Dup	Vinyl acetate	**UJ**

A recalculation of the %RSDs and RFs for a compound associated with each internal standard was performed from the raw data and no errors in calculation were noted; therefore, no qualification of data was required.

1.6 Calibration Verification

Review of the sample chromatograms indicated that all calibration verifications (CVs) were performed before the start of sample analysis. Review of CV summary forms indicated RFs met the evaluation criteria of greater than 0.10 (chloromethane, 1,1-dichloroethane and bromoform), 0.30 (chlorobenzene and 1,1,2,2-tetrachloroethane) and greater than 0.05 for all other target analytes with the exception of 1,4-dioxane (for which associated results were previously rejected); therefore, no further qualification of data was required. In addition, percent differences (%Ds) met the evaluation criteria of $\leq$ 30% for CCCs and < 20% for all other target analytes with exceptions summarized in the following table.

CV (Date/Time)	Analyte	%D
7/23/2013 8:25	Acetone	**43.9**
7/23/2013 8:25	2-Butanone	**32.4**
7/23/2013 8:25	1,2-Dichloroethane	**-24.2**
7/23/2013 8:25	Bromodichloromethane	**-21.4**
7/23/2013 8:25	2-Hexanone	**22.5**

The compounds, 1,2-dichloroethane and bromodichloromethane, in the validated samples associated with marginal increases in %D, indicating potential high bias, were non-detect and did not require qualification.

Analytical data that required qualification based on continuing calibration verification data are included in the table below.

Sample ID	Analyte	Qualifications
MW24-ROX-071113	Acetone	**UJ**
MW24-ROX-071113	2-Butanone	**UJ**
MW24-ROX-071113	2-Hexanone	**UJ**
P54-ROX-07113	Acetone	**UJ**
P54-ROX-07113	2-Butanone	**UJ**
P54-ROX-07113	2-Hexanone	**UJ**
MW3-ROX-071113	Acetone	**UJ**
MW3-ROX-071113	2-Butanone	**UJ**
MW3-ROX-071113	2-Hexanone	**UJ**
MW2-ROX-071113	Acetone	**UJ**
MW2-ROX-071113	2-Butanone	**UJ**
MW2-ROX-071113	2-Hexanone	**UJ**
ROST4PZ-ROX-07113	Acetone	**UJ**
ROST4PZ-ROX-07113	2-Butanone	**UJ**

Sample ID	Analyte	Qualifications
ROST4PZ-ROX-07113	2-Hexanone	**UJ**
ROST3MW-ROX-071113	Acetone	**UJ**
ROST3MW-ROX-071113	2-Butanone	**UJ**
ROST3MW-ROX-071113	2-Hexanone	**UJ**
MW22-ROX-071113	Acetone	**UJ**
MW22-ROX-071113	2-Butanone	**UJ**
MW22-ROX-071113	2-Hexanone	**UJ**
MW22-ROX-071113-Dup	Acetone	**UJ**
MW22-ROX-071113-Dup	2-Butanone	**UJ**
MW22-ROX-071113-Dup	2-Hexanone	**UJ**

Recalculations of the RFs and %Ds for two target compounds were completed for each CV, and no errors in calculation were noted; therefore, no qualifications of data were required.

1.7 Blank Samples

The purpose of the method blank samples is to evaluate the existence and magnitude of contamination problems emanating from laboratory activities. Method blank samples were analyzed with each analytical batch as required by USEPA SW-846 Method 8260B. Target compounds were reported as non-detect. No qualification of data was required.

Blank ID	Parameter	Analyte	Concentration/ Amount
MSN2949-MB	VOCs	Ethylbenzene	0.87 ug/L
MSN2949-MB	VOCs	m,p-Xylene	2.0 ug/L
MSN2949-MB	VOCs	Xylene (total)	2.0 ug/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not required qualification. No qualification of data was required.

1.8 Surrogate Spike Recoveries

Surrogate compounds were used to evaluate the overall laboratory sample preparation efficiency on a per sample basis. All surrogate recoveries were within the method acceptance criteria for the validated samples. Approximately 10% of the recoveries were recalculated and no calculation or transcription errors were noted.

1.9 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

MS/MSD samples are analyzed to assess potential matrix effects. The validated samples were not chosen for MS/MSD analysis.

1.10 Internal Standards

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during each analytical run. IS areas must be within -50% to +100%, and the IS retention times must be within 30 seconds of the IS continuing calibration retention time. IS areas and retention times for the validated samples in this SDG were within evaluation criteria. The summary forms versus the raw data were verified and no transcription errors

were noted. No qualifications to the data were required based on internal standard areas or retention times.

1.11 Laboratory Control Spike (LCS) Samples

Laboratory control samples were analyzed with each analytical batch to assess the accuracy of the analytical process. LCS data were within evaluation criteria, with the exception of those summarized in the following table:

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSN2948-BS	VOCs	Acrolein	**138**	NA	70-130
MSN2948-BS	VOCs	Dichlorodifluoromethane	**131**	NA	70-130

Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. No qualification of data was required.

Approximately 10% of spiking compound recoveries for the LCS were recalculated and verified using the LCS summary forms, and no calculation or transcription errors were noted.

1.12 Target Compound Identification and Quantification

For validation of the compound identification, chromatograms were reviewed to verify the major peaks were identified, and the relative retention time was no greater than 0.06 different from the associated CV retention times. Approximately10% of the detected target analytes were verified. No anomalies were noted with the identification of the target compounds in the samples.

For the validation of compound quantitation, approximately 10% of the detected target analytes were recalculated from the raw data, and no calculation errors were noted. Additionally, the reporting limits were verified to determine if reporting limits (RLs) were adjusted for dilutions. No qualification of the data was required and review of the data indicated the correct RLs were reported.

1.13 Overall Data Assessment

Based on the criteria outlined, it is recommended that the results, other than those rejected, for these analyses are accepted for their intended use. Acceptable levels of accuracy and precision, based on LCS and surrogate data were achieved for this SDG.

1.0 VALIDATION OF SVOC DATA – SDG MC22664

This section describes the validation for nine groundwater samples which were prepared by USEPA SW-846 Method 3520C and analyzed for semi-volatile organic compounds (SVOCs) by USEPA SW-846 Method 8270C and for polycyclic aromatic hydrocarbons (PAHs) by USEPA SW-846 Method 8270C SIM. Samples were analyzed by Accutest Laboratories of Marlborough, Massachusetts, and submitted as part of sample delivery group (SDG) MC22664. Samples included as part of this validation are listed below.

Sample Identification	Sample Identification
MW24-ROX-071113	P54-ROX-07113
MW3-ROX-071113	MW2-ROX-071113-EB
MW2-ROX-071113	ROST4PZ-ROX-071113
ROST3MW-ROX-071113	MW22-ROX-071113
MW22-ROX-071113-Dup	

Evaluation of the analytical data followed procedures outlined in the USEPA Contract Laboratory National Functional Guidelines for Superfund Organic Methods Data Review (EPA 2008).

Criteria evaluated included the following method performance criteria:

- Data package completeness
- Laboratory case narrative/cooler receipt form
- Holding times and sample preservation
- Instrument performance
- Initial calibration
- Calibration verification
- Blank samples
- Surrogate spike recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) samples
- Internal standard areas
- Laboratory control sample (LCS)
- Target compound identification and quantitation
- Overall data assessment

1.0 Data Package Completeness

The data package was reviewed to make certain that it contained the data contractually required in the deliverable. This included checking the data package for the results of each analyte requested for each field sample submitted in the analytical batch, along with requested QC documentation for the respective methods. The data package was complete.

1.2 Laboratory Case Narrative/Cooler Receipt Form

The laboratory case narrative indicated that samples MW24-ROX-071113 and ROST3MW-

ROX-071113 were re-extracted for SVOCs outside holding time criteria. SVOC LCS recoveries were outside evaluation criteria. SVOC surrogates 2-flourophenol and phenol-d_5 were outside evaluation criteria for samples ROST3MW-ROX-071113 and MW24-ROX-071113. Although not indicated in the laboratory case narrative, PAHs were detected in the method blank and equipment blank. Samples MW2-ROX-071113 and field duplicate pair MW22-ROX-071113/MW22-ROX-071113-Dup were diluted due to high levels of VOC target analytes. Initial calibration percent differences (%Ds) were outside evaluation criteria. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated two of two coolers were received by the laboratory at temperatures of 0.6ºC and 0.4ºC, which are outside the 4ºC ± 2ºC criteria. Samples were received in good condition; therefore, no qualification of data was required.

1.3 Holding Times and Sample Preservation

Review of the sample collection and analysis dates involved comparing the chain-of-custody, the summary forms, the raw data forms, and the chromatograms for accuracy, consistency, and holding time compliance. The validated samples were received at $4^oC \pm 2^oC$, and were analyzed within 40 days of extraction and were extracted within seven days of collection, with the exceptions for MW24-ROX-071113 and ROST3MW-ROX-071113 were re-extracted for SVOCs five days outside the seven day holding time criteria (within two times the holding time criteria) for extraction summarized in the table below.

Sample ID	Parameter	Analyte	Qualification
MW24-ROX-071113-Run#2	SVOCs	Benzoic acid	**UJ**
MW24-ROX-071113-Run#2	SVOCs	2-Chlorophenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	4-Chloro-3-methyl phenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	2,4-Dichlorophenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	2,4-Dimethylphenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	2,4-Dinitrophenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	4,6-Dinitro-o-cresol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	2-Methylphenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	3&4-Methylphenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	2-Nitrolphenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	4-Nitrophenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	Pentachlorophenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	Phenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	2,4,5-Trichlorophenol	**UJ**
MW24-ROX-071113-Run#2	SVOCs	2,4,6-Trichlorophenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	Benzoic acid	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	2-Chlorophenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	4-Chloro-3-methyl phenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	2,4-Dichlorophenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	2,4-Dimethylphenol	**J**
ROST3MW-ROX-071113-Run#2	SVOCs	2,4-Dinitrophenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	4,6-Dinitro-o-cresol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	2-Methylphenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	3&4-Methylphenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	2-Nitrolphenol	**UJ**

Sample ID	Parameter	Analyte	Qualification
ROST3MW-ROX-071113-Run#2	SVOCs	4-Nitrophenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	Pentachlorophenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	Phenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	2,4,5-Trichlorophenol	**UJ**
ROST3MW-ROX-071113-Run#2	SVOCs	2,4,6-Trichlorophenol	**UJ**

1.4 GC/MS Instrument Performance

GC/MS instrument performance checks were performed to ensure mass resolution, identification, and instrument sensitivity. Criteria for evaluation of instrument performance included possible transcription/calculation errors, adherence to instrument tuning frequency requirements, mass assignments, and ion abundance criteria. Instrument performance check samples were evaluated against the laboratory tuning criteria established in Method 8270C.

Based on the raw data, the ion abundance criteria were within evaluation criteria for all masses, therefore; no qualification of the data was required. The raw data forms were checked against the summary forms and no calculation or transcription errors were noted.

1.5 Initial Calibration

An Initial calibration (ICAL) was established to assess whether the instrument was capable of producing acceptable qualitative and quantitative data for volatile analysis. SVOC samples as part of SDG MC22664 were analyzed using instruments MSF and MSR, and PAH samples were analyzed using instrument MSW. The ICALs for instruments MSF and MSR were established on 7/10/2013 and 7/8/2013, respectively; and the ICAL for instrument MSW was established on 7/18/2013 prior to sample analysis and using at least five concentration standards to establish the initial calibration curve as required by Method 8270C. An average response factor (RF) was determined for each target analyte, and the RFs were reviewed and verified as greater than 0.05 for all target analytes.

Review of the initial calibration summary forms for SVOCs and PAHs indicated calibration check compounds (CCCs) had percent relative standard deviations (%RSDs) $\leq$ 30%. All other target analytes had %RSDs less than 15% CCCs with some exceptions. The initial calibration for compounds with %RSD values outside evaluation criteria was determined using least square linear regression and the correlation coefficients (r) were greater than 0.990.

Initial calibration verifications (ICVs) for SVOCs and PAHs were analyzed following the initial calibrations. Percent difference (%D) values from comparing ICV RF to the average ICAL RFs were less than 20% for target compounds with the exceptions of 4-chloroaniline (20.1%), hexachlorocyclopentadiene (51.4%), 3-nitroaniline (21.9%), and 1-methylnaphthalene (20.1%).

Qualifications of SVOC data due to ICV %D are summarized in the following table.

Sample ID	Analyte	Qualifications
MW24-ROX-071113	4-Chloroaniline	**UJ**
MW24-ROX-071113	Hexachlorocyclopentadiene	**UJ**
MW24-ROX-071113	3-Nitroaniline	**UJ**
MW24-ROX-071113	1-methylnaphthalene	**UJ**
P54-ROX-07113	4-Chloroaniline	**UJ**

Sample ID	Analyte	Qualifications
P54-ROX-07113	Hexachlorocyclopentadiene	**UJ**
P54-ROX-07113	3-Nitroaniline	**UJ**
P54-ROX-07113	1-methylnaphthalene	**UJ**
MW3-ROX-071113	4-Chloroaniline	**UJ**
MW3-ROX-071113	Hexachlorocyclopentadiene	**UJ**
MW3-ROX-071113	3-Nitroaniline	**UJ**
MW3-ROX-071113	1-methylnaphthalene	**J**
MW2-ROX-071113	4-Chloroaniline	**UJ**
MW2-ROX-071113	Hexachlorocyclopentadiene	**UJ**
MW2-ROX-071113	3-Nitroaniline	**UJ**
MW2-ROX-071113	1-methylnaphthalene	**J**
ROST4PZ-ROX-071113	4-Chloroaniline	**UJ**
ROST4PZ-ROX-071113	Hexachlorocyclopentadiene	**UJ**
ROST4PZ-ROX-071113	3-Nitroaniline	**UJ**
ROST4PZ-ROX-071113	1-methylnaphthalene	**J**
ROST3MW-ROX-071113	4-Chloroaniline	**UJ**
ROST3MW-ROX-071113	Hexachlorocyclopentadiene	**UJ**
ROST3MW-ROX-071113	3-Nitroaniline	**UJ**
ROST3MW-ROX-071113	1-methylnaphthalene	**J**
MW22-ROX-071113	4-Chloroaniline	**UJ**
MW22-ROX-071113	Hexachlorocyclopentadiene	**UJ**
MW22-ROX-071113	3-Nitroaniline	**UJ**
MW22-ROX-071113	1-methylnaphthalene	**J**
MW22-ROX-071113-Dup	4-Chloroaniline	**UJ**
MW22-ROX-071113-Dup	Hexachlorocyclopentadiene	**UJ**
MW22-ROX-071113-Dup	3-Nitroaniline	**UJ**
MW22-ROX-071113-Dup	1-methylnaphthalene	**J**

Recalculations of the RFs and %RSD for one compound per internal standard were performed, and no errors in calculation were noted.

1.6 Calibration Verification

Review of sample chromatograms indicated the calibration verifications (CVs) were performed prior to sample analysis. Review of continuing calibration summary forms for SVOCs and PAHs indicated all RFs met the evaluation criteria of greater than 0.05 for all target analytes. In addition, percent differences (%Ds) met the evaluation criteria of less than or equal to 20% for CCVs and target analytes that were quantitated using linear calibration (response factor). No qualification of data was required.

Recalculations of the RFs and %RSD for one compound per internal standard were performed, and no errors in calculation were noted.

1.7 Blank Samples

The purpose of method blank samples is to evaluate the existence and magnitude of contamination problems emanating from laboratory activities. Method blank samples were

analyzed with each analytical batch as required by USEPA SW-846 Method 8270C. Target compounds in the method blank were reported as non-detect with the exceptions summarized in the table below.

Blank ID	Parameter	Analyte	Concentration/ Amount
MW2-ROX-071113-EB	PAHs	Phenanthrene	0.033 ug/L
MW2-ROX-071113-EB	PAHs	Pyrene	0.065 ug/L
OP34010-MB	PAHs	Phenanthrene	0.030 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 required qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
MW24-ROX-071113	PAHs	Phenanthrene	-	**U**
P54-ROX-071113	PAHs	Phenanthrene	-	**U**
MW3-ROX-071113	PAHs	Phenanthrene	-	**U**
MW3-ROX-071113	PAHs	Pyrene	-	**U**
MW2-ROX-071113	PAHs	Phenanthrene	-	**U**
ROST4PZC-ROX-071113	PAHs	Pyrene	-	**U**
ROST3MW-ROX-071113	PAHs	Pyrene	-	**U**

1.8 Surrogate Spike Recoveries

Surrogate compounds were used to evaluate the overall laboratory sample preparation efficiency on a per-sample basis. Surrogate recoveries were within the method acceptance criteria for validated samples with the exceptions summarized in the following table.

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
MW24-ROX-071113 Run#1	SVOCs	2-Fluorophenol	**7**	15-110
MW24-ROX-071113 Run#1	SVOCs	Phenol-d_5	**6**	15-110
ROST3MW-ROX-071113 Run#1	SVOCs	2-Fluorophenol	**2**	15-110
ROST3MW-ROX-071113 Run#1	SVOCs	Phenol-d_5	**1**	15-110
ROST3MW-ROX-071113 Run#2	SVOCs	Phenol-d_5	**14**	15-110

Analytical data associated with acid fraction surrogate recoveries less than ten percent (10%) were reported from re-analysis runs. The associated re-analysis data was previously qualified in Section 3.0 of this review due to holding time criteria; no further qualification of data was required.

Approximately 10% of the surrogate recoveries was recalculated, and the summary forms versus the raw data were verified. No calculation or transcription errors were noted.

1.9 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

MS/MSD samples are analyzed to assess potential matrix effects. The validated samples were not chosen for MS/MSD analyses.

1.10 Internal Standards

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during each analytical run. Following Method 8270C, the IS areas for the samples and CVs must be within –50% to +100% and retention times must be within 30 seconds of the IS area and retention time of the midpoint of the ICAL.

The IS areas for the validated samples in this SDG were within evaluation criteria. The summary forms versus the raw data were verified and no transcription errors were noted. No qualifications to the data were required based on internal standard areas or retention times.

1.11 Laboratory Control Spike (LCS) Samples

Laboratory control samples were analyzed with each analytical batch to assess the accuracy of the analytical process. LCS recoveries were within evaluation criteria with the exceptions summarized in the following table.

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
OP34009-BS	SVOCs	Benzoic acid	**26**	NA	30-130
OP34009-BS	SVOCs	Phenol	**26**	NA	30-130
OP34009-BS	SVOCs	Hexachlorocyclopentadiene	**26**	NA	40-140
OP34009-BS	SVOCs	Hexachloroethane	**36**	NA	40-140
OP34009-BS	SVOCs	Pyridine	**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 OP34009-BS was associated with the equipment blank. Blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
MW24-ROX-071113	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW24-ROX-071113	SVOCs	Hexachloroethane	**UJ**
MW24-ROX-071113	SVOCs	Pyridine	**UJ**
P54-ROX-071113	SVOCs	Benzoic acid	**UJ**
P54-ROX-071113	SVOCs	Phenol	**UJ**
P54-ROX-071113	SVOCs	Hexachlorocyclopentadiene	**UJ**
P54-ROX-071113	SVOCs	Hexachloroethane	**UJ**
P54-ROX-071113	SVOCs	Pyridine	**UJ**
MW3-ROX-071113	SVOCs	Benzoic acid	**UJ**
MW3-ROX-071113	SVOCs	Phenol	**UJ**
MW3-ROX-071113	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW3-ROX-071113	SVOCs	Hexachloroethane	**UJ**
MW3-ROX-071113	SVOCs	Pyridine	**UJ**
MW2-ROX-071113	SVOCs	Benzoic acid	**UJ**
MW2-ROX-071113	SVOCs	Phenol	**UJ**
MW2-ROX-071113	SVOCs	Hexachlorocyclopentadiene	**UJ**

Sample ID	Parameter	Analyte	Qualification
MW2-ROX-071113	SVOCs	Hexachloroethane	**UJ**
MW2-ROX-071113	SVOCs	Pyridine	**UJ**
ROST4PZ-ROX-071113	SVOCs	Benzoic acid	**UJ**
ROST4PZ-ROX-071113	SVOCs	Phenol	**J**
ROST4PZ-ROX-071113	SVOCs	Hexachlorocyclopentadiene	**UJ**
ROST4PZ-ROX-071113	SVOCs	Hexachloroethane	**UJ**
ROST4PZ-ROX-071113	SVOCs	Pyridine	**UJ**
ROST3MW-ROX-071113	SVOCs	Hexachlorocyclopentadiene	**UJ**
ROST3MW-ROX-071113	SVOCs	Hexachloroethane	**UJ**
ROST3MW-ROX-071113	SVOCs	Pyridine	**UJ**
MW22-ROX-071113	SVOCs	Benzoic acid	**UJ**
MW22-ROX-071113	SVOCs	Phenol	**J**
MW22-ROX-071113	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW22-ROX-071113	SVOCs	Hexachloroethane	**UJ**
MW22-ROX-071113	SVOCs	Pyridine	**UJ**
MW22-ROX-071113-Dup	SVOCs	Benzoic acid	**UJ**
MW22-ROX-071113-Dup	SVOCs	Phenol	**J**
MW22-ROX-071113-Dup	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW22-ROX-071113-Dup	SVOCs	Hexachloroethane	**UJ**
MW22-ROX-071113-Dup	SVOCs	Pyridine	**UJ**

Approximately 10% of the spiking compound recoveries for the LCS were recalculated from the raw data and verified using the LCS summary forms, and no calculation or transcription errors were noted.

1.12 Target Compound Identification and Quantification

For validation of the compound identification, chromatograms were reviewed to verify the major peaks were identified, the spectra of the identified compounds were verified against the library spectra, and the relative retention time was no greater than 0.06 different from the associated CV retention times. Approximately 10% of the detected target analytes and spiking compounds were verified. No anomalies were noted with the identification of the target compounds in the samples.

For the validation of compound quantitation, approximately 10% of the target analytes were recalculated from the raw data, and no calculation errors were noted. Additionally, the reporting limits were verified to determine if reporting limits (RLs) were adjusted for dilutions. No qualification of the data was required and review of the data indicated the correct RLs were reported.

1.13 Overall Data Assessment

Based on the criteria outlined, it is recommended that the results reported for these analyses are accepted for their intended use. Acceptable levels of accuracy and precision, based on LCS and surrogate data were achieved for this SDG.

New England ACCUTEST LABORATORIES

08/16/13

Technical Report for

Shell Oil

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana,

Accutest Job Number: MC22664

Sampling Date: 07/11/13

Report to:

URS Corporation

Melissa.mansker@urs.com

ATTN: Melissa Mansker

Reviewed on 8/16/13

Total number of pages in report: **133**

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: Matthew Morrell 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)

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6 7 8

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Summary of Hits **6**
Section 4: Sample Results **11**
4.1: MC22664-1: MW24-ROX-071113 12
4.2: MC22664-2: P54-ROX-071113 19
4.3: MC22664-3: MW3-ROX-071113 26
4.4: MC22664-4: MW2-ROX-071113-EB 33
4.5: MC22664-5: MW2-ROX-071113 40
4.6: MC22664-6: ROST4PZC-ROX-071113 47
4.7: MC22664-7: ROST3MW-ROX-071113 54
4.8: MC22664-8: MW22-ROX-071113 61
4.9: MC22664-9: MW22-ROX-071113-DUP 68
4.10: MC22664-10: TB-ROX-071113-HCL 75
4.11: MC22664-11: TB-ROX-071113-ST 78
Section 5: Misc. Forms **79**
5.1: Chain of Custody 80
5.2: Sample Tracking Chronicle 83
5.3: Internal Chain of Custody 86
Section 6: GC/MS Volatiles - QC Data Summaries **89**
6.1: Method Blank Summary 90
6.2: Blank Spike Summary 95
6.3: Matrix Spike/Matrix Spike Duplicate Summary 99
6.4: Internal Standard Area Summaries 103
6.5: Surrogate Recovery Summaries 106
Section 7: GC/MS Semi-volatiles - QC Data Summaries **107**
7.1: Method Blank Summary 108
7.2: Blank Spike Summary 112
7.3: Matrix Spike/Matrix Spike Duplicate Summary 116
7.4: Internal Standard Area Summaries 120
7.5: Surrogate Recovery Summaries 124
Section 8: GC Volatiles - QC Data Summaries **126**
8.1: Method Blank Summary 127
8.2: Blank Spike Summary 128
8.3: Matrix Spike/Matrix Spike Duplicate Summary 129
8.4: Surrogate Recovery Summaries 130
8.5: GC Surrogate Retention Time Summaries 131

Sample Summary

Shell Oil

Job No: MC22664

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC22664-1	07/11/13	09:00	LRDM	07/12/13	AQ	Ground Water	MW24-ROX-071113
MC22664-2	07/11/13	09:50	LRDM	07/12/13	AQ	Ground Water	P54-ROX-071113
MC22664-3	07/11/13	10:35	LRDM	07/12/13	AQ	Ground Water	MW3-ROX-071113
MC22664-4	07/11/13	10:50	LRDM	07/12/13	AQ	Ground Water	MW2-ROX-071113-EB
MC22664-5	07/11/13	11:35	LRDM	07/12/13	AQ	Ground Water	MW2-ROX-071113
MC22664-6	07/11/13	13:15	LRDM	07/12/13	AQ	Ground Water	ROST4PZC-ROX-071113
MC22664-7	07/11/13	14:05	LRDM	07/12/13	AQ	Ground Water	ROST3MW-ROX-071113
MC22664-8	07/11/13	15:00	LRDM	07/12/13	AQ	Ground Water	MW22-ROX-071113
MC22664-9	07/11/13	15:00	LRDM	07/12/13	AQ	Ground Water	MW22-ROX-071113-DUP
MC22664-10	07/11/13	00:00	LRDM	07/12/13	AQ	Trip Blank Water	TB-ROX-071113-HCL
MC22664-11	07/11/13	00:00	LRDM	07/12/13	AQ	Trip Blank Water	TB-ROX-071113-ST

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	**Job No**	MC22664
Site:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central	**Report Date**	8/1/2013 1:48:54 PM

9 Sample(s) and 2 Trip Blank(s) were collected on 07/11/2013 and were received at Accutest on 07/12/2013 properly preserved, at 0.4 Deg. C and intact. These Samples received an Accutest job number of MC22664. 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:** MSN2948

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22702-4MS, MC22702-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Initial calibration verification stdanard MSN2927-ICV2927 for acrolein exceeded 50% Difference (response biased high). Associated samples are non-detect for this compound.
- MSN2948-BS Recovery(s) for Acrolein, Dichlorodifluoromethane are outside control limits. Blank Spike meets program technical requirements.
- MC22702-4MS/MSD Recovery(s) for 2-Butanone (MEK), 2-Hexanone, Acetone, Vinyl Acetate are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.

Matrix AQ **Batch ID:** MSN2949

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC22739-8MS, MC22739-8MSD were used as the QC samples indicated.

Extractables by GCMS By Method SW846 8270C

Matrix AQ	Batch ID: OP34009

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22548-18MS, MC22548-18MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- OP34009-BS Recovery(s) for Benzoic Acid, Hexachlorocyclopentadiene, Hexachloroethane, Phenol, Pyridine are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for Benzoic Acid, Dimethyl phthalate, Hexachlorocyclopentadiene, Hexachloroethane, Pyridine are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for Hexachlorocyclopentadiene, Hexachloroethane, Phenol, Pyridine are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- RPD(s) for MSD for Dimethyl phthalate are outside control limits for sample OP34009-MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- Sample(s) MC22664-7 has 2-Fluorophenol, Phenol-d5 outside control limits. Outside control limits due to possilbe matrix interference. Confirmed by re-extraction/re-analysis.

Matrix AQ	Batch ID: OP34099

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22900-7MS, MC22900-7MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC22664-7 has Phenol-d5 outside control limits. Outside control limits due to possilbe matrix interference. Confirmed by re-extraction/re-analysis.
- MC22664-1, 7: Sample re-extracted beyond recommended holding time.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix AQ	Batch ID: OP34010

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22548-19MS, MC22548-19MSD were used as the QC samples indicated.
- MC22664-8, 9 compound(s) reported with a "B" qualifier, indicating analyte is found in the associated method blank.
- OP34010-MS/MSD Recovery(s) for 1-Methylnaphthalene, 2-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: OP34092

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22787-5MS, MC22787-5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- All samples were extracted within the recommended method holding time.

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(MC22664).

Summary of Hits

Job Number: MC22664
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/11/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC22664-1	MW24-ROX-071113					
Acetone		15.7	10	2.8	ug/l	SW846 8260B
Acenaphthene		0.024 J	0.11	0.015	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		0.062 J	0.22	0.056	ug/l	SW846 8270C BY SIM
Phenanthrene		0.038 J	0.054	0.014	ug/l	SW846 8270C BY SIM
MC22664-2	P54-ROX-071113					
bis(2-Ethylhexyl)phthalate		0.52 J	2.1	0.51	ug/l	SW846 8270C
Acenaphthene		0.032 J	0.10	0.014	ug/l	SW846 8270C BY SIM
Acenaphthylene		0.016 J	0.10	0.014	ug/l	SW846 8270C BY SIM
Anthracene		0.018 J	0.10	0.018	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		0.083 J	0.21	0.054	ug/l	SW846 8270C BY SIM
Phenanthrene		0.049 J	0.052	0.013	ug/l	SW846 8270C BY SIM
MC22664-3	MW3-ROX-071113					
Benzene		5.9	0.50	0.45	ug/l	SW846 8260B
Isopropylbenzene		4.9 J	5.0	0.64	ug/l	SW846 8260B
Methyl Tert Butyl Ether		3.5	1.0	0.43	ug/l	SW846 8260B
n-Propylbenzene		5.5	5.0	0.59	ug/l	SW846 8260B
Toluene		1.3	1.0	0.46	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		1.3 J	5.0	0.47	ug/l	SW846 8260B
m,p-Xylene		2.8	1.0	0.70	ug/l	SW846 8260B
Xylene (total)		2.8	1.0	0.41	ug/l	SW846 8260B
bis(2-Ethylhexyl)phthalate		3.8	2.2	0.53	ug/l	SW846 8270C
Acenaphthene		0.028 J	0.11	0.015	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		0.44 J	0.22	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		0.38	0.22	0.056	ug/l	SW846 8270C BY SIM
Phenanthrene		0.039 J	0.054	0.014	ug/l	SW846 8270C BY SIM
Pyrene		0.072 J	0.11	0.039	ug/l	SW846 8270C BY SIM
MC22664-4	MW2-ROX-071113-EB					
Phenanthrene		0.033 J	0.051	0.013	ug/l	SW846 8270C BY SIM
Pyrene		0.065 J	0.10	0.036	ug/l	SW846 8270C BY SIM
MC22664-5	MW2-ROX-071113					
Benzene		6.0	0.50	0.45	ug/l	SW846 8260B
sec-Butylbenzene		7.3	5.0	0.58	ug/l	SW846 8260B
tert-Butylbenzene		2.9 J	5.0	0.87	ug/l	SW846 8260B
Ethylbenzene		1570	50	19	ug/l	SW846 8260B
Isopropylbenzene		93.1	5.0	0.64	ug/l	SW846 8260B

Summary of Hits

Job Number: MC22664
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/11/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
p-Isopropyltoluene		7.5	5.0	0.55	ug/l	SW846 8260B
Methyl Tert Butyl Ether		6.2	1.0	0.43	ug/l	SW846 8260B
Naphthalene		114	5.0	0.79	ug/l	SW846 8260B
n-Propylbenzene		127	5.0	0.59	ug/l	SW846 8260B
Toluene		110	1.0	0.46	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		522	250	23	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		175	5.0	1.1	ug/l	SW846 8260B
m,p-Xylene		1880	50	35	ug/l	SW846 8260B
o-Xylene		174	1.0	0.41	ug/l	SW846 8260B
Xylene (total)		1880	50	20	ug/l	SW846 8260B
2,4-Dimethylphenol		5.0 J	11	1.3	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		0.63 J	2.2	0.54	ug/l	SW846 8270C
Acenaphthene		0.035 J	0.11	0.015	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		12.3 J	0.22	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		24.9	0.22	0.057	ug/l	SW846 8270C BY SIM
Phenanthrene		0.051 J	0.055	0.014	ug/l	SW846 8270C BY SIM
MC22664-6	ROST4PZC-ROX-071113					
Benzene		49.7	0.50	0.45	ug/l	SW846 8260B
Ethylbenzene		65.1	1.0	0.38	ug/l	SW846 8260B
Isopropylbenzene		2.5 J	5.0	0.64	ug/l	SW846 8260B
Naphthalene		18.9	5.0	0.79	ug/l	SW846 8260B
n-Propylbenzene		4.1 J	5.0	0.59	ug/l	SW846 8260B
Toluene		41.0	1.0	0.46	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		19.4	5.0	0.47	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		4.4 J	5.0	1.1	ug/l	SW846 8260B
m,p-Xylene		126	1.0	0.70	ug/l	SW846 8260B
o-Xylene		64.9	1.0	0.41	ug/l	SW846 8260B
Xylene (total)		191	1.0	0.41	ug/l	SW846 8260B
Phenol		0.57 J	5.4	0.55	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		3.2	2.2	0.53	ug/l	SW846 8270C
Acenaphthene		0.19	0.11	0.015	ug/l	SW846 8270C BY SIM
Acenaphthylene		0.073 J	0.11	0.014	ug/l	SW846 8270C BY SIM
Anthracene		0.12	0.11	0.019	ug/l	SW846 8270C BY SIM
Fluoranthene		0.099 J	0.11	0.035	ug/l	SW846 8270C BY SIM
Fluorene		0.27	0.11	0.050	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		2.7 J	0.22	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		2.1	0.22	0.056	ug/l	SW846 8270C BY SIM
Phenanthrene		0.52	0.054	0.014	ug/l	SW846 8270C BY SIM
Pyrene		0.090 J	0.11	0.038	ug/l	SW846 8270C BY SIM
MC22664-7	ROST3MW-ROX-071113					
Benzene		12.5	0.50	0.45	ug/l	SW846 8260B

Summary of Hits

Job Number: MC22664
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/11/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
sec-Butylbenzene		1.4 J	5.0	0.58	ug/l	SW846 8260B
Ethylbenzene		218	1.0	0.38	ug/l	SW846 8260B
Isopropylbenzene		14.6	5.0	0.64	ug/l	SW846 8260B
p-Isopropyltoluene		1.4 J	5.0	0.55	ug/l	SW846 8260B
Naphthalene		41.1	5.0	0.79	ug/l	SW846 8260B
n-Propylbenzene		27.9	5.0	0.59	ug/l	SW846 8260B
Toluene		14.0	1.0	0.46	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		164	5.0	0.47	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		37.3	5.0	1.1	ug/l	SW846 8260B
m,p-Xylene		644	1.0	0.70	ug/l	SW846 8260B
o-Xylene		124	1.0	0.41	ug/l	SW846 8260B
Xylene (total)		768	1.0	0.41	ug/l	SW846 8260B
2,4-Dimethylphenol [a]		1.6 J	11	1.2	ug/l	SW846 8270C
Dibenzofuran		0.25 J	2.2	0.17	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		0.61 J	2.2	0.53	ug/l	SW846 8270C
Acenaphthene		0.29	0.11	0.015	ug/l	SW846 8270C BY SIM
Anthracene		0.091 J	0.11	0.019	ug/l	SW846 8270C BY SIM
Fluorene		0.43	0.11	0.050	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		10.5 J	0.22	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		14.2	0.22	0.056	ug/l	SW846 8270C BY SIM
Phenanthrene		0.73	0.054	0.014	ug/l	SW846 8270C BY SIM
Pyrene		0.044 J	0.11	0.038	ug/l	SW846 8270C BY SIM
MC22664-8	MW22-ROX-071113					
Benzene		1190	50	45	ug/l	SW846 8260B
sec-Butylbenzene		11.6	5.0	0.58	ug/l	SW846 8260B
tert-Butylbenzene		14.2	5.0	0.87	ug/l	SW846 8260B
Ethylbenzene		2070	100	38	ug/l	SW846 8260B
Isopropylbenzene		131	5.0	0.64	ug/l	SW846 8260B
p-Isopropyltoluene		8.7	5.0	0.55	ug/l	SW846 8260B
4-Methyl-2-pentanone (MIBK)		10.2	5.0	1.3	ug/l	SW846 8260B
Naphthalene		345	5.0	0.79	ug/l	SW846 8260B
n-Propylbenzene		242	5.0	0.59	ug/l	SW846 8260B
Toluene		3920	100	46	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		864	500	47	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		309	5.0	1.1	ug/l	SW846 8260B
m,p-Xylene		4130	100	70	ug/l	SW846 8260B
o-Xylene		2260	100	41	ug/l	SW846 8260B
Xylene (total)		6390	100	41	ug/l	SW846 8260B
2,4-Dimethylphenol		104	11	1.2	ug/l	SW846 8270C
2-Methylphenol		15.9	11	1.4	ug/l	SW846 8270C
3&4-Methylphenol		29.0	11	2.2	ug/l	SW846 8270C
Phenol		9.4	5.4	0.56	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		1.7 J	2.2	0.53	ug/l	SW846 8270C

Summary of Hits

Job Number: MC22664
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/11/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Acenaphthene		0.26	0.11	0.015	ug/l	SW846 8270C BY SIM
Acenaphthylene		0.48	0.11	0.014	ug/l	SW846 8270C BY SIM
Anthracene		0.035 J	0.11	0.019	ug/l	SW846 8270C BY SIM
Fluorene		0.27	0.11	0.050	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		23.2 J	0.22	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		39.3	0.22	0.056	ug/l	SW846 8270C BY SIM
Phenanthrene		0.20 B	0.054	0.014	ug/l	SW846 8270C BY SIM
MC22664-9	MW22-ROX-071113-DUP					
Benzene		1110	50	45	ug/l	SW846 8260B
sec-Butylbenzene		11.6	5.0	0.58	ug/l	SW846 8260B
tert-Butylbenzene		14.8	5.0	0.87	ug/l	SW846 8260B
Ethylbenzene		1790	100	38	ug/l	SW846 8260B
Isopropylbenzene		133	5.0	0.64	ug/l	SW846 8260B
p-Isopropyltoluene		8.7	5.0	0.55	ug/l	SW846 8260B
4-Methyl-2-pentanone (MIBK)		10.3	5.0	1.3	ug/l	SW846 8260B
Naphthalene		362	5.0	0.79	ug/l	SW846 8260B
n-Propylbenzene		245	5.0	0.59	ug/l	SW846 8260B
Toluene		3570	100	46	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		754	500	47	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		311	5.0	1.1	ug/l	SW846 8260B
m,p-Xylene		3830	100	70	ug/l	SW846 8260B
o-Xylene		2050	100	41	ug/l	SW846 8260B
Xylene (total)		5880	100	41	ug/l	SW846 8260B
2,4-Dimethylphenol		97.8	11	1.3	ug/l	SW846 8270C
2-Methylphenol		14.7	11	1.4	ug/l	SW846 8270C
3&4-Methylphenol		26.9	11	2.3	ug/l	SW846 8270C
Phenol		8.8	5.6	0.57	ug/l	SW846 8270C
Di-n-butyl phthalate		0.52 J	5.6	0.43	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		2.1 J	2.2	0.54	ug/l	SW846 8270C
Acenaphthene		0.18	0.11	0.015	ug/l	SW846 8270C BY SIM
Acenaphthylene		0.47	0.11	0.015	ug/l	SW846 8270C BY SIM
Fluorene		0.17	0.11	0.051	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		21.6 J	0.22	0.16	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		37.0	0.22	0.058	ug/l	SW846 8270C BY SIM
Phenanthrene		0.20 B	0.056	0.014	ug/l	SW846 8270C BY SIM
MC22664-10	TB-ROX-071113-HCL					
No hits reported in this sample.						
MC22664-11	TB-ROX-071113-ST					
No hits reported in this sample.						

Summary of Hits

Job Number: MC22664
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/11/13

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

(a) Sample re-extracted beyond recommended holding time.

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW24-ROX-071113		
Lab Sample ID:	MC22664-1	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78532.D	1	07/23/13	JB	n/a	n/a	MSN2948
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	~~15.7~~	~~10~~ 15.7	2.8	ug/l	UJ
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	UJ
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

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

Report of Analysis

Client Sample ID:	MW24-ROX-071113		
Lab Sample ID:	MC22664-1	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	R
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	UJ
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	MW24-ROX-071113		
Lab Sample ID:	MC22664-1	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	100%		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:	MW24-ROX-071113		
Lab Sample ID:	MC22664-1	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F65713.D	1	07/19/13	KR	07/15/13	OP34009	MSF3044
Run #2 [a]	R32380.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2	940 ml	1.0 ml

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND [b]	11	1.3	ug/l	UJ
95-57-8	2-Chlorophenol	ND [b]	5.3	0.41	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND [b]	11	0.52	ug/l	
120-83-2	2,4-Dichlorophenol	ND [b]	11	0.35	ug/l	
105-67-9	2,4-Dimethylphenol	ND [b]	11	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND [b]	21	2.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND [b]	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND [b]	11	1.4	ug/l	
	3&4-Methylphenol	ND [b]	11	2.2	ug/l	
88-75-5	2-Nitrophenol	ND [b]	11	0.53	ug/l	
100-02-7	4-Nitrophenol	ND [b]	21	0.62	ug/l	
87-86-5	Pentachlorophenol	ND [b]	11	1.3	ug/l	
108-95-2	Phenol	ND [b]	5.3	0.54	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND [b]	11	0.61	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND [b]	11	0.34	ug/l	
62-53-3	Aniline	ND	11	0.69	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.22	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	0.92	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.62	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	0.99	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.27	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.4	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.4	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.14	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.21	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.70	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.73	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.69	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.54	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.4	0.42	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	0.47	ug/l	

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

Report of Analysis

Client Sample ID:	MW24-ROX-071113		
Lab Sample ID:	MC22664-1	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.54	ug/l	
131-11-3	Dimethyl phthalate	ND	5.4	0.54	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.53	ug/l	
118-74-1	Hexachlorobenzene	ND	5.4	0.32	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.7	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.4	0.47	ug/l	UJ
78-59-1	Isophorone	ND	5.4	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.30	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.54	ug/l	UJ
100-01-6	4-Nitroaniline	ND	11	4.7	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.54	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.87	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.58	ug/l	
110-86-1	Pyridine	ND	11	0.55	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	7% c	36%	15-110%
4165-62-2	Phenol-d5	6% c	15%	15-110%
118-79-6	2,4,6-Tribromophenol	28%	76%	15-110%
4165-60-0	Nitrobenzene-d5	76%	52%	30-130%
321-60-8	2-Fluorobiphenyl	59%	64%	30-130%
1718-51-0	Terphenyl-d14	91%	83%	30-130%

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

(a) Sample re-extracted beyond recommended holding time.
(b) Result is from Run# 2
(c) Outside control limits. Sample re-extracted/reanalyzed.

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

Report of Analysis

Client Sample ID:	MW24-ROX-071113		
Lab Sample ID:	MC22664-1	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14029.D	1	07/19/13	KR	07/15/13	OP34010	MSW635
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	0.024	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	ND	0.054	0.032	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.054	0.025	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.041	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.063	ug/l	
218-01-9	Chrysene	ND	0.11	0.078	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.045	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.035	ug/l	
86-73-7	Fluorene	ND	0.11	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.049	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	0.062	0.22	0.056	ug/l	J
85-01-8	Phenanthrene	~~0.038~~ U	0.054	0.014	ug/l	J U
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	77%		30-130%
321-60-8	2-Fluorobiphenyl	60%		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:	MW24-ROX-071113		
Lab Sample ID:	MC22664-1	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27086.D	1	07/24/13	NK	07/23/13	OP34092	GBK929
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	0.0043	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0092	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	106%		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:	P54-ROX-071113		
Lab Sample ID:	MC22664-2	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78534.D	1	07/23/13	JB	n/a	n/a	MSN2948
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	2.8	ug/l	UJ
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	UJ
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071113		
Lab Sample ID:	MC22664-2	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	R
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	UJ
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	P54-ROX-071113		
Lab Sample ID:	MC22664-2	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	107%		70-130%

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071113		
Lab Sample ID:	MC22664-2	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F65714.D	1	07/19/13	KR	07/15/13	OP34009	MSF3044
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	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.51	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.34	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	2.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	1.2	ug/l	
95-48-7	2-Methylphenol	ND	10	1.3	ug/l	
	3&4-Methylphenol	ND	10	2.1	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.52	ug/l	
100-02-7	4-Nitrophenol	ND	21	0.61	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.2	0.53	ug/l	UJ
95-95-4	2,4,5-Trichlorophenol	ND	10	0.60	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.33	ug/l	
62-53-3	Aniline	ND	10	0.66	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.2	0.21	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.2	0.89	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.60	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.2	0.96	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.26	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	0.24	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.2	0.14	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.2	0.21	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.2	0.68	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.70	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.67	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.2	0.52	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.16	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.2	0.40	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.2	0.45	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071113		
Lab Sample ID:	MC22664-2	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.52	ug/l	
131-11-3	Dimethyl phthalate	ND	5.2	0.52	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.52	2.1	0.51	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.2	0.31	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	2.6	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.2	0.46	ug/l	UJ
78-59-1	Isophorone	ND	5.2	0.21	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.29	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.52	ug/l	UJ
100-01-6	4-Nitroaniline	ND	10	4.5	ug/l	
98-95-3	Nitrobenzene	ND	5.2	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.2	0.52	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.2	0.84	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.2	0.56	ug/l	
110-86-1	Pyridine	ND	10	0.54	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	29%		15-110%
118-79-6	2,4,6-Tribromophenol	77%		15-110%
4165-60-0	Nitrobenzene-d5	79%		30-130%
321-60-8	2-Fluorobiphenyl	61%		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	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071113		
Lab Sample ID:	MC22664-2	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14030.D	1	07/19/13	KR	07/15/13	OP34010	MSW635
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	0.032	0.10	0.014	ug/l	J
208-96-8	Acenaphthylene	0.016	0.10	0.014	ug/l	J
120-12-7	Anthracene	0.018	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	ND	0.21	0.15	ug/l	
91-57-6	2-Methylnaphthalene	0.083	0.21	0.054	ug/l	J
85-01-8	Phenanthrene	~~0.049~~ U	0.052	0.013	ug/l	J U
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	78%		30-130%
321-60-8	2-Fluorobiphenyl	62%		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:	P54-ROX-071113		
Lab Sample ID:	MC22664-2	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27087.D	1	07/24/13	NK	07/23/13	OP34092	GBK929
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	0.0043	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0092	ug/l	

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

Report of Analysis

Client Sample ID:	MW3-ROX-071113		
Lab Sample ID:	MC22664-3	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78535.D	1	07/23/13	JB	n/a	n/a	MSN2948
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	2.8	ug/l	UJ
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	5.9	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	UJ
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071113		
Lab Sample ID:	MC22664-3	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	R
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	UJ
98-82-8	Isopropylbenzene	4.9	5.0	0.64	ug/l	J
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	3.5	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	5.5	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	1.3	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	1.3	5.0	0.47	ug/l	J
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	2.8	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	2.8	1.0	0.41	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:	MW3-ROX-071113		
Lab Sample ID:	MC22664-3	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		70-130%
2037-26-5	Toluene-D8	102%		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:	MW3-ROX-071113		
Lab Sample ID:	MC22664-3	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F65715.D	1	07/19/13	KR	07/15/13	OP34009	MSF3044
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	UJ
95-57-8	2-Chlorophenol	ND	5.4	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.53	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.36	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	
	3&4-Methylphenol	ND	11	2.2	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.54	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.63	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	ND	5.4	0.56	ug/l	UJ
95-95-4	2,4,5-Trichlorophenol	ND	11	0.62	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.34	ug/l	
62-53-3	Aniline	ND	11	0.69	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.22	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	0.93	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.62	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.27	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.4	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.4	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.71	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.73	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.70	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.54	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.4	0.42	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	0.47	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071113		
Lab Sample ID:	MC22664-3	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.54	ug/l	
131-11-3	Dimethyl phthalate	ND	5.4	0.54	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	3.8	2.2	0.53	ug/l	
118-74-1	Hexachlorobenzene	ND	5.4	0.32	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.7	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.4	0.48	ug/l	UJ
78-59-1	Isophorone	ND	5.4	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.30	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.54	ug/l	UJ
100-01-6	4-Nitroaniline	ND	11	4.7	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.54	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.88	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.59	ug/l	
110-86-1	Pyridine	ND	11	0.56	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	30%		15-110%
4165-62-2	Phenol-d5	23%		15-110%
118-79-6	2,4,6-Tribromophenol	68%		15-110%
4165-60-0	Nitrobenzene-d5	74%		30-130%
321-60-8	2-Fluorobiphenyl	55%		30-130%
1718-51-0	Terphenyl-d14	85%		30-130%

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071113		
Lab Sample ID:	MC22664-3	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14031.D	1	07/19/13	KR	07/15/13	OP34010	MSW635
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	0.028	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	ND	0.054	0.033	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.054	0.026	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.041	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.064	ug/l	
218-01-9	Chrysene	ND	0.11	0.079	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.045	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.035	ug/l	
86-73-7	Fluorene	ND	0.11	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.050	ug/l	
90-12-0	1-Methylnaphthalene	0.44	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	0.38	0.22	0.056	ug/l	
85-01-8	Phenanthrene	~~0.039~~ U	0.054	0.014	ug/l	J U
129-00-0	Pyrene	~~0.072~~ U	0.11	0.039	ug/l	J U

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	74%		30-130%
321-60-8	2-Fluorobiphenyl	55%		30-130%
1718-51-0	Terphenyl-d14	85%		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-071113		
Lab Sample ID:	MC22664-3	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27088.D	1	07/24/13	NK	07/23/13	OP34092	GBK929
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	0.0044	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0093	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	134%		36-173%
460-00-4	Bromofluorobenzene (S)	117%		36-173%

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

Report of Analysis

Client Sample ID:	MW2-ROX-071113-EB		
Lab Sample ID:	MC22664-4	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78536.D	1	07/23/13	JB	n/a	n/a	MSN2948
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	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071113-EB		
Lab Sample ID:	MC22664-4	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	MW2-ROX-071113-EB		
Lab Sample ID:	MC22664-4	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		70-130%
2037-26-5	Toluene-D8	102%		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:	MW2-ROX-071113-EB		
Lab Sample ID:	MC22664-4	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F65716.D	1	07/19/13	KR	07/15/13	OP34009	MSF3044
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	0.39	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.50	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.33	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	2.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	1.2	ug/l	
95-48-7	2-Methylphenol	ND	10	1.3	ug/l	
	3&4-Methylphenol	ND	10	2.1	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.51	ug/l	
100-02-7	4-Nitrophenol	ND	20	0.60	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.1	0.52	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.58	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.32	ug/l	
62-53-3	Aniline	ND	10	0.65	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.1	0.21	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.1	0.87	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.59	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.1	0.94	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.26	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.1	0.21	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.1	0.24	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.1	0.14	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.1	0.20	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.1	0.67	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.69	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.65	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.1	0.51	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.16	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.1	0.40	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.1	0.44	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071113-EB		
Lab Sample ID:	MC22664-4	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.51	ug/l	
131-11-3	Dimethyl phthalate	ND	5.1	0.51	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.50	ug/l	
118-74-1	Hexachlorobenzene	ND	5.1	0.30	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	2.6	ug/l	
67-72-1	Hexachloroethane	ND	5.1	0.45	ug/l	
78-59-1	Isophorone	ND	5.1	0.20	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.51	ug/l	
100-01-6	4-Nitroaniline	ND	10	4.4	ug/l	
98-95-3	Nitrobenzene	ND	5.1	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.1	0.51	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.1	0.82	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.1	0.55	ug/l	
110-86-1	Pyridine	ND	10	0.53	ug/l	

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	76%		15-110%
4165-60-0	Nitrobenzene-d5	72%		30-130%
321-60-8	2-Fluorobiphenyl	58%		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:	MW2-ROX-071113-EB		
Lab Sample ID:	MC22664-4	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14032.D	1	07/19/13	KR	07/15/13	OP34010	MSW635
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	0.033	0.051	0.013	ug/l	J
129-00-0	Pyrene	0.065	0.10	0.036	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	72%		30-130%
321-60-8	2-Fluorobiphenyl	60%		30-130%
1718-51-0	Terphenyl-d14	85%		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-071113-EB		
Lab Sample ID:	MC22664-4	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27089.D	1	07/24/13	NK	07/23/13	OP34092	GBK929
Run #2							

	Initial Volume	Final Volume
Run #1	36.9 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.014	0.0043	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0092	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	108%		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:	MW2-ROX-071113		
Lab Sample ID:	MC22664-5	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78537.D	1	07/23/13	JB	n/a	n/a	MSN2948
Run #2	N78584.D	50	07/24/13	JB	n/a	n/a	MSN2949

	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	10	2.8	ug/l	UJ
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	6.0	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	UJ
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	7.3	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	2.9	5.0	0.87	ug/l	J
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071113		
Lab Sample ID:	MC22664-5	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

4.5

4

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	R
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	1570 [a]	50	19	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	UJ
98-82-8	Isopropylbenzene	93.1	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	7.5	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	6.2	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	114	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	127	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	110	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	522 [a]	250	23	ug/l	
108-67-8	1,3,5-Trimethylbenzene	175	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	1880 [a]	50	35	ug/l	
95-47-6	o-Xylene	174	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	1880 [a]	50	20	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071113		
Lab Sample ID:	MC22664-5	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%	95%	70-130%
2037-26-5	Toluene-D8	103%	100%	70-130%
460-00-4	4-Bromofluorobenzene	101%	103%	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:	MW2-ROX-071113		
Lab Sample ID:	MC22664-5	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F65717.D	1	07/19/13	KR	07/15/13	OP34009	MSF3044
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	UJ
95-57-8	2-Chlorophenol	ND	5.5	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.54	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.36	ug/l	
105-67-9	2,4-Dimethylphenol	5.0	11	1.3	ug/l	J
51-28-5	2,4-Dinitrophenol	ND	22	2.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	
	3&4-Methylphenol	ND	11	2.2	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.55	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.64	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	ND	5.5	0.56	ug/l	UJ
95-95-4	2,4,5-Trichlorophenol	ND	11	0.63	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.35	ug/l	
62-53-3	Aniline	ND	11	0.70	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.5	0.22	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.5	0.94	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.63	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.5	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.27	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.5	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.5	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.5	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.5	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.5	0.72	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.74	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.71	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.5	0.55	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.5	0.43	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.5	0.48	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071113		
Lab Sample ID:	MC22664-5	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.55	ug/l	
131-11-3	Dimethyl phthalate	ND	5.5	0.55	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.63	2.2	0.54	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.5	0.33	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.7	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.5	0.48	ug/l	UJ
78-59-1	Isophorone	ND	5.5	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.31	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.55	ug/l	UJ
100-01-6	4-Nitroaniline	ND	11	4.8	ug/l	
98-95-3	Nitrobenzene	ND	5.5	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.5	0.55	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.5	0.89	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.5	0.59	ug/l	
110-86-1	Pyridine	ND	11	0.57	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	32%		15-110%
118-79-6	2,4,6-Tribromophenol	77%		15-110%
4165-60-0	Nitrobenzene-d5	75%		30-130%
321-60-8	2-Fluorobiphenyl	50%		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:	MW2-ROX-071113		
Lab Sample ID:	MC22664-5	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14033.D	1	07/19/13	KR	07/15/13	OP34010	MSW635
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	0.035	0.11	0.015	ug/l	J
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	12.3	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	24.9	0.22	0.057	ug/l	
85-01-8	Phenanthrene	~~0.051~~ U	0.055	0.014	ug/l	J U
129-00-0	Pyrene	ND	0.11	0.039	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	71%		30-130%
321-60-8	2-Fluorobiphenyl	51%		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:	MW2-ROX-071113		
Lab Sample ID:	MC22664-5	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27090.D	1	07/24/13	NK	07/23/13	OP34092	GBK929
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	0.0044	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.0094	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	121%		36-173%
460-00-4	Bromofluorobenzene (S)	126%		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-071113		
Lab Sample ID:	MC22664-6	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78538.D	1	07/23/13	JB	n/a	n/a	MSN2948
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	2.8	ug/l	UJ
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	49.7	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	UJ
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071113		
Lab Sample ID:	MC22664-6	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	R
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	65.1	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	UJ
98-82-8	Isopropylbenzene	2.5	5.0	0.64	ug/l	J
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	18.9	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	4.1	5.0	0.59	ug/l	J
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	41.0	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	19.4	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	4.4	5.0	1.1	ug/l	J
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	126	1.0	0.70	ug/l	
95-47-6	o-Xylene	64.9	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	191	1.0	0.41	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:	ROST4PZC-ROX-071113		
Lab Sample ID:	MC22664-6	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		70-130%
2037-26-5	Toluene-D8	102%		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:	ROST4PZC-ROX-071113		
Lab Sample ID:	MC22664-6	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F65718.D	1	07/19/13	KR	07/15/13	OP34009	MSF3044
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	0.41	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.53	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.35	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	
	3&4-Methylphenol	ND	11	2.2	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.54	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.63	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.3	ug/l	
108-95-2	Phenol	0.57	5.4	0.55	ug/l	J J
95-95-4	2,4,5-Trichlorophenol	ND	11	0.62	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.34	ug/l	
62-53-3	Aniline	ND	11	0.69	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.22	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	0.92	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.62	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	0.99	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.27	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.4	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.4	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.14	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.21	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.70	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.73	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.69	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.54	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.4	0.42	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	0.47	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071113		
Lab Sample ID:	MC22664-6	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.54	ug/l	
131-11-3	Dimethyl phthalate	ND	5.4	0.54	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	3.2	2.2	0.53	ug/l	
118-74-1	Hexachlorobenzene	ND	5.4	0.32	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.7	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.4	0.47	ug/l	UJ
78-59-1	Isophorone	ND	5.4	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.30	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.54	ug/l	UJ
100-01-6	4-Nitroaniline	ND	11	4.7	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.54	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.87	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.58	ug/l	
110-86-1	Pyridine	ND	11	0.55	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	26%		15-110%
4165-62-2	Phenol-d5	22%		15-110%
118-79-6	2,4,6-Tribromophenol	71%		15-110%
4165-60-0	Nitrobenzene-d5	70%		30-130%
321-60-8	2-Fluorobiphenyl	54%		30-130%
1718-51-0	Terphenyl-d14	92%		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-071113		
Lab Sample ID:	MC22664-6	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14034.D	1	07/19/13	KR	07/15/13	OP34010	MSW635
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	0.19	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	0.073	0.11	0.014	ug/l	J
120-12-7	Anthracene	0.12	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	0.099	0.11	0.035	ug/l	J
86-73-7	Fluorene	0.27	0.11	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.049	ug/l	
90-12-0	1-Methylnaphthalene	2.7	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	2.1	0.22	0.056	ug/l	
85-01-8	Phenanthrene	0.52	0.054	0.014	ug/l	
129-00-0	Pyrene	~~0.090~~ U	0.11	0.038	ug/l	J U

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	74%		30-130%
321-60-8	2-Fluorobiphenyl	55%		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:	ROST4PZC-ROX-071113		
Lab Sample ID:	MC22664-6	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27091.D	1	07/24/13	NK	07/23/13	OP34092	GBK929
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	0.0043	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0091	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	115%		36-173%
460-00-4	Bromofluorobenzene (S)	103%		36-173%

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

Report of Analysis

Client Sample ID:	ROST3MW-ROX-071113		
Lab Sample ID:	MC22664-7	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78539.D	1	07/23/13	JB	n/a	n/a	MSN2948
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	2.8	ug/l	UJ
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	12.5	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	UJ
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	1.4	5.0	0.58	ug/l	J
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

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

Report of Analysis

Client Sample ID:	ROST3MW-ROX-071113		
Lab Sample ID:	MC22664-7	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

4.7

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	R
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	218	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	UJ
98-82-8	Isopropylbenzene	14.6	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	1.4	5.0	0.55	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	41.1	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	27.9	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	14.0	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	164	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	37.3	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	644	1.0	0.70	ug/l	
95-47-6	o-Xylene	124	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	768	1.0	0.41	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:	ROST3MW-ROX-071113		
Lab Sample ID:	MC22664-7	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		70-130%
2037-26-5	Toluene-D8	98%		70-130%
460-00-4	4-Bromofluorobenzene	101%		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:	ROST3MW-ROX-071113		
Lab Sample ID:	MC22664-7	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F65719.D	1	07/19/13	KR	07/15/13	OP34009	MSF3044
Run #2 [a]	R32381.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181

	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 [b]	11	1.3	ug/l	UJ
95-57-8	2-Chlorophenol	ND [b]	5.4	0.41	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND [b]	11	0.53	ug/l	
120-83-2	2,4-Dichlorophenol	ND [b]	11	0.35	ug/l	
105-67-9	2,4-Dimethylphenol	1.6 [b]	11	1.2	ug/l	J J
51-28-5	2,4-Dinitrophenol	ND [b]	22	2.7	ug/l	UJ
534-52-1	4,6-Dinitro-o-cresol	ND [b]	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND [b]	11	1.4	ug/l	
	3&4-Methylphenol	ND [b]	11	2.2	ug/l	
88-75-5	2-Nitrophenol	ND [b]	11	0.54	ug/l	
100-02-7	4-Nitrophenol	ND [b]	22	0.63	ug/l	
87-86-5	Pentachlorophenol	ND [b]	11	1.3	ug/l	
108-95-2	Phenol	ND [b]	5.4	0.55	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND [b]	11	0.62	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND [b]	11	0.34	ug/l	
62-53-3	Aniline	ND	11	0.69	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.22	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	0.92	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.62	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	0.99	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.27	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.4	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.4	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.14	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.21	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.70	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.73	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.69	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.54	ug/l	
132-64-9	Dibenzofuran	0.25	2.2	0.17	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.4	0.42	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	0.47	ug/l	

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

Report of Analysis

Client Sample ID:	ROST3MW-ROX-071113		
Lab Sample ID:	MC22664-7	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.54	ug/l	
131-11-3	Dimethyl phthalate	ND	5.4	0.54	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.61	2.2	0.53	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.4	0.32	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.7	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.4	0.47	ug/l	UJ
78-59-1	Isophorone	ND	5.4	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.30	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.54	ug/l	UJ
100-01-6	4-Nitroaniline	ND	11	4.7	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.54	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.87	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.58	ug/l	
110-86-1	Pyridine	ND	11	0.55	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	2% c	27%	15-110%
4165-62-2	Phenol-d5	1% c	14% c	15-110%
118-79-6	2,4,6-Tribromophenol	18%	67%	15-110%
4165-60-0	Nitrobenzene-d5	67%	64%	30-130%
321-60-8	2-Fluorobiphenyl	46%	73%	30-130%
1718-51-0	Terphenyl-d14	74%	80%	30-130%

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

(a) Sample re-extracted beyond recommended holding time.
(b) Result is from Run# 2
(c) Outside control limits due to possible matrix interference. Confirmed by 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:	ROST3MW-ROX-071113		
Lab Sample ID:	MC22664-7	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14035.D	1	07/19/13	KR	07/15/13	OP34010	MSW635
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	0.29	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	ND	0.11	0.014	ug/l	
120-12-7	Anthracene	0.091	0.11	0.019	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.054	0.032	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.054	0.025	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.041	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.063	ug/l	
218-01-9	Chrysene	ND	0.11	0.078	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.045	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.035	ug/l	
86-73-7	Fluorene	0.43	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	10.5	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	14.2	0.22	0.056	ug/l	
85-01-8	Phenanthrene	0.73	0.054	0.014	ug/l	
129-00-0	Pyrene	~~0.044~~	0.11	0.038	ug/l	J N

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%		30-130%
321-60-8	2-Fluorobiphenyl	48%		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:	ROST3MW-ROX-071113		
Lab Sample ID:	MC22664-7	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27092.D	1	07/24/13	NK	07/23/13	OP34092	GBK929
Run #2							

	Initial Volume	Final Volume
Run #1	37.1 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	0.014	0.0043	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0091	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	114%		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:	MW22-ROX-071113		
Lab Sample ID:	MC22664-8	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78540.D	1	07/23/13	JB	n/a	n/a	MSN2948
Run #2	N78585.D	100	07/24/13	JB	n/a	n/a	MSN2949

	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	10	2.8	ug/l	UJ
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	1190 [a]	50	45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	UJ
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	11.6	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	14.2	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

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

Report of Analysis

Client Sample ID:	MW22-ROX-071113		
Lab Sample ID:	MC22664-8	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	R
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	2070 [a]	100	38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	UJ
98-82-8	Isopropylbenzene	131	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	8.7	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	10.2	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	345	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	242	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	3920 [a]	100	46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	864 [a]	500	47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	309	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	4130 [a]	100	70	ug/l	
95-47-6	o-Xylene	2260 [a]	100	41	ug/l	
1330-20-7	Xylene (total)	6390 [a]	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:	MW22-ROX-071113		
Lab Sample ID:	MC22664-8	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%	96%	70-130%
2037-26-5	Toluene-D8	98%	100%	70-130%
460-00-4	4-Bromofluorobenzene	97%	100%	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:	MW22-ROX-071113		
Lab Sample ID:	MC22664-8	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F65720.D	1	07/19/13	KR	07/15/13	OP34009	MSF3044
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	UJ
95-57-8	2-Chlorophenol	ND	5.4	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.53	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.36	ug/l	
105-67-9	2,4-Dimethylphenol	104	11	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	15.9	11	1.4	ug/l	
	3&4-Methylphenol	29.0	11	2.2	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.54	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.63	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	9.4	5.4	0.56	ug/l	J
95-95-4	2,4,5-Trichlorophenol	ND	11	0.62	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.34	ug/l	
62-53-3	Aniline	ND	11	0.69	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.22	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	0.93	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.62	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.27	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.4	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.4	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.71	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.73	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.70	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.54	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.4	0.42	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	0.47	ug/l	

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

Report of Analysis

Client Sample ID:	MW22-ROX-071113		
Lab Sample ID:	MC22664-8	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.54	ug/l	
131-11-3	Dimethyl phthalate	ND	5.4	0.54	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	1.7	2.2	0.53	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.4	0.32	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.7	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.4	0.48	ug/l	UJ
78-59-1	Isophorone	ND	5.4	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.30	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.54	ug/l	UJ
100-01-6	4-Nitroaniline	ND	11	4.7	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.54	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.88	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.59	ug/l	
110-86-1	Pyridine	ND	11	0.56	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	49%		15-110%
4165-62-2	Phenol-d5	35%		15-110%
118-79-6	2,4,6-Tribromophenol	82%		15-110%
4165-60-0	Nitrobenzene-d5	94%		30-130%
321-60-8	2-Fluorobiphenyl	71%		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:	MW22-ROX-071113		
Lab Sample ID:	MC22664-8	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14036.D	1	07/19/13	KR	07/15/13	OP34010	MSW635
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	0.26	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	0.48	0.11	0.014	ug/l	
120-12-7	Anthracene	0.035	0.11	0.019	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.054	0.033	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.054	0.026	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.041	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.064	ug/l	
218-01-9	Chrysene	ND	0.11	0.079	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.045	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.035	ug/l	
86-73-7	Fluorene	0.27	0.11	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.050	ug/l	
90-12-0	1-Methylnaphthalene	23.2	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	39.3	0.22	0.056	ug/l	
85-01-8	Phenanthrene	0.20	0.054	0.014	ug/l	B
129-00-0	Pyrene	ND	0.11	0.039	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	85%		30-130%
321-60-8	2-Fluorobiphenyl	63%		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

Report of Analysis

Client Sample ID:	MW22-ROX-071113		
Lab Sample ID:	MC22664-8	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27093.D	1	07/24/13	NK	07/23/13	OP34092	GBK929
Run #2							

	Initial Volume	Final Volume
Run #1	36.9 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.014	0.0043	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0092	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	124%		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:	MW22-ROX-071113-DUP		
Lab Sample ID:	MC22664-9	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78541.D	1	07/23/13	JB	n/a	n/a	MSN2948
Run #2	N78586.D	100	07/24/13	JB	n/a	n/a	MSN2949

	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	10	2.8	ug/l	UJ
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	1110 [a]	50	45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	UJ
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	11.6	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	14.8	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

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

Report of Analysis

Client Sample ID:	MW22-ROX-071113-DUP		
Lab Sample ID:	MC22664-9	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	1790 [a]	100	38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	133	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	8.7	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	10.3	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	362	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	245	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	3570 [a]	100	46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	754 [a]	500	47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	311	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	3830 [a]	100	70	ug/l	
95-47-6	o-Xylene	2050 [a]	100	41	ug/l	
1330-20-7	Xylene (total)	5880 [a]	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:	MW22-ROX-071113-DUP		
Lab Sample ID:	MC22664-9	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%	95%	70-130%
2037-26-5	Toluene-D8	97%	100%	70-130%
460-00-4	4-Bromofluorobenzene	102%	99%	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:	MW22-ROX-071113-DUP		
Lab Sample ID:	MC22664-9	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F65721.D	1	07/19/13	KR	07/15/13	OP34009	MSF3044
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	0.43	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.55	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.36	ug/l	
105-67-9	2,4-Dimethylphenol	97.8	11	1.3	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.8	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	14.7	11	1.4	ug/l	
	3&4-Methylphenol	26.9	11	2.3	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.56	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.65	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	8.8	5.6	0.57	ug/l	J
95-95-4	2,4,5-Trichlorophenol	ND	11	0.64	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.35	ug/l	
62-53-3	Aniline	ND	11	0.71	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.6	0.23	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.6	0.95	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.64	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.6	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.28	ug/l	UJ
111-91-1	bis(2-Chloroethoxy)methane	ND	5.6	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.6	0.26	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.6	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.6	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.6	0.72	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.75	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.71	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.6	0.56	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	0.52	5.6	0.43	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.6	0.48	ug/l	

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

Report of Analysis

Client Sample ID:	MW22-ROX-071113-DUP		
Lab Sample ID:	MC22664-9	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.56	ug/l	
131-11-3	Dimethyl phthalate	ND	5.6	0.56	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	2.1	2.2	0.54	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.6	0.33	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.8	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.6	0.49	ug/l	UJ
78-59-1	Isophorone	ND	5.6	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.31	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.56	ug/l	UJ
100-01-6	4-Nitroaniline	ND	11	4.8	ug/l	
98-95-3	Nitrobenzene	ND	5.6	0.28	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.6	0.56	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.6	0.90	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.6	0.60	ug/l	
110-86-1	Pyridine	ND	11	0.57	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	45%		15-110%
4165-62-2	Phenol-d5	33%		15-110%
118-79-6	2,4,6-Tribromophenol	80%		15-110%
4165-60-0	Nitrobenzene-d5	91%		30-130%
321-60-8	2-Fluorobiphenyl	60%		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:	MW22-ROX-071113-DUP		
Lab Sample ID:	MC22664-9	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14037.D	1	07/19/13	KR	07/15/13	OP34010	MSW635
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	0.18	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	0.47	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	0.17	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	21.6	0.22	0.16	ug/l	
91-57-6	2-Methylnaphthalene	37.0	0.22	0.058	ug/l	
85-01-8	Phenanthrene	0.20	0.056	0.014	ug/l	B
129-00-0	Pyrene	ND	0.11	0.039	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	81%		30-130%
321-60-8	2-Fluorobiphenyl	57%		30-130%
1718-51-0	Terphenyl-d14	88%		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:	MW22-ROX-071113-DUP		
Lab Sample ID:	MC22664-9	Date Sampled:	07/11/13
Matrix:	AQ - Ground Water	Date Received:	07/12/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27095.D	1	07/24/13	NK	07/23/13	OP34092	GBK929
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	0.0045	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.0095	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	147%		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:	TB-ROX-071113-HCL		
Lab Sample ID:	MC22664-10	Date Sampled:	07/11/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N78528.D	1	07/23/13	JB	n/a	n/a	MSN2948
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	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071113-HCL		
Lab Sample ID:	MC22664-10	Date Sampled:	07/11/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	TB-ROX-071113-HCL		
Lab Sample ID:	MC22664-10	Date Sampled:	07/11/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/12/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		70-130%
2037-26-5	Toluene-D8	102%		70-130%
460-00-4	4-Bromofluorobenzene	107%		70-130%

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071113-ST		
Lab Sample ID:	MC22664-11	Date Sampled:	07/11/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/12/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27096.D	1	07/24/13	NK	07/23/13	OP34092	GBK929
Run #2							

	Initial Volume	Final Volume
Run #1	37.1 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	0.014	0.0043	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0091	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	118%		36-173%
460-00-4	Bromofluorobenzene (S)	106%		36-173%

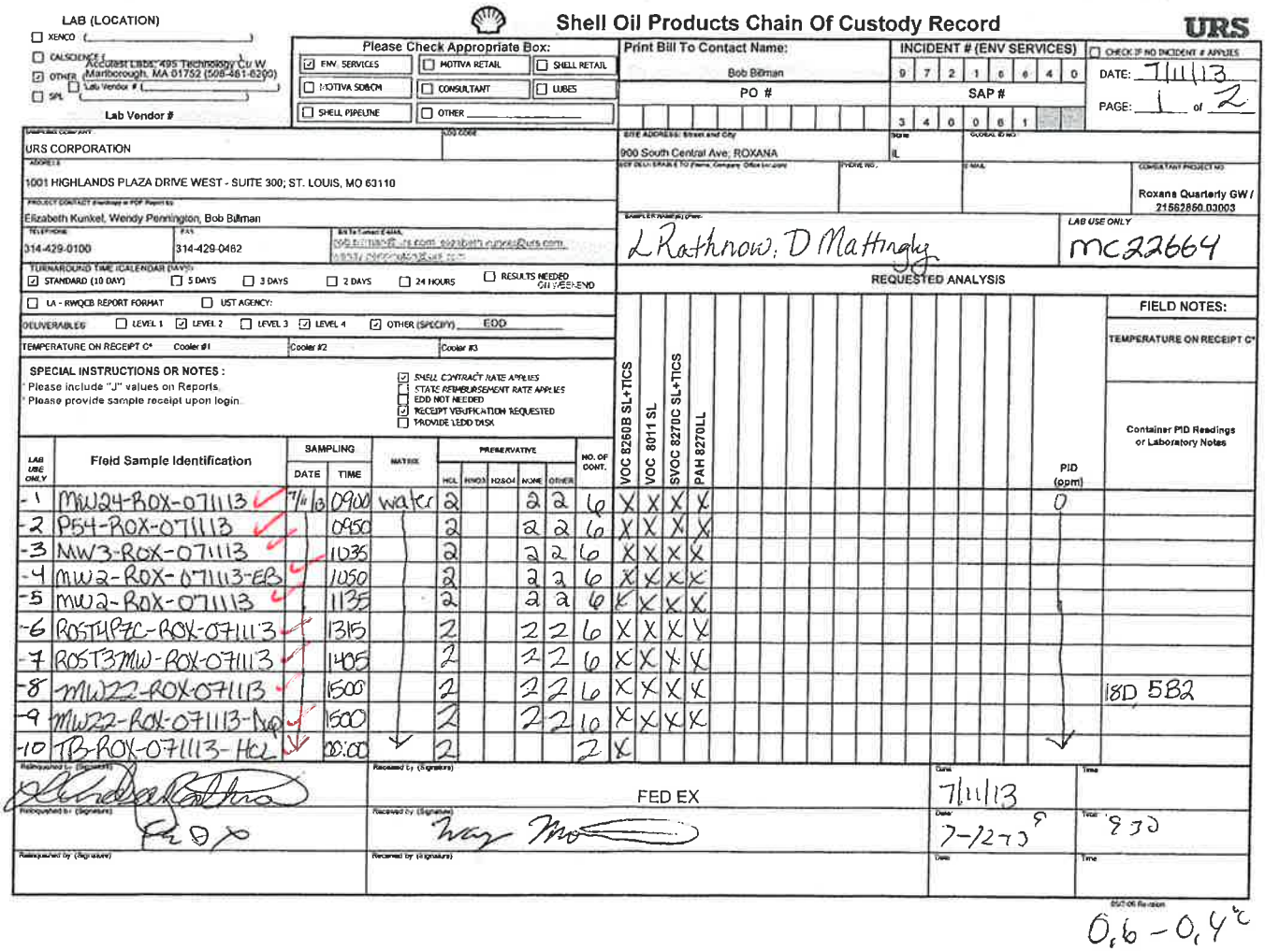
ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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 SOS/CN ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Bob Billman
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: 7/11/13
PAGE: 1 of 2

COMPANY: URS CORPORATION
LOG CODE:
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Wendy Pennington, Bob Billman
TELEPHONE: 314-429-0100
FAX: 314-429-0462
Bill To Contact E-MAIL: bob.billman@urs.com; elizabeth.kunkel@urs.com; wendy.pennington@urs.com
SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA
State: IL
GLOBAL ID NO.:
HOW DELIVERABLE TO (Name, Company, Office Location):
PHONE NO.:
E-MAIL:
CONSULTANT PROJECT NO.: Roxana Quarterly GW / 21562860.03003
SAMPLER NAME(S) (Print): L Rathnow; D Mattingly
LAB USE ONLY: MC22664

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°
Container PID Readings or Laboratory Notes

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	MW24-ROX-071113	7/11/13	0900	water	2			2	2	6	X	X	X	X	0	
-2	P54-ROX-071113		0950		2			2	2	6	X	X	X	X		
-3	MW3-ROX-071113		1035		2			2	2	6	X	X	X	X		
-4	MW2-ROX-071113-EB		1050		2			2	2	6	X	X	X	X		
-5	MW2-ROX-071113		1135		2			2	2	6	X	X	X	X		
-6	ROST4P7C-ROX-071113		1315		2			2	2	6	X	X	X	X		
-7	ROST3MW-ROX-071113		1405		2			2	2	6	X	X	X	X		
-8	MW22-ROX-071113		1500		2			2	2	6	X	X	X	X		18D 582
-9	MW22-ROX-071113-Nap		1500		2			2	2	10	X	X	X	X		
-10	TB-ROX-071113-HCL		00:00		2					2	X					

Relinquished by (Signature): [signature]
Received by (Signature): FED EX
Date: 7/11/13
Time:

Relinquished by (Signature): [signature]
Received by (Signature): [signature]
Date: 7-12-13
Time: 830

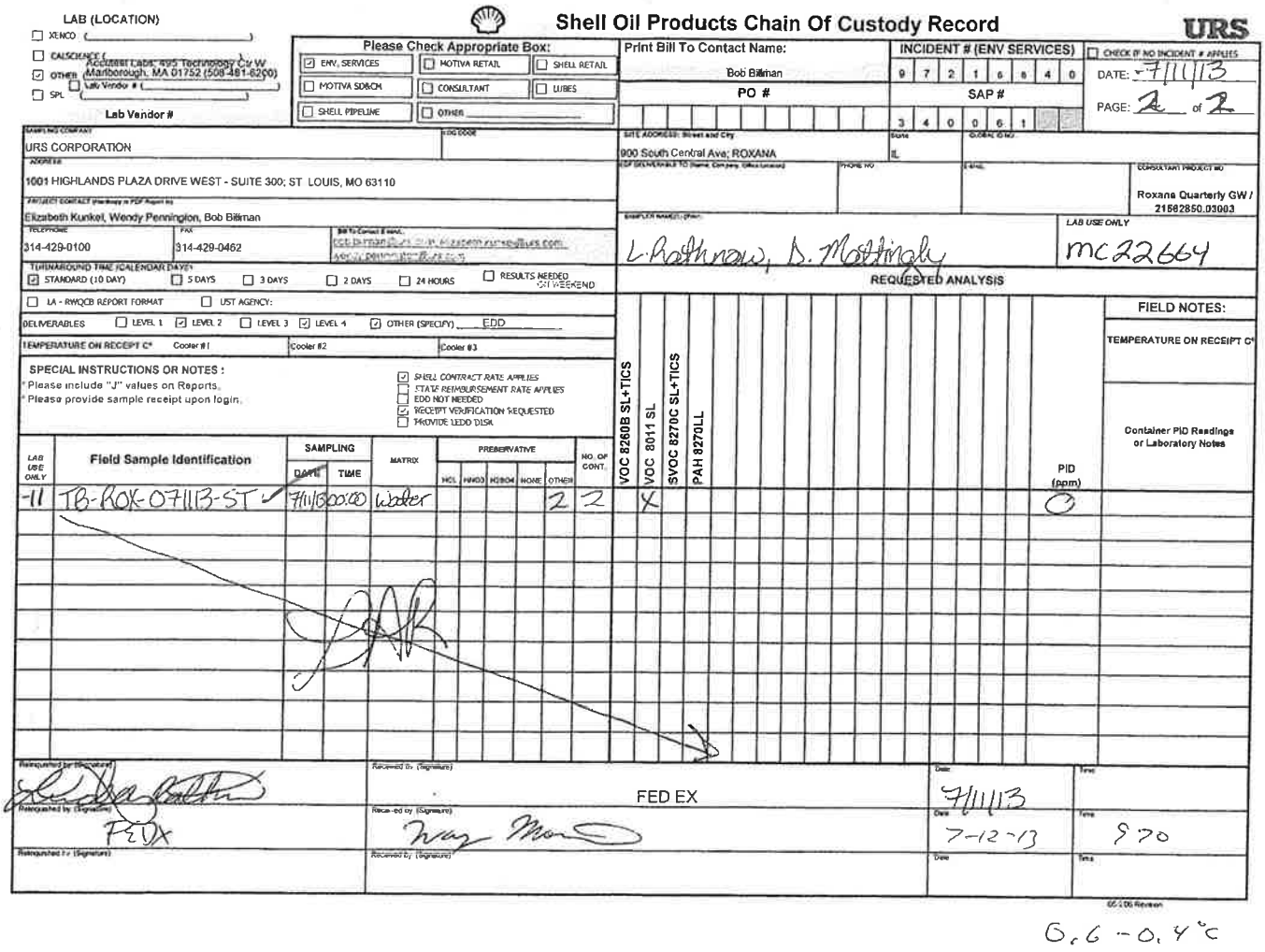
Relinquished by (Signature):
Received by (Signature):
Date:
Time:

EDT OR Revision

0,6 - 0,4°C

5.1 5

MC22664: Chain of Custody
Page 1 of 3



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: Bob Billman
PO #

INCIDENT # (ENV SERVICES): 9 7 2 1 5 5 4 0
SAP #: 3 4 0 0 6 1
☐ CHECK IF NO INCIDENT # APPLIES
DATE: 7/11/13
PAGE: 2 of 2

SAMPLING COMPANY: URS CORPORATION
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST LOUIS, MO 63110
PROJECT CONTACT: Elizabeth Kunkel, Wendy Pennington, Bob Billman
TELEPHONE: 314-429-0100 FAX: 314-429-0462
Bill To Contact E-mail:

SITE ADDRESS: 900 South Central Ave; ROXANA
STATE: IL
CONSULTANT PROJECT NO: Roxana Quarterly GW / 21582850.03003
SAMPLER NAME: L. Rathman, S. Mattingly
LAB USE ONLY: MC22664

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	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)
-11	TB-ROX-071113-ST	7/11/13	00:00	Water					2	2		X			0

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

Relinquished by (Signature): [signature]
Received by (Signature): FED EX
Date: 7/11/13 Time:

Relinquished by (Signature): FEDX
Received by (Signature): [signature]
Date: 7-12-13 Time: 9:20

Relinquished by (Signature):
Received by (Signature):
Date: Time:

60-106 Revised

0.6 - 0.4°C

5.1 5

MC22664: Chain of Custody
Page 2 of 3

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC22664 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 7/12/2013 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900 SOUTH CENTRAL AVE **No. Coolers:** 2 **Airbill #'s:**

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

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

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

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

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

Comments

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com

5.1
5

MC22664: Chain of Custody
Page 3 of 3

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC22664

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC22664-1 Collected: 11-JUL-13 09:00 By: LRDM Received: 12-JUL-13 By: MW24-ROX-071113						
MC22664-1	SW846 8270C	19-JUL-13 10:07	KR	15-JUL-13	MR	AB8270SL+
MC22664-1	SW846 8270C BY SIM	19-JUL-13 14:00	KR	15-JUL-13	MR	B8270SIMSL
MC22664-1	SW846 8260B	23-JUL-13 12:39	JB			V8260SL+
MC22664-1	SW846 8011	24-JUL-13 17:24	NK	23-JUL-13	BJ	V8011SL
MC22664-1	SW846 8270C	25-JUL-13 14:44	WK	23-JUL-13	PA	AB8270SL+
MC22664-2 Collected: 11-JUL-13 09:50 By: LRDM Received: 12-JUL-13 By: P54-ROX-071113						
MC22664-2	SW846 8270C	19-JUL-13 10:31	KR	15-JUL-13	MR	AB8270SL+
MC22664-2	SW846 8270C BY SIM	19-JUL-13 15:12	KR	15-JUL-13	MR	B8270SIMSL
MC22664-2	SW846 8260B	23-JUL-13 13:36	JB			V8260SL+
MC22664-2	SW846 8011	24-JUL-13 17:46	NK	23-JUL-13	BJ	V8011SL
MC22664-3 Collected: 11-JUL-13 10:35 By: LRDM Received: 12-JUL-13 By: MW3-ROX-071113						
MC22664-3	SW846 8270C	19-JUL-13 10:55	KR	15-JUL-13	MR	AB8270SL+
MC22664-3	SW846 8270C BY SIM	19-JUL-13 15:34	KR	15-JUL-13	MR	B8270SIMSL
MC22664-3	SW846 8260B	23-JUL-13 14:04	JB			V8260SL+
MC22664-3	SW846 8011	24-JUL-13 18:08	NK	23-JUL-13	BJ	V8011SL
MC22664-4 Collected: 11-JUL-13 10:50 By: LRDM Received: 12-JUL-13 By: MW2-ROX-071113-EB						
MC22664-4	SW846 8270C	19-JUL-13 11:19	KR	15-JUL-13	MR	AB8270SL+
MC22664-4	SW846 8270C BY SIM	19-JUL-13 15:56	KR	15-JUL-13	MR	B8270SIMSL
MC22664-4	SW846 8260B	23-JUL-13 14:32	JB			V8260SL+
MC22664-4	SW846 8011	24-JUL-13 18:31	NK	23-JUL-13	BJ	V8011SL
MC22664-5 Collected: 11-JUL-13 11:35 By: LRDM Received: 12-JUL-13 By: MW2-ROX-071113						
MC22664-5	SW846 8270C	19-JUL-13 11:43	KR	15-JUL-13	MR	AB8270SL+
MC22664-5	SW846 8270C BY SIM	19-JUL-13 16:18	KR	15-JUL-13	MR	B8270SIMSL
MC22664-5	SW846 8260B	23-JUL-13 15:00	JB			V8260SL+
MC22664-5	SW846 8260B	24-JUL-13 13:09	JB			V8260SL+

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC22664

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC22664-5	SW846 8011	24-JUL-13 18:54	NK	23-JUL-13	BJ	V8011SL
MC22664-6 Collected: 11-JUL-13 13:15 By: LRDM Received: 12-JUL-13 By: ROST4PZC-ROX-071113						
MC22664-6	SW846 8270C	19-JUL-13 12:07	KR	15-JUL-13	MR	AB8270SL+
MC22664-6	SW846 8270C BY SIM	19-JUL-13 16:40	KR	15-JUL-13	MR	B8270SIMSL
MC22664-6	SW846 8260B	23-JUL-13 15:29	JB			V8260SL+
MC22664-6	SW846 8011	24-JUL-13 19:17	NK	23-JUL-13	BJ	V8011SL
MC22664-7 Collected: 11-JUL-13 14:05 By: LRDM Received: 12-JUL-13 By: ROST3MW-ROX-071113						
MC22664-7	SW846 8270C	19-JUL-13 12:32	KR	15-JUL-13	MR	AB8270SL+
MC22664-7	SW846 8270C BY SIM	19-JUL-13 17:02	KR	15-JUL-13	MR	B8270SIMSL
MC22664-7	SW846 8260B	23-JUL-13 15:57	JB			V8260SL+
MC22664-7	SW846 8011	24-JUL-13 19:40	NK	23-JUL-13	BJ	V8011SL
MC22664-7	SW846 8270C	25-JUL-13 15:08	WK	23-JUL-13	PA	AB8270SL+
MC22664-8 Collected: 11-JUL-13 15:00 By: LRDM Received: 12-JUL-13 By: MW22-ROX-071113						
MC22664-8	SW846 8270C	19-JUL-13 12:56	KR	15-JUL-13	MR	AB8270SL+
MC22664-8	SW846 8270C BY SIM	19-JUL-13 17:24	KR	15-JUL-13	MR	B8270SIMSL
MC22664-8	SW846 8260B	23-JUL-13 16:25	JB			V8260SL+
MC22664-8	SW846 8260B	24-JUL-13 13:37	JB			V8260SL+
MC22664-8	SW846 8011	24-JUL-13 20:03	NK	23-JUL-13	BJ	V8011SL
MC22664-9 Collected: 11-JUL-13 15:00 By: LRDM Received: 12-JUL-13 By: MW22-ROX-071113-DUP						
MC22664-9	SW846 8270C	19-JUL-13 13:20	KR	15-JUL-13	MR	AB8270SL+
MC22664-9	SW846 8270C BY SIM	19-JUL-13 17:47	KR	15-JUL-13	MR	B8270SIMSL
MC22664-9	SW846 8260B	23-JUL-13 16:53	JB			V8260SL+
MC22664-9	SW846 8260B	24-JUL-13 14:05	JB			V8260SL+
MC22664-9	SW846 8011	24-JUL-13 20:48	NK	23-JUL-13	BJ	V8011SL
MC22664-10 Collected: 11-JUL-13 00:00 By: LRDM Received: 12-JUL-13 By: TB-ROX-071113-HCL						

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC22664

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC22664-10	SW846 8260B	23-JUL-13 10:46	JB			V8260SL+
MC22664-11	Collected: 11-JUL-13 00:00 By: LRDM Received: 12-JUL-13 By: TB-ROX-071113-ST					
MC22664-11	SW846 8011	24-JUL-13 21:11	NK	23-JUL-13	BJ	V8011SL

Accutest Internal Chain of Custody

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/12/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22664-1.1	Walk In Ref #22	Thomas Abruzzise	07/23/13 14:59	Retrieve from Storage
MC22664-1.1	Thomas Abruzzise		07/30/13 14:35	Depleted
MC22664-1.2	Walk In Ref #22	Michael Rolo	07/15/13 07:05	Retrieve from Storage
MC22664-1.2	Michael Rolo		08/02/13 07:19	Depleted
MC22664-1.4	VOC Ref #5	Jaclyn Bergeron	07/23/13 09:49	Retrieve from Storage
MC22664-1.4	Jaclyn Bergeron	GCMSN	07/23/13 09:49	Load on Instrument
MC22664-1.4	GCMSN	Jaclyn Bergeron	07/24/13 09:44	Unload from Instrument
MC22664-1.4	Jaclyn Bergeron	VOC Ref #5	07/24/13 09:44	Return to Storage
MC22664-1.6	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22664-1.6	Bijan Jafari		07/23/13 18:13	Depleted
MC22664-2.1	Walk In Ref #22	Michael Rolo	07/15/13 07:05	Retrieve from Storage
MC22664-2.1	Michael Rolo		08/02/13 07:19	Depleted
MC22664-2.4	VOC Ref #5	Jaclyn Bergeron	07/23/13 09:49	Retrieve from Storage
MC22664-2.4	Jaclyn Bergeron	GCMSN	07/23/13 09:49	Load on Instrument
MC22664-2.4	GCMSN	Jaclyn Bergeron	07/24/13 09:44	Unload from Instrument
MC22664-2.4	Jaclyn Bergeron	VOC Ref #5	07/24/13 09:44	Return to Storage
MC22664-2.6	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22664-2.6	Bijan Jafari		07/23/13 18:13	Depleted
MC22664-3.2	Walk In Ref #22	Michael Rolo	07/15/13 07:05	Retrieve from Storage
MC22664-3.2	Michael Rolo		08/02/13 07:19	Depleted
MC22664-3.4	VOC Ref #5	Jaclyn Bergeron	07/23/13 09:49	Retrieve from Storage
MC22664-3.4	Jaclyn Bergeron	GCMSN	07/23/13 09:49	Load on Instrument
MC22664-3.4	GCMSN	Jaclyn Bergeron	07/24/13 09:44	Unload from Instrument
MC22664-3.4	Jaclyn Bergeron	VOC Ref #5	07/24/13 09:44	Return to Storage
MC22664-3.6	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22664-3.6	Bijan Jafari		07/23/13 18:13	Depleted
MC22664-4.2	Walk In Ref #22	Michael Rolo	07/15/13 07:05	Retrieve from Storage
MC22664-4.2	Michael Rolo		08/02/13 07:19	Depleted
MC22664-4.3	VOC Ref #5	Jaclyn Bergeron	07/23/13 09:49	Retrieve from Storage
MC22664-4.3	Jaclyn Bergeron	GCMSN	07/23/13 09:49	Load on Instrument
MC22664-4.3	GCMSN	Jaclyn Bergeron	07/24/13 09:44	Unload from Instrument
MC22664-4.3	Jaclyn Bergeron	VOC Ref #5	07/24/13 09:44	Return to Storage

Accutest Internal Chain of Custody

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/12/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22664-4.4	VOC Ref #5	Jaclyn Bergeron	07/24/13 09:45	Retrieve from Storage
MC22664-4.4	Jaclyn Bergeron	GCMSN	07/24/13 09:46	Load on Instrument
MC22664-4.4	GCMSN	Jaclyn Bergeron	07/30/13 09:00	Unload from Instrument
MC22664-4.4	Jaclyn Bergeron	VOC Ref #5	07/30/13 09:01	Return to Storage
MC22664-4.5	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22664-4.5	Bijan Jafari		07/23/13 18:13	Depleted
MC22664-5.2	Walk In Ref #22	Michael Rolo	07/15/13 07:05	Retrieve from Storage
MC22664-5.2	Michael Rolo		08/02/13 07:19	Depleted
MC22664-5.3	VOC Ref #5	Jaclyn Bergeron	07/23/13 09:49	Retrieve from Storage
MC22664-5.3	Jaclyn Bergeron	GCMSN	07/23/13 09:49	Load on Instrument
MC22664-5.3	GCMSN	Jaclyn Bergeron	07/24/13 09:44	Unload from Instrument
MC22664-5.3	Jaclyn Bergeron	VOC Ref #5	07/24/13 09:44	Return to Storage
MC22664-5.6	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22664-5.6	Bijan Jafari		07/23/13 18:13	Depleted
MC22664-6.2	Walk In Ref #22	Michael Rolo	07/15/13 07:05	Retrieve from Storage
MC22664-6.2	Michael Rolo		08/02/13 07:19	Depleted
MC22664-6.4	VOC Ref #5	Jaclyn Bergeron	07/23/13 09:49	Retrieve from Storage
MC22664-6.4	Jaclyn Bergeron	GCMSN	07/23/13 09:49	Load on Instrument
MC22664-6.4	GCMSN	Jaclyn Bergeron	07/24/13 09:44	Unload from Instrument
MC22664-6.4	Jaclyn Bergeron	VOC Ref #5	07/24/13 09:44	Return to Storage
MC22664-6.6	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22664-6.6	Bijan Jafari		07/23/13 18:13	Depleted
MC22664-7.1	Walk In Ref #22	Michael Rolo	07/15/13 07:05	Retrieve from Storage
MC22664-7.1	Michael Rolo		08/02/13 07:19	Depleted
MC22664-7.2	Walk In Ref #22	Thomas Abruzzise	07/23/13 14:59	Retrieve from Storage
MC22664-7.2	Thomas Abruzzise		07/30/13 14:35	Depleted
MC22664-7.4	VOC Ref #5	Jaclyn Bergeron	07/23/13 09:49	Retrieve from Storage
MC22664-7.4	Jaclyn Bergeron	GCMSN	07/23/13 09:49	Load on Instrument
MC22664-7.4	GCMSN	Jaclyn Bergeron	07/24/13 09:44	Unload from Instrument
MC22664-7.4	Jaclyn Bergeron	VOC Ref #5	07/24/13 09:44	Return to Storage
MC22664-7.5	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22664-7.5	Bijan Jafari		07/23/13 18:13	Depleted

Accutest Internal Chain of Custody

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/12/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22664-8.1	Walk In Ref #22	Michael Rolo	07/15/13 07:05	Retrieve from Storage
MC22664-8.1	Michael Rolo		08/02/13 07:19	Depleted
MC22664-8.3	VOC Ref #5	Jaclyn Bergeron	07/24/13 09:45	Retrieve from Storage
MC22664-8.3	Jaclyn Bergeron	GCMSN	07/24/13 09:46	Load on Instrument
MC22664-8.3	GCMSN	Jaclyn Bergeron	07/30/13 09:00	Unload from Instrument
MC22664-8.3	Jaclyn Bergeron	VOC Ref #5	07/30/13 09:01	Return to Storage
MC22664-8.4	VOC Ref #5	Jaclyn Bergeron	07/23/13 09:49	Retrieve from Storage
MC22664-8.4	Jaclyn Bergeron	GCMSN	07/23/13 09:49	Load on Instrument
MC22664-8.4	GCMSN	Jaclyn Bergeron	07/24/13 09:44	Unload from Instrument
MC22664-8.4	Jaclyn Bergeron	VOC Ref #5	07/24/13 09:44	Return to Storage
MC22664-8.5	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22664-8.5	Bijan Jafari		07/23/13 18:13	Depleted
MC22664-9.1	Walk In Ref #22	Michael Rolo	07/15/13 07:05	Retrieve from Storage
MC22664-9.1	Michael Rolo		08/02/13 07:19	Depleted
MC22664-9.3	VOC Ref #5	Jaclyn Bergeron	07/23/13 09:49	Retrieve from Storage
MC22664-9.3	Jaclyn Bergeron	GCMSN	07/23/13 09:49	Load on Instrument
MC22664-9.3	GCMSN	Jaclyn Bergeron	07/24/13 09:44	Unload from Instrument
MC22664-9.3	Jaclyn Bergeron	VOC Ref #5	07/24/13 09:44	Return to Storage
MC22664-9.4	VOC Ref #5	Jaclyn Bergeron	07/24/13 09:45	Retrieve from Storage
MC22664-9.4	Jaclyn Bergeron	GCMSN	07/24/13 09:46	Load on Instrument
MC22664-9.4	GCMSN	Jaclyn Bergeron	07/30/13 09:00	Unload from Instrument
MC22664-9.4	Jaclyn Bergeron	VOC Ref #5	07/30/13 09:01	Return to Storage
MC22664-9.6	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22664-9.6	Bijan Jafari		07/23/13 18:13	Depleted
MC22664-10.1	VOC Ref #5	Jaclyn Bergeron	07/23/13 09:49	Retrieve from Storage
MC22664-10.1	Jaclyn Bergeron	GCMSN	07/23/13 09:49	Load on Instrument
MC22664-10.1	GCMSN	Jaclyn Bergeron	07/24/13 09:44	Unload from Instrument
MC22664-10.1	Jaclyn Bergeron	VOC Ref #5	07/24/13 09:45	Return to Storage
MC22664-11.1	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22664-11.1	Bijan Jafari		07/23/13 18:13	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: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2948-MB	N78527.D	1	07/23/13	JB	n/a	n/a	MSN2948

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9, MC22664-10

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	

Method Blank Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2948-MB	N78527.D	1	07/23/13	JB	n/a	n/a	MSN2948

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9, MC22664-10

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	ug/l	

Method Blank Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2948-MB	N78527.D	1	07/23/13	JB	n/a	n/a	MSN2948

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9, MC22664-10

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	99%	70-130%
2037-26-5	Toluene-D8	102%	70-130%
460-00-4	4-Bromofluorobenzene	106%	70-130%

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

Method Blank Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2949-MB1	N78578.D	1	07/24/13	JB	n/a	n/a	MSN2949

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

MC22664-5, MC22664-8, MC22664-9

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.45	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	ug/l	

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

Method Blank Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2949-MB	N78552.D	1	07/23/13	JB	n/a	n/a	MSN2949

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

MSN2949-BS1, MC22739-8MS, MC22739-8MSD

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.45	ug/l	
100-41-4	Ethylbenzene	0.87	1.0	0.38	ug/l	J
108-88-3	Toluene	ND	1.0	0.46	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
	m,p-Xylene	2.0	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	2.0	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	93%	70-130%
2037-26-5	Toluene-D8	101%	70-130%
460-00-4	4-Bromofluorobenzene	101%	70-130%

Blank Spike Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2948-BS	N78524.D	1	07/23/13	JB	n/a	n/a	MSN2948

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9, MC22664-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	41.8	84	70-130
107-02-8	Acrolein	250	345	138* a	70-130
107-13-1	Acrylonitrile	50	44.4	89	70-130
71-43-2	Benzene	50	49.1	98	70-130
108-86-1	Bromobenzene	50	50.2	100	70-130
74-97-5	Bromochloromethane	50	49.4	99	70-130
75-27-4	Bromodichloromethane	50	60.7	121	70-130
75-25-2	Bromoform	50	44.8	90	70-130
74-83-9	Bromomethane	50	54.4	109	70-130
78-93-3	2-Butanone (MEK)	50	41.7	83	70-130
104-51-8	n-Butylbenzene	50	49.9	100	70-130
135-98-8	sec-Butylbenzene	50	54.7	109	70-130
98-06-6	tert-Butylbenzene	50	58.2	116	70-130
75-15-0	Carbon disulfide	50	47.4	95	70-130
56-23-5	Carbon tetrachloride	50	59.0	118	70-130
108-90-7	Chlorobenzene	50	49.0	98	70-130
75-00-3	Chloroethane	50	46.6	93	70-130
110-75-8	2-Chloroethyl vinyl ether	50	47.5	95	70-130
67-66-3	Chloroform	50	55.1	110	70-130
74-87-3	Chloromethane	50	54.1	108	70-130
95-49-8	o-Chlorotoluene	50	53.2	106	70-130
106-43-4	p-Chlorotoluene	50	56.2	112	70-130
124-48-1	Dibromochloromethane	50	47.1	94	70-130
95-50-1	1,2-Dichlorobenzene	50	54.8	110	70-130
541-73-1	1,3-Dichlorobenzene	50	52.3	105	70-130
106-46-7	1,4-Dichlorobenzene	50	50.2	100	70-130
75-71-8	Dichlorodifluoromethane	50	65.4	131* a	70-130
75-34-3	1,1-Dichloroethane	50	50.6	101	70-130
107-06-2	1,2-Dichloroethane	50	61.5	123	70-130
75-35-4	1,1-Dichloroethene	50	49.5	99	70-130
156-59-2	cis-1,2-Dichloroethene	50	47.6	95	70-130
156-60-5	trans-1,2-Dichloroethene	50	48.6	97	70-130
78-87-5	1,2-Dichloropropane	50	47.7	95	70-130
142-28-9	1,3-Dichloropropane	50	45.6	91	70-130
594-20-7	2,2-Dichloropropane	50	50.3	101	70-130
563-58-6	1,1-Dichloropropene	50	56.2	112	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2948-BS	N78524.D	1	07/23/13	JB	n/a	n/a	MSN2948

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9, MC22664-10

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	47.0	94	70-130
123-91-1	1,4-Dioxane	250	218	87	70-130
97-63-2	Ethyl methacrylate	50	45.3	91	77-137
100-41-4	Ethylbenzene	50	48.0	96	70-130
87-68-3	Hexachlorobutadiene	50	50.1	100	70-130
591-78-6	2-Hexanone	50	40.7	81	70-130
98-82-8	Isopropylbenzene	50	54.7	109	70-130
99-87-6	p-Isopropyltoluene	50	53.9	108	70-130
1634-04-4	Methyl Tert Butyl Ether	50	46.6	93	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	46.0	92	70-130
74-95-3	Methylene bromide	50	52.7	105	70-130
75-09-2	Methylene chloride	50	46.6	93	70-130
91-20-3	Naphthalene	50	38.8	78	70-130
103-65-1	n-Propylbenzene	50	52.9	106	70-130
100-42-5	Styrene	50	44.5	89	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	49.1	98	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	47.7	95	70-130
127-18-4	Tetrachloroethene	50	51.0	102	70-130
108-88-3	Toluene	50	52.2	104	70-130
87-61-6	1,2,3-Trichlorobenzene	50	44.9	90	70-130
120-82-1	1,2,4-Trichlorobenzene	50	46.3	93	70-130
71-55-6	1,1,1-Trichloroethane	50	57.5	115	70-130
79-00-5	1,1,2-Trichloroethane	50	50.3	101	70-130
79-01-6	Trichloroethene	50	52.2	104	70-130
75-69-4	Trichlorofluoromethane	50	58.0	116	70-130
96-18-4	1,2,3-Trichloropropane	50	43.1	86	70-130
95-63-6	1,2,4-Trimethylbenzene	50	50.0	100	70-130
108-67-8	1,3,5-Trimethylbenzene	50	50.1	100	70-130
108-05-4	Vinyl Acetate	50	37.2	74	70-130
75-01-4	Vinyl chloride	50	41.1	82	70-130
	m,p-Xylene	100	97.8	98	70-130
95-47-6	o-Xylene	50	52.1	104	70-130
1330-20-7	Xylene (total)	150	150	100	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2948-BS	N78524.D	1	07/23/13	JB	n/a	n/a	MSN2948

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9, MC22664-10

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	70-130%
2037-26-5	Toluene-D8	102%	70-130%
460-00-4	4-Bromofluorobenzene	95%	70-130%

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

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN2949-BS1	N78575.D	1	07/24/13	JB	n/a	n/a	MSN2949

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

MC22664-5, MC22664-8, MC22664-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	50	51.7	103	70-130
100-41-4	Ethylbenzene	50	50.4	101	70-130
108-88-3	Toluene	50	53.6	107	70-130
95-63-6	1,2,4-Trimethylbenzene	50	53.2	106	70-130
	m,p-Xylene	100	102	102	70-130
95-47-6	o-Xylene	50	54.2	108	70-130
1330-20-7	Xylene (total)	150	157	105	70-130

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22702-4MS	N78547.D	1	07/23/13	JB	n/a	n/a	MSN2948
MC22702-4MSD	N78548.D	1	07/23/13	JB	n/a	n/a	MSN2948
MC22702-4	N78531.D	1	07/23/13	JB	n/a	n/a	MSN2948

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9, MC22664-10

CAS No.	Compound	MC22702-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		50	27.1	54* [a]	27.5	55* [a]	1	70-130/30
107-02-8	Acrolein	ND		250	288	115	293	117	2	70-130/30
107-13-1	Acrylonitrile	ND		50	43.5	87	43.3	87	0	70-130/30
71-43-2	Benzene	ND		50	49.9	100	51.0	102	2	70-130/30
108-86-1	Bromobenzene	ND		50	55.0	110	52.6	105	4	70-130/30
74-97-5	Bromochloromethane	ND		50	51.8	104	52.6	105	2	70-130/30
75-27-4	Bromodichloromethane	ND		50	55.9	112	55.5	111	1	70-130/30
75-25-2	Bromoform	ND		50	43.8	88	44.5	89	2	70-130/30
74-83-9	Bromomethane	ND		50	57.5	115	64.6	129	12	70-130/30
78-93-3	2-Butanone (MEK)	ND		50	32.8	66* [a]	33.1	66* [a]	1	70-130/30
104-51-8	n-Butylbenzene	ND		50	51.2	102	50.8	102	1	70-130/30
135-98-8	sec-Butylbenzene	ND		50	55.9	112	56.6	113	1	70-130/30
98-06-6	tert-Butylbenzene	ND		50	57.4	115	58.0	116	1	70-130/30
75-15-0	Carbon disulfide	ND		50	48.0	96	49.9	100	4	70-130/30
56-23-5	Carbon tetrachloride	ND		50	51.8	104	52.5	105	1	70-130/30
108-90-7	Chlorobenzene	ND		50	50.0	100	51.8	104	4	70-130/30
75-00-3	Chloroethane	ND		50	49.3	99	51.5	103	4	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		50	47.1	94	48.3	97	3	70-130/30
67-66-3	Chloroform	ND		50	53.1	106	55.1	110	4	70-130/30
74-87-3	Chloromethane	ND		50	48.9	98	52.2	104	7	70-130/30
95-49-8	o-Chlorotoluene	ND		50	54.6	109	55.1	110	1	70-130/30
106-43-4	p-Chlorotoluene	ND		50	56.4	113	57.6	115	2	70-130/30
124-48-1	Dibromochloromethane	ND		50	45.6	91	47.8	96	5	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		50	55.3	111	56.0	112	1	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		50	53.3	107	53.9	108	1	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		50	50.5	101	51.1	102	1	70-130/30
75-71-8	Dichlorodifluoromethane	ND		50	59.1	118	59.1	118	0	70-130/30
75-34-3	1,1-Dichloroethane	ND		50	51.5	103	52.8	106	2	70-130/30
107-06-2	1,2-Dichloroethane	ND		50	53.9	108	52.4	105	3	70-130/30
75-35-4	1,1-Dichloroethene	ND		50	50.3	101	52.0	104	3	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		50	48.5	97	51.1	102	5	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		50	51.0	102	53.3	107	4	70-130/30
78-87-5	1,2-Dichloropropane	ND		50	47.3	95	48.4	97	2	70-130/30
142-28-9	1,3-Dichloropropane	ND		50	46.4	93	47.5	95	2	70-130/30
594-20-7	2,2-Dichloropropane	ND		50	48.9	98	48.7	97	0	70-130/30
563-58-6	1,1-Dichloropropene	ND		50	54.7	109	54.6	109	0	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22702-4MS	N78547.D	1	07/23/13	JB	n/a	n/a	MSN2948
MC22702-4MSD	N78548.D	1	07/23/13	JB	n/a	n/a	MSN2948
MC22702-4	N78531.D	1	07/23/13	JB	n/a	n/a	MSN2948

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9, MC22664-10

CAS No.	Compound	MC22702-4 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		50	43.3	87	43.6	87	1	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		50	44.8	90	44.4	89	1	70-130/30
123-91-1	1,4-Dioxane	ND		250	206	82	221	88	7	70-130/30
97-63-2	Ethyl methacrylate	ND		50	46.3	93	44.6	89	4	72-139/30
100-41-4	Ethylbenzene	ND		50	53.9	108	52.9	106	2	70-130/30
87-68-3	Hexachlorobutadiene	ND		50	47.0	94	48.0	96	2	70-130/30
591-78-6	2-Hexanone	ND		50	31.8	64* [a]	33.6	67* [a]	6	70-130/30
98-82-8	Isopropylbenzene	ND		50	57.0	114	57.8	116	1	70-130/30
99-87-6	p-Isopropyltoluene	ND		50	54.5	109	55.4	111	2	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		50	48.5	97	49.4	99	2	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		50	41.7	83	39.1	78	6	70-130/30
74-95-3	Methylene bromide	ND		50	49.0	98	50.8	102	4	70-130/30
75-09-2	Methylene chloride	ND		50	49.9	100	50.2	100	1	70-130/30
91-20-3	Naphthalene	ND		50	50.2	100	46.5	93	8	70-130/30
103-65-1	n-Propylbenzene	ND		50	57.5	115	55.9	112	3	70-130/30
100-42-5	Styrene	ND		50	45.7	91	47.0	94	3	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		50	48.0	96	49.6	99	3	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		50	50.2	100	49.3	99	2	70-130/30
127-18-4	Tetrachloroethene	ND		50	49.7	99	51.5	103	4	70-130/30
108-88-3	Toluene	ND		50	52.7	105	53.1	106	1	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		50	46.8	94	47.4	95	1	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		50	48.1	96	48.4	97	1	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		50	53.8	108	55.3	111	3	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		50	52.0	104	49.6	99	5	70-130/30
79-01-6	Trichloroethene	ND		50	52.6	105	52.3	105	1	70-130/30
75-69-4	Trichlorofluoromethane	ND		50	51.9	104	53.8	108	4	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		50	45.7	91	45.6	91	0	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		50	55.8	112	54.6	109	2	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		50	52.3	105	52.0	104	1	70-130/30
108-05-4	Vinyl Acetate	ND		50	32.3	65* [a]	32.4	65* [a]	0	70-130/30
75-01-4	Vinyl chloride	ND		50	41.4	83	43.1	86	4	70-130/30
	m,p-Xylene	ND		100	107	107	107	107	0	70-130/30
95-47-6	o-Xylene	ND		50	52.9	106	54.2	108	2	70-130/30
1330-20-7	Xylene (total)	ND		150	160	107	161	107	1	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22702-4MS	N78547.D	1	07/23/13	JB	n/a	n/a	MSN2948
MC22702-4MSD	N78548.D	1	07/23/13	JB	n/a	n/a	MSN2948
MC22702-4	N78531.D	1	07/23/13	JB	n/a	n/a	MSN2948

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9, MC22664-10

CAS No.	Surrogate Recoveries	MS	MSD	MC22702-4	Limits
1868-53-7	Dibromofluoromethane	94%	96%	100%	70-130%
2037-26-5	Toluene-D8	100%	99%	100%	70-130%
460-00-4	4-Bromofluorobenzene	97%	99%	108%	70-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22739-8MS	N78561.D	5	07/24/13	JB	n/a	n/a	MSN2949
MC22739-8MSD	N78562.D	5	07/24/13	JB	n/a	n/a	MSN2949
MC22739-8	N78579.D	1	07/24/13	JB	n/a	n/a	MSN2949

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

MC22664-5, MC22664-8, MC22664-9

CAS No.	Compound	MC22739-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1.6		250	252	100	255	101	1	70-130/30
100-41-4	Ethylbenzene	7.9		250	251	97	250	97	0	70-130/30
108-88-3	Toluene	ND		250	262	105	262	105	0	70-130/30
95-63-6	1,2,4-Trimethylbenzene	29.2		250	281	101	274	98	3	70-130/30
	m,p-Xylene	8.3		500	515	101	503	99	2	70-130/30
95-47-6	o-Xylene	13.7		250	273	104	271	103	1	70-130/30
1330-20-7	Xylene (total)	22.0		750	789	102	774	100	2	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	MC22739-8	Limits
1868-53-7	Dibromofluoromethane	96%	95%	97%	70-130%
2037-26-5	Toluene-D8	102%	101%	100%	70-130%
460-00-4	4-Bromofluorobenzene	99%	98%	100%	70-130%

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSN2948-CC2927	Injection Date:	07/23/13
Lab File ID:	N78523.D	Injection Time:	08:25
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	123260	9.01	189051	9.88	109175	13.13	91168	15.69	52372	6.57
Upper Limit [a]	246520	9.51	378102	10.38	218350	13.63	182336	16.19	104744	7.07
Lower Limit [b]	61630	8.51	94526	9.38	54588	12.63	45584	15.19	26186	6.07
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2948-BS	126579	9.01	192838	9.88	109594	13.13	93347	15.69	57397	6.57
MSN2948-MB	109169	9.01	167471	9.88	90443	13.13	67488	15.69	50772	6.59
MC22664-10	124881	9.01	189683	9.88	100218	13.13	76506	15.69	56175	6.58
ZZZZZZ	121776	9.01	186535	9.88	100417	13.13	76659	15.69	53446	6.58
ZZZZZZ	120841	9.01	186352	9.87	99111	13.13	74711	15.69	49707	6.59
MC22702-4	120897	9.01	187197	9.88	100330	13.13	73879	15.69	52364	6.58
MC22664-1	123592	9.01	185916	9.88	99469	13.13	75144	15.69	53344	6.58
ZZZZZZ	120998	9.01	184998	9.88	98865	13.13	74412	15.69	56305	6.58
MC22664-2	118799	9.01	185671	9.88	97651	13.13	72211	15.69	48716	6.59
MC22664-3	121450	9.01	185587	9.88	99096	13.13	76103	15.69	48146	6.58
MC22664-4	118545	9.01	182117	9.88	96546	13.13	74820	15.69	52278	6.59
MC22664-5	136079	9.01	211137	9.87	119474	13.13	105377	15.69	76733	6.57
MC22664-6	123707	9.01	192629	9.88	102687	13.13	81797	15.69	57843	6.59
MC22664-7	139600	9.01	218705	9.88	112546	13.13	91677	15.69	62715	6.58
MC22664-8	157424	9.01	253410	9.87	141123	13.13	124924	15.69	85661	6.57
MC22664-9	164384	9.01	268021	9.88	147385	13.13	128202	15.69	87793	6.57
ZZZZZZ	171592	9.01	259880	9.87	140206	13.13	131933	15.69	95058	6.57
MC22702-4MS	171032	9.01	264993	9.87	146070	13.13	117822	15.69	70716	6.57
MC22702-4MSD	168157	9.01	267904	9.88	142677	13.13	118759	15.69	69574	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: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSN2949-CC2927	Injection Date:	07/23/13
Lab File ID:	N78550.D	Injection Time:	21:07
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	164501	9.01	258586	9.88	142011	13.13	115814	15.69	66028	6.57
Upper Limit [a]	329002	9.51	517172	10.38	284022	13.63	231628	16.19	132056	7.07
Lower Limit [b]	82251	8.51	129293	9.38	71006	12.63	57907	15.19	33014	6.07
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2949-BS	164501	9.01	258586	9.88	142011	13.13	115814	15.69	66028	6.57
MSN2949-MB	161930	9.01	250217	9.88	129660	13.13	102132	15.69	65680	6.58
ZZZZZZ	147171	9.01	225907	9.87	124865	13.13	112644	15.69	69377	6.57
ZZZZZZ	156274	9.01	237661	9.88	131139	13.13	117887	15.69	59272	6.57
MC22739-8MS	158590	9.01	245086	9.88	136416	13.13	111886	15.69	72203	6.57
MC22739-8MSD	158851	9.01	242116	9.87	135390	13.13	110166	15.69	66230	6.57
ZZZZZZ	151823	9.01	229743	9.88	121825	13.13	94027	15.69	67898	6.59
ZZZZZZ	145025	9.01	222053	9.88	116499	13.13	90217	15.69	61349	6.58
ZZZZZZ	145767	9.01	223171	9.88	117695	13.13	88649	15.69	57211	6.58
ZZZZZZ	144891	9.01	222887	9.88	116387	13.13	88086	15.69	55692	6.58
ZZZZZZ	142626	9.01	215825	9.87	112541	13.13	89690	15.69	59025	6.58
ZZZZZZ	142210	9.01	217334	9.88	113828	13.13	90210	15.69	57850	6.59
ZZZZZZ	139169	9.01	212751	9.88	113179	13.13	86314	15.69	60258	6.58
ZZZZZZ	137222	9.01	210000	9.87	114132	13.13	87111	15.69	57002	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: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSN2949-CC2927	Injection Date:	07/24/13
Lab File ID:	N78574.D	Injection Time:	08:27
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	141213	9.01	212979	9.88	119583	13.13	99343	15.69	57246	6.57
Upper Limit [a]	282426	9.51	425958	10.38	239166	13.63	198686	16.19	114492	7.07
Lower Limit [b]	70607	8.51	106490	9.38	59792	12.63	49672	15.19	28623	6.07
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN2949-BS1	137882	9.01	211755	9.88	119198	13.13	99126	15.69	58972	6.57
MSN2949-MB1	138319	9.01	213161	9.88	112094	13.13	85440	15.69	64627	6.58
MC22739-8	135549	9.01	209728	9.88	112914	13.13	90080	15.69	58113	6.58
ZZZZZZ	135252	9.01	209367	9.88	109695	13.13	87201	15.69	56015	6.58
ZZZZZZ	134188	9.01	206684	9.88	108869	13.13	86583	15.69	58964	6.58
ZZZZZZ	132376	9.01	206481	9.88	109389	13.13	84197	15.69	52660	6.58
ZZZZZZ	134725	9.01	208276	9.88	111830	13.13	96821	15.69	64924	6.56
MC22664-5	140832	9.01	214499	9.88	113152	13.13	91288	15.69	57129	6.57
MC22664-8	128948	9.01	199216	9.88	104414	13.13	81547	15.69	55799	6.58
MC22664-9	137830	9.01	211970	9.88	111171	13.13	90275	15.69	56677	6.57
ZZZZZZ	136120	9.01	210322	9.87	112999	13.13	89143	15.69	57328	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: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22664-1	N78532.D	95.0	100.0	105.0
MC22664-2	N78534.D	97.0	99.0	107.0
MC22664-3	N78535.D	97.0	102.0	108.0
MC22664-4	N78536.D	100.0	102.0	105.0
MC22664-5	N78537.D	92.0	103.0	101.0
MC22664-5	N78584.D	95.0	100.0	103.0
MC22664-6	N78538.D	98.0	102.0	100.0
MC22664-7	N78539.D	97.0	98.0	101.0
MC22664-8	N78540.D	94.0	98.0	97.0
MC22664-8	N78585.D	96.0	100.0	100.0
MC22664-9	N78541.D	96.0	97.0	102.0
MC22664-9	N78586.D	95.0	100.0	99.0
MC22664-10	N78528.D	98.0	102.0	107.0
MC22702-4MS	N78547.D	94.0	100.0	97.0
MC22702-4MSD	N78548.D	96.0	99.0	99.0
MC22739-8MS	N78561.D	96.0	102.0	99.0
MC22739-8MSD	N78562.D	95.0	101.0	98.0
MSN2948-BS	N78524.D	98.0	102.0	95.0
MSN2948-MB	N78527.D	99.0	102.0	106.0
MSN2949-BS1	N78575.D	95.0	101.0	95.0
MSN2949-MB1	N78578.D	97.0	101.0	101.0
MSN2949-MB	N78552.D	93.0	101.0	101.0

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: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34009-MB	F65708.D	1	07/19/13	KR	07/15/13	OP34009	MSF3044

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9

7.1.1

7

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	0.38	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.49	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.33	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	1.1	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	2.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	1.2	ug/l	
95-48-7	2-Methylphenol	ND	10	1.3	ug/l	
	3&4-Methylphenol	ND	10	2.0	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.50	ug/l	
100-02-7	4-Nitrophenol	ND	20	0.58	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.0	0.51	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.57	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.32	ug/l	
62-53-3	Aniline	ND	10	0.64	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.20	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.85	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.57	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.92	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.25	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.21	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.23	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.13	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.20	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.65	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.68	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.64	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.50	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.16	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.39	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.43	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.50	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.50	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.49	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.30	ug/l	

Method Blank Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34009-MB	F65708.D	1	07/19/13	KR	07/15/13	OP34009	MSF3044

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9

7.1.1

7

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	2.5	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.44	ug/l	
78-59-1	Isophorone	ND	5.0	0.20	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.50	ug/l	
100-01-6	4-Nitroaniline	ND	10	4.3	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.50	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.81	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.54	ug/l	
110-86-1	Pyridine	ND	10	0.52	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	72%	15-110%
4165-60-0	Nitrobenzene-d5	68%	30-130%
321-60-8	2-Fluorobiphenyl	49%	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	

Method Blank Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34099-MB	R32367.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181

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

MC22664-1, MC22664-7

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	0.38	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.49	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.33	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	1.1	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	2.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	1.2	ug/l	
95-48-7	2-Methylphenol	ND	10	1.3	ug/l	
	3&4-Methylphenol	ND	10	2.0	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.50	ug/l	
100-02-7	4-Nitrophenol	ND	20	0.58	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.0	0.51	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.57	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.32	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	51%	15-110%
4165-62-2	Phenol-d5	18%	15-110%
118-79-6	2,4,6-Tribromophenol	89%	15-110%
4165-60-0	Nitrobenzene-d5	78%	30-130%
321-60-8	2-Fluorobiphenyl	91%	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			ug/l	

Method Blank Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34010-MB	W14024.D	1	07/19/13	KR	07/15/13	OP34010	MSW635

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9

7.1.3

7

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	0.030	0.050	0.013	ug/l	J
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	68%	30-130%
321-60-8	2-Fluorobiphenyl	52%	30-130%
1718-51-0	Terphenyl-d14	82%	30-130%

Blank Spike Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34009-BS	F65709.D	1	07/19/13	KR	07/15/13	OP34009	MSF3044

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	50	13.0	26* a	30-130
95-57-8	2-Chlorophenol	50	27.8	56	30-130
59-50-7	4-Chloro-3-methyl phenol	50	36.6	73	30-130
120-83-2	2,4-Dichlorophenol	50	34.2	68	30-130
105-67-9	2,4-Dimethylphenol	50	32.4	65	30-130
51-28-5	2,4-Dinitrophenol	50	30.2	60	30-130
534-52-1	4,6-Dinitro-o-cresol	50	38.4	77	30-130
95-48-7	2-Methylphenol	50	27.6	55	30-130
	3&4-Methylphenol	100	48.8	49	30-130
88-75-5	2-Nitrophenol	50	34.2	68	30-130
100-02-7	4-Nitrophenol	50	16.1	32	30-130
87-86-5	Pentachlorophenol	50	34.8	70	30-130
108-95-2	Phenol	50	13.2	26* a	30-130
95-95-4	2,4,5-Trichlorophenol	50	37.5	75	30-130
88-06-2	2,4,6-Trichlorophenol	50	35.1	70	30-130
62-53-3	Aniline	50	27.2	54	40-140
101-55-3	4-Bromophenyl phenyl ether	50	45.6	91	40-140
85-68-7	Butyl benzyl phthalate	50	48.7	97	40-140
100-51-6	Benzyl Alcohol	50	31.8	64	40-140
91-58-7	2-Chloronaphthalene	50	37.1	74	40-140
106-47-8	4-Chloroaniline	50	38.2	76	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	41.4	83	40-140
111-44-4	bis(2-Chloroethyl)ether	50	37.3	75	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	42.8	86	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	46.4	93	40-140
122-66-7	1,2-Diphenylhydrazine	50	45.3	91	40-140
121-14-2	2,4-Dinitrotoluene	50	51.9	104	40-140
606-20-2	2,6-Dinitrotoluene	50	46.0	92	40-140
91-94-1	3,3'-Dichlorobenzidine	50	41.0	82	40-140
132-64-9	Dibenzofuran	50	42.4	85	40-140
84-74-2	Di-n-butyl phthalate	50	48.7	97	40-140
117-84-0	Di-n-octyl phthalate	50	53.2	106	40-140
84-66-2	Diethyl phthalate	50	39.3	79	40-140
131-11-3	Dimethyl phthalate	50	22.7	45	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	52.4	105	40-140
118-74-1	Hexachlorobenzene	50	47.3	95	40-140

* = Outside of Control Limits.

7.2.1

7

Blank Spike Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34009-BS	F65709.D	1	07/19/13	KR	07/15/13	OP34009	MSF3044

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	12.8	26* a	40-140
67-72-1	Hexachloroethane	50	17.8	36* a	40-140
78-59-1	Isophorone	50	43.4	87	40-140
88-74-4	2-Nitroaniline	50	47.9	96	40-140
99-09-2	3-Nitroaniline	50	45.4	91	40-140
100-01-6	4-Nitroaniline	50	47.1	94	40-140
98-95-3	Nitrobenzene	50	39.0	78	40-140
62-75-9	n-Nitrosodimethylamine	50	21.4	43	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	43.1	86	40-140
86-30-6	N-Nitrosodiphenylamine	50	44.1	88	40-140
110-86-1	Pyridine	50	17.3	35* a	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	34%	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	72%	30-130%
321-60-8	2-Fluorobiphenyl	63%	30-130%
1718-51-0	Terphenyl-d14	87%	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: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34099-BS	R32368.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181

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

MC22664-1, MC22664-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	50	19.0	38	30-130
95-57-8	2-Chlorophenol	50	45.0	90	30-130
59-50-7	4-Chloro-3-methyl phenol	50	49.4	99	30-130
120-83-2	2,4-Dichlorophenol	50	47.1	94	30-130
105-67-9	2,4-Dimethylphenol	50	42.5	85	30-130
51-28-5	2,4-Dinitrophenol	50	37.2	74	30-130
534-52-1	4,6-Dinitro-o-cresol	50	46.6	93	30-130
95-48-7	2-Methylphenol	50	40.7	81	30-130
	3&4-Methylphenol	100	74.6	75	30-130
88-75-5	2-Nitrophenol	50	48.9	98	30-130
100-02-7	4-Nitrophenol	50	19.9	40	30-130
87-86-5	Pentachlorophenol	50	43.0	86	30-130
108-95-2	Phenol	50	22.8	46	30-130
95-95-4	2,4,5-Trichlorophenol	50	52.7	105	30-130
88-06-2	2,4,6-Trichlorophenol	50	51.6	103	30-130

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	56%	15-110%
4165-62-2	Phenol-d5	20%	15-110%
118-79-6	2,4,6-Tribromophenol	99%	15-110%
4165-60-0	Nitrobenzene-d5	81%	30-130%
321-60-8	2-Fluorobiphenyl	91%	30-130%
1718-51-0	Terphenyl-d14	89%	30-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34010-BS	W14025.D	1	07/19/13	KR	07/15/13	OP34010	MSW635

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	41.7	83	40-140
208-96-8	Acenaphthylene	50	34.8	70	40-140
120-12-7	Anthracene	50	44.9	90	40-140
56-55-3	Benzo(a)anthracene	50	50.0	100	40-140
50-32-8	Benzo(a)pyrene	50	46.9	94	40-140
205-99-2	Benzo(b)fluoranthene	50	51.4	103	40-140
191-24-2	Benzo(g,h,i)perylene	50	52.2	104	40-140
207-08-9	Benzo(k)fluoranthene	50	48.6	97	40-140
218-01-9	Chrysene	50	46.9	94	40-140
53-70-3	Dibenzo(a,h)anthracene	50	52.0	104	40-140
206-44-0	Fluoranthene	50	49.1	98	40-140
86-73-7	Fluorene	50	45.4	91	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	51.1	102	40-140
90-12-0	1-Methylnaphthalene	50	33.6	67	40-140
91-57-6	2-Methylnaphthalene	50	31.0	62	40-140
85-01-8	Phenanthrene	50	45.3	91	40-140
129-00-0	Pyrene	50	46.8	94	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	70%	30-130%
321-60-8	2-Fluorobiphenyl	65%	30-130%
1718-51-0	Terphenyl-d14	87%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34009-MS	F65710.D	1	07/19/13	KR	07/15/13	OP34009	MSF3044
OP34009-MSD	F65711.D	1	07/19/13	KR	07/15/13	OP34009	MSF3044
MC22548-18	F65712.D	1	07/19/13	KR	07/15/13	OP34009	MSF3044

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9

7.3.1

7

CAS No.	Compound	MC22548-18 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		50	14.6	29* [a]	14.8	30	1	30-130/20
95-57-8	2-Chlorophenol	ND		50	27.8	56	29.8	60	7	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		50	35.4	71	38.1	76	7	30-130/20
120-83-2	2,4-Dichlorophenol	ND		50	32.9	66	34.7	69	5	30-130/20
105-67-9	2,4-Dimethylphenol	ND		50	32.0	64	33.8	68	5	30-130/20
51-28-5	2,4-Dinitrophenol	ND		50	31.8	64	33.2	66	4	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		50	39.9	80	42.3	85	6	30-130/20
95-48-7	2-Methylphenol	ND		50	27.7	55	29.7	59	7	30-130/20
	3&4-Methylphenol	ND		100	50.4	50	53.7	54	6	30-130/20
88-75-5	2-Nitrophenol	ND		50	32.2	64	34.6	69	7	30-130/20
100-02-7	4-Nitrophenol	ND		50	16.6	33	17.4	35	5	30-130/20
87-86-5	Pentachlorophenol	ND		50	35.4	71	37.0	74	4	30-130/20
108-95-2	Phenol	ND		50	16.1	32	14.7	29* [a]	9	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		50	37.8	76	38.9	78	3	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		50	35.2	70	36.5	73	4	30-130/20
62-53-3	Aniline	ND		50	26.8	54	27.2	54	1	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		50	40.2	80	41.6	83	3	40-140/20
85-68-7	Butyl benzyl phthalate	ND		50	47.1	94	49.0	98	4	40-140/20
100-51-6	Benzyl Alcohol	ND		50	31.8	64	34.0	68	7	40-140/20
91-58-7	2-Chloronaphthalene	ND		50	20.3	41	21.8	44	7	40-140/20
106-47-8	4-Chloroaniline	ND		50	36.0	72	38.3	77	6	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		50	38.1	76	39.4	79	3	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		50	34.2	68	36.1	72	5	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		50	34.6	69	37.1	74	7	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		50	37.0	74	37.9	76	2	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		50	39.6	79	41.7	83	5	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		50	51.7	103	51.3	103	1	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		50	44.8	90	46.3	93	3	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		50	40.9	82	43.0	86	5	40-140/20
132-64-9	Dibenzofuran	ND		50	31.8	64	32.5	65	2	40-140/20
84-74-2	Di-n-butyl phthalate	ND		50	47.0	94	49.3	99	5	40-140/20
117-84-0	Di-n-octyl phthalate	ND		50	54.0	108	55.7	111	3	40-140/20
84-66-2	Diethyl phthalate	ND		50	35.1	70	39.4	79	12	40-140/20
131-11-3	Dimethyl phthalate	ND		50	16.2	32* [a]	22.5	45	33* [b]	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND		50	51.7	103	53.9	108	4	40-140/20
118-74-1	Hexachlorobenzene	ND		50	43.8	88	46.0	92	5	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34009-MS	F65710.D	1	07/19/13	KR	07/15/13	OP34009	MSF3044
OP34009-MSD	F65711.D	1	07/19/13	KR	07/15/13	OP34009	MSF3044
MC22548-18	F65712.D	1	07/19/13	KR	07/15/13	OP34009	MSF3044

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9

7.3.1

7

CAS No.	Compound	MC22548-18 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		50	5.1	10* [a]	5.7	11* [a]	11	40-140/20
67-72-1	Hexachloroethane	ND		50	9.8	20* [a]	11.0	22* [a]	12	40-140/20
78-59-1	Isophorone	ND		50	39.7	79	41.3	83	4	40-140/20
88-74-4	2-Nitroaniline	ND		50	47.0	94	48.2	96	3	40-140/20
99-09-2	3-Nitroaniline	ND		50	45.0	90	46.8	94	4	40-140/20
100-01-6	4-Nitroaniline	ND		50	47.9	96	48.3	97	1	40-140/20
98-95-3	Nitrobenzene	ND		50	33.7	67	36.1	72	7	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		50	20.7	41	21.9	44	6	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		50	41.1	82	41.5	83	1	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		50	42.2	84	43.5	87	3	40-140/20
110-86-1	Pyridine	ND		50	16.9	34* [a]	18.2	36* [a]	7	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC22548-18	Limits
367-12-4	2-Fluorophenol	35%	38%	39%	15-110%
4165-62-2	Phenol-d5	26%	28%	27%	15-110%
118-79-6	2,4,6-Tribromophenol	78%	85%	76%	15-110%
4165-60-0	Nitrobenzene-d5	67%	72%	73%	30-130%
321-60-8	2-Fluorobiphenyl	52%	53%	55%	30-130%
1718-51-0	Terphenyl-d14	84%	88%	91%	30-130%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
(b) High RPD due to possible sample nonhomogeneity.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34099-MS	R32369.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181
OP34099-MSD	R32370.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181
MC22900-7	R32371.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181

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

MC22664-1, MC22664-7

CAS No.	Compound	MC22900-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		50	18.4	37	16.5	33	11	30-130/20
95-57-8	2-Chlorophenol	ND		50	43.5	87	39.1	78	11	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		50	45.9	92	44.2	88	4	30-130/20
120-83-2	2,4-Dichlorophenol	ND		50	45.5	91	42.2	84	8	30-130/20
105-67-9	2,4-Dimethylphenol	ND		50	37.4	75	34.6	69	8	30-130/20
51-28-5	2,4-Dinitrophenol	ND		50	36.2	72	35.3	71	3	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		50	48.0	96	45.7	91	5	30-130/20
95-48-7	2-Methylphenol	ND		50	38.9	78	35.9	72	8	30-130/20
	3&4-Methylphenol	ND		100	72.2	72	64.7	65	11	30-130/20
88-75-5	2-Nitrophenol	ND		50	46.1	92	42.5	85	8	30-130/20
100-02-7	4-Nitrophenol	ND		50	19.5	39	19.4	39	1	30-130/20
87-86-5	Pentachlorophenol	ND		50	44.2	88	43.2	86	2	30-130/20
108-95-2	Phenol	ND		50	18.7	37	16.6	33	12	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		50	50.7	101	50.9	102	0	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		50	49.1	98	48.7	97	1	30-130/20

CAS No.	Surrogate Recoveries	MS	MSD	MC22900-7	Limits
367-12-4	2-Fluorophenol	52%	48%	43%	15-110%
4165-62-2	Phenol-d5	19%	18%	15%	15-110%
118-79-6	2,4,6-Tribromophenol	100%	95%	75%	15-110%
4165-60-0	Nitrobenzene-d5	75%	70%	62%	30-130%
321-60-8	2-Fluorobiphenyl	87%	86%	74%	30-130%
1718-51-0	Terphenyl-d14	88%	84%	81%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34010-MS	W14026.D	1	07/19/13	KR	07/15/13	OP34010	MSW635
OP34010-MSD	W14027.D	1	07/19/13	KR	07/15/13	OP34010	MSW635
MC22548-19	W14028.D	1	07/19/13	KR	07/15/13	OP34010	MSW635

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9

7.3.3

7

CAS No.	Compound	MC22548-19 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	0.057	J	50	28.3	56	30.0	60	6	40-140/20
208-96-8	Acenaphthylene	0.033	J	50	24.7	49	26.0	52	5	40-140/20
120-12-7	Anthracene	ND		50	43.1	86	44.1	88	2	40-140/20
56-55-3	Benzo(a)anthracene	ND		50	49.5	99	50.6	101	2	40-140/20
50-32-8	Benzo(a)pyrene	ND		50	46.6	93	47.2	94	1	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		50	50.9	102	53.4	107	5	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND		50	52.0	104	52.4	105	1	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		50	47.8	96	47.4	95	1	40-140/20
218-01-9	Chrysene	ND		50	46.3	93	47.3	95	2	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		50	52.1	104	52.6	105	1	40-140/20
206-44-0	Fluoranthene	ND		50	48.0	96	49.7	99	3	40-140/20
86-73-7	Fluorene	0.047	J	50	37.7	75	39.0	78	3	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		50	51.1	102	51.5	103	1	40-140/20
90-12-0	1-Methylnaphthalene	ND		50	17.6	35* [a]	19.3	39* [a]	9	40-140/20
91-57-6	2-Methylnaphthalene	ND		50	16.0	32* [a]	17.6	35* [a]	10	40-140/20
85-01-8	Phenanthrene	0.045	J	50	43.1	86	44.2	88	3	40-140/20
129-00-0	Pyrene	ND		50	45.3	91	46.7	93	3	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC22548-19	Limits
367-12-4	2-Fluorophenol			41%	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	66%	69%	74%	30-130%
321-60-8	2-Fluorobiphenyl	53%	53%	56%	30-130%
1718-51-0	Terphenyl-d14	85%	88%	88%	30-130%

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

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSF3044-CC3031	Injection Date:	07/19/13
Lab File ID:	F65707.D	Injection Time:	07:43
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	62334	4.33	233280	5.46	152826	7.10	281398	8.57	312945	11.38	294708	12.90
Upper Limit [a]	124668	4.83	466560	5.96	305652	7.60	562796	9.07	625890	11.88	589416	13.40
Lower Limit [b]	31167	3.83	116640	4.96	76413	6.60	140699	8.07	156473	10.88	147354	12.40
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
OP34009-MB	70905	4.33	274624	5.45	178192	7.10	326856	8.57	356910	11.37	340997	12.90
OP34009-BS	55669	4.33	206571	5.45	134851	7.10	247448	8.57	273462	11.37	263813	12.90
OP34009-MS	68413	4.32	262271	5.46	167801	7.10	315148	8.57	346869	11.37	322569	12.90
OP34009-MSD	71992	4.33	273376	5.45	180223	7.10	331435	8.57	362118	11.38	338806	12.90
MC22548-18	66832	4.33	257542	5.45	165695	7.10	306527	8.57	329648	11.37	315104	12.90
MC22664-1	48281	4.33	185008	5.45	120442	7.10	221566	8.57	243211	11.37	232416	12.90
MC22664-2	58714	4.33	228181	5.46	147830	7.10	270245	8.57	297865	11.37	283084	12.90
MC22664-3	56307	4.33	218540	5.46	140006	7.10	257447	8.57	285274	11.37	270999	12.90
MC22664-4	59414	4.33	232629	5.46	148886	7.10	272444	8.57	297329	11.37	284899	12.90
MC22664-5	59170	4.33	219207	5.46	144277	7.10	264907	8.57	295952	11.37	284444	12.90
MC22664-6	51351	4.33	200621	5.45	129489	7.10	237372	8.57	269113	11.37	253633	12.90
MC22664-7	61213	4.33	227417	5.46	149061	7.10	273556	8.57	312604	11.37	294482	12.90
MC22664-8	59440	4.33	229822	5.46	147360	7.10	270348	8.57	299376	11.37	290574	12.90
MC22664-9	66657	4.33	257682	5.46	172650	7.10	303284	8.57	337999	11.38	328441	12.90
OP34036-MS	44327	4.32	165058	5.46	103615	7.10	190704	8.57	218106	11.37	209625	12.90
OP34036-MSD	64825	4.32	240425	5.46	149770	7.10	277418	8.58	317900	11.37	296854	12.90
MC22692-3	51513	4.33	193957	5.46	121865	7.10	229520	8.57	258658	11.38	249167	12.90
ZZZZZZ	46809	4.33	181948	5.46	117501	7.10	210723	8.57	237092	11.37	227439	12.90
ZZZZZZ	57689	4.33	221940	5.46	144683	7.10	263139	8.57	296522	11.37	279295	12.90
ZZZZZZ	55736	4.32	214500	5.46	138092	7.10	249160	8.57	280390	11.37	270793	12.90
ZZZZZZ	64012	4.33	'256804	5.45	163312	7.10	297843	8.57	330635	11.37	320252	12.90
ZZZZZZ	62166	4.33	244107	5.45	156475	7.10	287072	8.57	319616	11.37	300279	12.90
ZZZZZZ	58772	4.33	224817	5.46	139248	7.10	245167	8.57	299176	11.37	284327	12.90
ZZZZZZ	48157	4.33	181889	5.45	114635	7.10	204173	8.57	241540	11.37	229174	12.90
ZZZZZZ	51203	4.33	200930	5.45	129962	7.10	239888	8.57	265944	11.37	247545	12.90
ZZZZZZ	61134	4.33	237461	5.46	165387	7.11	296234	8.58	294580	11.37	282702	12.90
ZZZZZZ	63079	4.33	244052	5.46	152431	7.10	277115	8.57	309899	11.37	298790	12.90
ZZZZZZ	57327	4.32	226756	5.46	146389	7.10	268283	8.57	300634	11.37	283917	12.90

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: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSF3044-CC3031	Injection Date:	07/19/13
Lab File ID:	F65707.D	Injection Time:	07:43
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

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

7.4.1

7

Semivolatile Internal Standard Area Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSR1181-CC1159	Injection Date:	07/25/13
Lab File ID:	R32366.D	Injection Time:	09:10
Instrument ID:	GCMSR	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	91960	4.31	348159	5.37	206505	6.91	380929	8.33	435773	11.31	400128	12.91
Upper Limit [a]	183920	4.81	696318	5.87	413010	7.41	761858	8.83	871546	11.81	800256	13.41
Lower Limit [b]	45980	3.81	174080	4.87	103253	6.41	190465	7.83	217887	10.81	200064	12.41
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
OP34099-MB	78660	4.31	288087	5.37	172062	6.91	321141	8.32	373747	11.31	418554	12.90
OP34099-BS	69703	4.31	259840	5.37	157973	6.91	289204	8.32	323984	11.31	302608	12.90
OP34099-MS	79397	4.31	301780	5.37	183889	6.91	326659	8.32	372602	11.31	350917	12.90
OP34099-MSD	79356	4.31	299801	5.37	174762	6.91	328046	8.32	367379	11.31	343502	12.90
MC22900-7	73442	4.31	273692	5.37	164607	6.91	304082	8.32	347163	11.31	324634	12.90
ZZZZZZ	80186	4.31	300029	5.37	181395	6.91	329218	8.32	373093	11.31	358676	12.90
ZZZZZZ	87575	4.31	331612	5.37	197868	6.91	358566	8.32	402336	11.31	370553	12.90
ZZZZZZ	80571	4.31	302689	5.37	180475	6.91	323846	8.32	361731	11.31	337354	12.90
ZZZZZZ	66848	4.31	249641	5.37	154354	6.91	270360	8.32	306626	11.31	283874	12.90
ZZZZZZ	83207	4.31	311706	5.37	184206	6.91	344386	8.32	384883	11.31	353774	12.90
ZZZZZZ	82537	4.31	303506	5.37	182883	6.91	337051	8.32	379257	11.31	358102	12.90
ZZZZZZ	84436	4.31	318433	5.37	190440	6.91	349582	8.32	392685	11.31	367731	12.90
MC22664-1 [c]	63947	4.31	241663	5.37	143707	6.91	262008	8.32	294635	11.31	278779	12.90
MC22664-7 [c]	94576	4.31	352434	5.37	214088	6.91	393479	8.32	433790	11.31	413556	12.90
ZZZZZZ	68290	4.31	248776	5.37	151158	6.91	275847	8.32	306188	11.31	289568	12.90
ZZZZZZ	85482	4.31	324823	5.37	194291	6.91	361907	8.32	398334	11.31	371773	12.90
ZZZZZZ	82286	4.31	301271	5.37	185069	6.91	333873	8.32	379965	11.31	356403	12.90
ZZZZZZ	91686	4.31	339407	5.37	205341	6.91	372050	8.32	420247	11.31	388882	12.90
ZZZZZZ	83786	4.31	312905	5.37	188789	6.91	344819	8.32	386848	11.31	361742	12.90
ZZZZZZ	79395	4.31	291169	5.37	175498	6.91	324376	8.32	360857	11.31	343127	12.90

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) Sample re-extracted beyond recommended holding time.

7.4.2

Semivolatile Internal Standard Area Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSW635-CC633	Injection Date:	07/19/13
Lab File ID:	W14017.D	Injection Time:	09:22
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	113387	3.65	289616	4.63	140621	6.05	224190	7.32	149610	10.10	377129	11.53
Upper Limit [a]	226774	4.15	579232	5.13	281242	6.55	448380	7.82	299220	10.60	754258	12.03
Lower Limit [b]	56694	3.15	144808	4.13	70311	5.55	112095	6.82	74805	9.60	188565	11.03
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	99433	3.65	259655	4.63	128406	6.05	204854	7.32	139407	10.10	339886	11.53
ZZZZZZ	124677	3.64	326012	4.63	160730	6.05	259481	7.32	174683	10.10	429346	11.53
ZZZZZZ	124185	3.64	321042	4.62	155481	6.05	244939	7.32	163698	10.10	402103	11.53
ZZZZZZ	112482	3.65	287733	4.62	140626	6.05	218004	7.32	151915	10.10	376156	11.53
ZZZZZZ	115164	3.65	310651	4.63	155534	6.05	249328	7.32	165679	10.10	400380	11.53
ZZZZZZ	97692	3.65	257615	4.63	128269	6.05	205230	7.32	139907	10.09	343688	11.53
OP34010-MB	115724	3.65	303728	4.63	146157	6.05	228343	7.33	151535	10.10	367745	11.53
OP34010-BS	129889	3.64	338679	4.63	164977	6.05	260771	7.33	170423	10.10	426361	11.53
OP34010-MS	126936	3.65	327843	4.63	156010	6.05	245389	7.32	161418	10.10	403367	11.53
OP34010-MSD	118372	3.65	308643	4.63	151532	6.05	240157	7.33	155132	10.10	383440	11.53
MC22548-19	122874	3.65	320405	4.62	157340	6.05	250882	7.32	168739	10.10	405206	11.53
MC22664-1	131768	3.65	349573	4.63	172733	6.05	270335	7.32	182826	10.10	448371	11.53
MC22664-2	134073	3.65	354219	4.63	173498	6.05	277495	7.33	182239	10.10	442481	11.53
MC22664-3	125126	3.65	329731	4.63	161831	6.05	252032	7.32	170474	10.10	417889	11.53
MC22664-4	122854	3.65	328865	4.63	159782	6.05	250816	7.32	168555	10.10	404086	11.53
MC22664-5	137063	3.65	357427	4.63	179208	6.05	282695	7.32	187015	10.10	456562	11.53
MC22664-6	125573	3.65	326545	4.62	165855	6.05	261367	7.32	180557	10.10	427000	11.53
MC22664-7	126455	3.65	324416	4.63	158806	6.05	250447	7.32	170965	10.10	412274	11.53
MC22664-8	131788	3.65	355924	4.63	185476	6.05	273056	7.33	181881	10.10	434604	11.53
MC22664-9	157738	3.65	434591	4.63	221786	6.05	341491	7.33	225172	10.10	539525	11.53
OP33952-MB	88627	3.73	331387	4.78	207718	6.30	346292	7.64	370851*	10.53	360453	12.10*

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: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22664-1	R32380.D	36.0	15.0	76.0	52.0	64.0	83.0
MC22664-1	F65713.D	7.0* [a]	6.0* [a]	28.0	76.0	59.0	91.0
MC22664-2	F65714.D	41.0	29.0	77.0	79.0	61.0	87.0
MC22664-3	F65715.D	30.0	23.0	68.0	74.0	55.0	85.0
MC22664-4	F65716.D	39.0	27.0	76.0	72.0	58.0	86.0
MC22664-5	F65717.D	42.0	32.0	77.0	75.0	50.0	86.0
MC22664-6	F65718.D	26.0	22.0	71.0	70.0	54.0	92.0
MC22664-7	F65719.D	2.0* [b]	1.0* [b]	18.0	67.0	46.0	74.0
MC22664-7	R32381.D	27.0	14.0* [b]	67.0	64.0	73.0	80.0
MC22664-8	F65720.D	49.0	35.0	82.0	94.0	71.0	89.0
MC22664-9	F65721.D	45.0	33.0	80.0	91.0	60.0	88.0
OP34009-BS	F65709.D	34.0	26.0	80.0	72.0	63.0	87.0
OP34009-MB	F65708.D	35.0	25.0	72.0	68.0	49.0	83.0
OP34009-MS	F65710.D	35.0	26.0	78.0	67.0	52.0	84.0
OP34009-MSD	F65711.D	38.0	28.0	85.0	72.0	53.0	88.0
OP34099-BS	R32368.D	56.0	20.0	99.0	81.0	91.0	89.0
OP34099-MB	R32367.D	51.0	18.0	89.0	78.0	91.0	86.0
OP34099-MS	R32369.D	52.0	19.0	100.0	75.0	87.0	88.0
OP34099-MSD	R32370.D	48.0	18.0	95.0	70.0	86.0	84.0

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. Sample re-extracted/reanalyzed.
(b) Outside control limits due to possible matrix interference. Confirmed by re-extraction/reanalysis.

Semivolatile Surrogate Recovery Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22664-1	W14029.D	77.0	60.0	91.0
MC22664-2	W14030.D	78.0	62.0	87.0
MC22664-3	W14031.D	74.0	55.0	85.0
MC22664-4	W14032.D	72.0	60.0	85.0
MC22664-5	W14033.D	71.0	51.0	87.0
MC22664-6	W14034.D	74.0	55.0	91.0
MC22664-7	W14035.D	63.0	48.0	74.0
MC22664-8	W14036.D	85.0	63.0	89.0
MC22664-9	W14037.D	81.0	57.0	88.0
OP34010-BS	W14025.D	70.0	65.0	87.0
OP34010-MB	W14024.D	68.0	52.0	82.0
OP34010-MS	W14026.D	66.0	53.0	85.0
OP34010-MSD	W14027.D	69.0	53.0	88.0

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: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34092-MB	BK27073.D	1	07/24/13	NK	07/23/13	OP34092	GBK929

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9, MC22664-11

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.0045	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.0097	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	141%	36-173%
460-00-4	Bromofluorobenzene (S)	143%	36-173%

8.1.1

Blank Spike Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34092-BS	BK27074.D	1	07/24/13	NK	07/23/13	OP34092	GBK929

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9, MC22664-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.087	123	60-140
106-93-4	1,2-Dibromoethane	0.071	0.084	118	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	133%	36-173%
460-00-4	Bromofluorobenzene (S)	135%	36-173%

8.2.1 8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34092-MS	BK27075.D	1	07/24/13	NK	07/23/13	OP34092	GBK929
OP34092-MSD	BK27076.D	1	07/24/13	NK	07/23/13	OP34092	GBK929
MC22787-5	BK27081.D	1	07/24/13	NK	07/23/13	OP34092	GBK929

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

MC22664-1, MC22664-2, MC22664-3, MC22664-4, MC22664-5, MC22664-6, MC22664-7, MC22664-8, MC22664-9, MC22664-11

CAS No.	Compound	MC22787-5 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		0.0681	0.082	120	0.076	110	8	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.0681	0.069	101	0.069	100	0	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC22787-5	Limits
460-00-4	Bromofluorobenzene (S)	118%	112%	133%	36-173%
460-00-4	Bromofluorobenzene (S)	123%	116%	139%	36-173%

* = Outside of Control Limits.

8.3.1

Volatile Surrogate Recovery Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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]
MC22664-1	BK27086.D	106.0	97.0
MC22664-2	BK27087.D	104.0	91.0
MC22664-3	BK27088.D	134.0	117.0
MC22664-4	BK27089.D	108.0	98.0
MC22664-5	BK27090.D	121.0	126.0
MC22664-6	BK27091.D	115.0	103.0
MC22664-7	BK27092.D	114.0	96.0
MC22664-8	BK27093.D	124.0	90.0
MC22664-9	BK27095.D	147.0	116.0
MC22664-11	BK27096.D	118.0	106.0
OP34092-BS	BK27074.D	133.0	135.0
OP34092-MB	BK27073.D	141.0	143.0
OP34092-MS	BK27075.D	118.0	123.0
OP34092-MSD	BK27076.D	112.0	116.0

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

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

8.4.1

8

GC Surrogate Retention Time Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	GBK929-ICC929	Injection Date:	07/24/13
Lab File ID:	BK27068.D	Injection Time:	10:36
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.58	4.94

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK27071B.D	07/24/13	11:44	4.58	4.94
ZZZZZZ	BK27071A.D	07/24/13	11:44	4.58	4.94
OP34092-MB	BK27073.D	07/24/13	12:30	4.58	4.94
OP34092-BS	BK27074.D	07/24/13	12:52	4.58	4.94
OP34092-MS	BK27075.D	07/24/13	13:15	4.58	4.94
OP34092-MSD	BK27076.D	07/24/13	13:38	4.58	4.94
ZZZZZZ	BK27077.D	07/24/13	14:00	4.58	4.94
ZZZZZZ	BK27078.D	07/24/13	14:23	4.58	4.94
ZZZZZZ	BK27079.D	07/24/13	14:46	4.58	4.94
ZZZZZZ	BK27080.D	07/24/13	15:08	4.58	4.94
MC22787-5	BK27081.D	07/24/13	15:31	4.58	4.94
ZZZZZZ	BK27082.D	07/24/13	15:53	4.58	4.94

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	GBK929-CC929	Injection Date:	07/24/13
Lab File ID:	BK27083.D	Injection Time:	16:16
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.58	4.94

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK27084.D	07/24/13	16:38	4.58	4.94
ZZZZZZ	BK27085.D	07/24/13	17:01	4.58	4.94
MC22664-1	BK27086.D	07/24/13	17:24	4.58	4.94
MC22664-2	BK27087.D	07/24/13	17:46	4.58	4.94
MC22664-3	BK27088.D	07/24/13	18:08	4.58	4.94
MC22664-4	BK27089.D	07/24/13	18:31	4.58	4.94
MC22664-5	BK27090.D	07/24/13	18:54	4.58	4.94
MC22664-6	BK27091.D	07/24/13	19:17	4.58	4.94
MC22664-7	BK27092.D	07/24/13	19:40	4.58	4.94
MC22664-8	BK27093.D	07/24/13	20:03	4.58	4.94

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC22664
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	GBK929-CC929	Injection Date:	07/24/13
Lab File ID:	BK27094.D	Injection Time:	20:26
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.58	4.94

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
MC22664-9	BK27095.D	07/24/13	20:48	4.58	4.94
MC22664-11	BK27096.D	07/24/13	21:11	4.58	4.94
OP34093-MB	BK27097.D	07/24/13	21:34	4.58	4.94
OP34094-MB	BK27097A.D	07/24/13	21:34	4.58	4.94
OP34093-BS	BK27098.D	07/24/13	21:58	4.58	4.94
OP34094-BS	BK27098A.D	07/24/13	21:58	4.58	4.94
OP34094-MS	BK27099A.D	07/24/13	22:21	4.58	4.94
OP34093-MS	BK27099.D	07/24/13	22:21	4.58	4.94
OP34094-MSD	BK27100A.D	07/24/13	22:44	4.58	4.94
OP34093-MSD	BK27100.D	07/24/13	22:44	4.58	4.94
MC23000-1	BK27101.D	07/24/13	23:07	4.58	4.94
MC22702-4	BK27101A.D	07/24/13	23:07	4.58	4.94
ZZZZZZ	BK27102.D	07/24/13	23:31	4.58	4.94
ZZZZZZ	BK27103.D	07/24/13	23:54	4.58	4.94
ZZZZZZ	BK27104.D	07/25/13	00:18	4.58	4.94

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

8.5.3

8

Roxana Groundwater Quarterly – 3rd Quarter 2013 Data Review

Laboratory SDG: MC22692

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 8/13/2013

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

Sample Identification	Sample Identification
MW13-ROX-071213	MW14-ROX-071213
P66-ROX-071213	P93D-ROX-071213
TB-ROX-071213-HCL	TB-ROX-071213-ST

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 and SVOC MS/MSD recoveries were outside evaluation criteria in sample P66-ROX-071213. Although not indicated in the laboratory case narrative, PAHs were detected in the method blank. Additionally, the initial calibration verification for acrolein and hexachlorocyclopentadiene exceeded 50 percent difference (%D), and the continuing calibration verification for several analytes exceeded 30 percent difference (%D). These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated the cooler was 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
OP34037-MB	PAHs	Acenaphthene	0.065 ug/L
OP34037-MB	PAHs	Acenaphthylene	0.043 ug/L
OP34037-MB	PAHs	Anthracene	0.040 ug/L
OP34037-MB	PAHs	Benzo(a)anthracene	0.035 ug/L

Blank ID	Parameter	Analyte	Concentration/ Amount
OP34037-MB	PAHs	Benzo(a)pyrene	0.031 ug/L
OP34037-MB	PAHs	Benzo(b)fluoranthene	0.031 ug/L
OP34037-MB	PAHs	Benzo(g,h,i)perylene	0.043 ug/L
OP34037-MB	PAHs	Fluoranthene	0.045 ug/L
OP34037-MB	PAHs	Fluorene	0.069 ug/L
OP34037-MB	PAHs	2-Methylnaphthalene	0.10 ug/L
OP34037-MB	PAHs	Phenanthrene	0.050 ug/L
OP34037-MB	PAHs	Pyrene	0.040 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 required qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
MW13-ROX-071213	PAHs	Acenaphthylene	-	**U**
MW13-ROX-071213	PAHs	Anthracene	-	**U**
MW13-ROX-071213	PAHs	Benzo(a)anthracene	0.14 ug/L	**U**
MW13-ROX-071213	PAHs	Fluoranthene	-	**U**
MW13-ROX-071213	PAHs	2-Methylnaphthalene	-	**U**
MW13-ROX-071213	PAHs	Phenanthrene	0.076 ug/L	**U**
MW13-ROX-071213	PAHs	Pyrene	-	**U**
MW14-ROX-071213	PAHs	Acenaphthylene	-	**U**
MW14-ROX-071213	PAHs	Fluorene	-	**U**
MW14-ROX-071213	PAHs	Phenanthrene	-	**U**
MW14-ROX-071213	PAHs	Pyrene	-	**U**
P66-ROX-071213	PAHs	Anthracene	0.20 ug/L	**U**
P66-ROX-071213	PAHs	Benzo(a)pyrene	0.15 ug/L	**U**
P66-ROX-071213	PAHs	Benzo(g,h,i)perylene	0.19 ug/L	**U**
P66-ROX-071213	PAHs	Fluoranthene	0.19 ug/L	**U**
P66-ROX-071213	PAHs	Pyrene	0.20 ug/L	**U**
P93D-ROX-071213	PAHs	Acenaphthene	-	**U**
P93D-ROX-071213	PAHs	2-Methylnaphthalene	-	**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
MSV821-BS	VOCs	Carbon tetrachloride	**131**	NA	70-130
MSV821-BS	VOCs	2-Chloroethyl vinyl ether	**356**	NA	70-130
MSV821-BS	VOCs	Dichlorodifluoromethane	**134**	NA	70-130
MSV821-BS	VOCs	Hexachlorobutadiene	**156**	NA	70-130

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSV821-BS	VOCs	Vinyl acetate	**63**	NA	70-130
OP34036-BS	SVOCs	Benzoic acid	**11**	NA	30-130
OP34036-BS	SVOCs	Phenol	**26**	NA	30-130
OP34036-BS	SVOCs	Dimethyl phthalate	**11**	NA	40-140
OP34036-BS	SVOCs	Hexachlorocyclopentadiene	**11**	NA	40-140
OP34036-BS	SVOCs	Hexachloroethane	**23**	NA	40-140
OP34036-BS	SVOCs	n-Nitrosodimethylamine	**39**	NA	40-140
OP34036-BS	SVOCs	Pyridine	**31**	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 MSV821-BS was associated with the trip blank. Trip blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
MW13-ROX-071213	VOCs	Vinyl acetate	**UJ**
MW14-ROX-071213	VOCs	Vinyl acetate	**UJ**
P66-ROX-071213	VOCs	Vinyl acetate	**UJ**
P93D-ROX-071213	VOCs	Vinyl acetate	**UJ**
MW13-ROX-071213	SVOCs	Benzoic acid	**UJ**
MW13-ROX-071213	SVOCs	Phenol	**UJ**
MW13-ROX-071213	SVOCs	Dimethyl phthalate	**UJ**
MW13-ROX-071213	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW13-ROX-071213	SVOCs	Hexachloroethane	**UJ**
MW13-ROX-071213	SVOCs	n-Nitrosodimethylamine	**UJ**
MW13-ROX-071213	SVOCs	Pyridine	**UJ**
MW14-ROX-071213	SVOCs	Benzoic acid	**UJ**
MW14-ROX-071213	SVOCs	Phenol	**UJ**
MW14-ROX-071213	SVOCs	Dimethyl phthalate	**UJ**
MW14-ROX-071213	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW14-ROX-071213	SVOCs	Hexachloroethane	**UJ**
MW14-ROX-071213	SVOCs	n-Nitrosodimethylamine	**UJ**
MW14-ROX-071213	SVOCs	Pyridine	**UJ**
P66-ROX-071213	SVOCs	Benzoic acid	**UJ**
P66-ROX-071213	SVOCs	Phenol	**J**
P66-ROX-071213	SVOCs	Dimethyl phthalate	**UJ**
P66-ROX-071213	SVOCs	Hexachlorocyclopentadiene	**UJ**
P66-ROX-071213	SVOCs	Hexachloroethane	**UJ**
P66-ROX-071213	SVOCs	n-Nitrosodimethylamine	**UJ**
P66-ROX-071213	SVOCs	Pyridine	**UJ**
P93D-ROX-071213	SVOCs	Benzoic acid	**UJ**
P93D-ROX-071213	SVOCs	Phenol	**UJ**
P93D-ROX-071213	SVOCs	Dimethyl phthalate	**UJ**
P93D-ROX-071213	SVOCs	Hexachlorocyclopentadiene	**UJ**

Sample ID	Parameter	Analyte	Qualification
P93D-ROX-071213	SVOCs	Hexachloroethane	**UJ**
P93D-ROX-071213	SVOCs	n-Nitrosodimethylamine	**UJ**
P93D-ROX-071213	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 P66-ROX-071213 was spiked and analyzed for VOCs, SVOCs, and PAHs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
P66-ROX-071213	VOCs	Acetone	**60/54**	10	70-130/30
P66-ROX-071213	VOCs	Acrolein	70/**69**	1	70-130/30
P66-ROX-071213	VOCs	Benzene	**44/34**	2	70-130/30
P66-ROX-071213	VOCs	2-Butanone (MEK)	**59/60**	2	70-130/30
P66-ROX-071213	VOCs	2-Chloroethyl vinyl ether	**0/17**	**200**	70-130/30
P66-ROX-071213	VOCs	1,4-Dioxane	**66/62**	8	70-130/30
P66-ROX-071213	VOCs	Hexachlorobutadiene	**155/159**	2	70-130/30
P66-ROX-071213	VOCs	Isopropylbenzene	**44/42**	0	70-130/30
P66-ROX-071213	VOCs	Methyl tert butyl ether	**174/173**	0	70-130/30
P66-ROX-071213	VOCs	n-Propylbenzene	**22/20**	0	70-130/30
P66-ROX-071213	VOCs	1,1,1,2-Tetrachloroethane	130/**131**	1	70-130/30
P66-ROX-071213	VOCs	Tetrachloroethene	**139/137**	1	70-130/30
P66-ROX-071213	SVOCs	3,3'-Dichlorobenzidine	**31/25**	**21**	40-140/20
P66-ROX-071213	SVOCs	Hexachlorocyclopentadiene	**20/20**	2	40-140/20
P66-ROX-071213	SVOCs	Hexachloroethane	**30/27**	9	40-140/20
P66-ROX-071213	SVOCs	n-Nitrosodimethylamine	**39**/42	9	40-140/20

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
P66-ROX-071213	SVOCs	Pyridine	**33/34**	3	40-140/20
P66-ROX-071213	PAHs	1-Methylnaphthalene	**37**/41	3	40-140/20
P66-ROX-071213	PAHs	2-Methylnaphthalene	**-48/-46**	1	40-140/20

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?

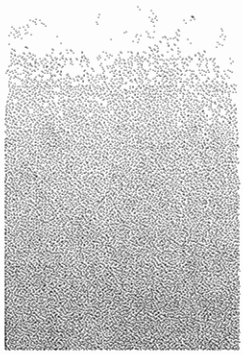
Yes, the initial calibration verification for acrolein and hexachlorocyclopentadiene exceeded 50 percent difference (%D), and the continuing calibration verification for several analytes exceeded 30 percent difference (%D). Acrolein and hexachlorocyclopentadiene in associated samples were qualified in Section 5.0 in this data review due to LCS criteria. Analytes in associated samples were qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW13-ROX-071213	VOCs	Dichlorodifluoromethane	**UJ**
MW13-ROX-071213	VOCs	Carbon tetrachloride	**UJ**
MW13-ROX-071213	VOCs	2-Chloroethyl vinyl ether	**UJ**
MW13-ROX-071213	VOCs	Tetrachloroethene	**UJ**
MW13-ROX-071213	VOCs	Hexachlorobutadiene	**UJ**
MW13-ROX-071213	VOCs	Acrolein	**UJ**
MW14-ROX-071213	VOCs	Dichlorodifluoromethane	**UJ**

Sample ID	Parameter	Analyte	Qualification
MW14-ROX-071213	VOCs	Carbon tetrachloride	**UJ**
MW14-ROX-071213	VOCs	2-Chloroethyl vinyl ether	**UJ**
MW14-ROX-071213	VOCs	Tetrachloroethene	**UJ**
MW14-ROX-071213	VOCs	Hexachlorobutadiene	**UJ**
MW14-ROX-071213	VOCs	Acrolein	**UJ**
P66-ROX-0712113	VOCs	Dichlorodifluoromethane	**UJ**
P66-ROX-0712113	VOCs	Carbon tetrachloride	**UJ**
P66-ROX-0712113	VOCs	2-Chloroethyl vinyl ether	**UJ**
P66-ROX-0712113	VOCs	Tetrachloroethene	**UJ**
P66-ROX-0712113	VOCs	Hexachlorobutadiene	**UJ**
P66-ROX-0712113	VOCs	Acrolein	**UJ**
P93D-ROX-071213	VOCs	Dichlorodifluoromethane	**UJ**
P93D-ROX-071213	VOCs	Carbon tetrachloride	**UJ**
P93D-ROX-071213	VOCs	2-Chloroethyl vinyl ether	**UJ**
P93D-ROX-071213	VOCs	Tetrachloroethene	**UJ**
P93D-ROX-071213	VOCs	Hexachlorobutadiene	**UJ**
P93D-ROX-071213	VOCs	Acrolein	**UJ**
MW13-ROX-071213	VOCs by 8011	1,2-Dibromo-3-chloropropane	**UJ**
MW13-ROX-071213	VOCs by 8011	1,2-Dibromoethane	**UJ**
MW14-ROX-071213	VOCs by 8011	1,2-Dibromo-3-chloropropane	**UJ**
MW14-ROX-071213	VOCs by 8011	1,2-Dibromoethane	**UJ**
P66-ROX-0712113	VOCs by 8011	1,2-Dibromo-3-chloropropane	**UJ**
P66-ROX-0712113	VOCs by 8011	1,2-Dibromoethane	**UJ**
P93D-ROX-071213	VOCs by 8011	1,2-Dibromo-3-chloropropane	**UJ**
P93D-ROX-071213	VOCs by 8011	1,2-Dibromoethane	**UJ**

New England ACCUTEST LABORATORIES

08/12/13



Technical Report for

Shell Oil

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana,

Accutest Job Number: MC22692

Sampling Date: 07/12/13

Report to:

URS Corporation

Melissa.mansker@urs.com

ATTN: Melissa Mansker

Total number of pages in report: **85**

Reviewed on 8/13/2013

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: Matthew Morrell 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)

Test results relate only to samples analyzed.

Table of Contents

Sections: 1 2 3 4 5 6 7 8

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Summary of Hits **6**
Section 4: Sample Results **8**
4.1: MC22692-1: MW13-ROX-071213 9
4.2: MC22692-2: MW14-ROX-071213 16
4.3: MC22692-3: P66-ROX-071213 23
4.4: MC22692-4: P93D-ROX-071213 30
4.5: MC22692-5: TB-ROX-071213-HCL 37
4.6: MC22692-6: TB-ROX-071213-ST 40
Section 5: Misc. Forms **41**
5.1: Chain of Custody 42
5.2: Sample Tracking Chronicle 44
5.3: Internal Chain of Custody 46
Section 6: GC/MS Volatiles - QC Data Summaries **49**
6.1: Method Blank Summary 50
6.2: Blank Spike Summary 53
6.3: Matrix Spike/Matrix Spike Duplicate Summary 56
6.4: Internal Standard Area Summaries 59
6.5: Surrogate Recovery Summaries 60
Section 7: GC/MS Semi-volatiles - QC Data Summaries **61**
7.1: Method Blank Summary 62
7.2: Blank Spike Summary 65
7.3: Matrix Spike/Matrix Spike Duplicate Summary 68
7.4: Internal Standard Area Summaries 71
7.5: Surrogate Recovery Summaries 77
Section 8: GC Volatiles - QC Data Summaries **79**
8.1: Method Blank Summary 80
8.2: Blank Spike Summary 81
8.3: Matrix Spike/Matrix Spike Duplicate Summary 82
8.4: Surrogate Recovery Summaries 83
8.5: GC Surrogate Retention Time Summaries 84

Sample Summary

Shell Oil

Job No: MC22692

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC22692-1	07/12/13	09:30	LRDM	07/13/13	AQ	Ground Water	MW13-ROX-071213
MC22692-2	07/12/13	10:25	LRDM	07/13/13	AQ	Gronnd Water	MW14-ROX-071213
MC22692-3	07/12/13	11:05	LRDM	07/13/13	AQ	Ground Water	P66-ROX-071213
MC22692-3D	07/12/13	11:05	LRDM	07/13/13	AQ	Water Dup/MSD	P66-ROX-071213
MC22692-3S	07/12/13	11:05	LRDM	07/13/13	AQ	Water Matrix Spike	P66-ROX-071213
MC22692-4	07/12/13	13:35	LRDM	07/13/13	AQ	Ground Water	P93D-ROX-071213
MC22692-5	07/12/13	00:00	LRDM	07/13/13	AQ	Trip Blank Water	TB-ROX-071213-HCL
MC22692-6	07/12/13	00:00	LRDM	07/13/13	AQ	Trip Blank Water	TB-ROX-071213-ST

ACCUTEST Laboratories

N

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	**Job No**	MC22692
Site:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central	**Report Date**	7/31/2013 11:50:17 AM

4 Sample(s), 2 Trip Blank(s) and 0 Field Blank(s) were collected on 07/12/2013 and were received at Accutest on 07/13/2013 properly preserved, at 1.5 Deg. C and intact. These Samples received an Accutest job number of MC22692. 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)aeridine, Indene, and Quinoline were searched in the library search and reported only if deteetions were found.

Except as noted below, all method specified calibrations and quality control perfomanee 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:** MSV821

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22692-3MS, MC22692-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MSV821-BS for Carbon tetrachloride, Diehlorodifluoromethane, Vinyl Acetate are outside control limits. Blank Spike meets program technical requirements.
- MC22692-3MS for Isopropylbeuzene, 1,4-Dioxane, 2-Butanone (MEK), 2-Chloroethyl vinyl ether, Acetone, Hexachlorobutadieue, Methyl Tert Butyl Ether, Tetrachloroethene are outside control limits due to possible matrix interferenee. Refer to Blank Spike.
- MC22692-3MSD for 1,1,1,2-Tetrachloroethane, 1,4-Dioxane, 2-Butanone (MEK), Aeetone. Acrolein, Hexachlorobutadiene. Methyl Tert Butyl Ether, Tetrachloroethene, 2-Chloroethyl vinyl ether are outside control limits due to possible matrix interferenee. Refer to Blank Spike.
- MC22692-3MS/MSD for Benzene, Isopropylbenzene, n-Propylbenzene are outside control limits due to high level in sample relative to spike amount.
- RPD(s) for MC22692-3MSD for 2-Chloroethyl vinyl ether are outside control limits. High RPD due to possible matrix interferenee and/or sample non-homogeneity.
- Continuing calibration check standard MSV821-CC776 for vinyl acetate, Tetrahydrofuran, trans-1,4-dichloro-2-butene exceed 30% Difference. Blank Spike meets program technical requirements.
- Continuing ealibration eheck standard MSV821-CC776 for dichlorodifluoromethane, carbon tetrachloride, 2-ehloroethyl vinyl ether, tetrachloroethene, hexaehlorobutadiene exceed 30% Difference (results biased high). Associated samples are non-detect for these eompounds.
- Initial calibration verification standard MSV776-ICV776 for acrolein exeeed 50% Differenee. (Results biased high). Associated samples are non-detect for these compounds.

Extractables by GCMS By Method SW846 8270C

Matrix: AQ	Batch ID: OP34036

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22692-3MS, MC22692-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- OP34036-BS for Benzoic Acid, Dimethyl phthalate, Hexachlorocyclopentadiene, Hexachloroethane, n-Nitrosodimethylamine, Phenol, Pyridine are outside control limits. Blank Spike meets program technical requirements.
- OP34036-MS/MSD for 3,3'-Dichlorobenzidine are outside control limits due to possible matrix interference. Refer to Blank Spike.
- RPD(s) for OP34036-MSD for 3,3'-Dichlorobenzidine are outside control limits. High RPD due to possible matrix interference and/or sample non-homogeneity.
- OP34036-MS for n-Nitrosodimethylamine: Outside control limits. Blank Spike meets program technical requirements.
- OP34036-MS/MSD for Hexachlorocyclopentadiene, Hexachloroethane, Pyridine: Outside control limits. Blank Spike meets program technical requirements.
- Initial calibration verification MSF3031-ICV3031 for Hexachlorocyclopentadiene exceeds 50% Difference. Hexachlorocyclopentadiene is within criteria in continuing calibration check MSF3043-CC3031.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix: AQ	Batch ID: OP34037

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22692-3MS, MC22692-3MSD were used as the QC samples indicated.
- Sample(s) MC22692-1, MC22692-2, MC22692-3 have compound(s) reported with a "B" qualifier, indicating analyte is found in the associated method blank.
- OP34037-MS for 1-Methylnaphthalene, 2-Methylnaphthalene are outside control limits due to possible matrix interference. Refer to Blank Spike.
- OP34037-MSD for 2-Methylnaphthalene are outside control limits due to possible matrix interference. Refer to Blank Spike.

Volatiles by GC By Method SW846 8011

Matrix: AQ	Batch ID: OP34095

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22692-3MS, MC22692-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Continuing calibration check standard GBK930-CC929 for 4-Bromofluorobenzene exceed criteria. Targets recovery satisfactory.

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(MC22692).

Summary of Hits

Job Number: MC22692
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/12/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC22692-1	MW13-ROX-071213					
Methyl Tert Butyl Ether		9.4	1.0	0.43	ug/l	SW846 8260B
n-Propylbenzene		0.64 J	5.0	0.59	ug/l	SW846 8260B
bis(2-Ethylhexyl)phthalate		0.79 J	2.2	0.53	ug/l	SW846 8270C
Acenaphthylene		0.063 J	0.11	0.014	ug/l	SW846 8270C BY SIM
Anthracene		0.058 J	0.11	0.019	ug/l	SW846 8270C BY SIM
Benzo(a)anthracene		0.14 B	0.054	0.033	ug/l	SW846 8270C BY SIM
Fluoranthene		0.042 J	0.11	0.035	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		0.067 J	0.22	0.056	ug/l	SW846 8270C BY SIM
Phenanthrene		0.076 B	0.054	0.014	ug/l	SW846 8270C BY SIM
Pyrene		0.040 J	0.11	0.039	ug/l	SW846 8270C BY SIM
MC22692-2	MW14-ROX-071213					
Benzene		0.64	0.50	0.45	ug/l	SW846 8260B
n-Butylbenzene		0.66 J	5.0	0.54	ug/l	SW846 8260B
sec-Butylbenzene		2.0 J	5.0	0.58	ug/l	SW846 8260B
tert-Butylbenzene		1.3 J	5.0	0.87	ug/l	SW846 8260B
Isopropylbenzene		16.8	5.0	0.64	ug/l	SW846 8260B
n-Propylbenzene		10.9	5.0	0.59	ug/l	SW846 8260B
Toluene		0.59 J	1.0	0.46	ug/l	SW846 8260B
m,p-Xylene		2.6	1.0	0.70	ug/l	SW846 8260B
Xylene (total)		2.9	1.0	0.41	ug/l	SW846 8260B
Di-n-butyl phthalate		0.43 J	5.3	0.41	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		0.66 J	2.1	0.52	ug/l	SW846 8270C
Acenaphthene		0.46 B	0.11	0.014	ug/l	SW846 8270C BY SIM
Acenaphthylene		0.062 J	0.11	0.014	ug/l	SW846 8270C BY SIM
Fluorene		0.093 J	0.11	0.049	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		12.7	0.21	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		2.7	0.21	0.055	ug/l	SW846 8270C BY SIM
Phenanthrene		0.032 J	0.053	0.013	ug/l	SW846 8270C BY SIM
Pyrene		0.067 J	0.11	0.038	ug/l	SW846 8270C BY SIM
MC22692-3	P66-ROX-071213					
Benzene		187	0.50	0.45	ug/l	SW846 8260B
n-Butylbenzene		14.6	5.0	0.54	ug/l	SW846 8260B
sec-Butylbenzene		22.1	5.0	0.58	ug/l	SW846 8260B
tert-Butylbenzene		6.0	5.0	0.87	ug/l	SW846 8260B
Chlorobenzene		0.59 J	1.0	0.48	ug/l	SW846 8260B
Ethylbenzene		2.2	1.0	0.38	ug/l	SW846 8260B
Isopropylbenzene		191	5.0	0.64	ug/l	SW846 8260B
n-Propylbenzene		229	5.0	0.59	ug/l	SW846 8260B
Toluene		1.8	1.0	0.46	ug/l	SW846 8260B

Summary of Hits

Job Number: MC22692
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/12/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
o-Xylene		1.0	1.0	0.41	ug/l	SW846 8260B
Xylene (total)		1.5	1.0	0.41	ug/l	SW846 8260B
Phenol		3.5 J	5.6	0.58	ug/l	SW846 8270C
Dibenzofuran		1.6 J	2.2	0.18	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		12.4	2.2	0.55	ug/l	SW846 8270C
Acenaphthene		0.87	0.11	0.015	ug/l	SW846 8270C BY SIM
Anthracene		0.20 B	0.11	0.020	ug/l	SW846 8270C BY SIM
Benzo(a)anthracene		0.18 B	0.056	0.034	ug/l	SW846 8270C BY SIM
Benzo(a)pyrene		0.15 B	0.11	0.020	ug/l	SW846 8270C BY SIM
Benzo(b)fluoranthene		0.17 B	0.056	0.027	ug/l	SW846 8270C BY SIM
Benzo(g,h,i)perylene		0.19 B	0.11	0.042	ug/l	SW846 8270C BY SIM
Benzo(k)fluoranthene		0.15	0.11	0.066	ug/l	SW846 8270C BY SIM
Chrysene		0.17	0.11	0.082	ug/l	SW846 8270C BY SIM
Dibenzo(a,h)anthracene		0.17	0.11	0.047	ug/l	SW846 8270C BY SIM
Fluoranthene		0.19 B	0.11	0.037	ug/l	SW846 8270C BY SIM
Fluorene		1.8	0.11	0.052	ug/l	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene		0.17	0.11	0.052	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		68.8	0.22	0.16	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		64.2	0.22	0.058	ug/l	SW846 8270C BY SIM
Phenanthrene		0.88	0.056	0.014	ug/l	SW846 8270C BY SIM
Pyrene		0.20 B	0.11	0.040	ug/l	SW846 8270C BY SIM
MC22692-4	P93D-ROX-071213					
Di-n-butyl phthalate		0.45 J	5.6	0.43	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		0.57 J	2.2	0.54	ug/l	SW846 8270C
Acenaphthene		0.026 J	0.11	0.015	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		0.059 J	0.22	0.058	ug/l	SW846 8270C BY SIM
MC22692-5	TB-ROX-071213-HCL					
No hits reported in this sample.						
MC22692-6	TB-ROX-071213-ST					
No hits reported in this sample.						

New England ACCUTEST LABORATORIES

4

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW13-ROX-071213		
Lab Sample ID:	MC22692-1	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V21166.D	1	07/24/13	AMY	n/a	n/a	MSV821
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	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ng/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ng/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	UJ
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	UJ
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	UJ
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071213		
Lab Sample ID:	MC22692-1	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	UJ
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	9.4	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	0.64	5.0	0.59	ug/l	J
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ng/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	UJ
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	MW13-ROX-071213		
Lab Sample ID:	MC22692-1	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	100%		70-130%
460-00-4	4-Bromofluorobenzene	97%		70-130%

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071213		
Lab Sample ID:	MC22692-1	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Bateh	Analytical Batch
Run #1	F65725.D	1	07/19/13	KR	07/17/13	OP34036	MSF3044
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	UJ
95-57-8	2-Chlorophenol	ND	5.4	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.53	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.36	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	
	3&4-Methylphenol	ND	11	2.2	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.54	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.63	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	ND	5.4	0.56	ug/l	UJ
95-95-4	2,4,5-Trichlorophenol	ND	11	0.62	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.34	ug/l	
62-53-3	Aniline	ND	11	0.69	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.22	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	0.93	ng/l	
100-51-6	Benzyl Alcohol	ND	11	0.62	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.27	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	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.71	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.73	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.70	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.54	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.4	0.42	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	0.47	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071213		
Lab Sample ID:	MC22692-1	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 Sonth Central Avenue, Roxana, IL		

ABN Speeial List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.4	0.54	ug/l	
131-11-3	Dimethyl phthalate	ND	5.4	0.54	ug/l	UJ
117-81-7	bis(2-Ethylhexyl)phthalate	0.79	2.2	0.53	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.4	0.32	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.7	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.4	0.48	ug/l	UJ
78-59-1	Isophorone	ND	5.4	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.30	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.54	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.7	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.54	ug/l	UJ
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.88	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.59	ug/l	
110-86-1	Pyridine	ND	11	0.56	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	38%		15-110%
4165-62-2	Phenol-d5	32%		15-110%
118-79-6	2,4,6-Tribromophenol	75%		15-110%
4165-60-0	Nitrobenzene-d5	79%		30-130%
321-60-8	2-Fluorobiphenyl	62%		30-130%
1718-51-0	Terphenyl-d14	80%		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-071213		
Lab Sample ID:	MC22692-1	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14018.D	1	07/19/13	KR	07/17/13	OP34037	MSW635
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	~~0.063~~ U	0.11	0.014	ug/l	J U
120-12-7	Anthracene	~~0.058~~ U	0.11	0.019	ug/l	J U
56-55-3	Benzo(a)anthracene	~~0.14~~ U	~~0.054~~ 0.11	0.033	ug/l	B U
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.054	0.026	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.041	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.064	ug/l	
218-01-9	Chrysene	ND	0.11	0.079	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.045	ug/l	
206-44-0	Fluoranthene	~~0.042~~ U	0.11	0.035	ug/l	J U
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	ng/l	
91-57-6	2-Methylnaphthalene	~~0.067~~ U	0.22	0.056	ug/l	J U
85-01-8	Phenanthrene	~~0.076~~ U	~~0.054~~ 0.11	0.014	ug/l	B U
129-00-0	Pyrene	~~0.040~~ U	0.11	0.039	ug/l	J U

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	77%		30-130%
321-60-8	2-Fluorobiphenyl	63%		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:	MW13-ROX-071213		
Lab Sample ID:	MC22692-1	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27126.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
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	0.0043	ug/l	UJ
106-93-4	1,2-Dibromoethane	ND	0.014	0.0092	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	86%		36-173%
460-00-4	Bromofluorobenzene (S)	67%		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-071213		
Lab Sample ID:	MC22692-2	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V21167.D	1	07/24/13	AMY	n/a	n/a	MSV821
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	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	0.64	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	0.66	5.0	0.54	ug/l	J
135-98-8	sec-Butylbenzene	2.0	5.0	0.58	ug/l	J
98-06-6	tert-Butylbenzene	1.3	5.0	0.87	ug/l	J
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	UJ
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl viuyl ether	ND	5.0	1.1	ug/l	UJ
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotolnene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotolnene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	UJ
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

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

Report of Analysis

Client Sample ID:	MW14-ROX-071213		
Lab Sample ID:	MC22692-2	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	UJ
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	16.8	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ng/l	
1634-04-4	Methyl Tert Bntyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	10.9	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	UJ
108-88-3	Toluene	0.59	1.0	0.46	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichloroflnoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylhenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	2.6	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	2.9	1.0	0.41	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:	MW14-ROX-071213		
Lab Sample ID:	MC22692-2	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		70-130%
2037-26-5	Toluene-D8	101%		70-130%
460-00-4	4-Bromofluorobenzene	97%		70-130%

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071213		
Lab Sample ID:	MC22692-2	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F65726.D	1	07/19/13	KR	07/17/13	OP34036	MSF3044
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	0.41	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.52	ng/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.35	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	2.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	
	3&4-Methylphenol	ND	11	2.2	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.53	ug/l	
100-02-7	4-Nitrophenol	ND	21	0.62	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.3	ug/l	
108-95-2	Phenol	ND	5.3	0.54	ug/l	UJ
95-95-4	2,4,5-Trichlorophenol	ND	11	0.61	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.34	ug/l	
62-53-3	Aniline	ND	11	0.68	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.3	0.22	ug/l	
85-68-7	Bntyl benzyl phthalate	ND	5.3	0.91	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.61	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.3	0.98	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.27	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.3	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.3	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.3	0.14	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.3	0.21	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.3	0.69	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.72	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.68	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.3	0.53	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	0.43	5.3	0.41	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.3	0.46	ug/l	

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

Report of Analysis

Client Sample ID:	MW14-ROX-071213		
Lab Sample ID:	MC22692-2	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.53	ug/l	
131-11-3	Dimethyl phthalate	ND	5.3	0.53	ug/l	UJ
117-81-7	bis(2-Ethylhexyl)phthalate	0.66	2.1	0.52	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.3	0.32	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.7	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.3	0.47	ug/l	UJ
78-59-1	Isophorone	ND	5.3	0.21	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.30	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.53	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.6	ug/l	
98-95-3	Nitrobenzene	ND	5.3	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.3	0.53	ug/l	UJ
621-64-7	N-Nitroso-di-n-propylamine	ND	5.3	0.86	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.3	0.58	ug/l	
110-86-1	Pyridine	ND	11	0.55	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	34%		15-110%
118-79-6	2,4,6-Tribromophenol	84%		15-110%
4165-60-0	Nitrobenzene-d5	79%		30-130%
321-60-8	2-Fluorobiphenyl	65%		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:	MW14-ROX-071213		
Lab Sample ID:	MC22692-2	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14019.D	1	07/19/13	KR	07/17/13	OP34037	MSW635
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	0.46	0.11	0.014	ug/l	B
208-96-8	Acenaphthylene	~~0.062~~	0.11	0.014	ug/l	J
120-12-7	Anthracene	ND	0.11	0.019	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.053	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	~~0.093~~	0.11	0.049	ug/l	J
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.049	ug/l	
90-12-0	1-Methylnaphthalene	12.7	0.21	0.15	ug/l	
91-57-6	2-Methylnaphthalene	2.7	0.21	0.055	ug/l	
85-01-8	Phenanthrene	~~0.032~~	0.053	0.013	ug/l	J
129-00-0	Pyrene	~~0.067~~	0.11	0.038	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	81%		30-130%
321-60-8	2-Fluorobiphenyl	67%		30-130%
1718-51-0	Terphenyl-d14	82%		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-071213		
Lab Sample ID:	MC22692-2	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27128.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
Run #2							

	Initial Volume	Final Volume
Run #1	36.9 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.014	0.0043	ug/l	UJ
106-93-4	1,2-Dibromoethane	ND	0.014	0.0092	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	85%		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:	P66-ROX-071213		
Lab Sample ID:	MC22692-3	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V21165.D	1	07/24/13	AMY	n/a	n/a	MSV821
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	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	187	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	14.6	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	22.1	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	6.0	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	UJ
108-90-7	Chlorobenzene	0.59	1.0	0.48	ug/l	J
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	UJ
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	UJ
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071213		
Lab Sample ID:	MC22692-3	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	2.2	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	UJ
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	191	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	229	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	UJ
108-88-3	Toluene	1.8	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	1.0	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	1.5	1.0	0.41	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:	P66-ROX-071213		
Lab Sample ID:	MC22692-3	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		70-130%
2037-26-5	Toluene-D8	105%		70-130%
460-00-4	4-Bromofluorobenzene	96%		70-130%

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071213		
Lab Sample ID:	MC22692-3	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F65724.D	1	07/19/13	KR	07/17/13	OP34036	MSF3044
Run #2							

	Initial Volume	Final Volume
Run #1	890 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.4	ug/l	UJ
95-57-8	2-Chlorophenol	ND	5.6	0.43	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.55	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	1.3	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.8	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	
	3&4-Methylphenol	ND	11	2.3	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.56	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.66	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	3.5	5.6	0.58	ug/l	J J
95-95-4	2,4,5-Trichlorophenol	ND	11	0.64	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.36	ug/l	
62-53-3	Aniline	ND	11	0.72	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.6	0.23	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.6	0.96	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.65	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.6	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.28	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	0.26	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.6	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.6	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.6	0.73	ug/l	
121-14-2	2,4-Dinitrotolnene	ND	11	0.76	ug/l	
606-20-2	2,6-Dinitrotolnene	ND	11	0.72	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.6	0.56	ug/l	
132-64-9	Dibenzofuran	1.6	2.2	0.18	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.6	0.44	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.6	0.49	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071213		
Lab Sample ID:	MC22692-3	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.56	ug/l	
131-11-3	Dimethyl phthalate	ND	5.6	0.56	ug/l	UJ
117-81-7	bis(2-Ethylhexyl)phthalate	12.4	2.2	0.55	ug/l	
118-74-1	Hexachlorobenzene	ND	5.6	0.33	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.8	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.6	0.49	ug/l	UJ
78-59-1	Isophorone	ND	5.6	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.31	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.56	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.9	ug/l	
98-95-3	Nitrobenzene	ND	5.6	0.28	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.6	0.56	ug/l	UJ
621-64-7	N-Nitroso-di-n-propylamine	ND	5.6	0.91	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.6	0.61	ug/l	
110-86-1	Pyridine	ND	11	0.58	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	45%		15-110%
118-79-6	2,4,6-Tribromophenol	86%		15-110%
4165-60-0	Nitrobenzene-d5	89%		30-130%
321-60-8	2-Fluorobiphenyl	69%		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	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071213		
Lab Sample ID:	MC22692-3	Date Sampled:	07/12/13
Matrix:	AQ - Grouud Water	Date Received:	07/13/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W13980.D	1	07/18/13	KR	07/17/13	OP34037	MSW634
Run #2							

	Initial Volume	Final Volume
Run #1	890 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.87	0.11	0.015	ug/l	
208-96-8	Aceuaphthylene	ND	0.11	0.015	ug/l	
120-12-7	Anthracene	~~0.20~~ U	~~0.11~~ 0.2	0.020	ug/l	B U
56-55-3	Benzo(a)anthracene	0.18	0.056	0.034	ug/l	B
50-32-8	Benzo(a)pyrene	~~0.15~~ U	~~0.11~~ 0.15	0.020	ug/l	B U
205-99-2	Benzo(b)fluoranthene	0.17	0.056	0.027	ug/l	B
191-24-2	Benzo(g,h,i)perylene	~~0.18~~ U	~~0.11~~ 0.19	0.042	ug/l	B U
207-08-9	Benzo(k)fluoranthene	0.15	0.11	0.066	ug/l	
218-01-9	Chrysene	0.17	0.11	0.082	ug/l	
53-70-3	Dibenzo(a,h)anthracene	0.17	0.11	0.047	ug/l	
206-44-0	Fluoranthene	~~0.19~~ U	~~0.11~~ 0.19	0.037	ug/l	B U
86-73-7	Fluorene	1.8	0.11	0.052	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	0.17	0.11	0.052	ug/l	
90-12-0	1-Methylnaphthalene	68.8	0.22	0.16	ug/l	
91-57-6	2-Methylnaphthalene	64.2	0.22	0.058	ng/l	
85-01-8	Phenanthrene	0.88	0.056	0.014	ug/l	
129-00-0	Pyrene	~~0.20~~ U	~~0.11~~ 0.2	0.040	ug/l	B U

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	79%		30-130%
321-60-8	2-Fluorobiphenyl	65%		30-130%
1718-51-0	Terphenyl-d14	85%		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-071213		
Lab Sample ID:	MC22692-3	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27129.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
Run #2							

	Initial Volume	Final Volume
Run #1	37.1 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	0.014	0.0043	ug/l	UJ
106-93-4	1,2-Dibromoethane	ND	0.014	0.0091	ug/l	UJ

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

Report of Analysis

Client Sample ID:	P93D-ROX-071213		
Lab Sample ID:	MC22692-4	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V21168.D	1	07/24/13	AMY	n/a	n/a	MSV821
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	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	UJ
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	UJ
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorohenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	UJ
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071213		
Lab Sample ID:	MC22692-4	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

4.4

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	UJ
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	UJ
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	P93D-ROX-071213		
Lab Sample ID:	MC22692-4	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	99%		70-130%
460-00-4	4-Bromofluorobenzene	96%		70-130%

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071213		
Lab Sample ID:	MC22692-4	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F65727.D	1	07/19/13	KR	07/17/13	OP34036	MSF3044
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	0.43	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.55	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.36	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	1.3	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.8	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	
	3&4-Methylphenol	ND	11	2.3	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.56	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.65	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	ND	5.6	0.57	ug/l	UJ
95-95-4	2,4,5-Trichlorophenol	ND	11	0.64	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.35	ug/l	
62-53-3	Aniline	ND	11	0.71	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.6	0.23	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.6	0.95	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.64	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.6	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.28	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.6	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.6	0.26	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.6	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.6	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.6	0.72	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.75	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.71	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.6	0.56	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	0.45	5.6	0.43	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.6	0.48	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071213		
Lab Sample ID:	MC22692-4	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.56	ug/l	
131-11-3	Dimethyl phthalate	ND	5.6	0.56	ug/l	UJ
117-81-7	bis(2-Ethylhexyl)phthalate	0.57	2.2	0.54	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.6	0.33	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.8	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.6	0.49	ug/l	UJ
78-59-1	Isophorone	ND	5.6	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.31	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.56	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.8	ug/l	
98-95-3	Nitrobenzene	ND	5.6	0.28	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.6	0.56	ug/l	UJ
621-64-7	N-Nitroso-di-n-propylamine	ND	5.6	0.90	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.6	0.60	ug/l	
110-86-1	Pyridine	ND	11	0.57	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	19%		15-110%
4165-62-2	Phenol-d5	15%		15-110%
118-79-6	2,4,6-Tribromophenol	42%		15-110%
4165-60-0	Nitrobenzene-d5	85%		30-130%
321-60-8	2-Fluorobiphenyl	70%		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	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071213		
Lab Sample ID:	MC22692-4	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Bateb	Analytical Batch
Run #1	W14020.D	1	07/19/13	KR	07/17/13	OP34037	MSW635
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	~~0.026~~	0.11	0.015	ug/l	J
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	~~0.059~~	0.22	0.058	ug/l	J
85-01-8	Pheuanthrene	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
4165-60-0	Nitrobenzene-d5	80%		30-130%
321-60-8	2-Fluorobipheuyl	58%		30-130%
1718-51-0	Terphenyl-d14	88%		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-071213		
Lab Sample ID:	MC22692-4	Date Sampled:	07/12/13
Matrix:	AQ - Ground Water	Date Received:	07/13/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27130.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
Run #2							

	Initial Volume	Final Volume
Run #1	36.6 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	0.014	0.0043	ug/l	UJ
106-93-4	1,2-Dibromoethane	ND	0.014	0.0092	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	89%		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:	TB-ROX-071213-HCL		
Lab Sample ID:	MC22692-5	Date Sampled:	07/12/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/13/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V21161.D	1	07/24/13	AMY	n/a	n/a	MSV821
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	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071213-HCL		
Lab Sample ID:	MC22692-5	Date Sampled:	07/12/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/13/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ng/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ng/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ng/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	ng/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071213-HCL		
Lab Sample ID:	MC22692-5	Date Sampled:	07/12/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/13/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	97%		70-130%

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071213-ST		
Lab Sample ID:	MC22692-6	Date Sampled:	07/12/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/13/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27131.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
Run #2							

	Initial Volume	Final Volume
Run #1	36.6 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	0.014	0.0043	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0092	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	76%		36-173%
460-00-4	Bromofluorobenzene (S)	66%		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

41

Custody Documents and Other Forms

Includes the following where applicable:

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

LAB (LOCATION)
☐ XENCO (_____)
☐ CALSCIENCE (Address: Eaton, 495 Technology Cir W, Marlborough, MA 01752 (508-481-6200))
☑ OTHER ☐ Lab Vendor # (_____)
☐ SPL (_____)
Lab Vendor #

Shell Oil Products Chain Of Custody Record

URS

Please Check Appropriate Box:
☑ ENV SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SOD&CH ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Bob Bitman
PO #
INCIDENT # (ENV SERVICES): 0 7 2 1 6 0 4 0
SAP #: 3 4 0 0 6 1
☐ CHECK IF NO INCIDENT # APPLIES
DATE 7/12/13
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): Elizabeth Kunkel, Wendy Pennington, Bob Bitman
TELEPHONE: 314-429-0100 FAX: 314-429-0462
E-mail To: [illegible]
TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (10 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON (MM/DD/YY)
☐ 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.:
C/O DELIVERABLE TO (Name, Company, Office Location):
PHONE NO:
EMAIL:
CONSULTANT PROJECT NO: Roxana Quarterly GW / 216628850.03003
SAMPLER NAME(S) (Print): L Rathnow, D Mattingly
LAB USE ONLY: MC22692

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
☐ DO NOT RESPOND
☐ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

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	MW13-ROX-071213	7/12/13	0930	water	2			2	2	6	X	X	X	X	0	
-2	MW14-ROX-071213		1025		2			2	2	6	X	X	X	X		
-3	P616-ROX-071213		1105		2			2	2	6	X	X	X	X		
-3S	P616-ROX-071213-MS		1105		2			2	2	6	X	X	X	X		
-3D	P616-ROX-071213-MSD		1105		2			2	2	6	X	X	X	X		
-4	P93D-ROX-071213		1335		2			2	2	6	X	X	X	X		
-5	TB-ROX-071213-HCl		0000		2					2	X					
-6	TB-ROX-071213-ST		0000						2	2		X				
																IRC, SC4

FIELD NOTES:
TEMPERATURE ON RECEIPT C°

Relinquished by (Signature)	Received by (Signature)	Date	Time
L Daniel Mattingly	FED EX	7/12/13	1800
		7-13-13	1030

1;5c

09/06 Revision

5.1

MC22692: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC22692 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 7/13/2013 **Delivery Method:** **Client Service Action Required at Login:** No

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

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

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

Quality Control Preservation	Y or N	N/A
1. Trip Blank present / cooler:	☑ ☐	☐
2. Trip Blank listed on COC:	☑ ☐	☐
3. Samples preserved properly:	☑ ☐	
4. VOCs headspace free:	☑ ☐	☐

Sample Integrity - Documentation	Y or N
1. Sample labels present on bottles:	☑ ☐
2. Container labeling complete:	☑ ☐
3. Sample container label / COC agree:	☑ ☐

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

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

Comments

Accutest Laboratories
V 508.481.6200

495 Technology Center West, Bldg One
F 508.481.7753

Marlborough, MA
www.accutest.com

5.1

MC22692: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC22692

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC22692-1 Collected: 12-JUL-13 09:30 By: LRDM Received: 13-JUL-13 By: BA						
MW13-ROX-071213						
MC22692-1	SW846 8270C BY SIM	19-JUL-13 09:44	KR	17-JUL-13	AF	B8270SIMSL
MC22692-1	SW846 8270C	19-JUL-13 14:58	KR	17-JUL-13	MEW	AB8270SL+
MC22692-1	SW846 8260B	24-JUL-13 16:13	AMY			V8260SL+
MC22692-1	SW846 8011	25-JUL-13 09:11	NK	23-JUL-13	BJ	V8011SL
MC22692-2 Collected: 12-JUL-13 10:25 By: LRDM Received: 13-JUL-13 By: BA						
MW14-ROX-071213						
MC22692-2	SW846 8270C BY SIM	19-JUL-13 10:06	KR	17-JUL-13	AF	B8270SIMSL
MC22692-2	SW846 8270C	19-JUL-13 15:22	KR	17-JUL-13	MEW	AB8270SL+
MC22692-2	SW846 8260B	24-JUL-13 16:39	AMY			V8260SL+
MC22692-2	SW846 8011	25-JUL-13 10:00	NK	23-JUL-13	BJ	V8011SL
MC22692-3 Collected: 12-JUL-13 11:05 By: LRDM Received: 13-JUL-13 By: BA						
P66-ROX-071213						
MC22692-3	SW846 8270C BY SIM	18-JUL-13 14:37	KR	17-JUL-13	AF	B8270SIMSL
MC22692-3	SW846 8270C	19-JUL-13 14:33	KR	17-JUL-13	MEW	AB8270SL+
MC22692-3	SW846 8260B	24-JUL-13 15:46	AMY			V8260SL+
MC22692-3	SW846 8011	25-JUL-13 10:24	NK	23-JUL-13	BJ	V8011SL
MC22692-4 Collected: 12-JUL-13 13:35 By: LRDM Received: 13-JUL-13 By: BA						
P93D-ROX-071213						
MC22692-4	SW846 8270C BY SIM	19-JUL-13 10:28	KR	17-JUL-13	AF	B8270SIMSL
MC22692-4	SW846 8270C	19-JUL-13 15:46	KR	17-JUL-13	MEW	AB8270SL+
MC22692-4	SW846 8260B	24-JUL-13 17:06	AMY			V8260SL+
MC22692-4	SW846 8011	25-JUL-13 10:49	NK	23-JUL-13	BJ	V8011SL
MC22692-5 Collected: 12-JUL-13 00:00 By: LRDM Received: 13-JUL-13 By: BA						
TB-ROX-071213-HCL						
MC22692-5	SW846 8260B	24-JUL-13 14:00	AMY			V8260SL+
MC22692-6 Collected: 12-JUL-13 00:00 By: LRDM Received: 13-JUL-13 By: BA						
TB-ROX-071213-ST						

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC22692

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC22692-6	SW846 8011	25-JUL-13 11:13	NK	23-JUL-13	BJ	V8011SL

Accutest Internal Chain of Custody

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/13/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22692-1.1	Walk In Ref #22	Michael Rolo	07/16/13 07:39	Retrieve from Storage
MC22692-1.1	Michael Rolo	Walk In Ref #22	07/16/13 17:06	Return to Storage
MC22692-1.1	Walk In Ref #22	Michael Rolo	07/17/13 07:20	Retrieve from Storage
MC22692-1.1	Michael Rolo		08/02/13 07:19	Depleted
MC22692-1.4	VOC Ref #5	Amy Min Yang	07/24/13 13:15	Retrieve from Storage
MC22692-1.4	Amy Min Yang	GCMSV	07/24/13 13:16	Load on Instrnment
MC22692-1.4	GCMSV	Amy Min Yang	07/26/13 15:01	Unload from Instrnment
MC22692-1.4	Amy Min Yang	VOC Ref #5	07/26/13 15:01	Return to Storage
MC22692-1.6	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22692-1.6	Bijan Jafari		07/23/13 18:13	Depleted
MC22692-2.2	Walk In Ref #22	Michael Rolo	07/16/13 07:39	Retrieve from Storage
MC22692-2.2	Michael Rolo	Walk In Ref #22	07/16/13 17:06	Retnrn to Storage
MC22692-2.2	Walk In Ref #22	Michael Rolo	07/17/13 07:20	Retrieve from Storage
MC22692-2.2	Michael Rolo		08/02/13 07:19	Depleted
MC22692-2.4	VOC Ref #5	Amy Min Yang	07/24/13 13:15	Retrieve from Storage
MC22692-2.4	Amy Min Yang	GCMSV	07/24/13 13:16	Load on Instrument
MC22692-2.4	GCMSV	Amy Min Yang	07/26/13 15:01	Unload from Instrument
MC22692-2.4	Amy Min Yang	VOC Ref #5	07/26/13 15:01	Return to Storage
MC22692-2.6	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22692-2.6	Bijan Jafari		07/23/13 18:13	Depleted
MC22692-3.3	Walk In Ref #22	Michael Rolo	07/16/13 07:39	Retrieve from Storage
MC22692-3.3	Michael Rolo	Walk In Ref #22	07/16/13 17:06	Return to Storage
MC22692-3.3	Walk In Ref #22	Michael Rolo	07/17/13 07:20	Retrieve from Storage
MC22692-3.3	Michael Rolo		08/02/13 07:19	Depleted
MC22692-3.4	Walk In Ref #22	Michael Rolo	07/16/13 07:39	Retrieve from Storage
MC22692-3.4	Michael Rolo	Walk In Ref #22	07/16/13 17:06	Return to Storage
MC22692-3.4	Walk In Ref #22	Michael Rolo	07/17/13 07:20	Retrieve from Storage
MC22692-3.4	Michael Rolo		08/02/13 07:19	Depleted
MC22692-3.6	Walk In Ref #22	Michael Rolo	07/16/13 07:39	Retrieve from Storage
MC22692-3.6	Michael Rolo	Walk In Ref #22	07/16/13 17:06	Return to Storage
MC22692-3.6	Walk In Ref #22	Michael Rolo	07/17/13 07:20	Retrieve from Storage
MC22692-3.6	Michael Rolo		08/02/13 07:19	Depleted
MC22692-3.7	VOC Ref #5	Amy Min Yang	07/24/13 13:15	Retrieve from Storage
MC22692-3.7	Amy Min Yang	GCMSV	07/24/13 13:16	Load on Instrument
MC22692-3.7	GCMSV	Amy Min Yang	07/26/13 15:01	Unload from Instrument

5.3

Accutest Internal Chain of Custody

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/13/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22692-3.7	Amy Min Yang	VOC Ref #5	07/26/13 15:01	Return to Storage
MC22692-3.8	VOC Ref #5	Amy Min Yang	07/24/13 13:15	Retrieve from Storage
MC22692-3.8	Amy Min Yang	GCMSV	07/24/13 13:16	Load on Instrument
MC22692-3.8	GCMSV	Amy Min Yang	07/26/13 15:01	Unload from Instrument
MC22692-3.8	Amy Min Yang	VOC Ref #5	07/26/13 15:01	Return to Storage
MC22692-3.9	VOC Ref #5	Amy Min Yang	07/24/13 13:15	Retrieve from Storage
MC22692-3.9	Amy Min Yang	GCMSV	07/24/13 13:16	Load on Instrument
MC22692-3.9	GCMSV	Amy Min Yang	07/26/13 15:01	Unload from Instrument
MC22692-3.9	Amy Min Yang	VOC Ref #5	07/26/13 15:01	Retnrn to Storage
MC22692-3.12	VOC Ref #5	Amy Min Yang	07/24/13 13:15	Retrieve from Storage
MC22692-3.12	Amy Min Yang	GCMSV	07/24/13 13:16	Load on Instrument
MC22692-3.12	GCMSV	Amy Min Yang	07/26/13 15:01	Unload from Instrument
MC22692-3.12	Amy Min Yang	VOC Ref #5	07/26/13 15:01	Return to Storage
MC22692-3.13	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22692-3.13	Bijan Jafari		07/23/13 18:13	Depleted
MC22692-3.15	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22692-3.15	Bijan Jafari		07/23/13 18:13	Depleted
MC22692-3.17	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22692-3.17	Bijan Jafari		07/23/13 18:13	Depleted
MC22692-4.1	Walk In Ref #22	Thomas Abruzzise	07/23/13 14:59	Retrieve from Storage
MC22692-4.1	Thomas Abrnzzise		07/30/13 14:35	Depleted
MC22692-4.2	Walk In Ref #22	Michael Rolo	07/16/13 07:39	Retrieve from Storage
MC22692-4.2	Michael Rolo	Walk In Ref #22	07/16/13 17:06	Return to Storage
MC22692-4.2	Walk In Ref #22	Michael Rolo	07/17/13 07:20	Retrieve from Storage
MC22692-4.2	Michael Rolo		08/02/13 07:19	Depleted
MC22692-4.3	VOC Ref #5	Amy Min Yang	07/24/13 13:15	Retrieve from Storage
MC22692-4.3	Amy Min Yang	GCMSV	07/24/13 13:16	Load on Instrument
MC22692-4.3	GCMSV	Amy Min Yang	07/26/13 15:01	Unload from Instrument
MC22692-4.3	Amy Min Yang	VOC Ref #5	07/26/13 15:01	Return to Storage
MC22692-4.5	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22692-4.5	Bijan Jafari		07/23/13 18:13	Depleted
MC22692-5.1	VOC Ref #5	Amy Min Yang	07/24/13 13:15	Retrieve from Storage
MC22692-5.1	Amy Min Yang	GCMSV	07/24/13 13:16	Load on Instrument

5.3

Accutest Internal Chain of Custody

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/13/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22692-5.1	GCMSV	Amy Min Yang	07/26/13 15:01	Unload from Instrument
MC22692-5.1	Amy Min Yang	VOC Ref #5	07/26/13 15:01	Return to Storage
MC22692-6.1	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22692-6.1	Bijan Jafari		07/23/13 18:13	Depleted

5.3

New England ACCUTEST LABORATORIES

GC/MS Volatiles

6

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: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV821-MB	V21160.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4, MC22692-5

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	

Method Blank Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV821-MB	V21160.D	1	07/24/13	AMY	n/a	u/a	MSV821

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4, MC22692-5

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	ug/l	

Method Blank Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV821-MB	V21160.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4, MC22692-5

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

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

6.1.1

Blank Spike Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV821-BS	V21158.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4, MC22692-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	41.7	83	70-130
107-02-8	Acrolein	250	238	95	70-130
107-13-1	Acrylonitrile	50	48.4	97	70-130
71-43-2	Benzene	50	45.3	91	70-130
108-86-1	Bromobenzene	50	54.6	109	70-130
74-97-5	Bromochloromethane	50	46.6	93	70-130
75-27-4	Bromodichloromethane	50	56.3	113	70-130
75-25-2	Bromoform	50	59.1	118	70-130
74-83-9	Bromomethane	50	59.0	118	70-130
78-93-3	2-Butanone (MEK)	50	42.4	85	70-130
104-51-8	n-Butylbenzene	50	54.1	108	70-130
135-98-8	sec-Butylbenzene	50	58.1	116	70-130
98-06-6	tert-Butylbenzene	50	60.0	120	70-130
75-15-0	Carbon disulfide	50	60.2	120	70-130
56-23-5	Carbon tetrachloride	50	65.6	131* [a]	70-130
108-90-7	Chlorobenzene	50	56.6	113	70-130
75-00-3	Chloroethane	50	52.4	105	70-130
110-75-8	2-Chloroethyl vinyl ether	50	178	356* [b]	70-130
67-66-3	Chloroform	50	47.7	95	70-130
74-87-3	Chloromethane	50	50.3	101	70-130
95-49-8	o-Chlorotoluene	50	54.0	108	70-130
106-43-4	p-Chlorotoluene	50	56.1	112	70-130
124-48-1	Dibromochloromethane	50	59.2	118	70-130
95-50-1	1,2-Dichlorobenzene	50	57.1	114	70-130
541-73-1	1,3-Dichlorobenzene	50	57.8	116	70-130
106-46-7	1,4-Dichlorobenzene	50	53.3	107	70-130
75-71-8	Dichlorodifluoromethane	50	67.0	134* [a]	70-130
75-34-3	1,1-Dichloroethane	50	42.7	85	70-130
107-06-2	1,2-Dichloroethane	50	52.4	105	70-130
75-35-4	1,1-Dichloroethene	50	48.8	98	70-130
156-59-2	cis-1,2-Dichloroethene	50	41.4	83	70-130
156-60-5	trans-1,2-Dichloroethene	50	43.7	87	70-130
78-87-5	1,2-Dichloropropane	50	43.7	87	70-130
142-28-9	1,3-Dichloropropane	50	47.7	95	70-130
594-20-7	2,2-Dichloropropane	50	60.8	122	70-130
563-58-6	1,1-Dichloropropene	50	54.4	109	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenne, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV821-BS	V21158.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4, MC22692-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	47.1	94	70-130
10061-02-6	trans-1,3-Dichloropropene	50	53.1	106	70-130
123-91-1	1,4-Dioxane	250	185	74	70-130
97-63-2	Ethyl methacrylate	50	45.8	92	77-137
100-41-4	Ethylbenzene	50	55.7	111	70-130
87-68-3	Hexachlorobutadiene	50	78.1	156* b	70-130
591-78-6	2-Hexanone	50	49.0	98	70-130
98-82-8	Isopropylbenzene	50	57.7	115	70-130
99-87-6	p-Isopropyltolnene	50	59.8	120	70-130
1634-04-4	Methyl Tert Butyl Ether	50	42.2	84	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	38.0	76	70-130
74-95-3	Methylene bromide	50	49.2	98	70-130
75-09-2	Methylene chloride	50	39.1	78	70-130
91-20-3	Naphthalene	50	49.2	98	70-130
103-65-1	n-Propylbenzene	50	54.5	109	70-130
100-42-5	Styrene	50	52.8	106	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	64.2	128	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	46.8	94	70-130
127-18-4	Tetrachloroethene	50	63.5	127	70-130
108-88-3	Toluene	50	49.0	98	70-130
87-61-6	1,2,3-Trichlorohenzene	50	57.2	114	70-130
120-82-1	1,2,4-Trichlorobenzene	50	58.0	116	70-130
71-55-6	1,1,1-Trichloroethane	50	52.2	104	70-130
79-00-5	1,1,2-Trichloroethane	50	48.1	96	70-130
79-01-6	Trichloroethene	50	52.8	106	70-130
75-69-4	Trichlorofluoromethane	50	57.7	115	70-130
96-18-4	1,2,3-Trichloropropane	50	42.6	85	70-130
95-63-6	1,2,4-Trimethylbenzene	50	53.2	106	70-130
108-67-8	1,3,5-Trimethylbenzene	50	53.3	107	70-130
108-05-4	Vinyl Acetate	50	31.5	63* a	70-130
75-01-4	Vinyl chloride	50	41.0	82	70-130
	m,p-Xylene	100	113	113	70-130
95-47-6	o-Xylene	50	57.9	116	70-130
1330-20-7	Xylene (total)	150	171	114	70-130

* = Outside of Control Limits.

6.2.1

Blank Spike Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV821-BS	V21158.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4, MC22692-5

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

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

6.2.1

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytieal Batch
MC22692-3MS	V21181.D	1	07/24/13	AMY	n/a	n/a	MSV821
MC22692-3MSD	V21182.D	1	07/24/13	AMY	n/a	n/a	MSV821
MC22692-3	V21165.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4, MC22692-5

CAS No.	Compound	MC22692-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		50	30.1	60* a	27.2	54* a	10	70-130/30
107-02-8	Acrolein	ND		250	174	70	173	69* a	1	70-130/30
107-13-1	Acrylonitrile	ND		50	42.4	85	41.7	83	2	70-130/30
71-43-2	Benzene	187		50	209	44* b	204	34* b	2	70-130/30
108-86-1	Bromobenzene	ND		50	56.0	112	56.4	113	1	70-130/30
74-97-5	Bromochloromethane	ND		50	46.3	93	45.6	91	2	70-130/30
75-27-4	Bromodichloromethane	ND		50	53.3	107	52.8	106	1	70-130/30
75-25-2	Bromoform	ND		50	59.3	119	59.5	119	0	70-130/30
74-83-9	Bromomethane	ND		50	53.7	107	52.9	106	2	70-130/30
78-93-3	2-Butanone (MEK)	ND		50	29.4	59* a	29.9	60* a	2	70-130/30
104-51-8	n-Butylbenzene	14.6		50	64.4	100	64.3	99	0	70-130/30
135-98-8	sec-Butylbenzene	22.1		50	76.5	109	76.2	108	0	70-130/30
98-06-6	tert-Butylbenzene	6.0		50	61.9	112	61.9	112	0	70-130/30
75-15-0	Carbon disulfide	ND		50	60.7	121	59.5	119	2	70-130/30
56-23-5	Carbon tetrachloride	ND		50	60.5	121	59.6	119	1	70-130/30
108-90-7	Chlorobenzene	0.59	J	50	60.7	120	60.6	120	0	70-130/30
75-00-3	Chloroethane	ND		50	46.0	92	45.1	90	2	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		50	ND	0* a	8.6	17* a	200* c	70-130/30
67-66-3	Chloroform	ND		50	44.4	89	43.9	88	1	70-130/30
74-87-3	Chloromethane	ND		50	43.5	87	42.0	84	4	70-130/30
95-49-8	o-Chlorotoluene	ND		50	52.6	105	52.7	105	0	70-130/30
106-43-4	p-Chlorotoluene	ND		50	54.2	108	54.3	109	0	70-130/30
124-48-1	Dibromochloromethane	ND		50	58.2	116	58.1	116	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		50	56.9	114	57.3	115	1	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		50	59.1	118	58.9	118	0	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		50	54.1	108	53.9	108	0	70-130/30
75-71-8	Dichlorodifluoromethane	ND		50	60.8	122	57.7	115	5	70-130/30
75-34-3	1,1-Dichloroethane	ND		50	40.7	81	40.1	80	1	70-130/30
107-06-2	1,2-Dichloroethane	ND		50	45.5	91	44.3	89	3	70-130/30
75-35-4	1,1-Dichloroethene	ND		50	49.3	99	48.3	97	2	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		50	41.8	84	41.3	83	1	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		50	43.0	86	42.6	85	1	70-130/30
78-87-5	1,2-Dichloropropane	ND		50	47.4	95	46.3	93	2	70-130/30
142-28-9	1,3-Dichloropropane	ND		50	47.4	95	46.8	94	1	70-130/30
594-20-7	2,2-Dichloropropane	ND		50	55.9	112	55.3	111	1	70-130/30
563-58-6	1,1-Dichloropropene	ND		50	53.9	108	52.7	105	2	70-130/30

* = Outside of Control Limits.

6.3.1

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22692-3MS	V21181.D	1	07/24/13	AMY	n/a	n/a	MSV821
MC22692-3MSD	V21182.D	1	07/24/13	AMY	n/a	n/a	MSV821
MC22692-3	V21165.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4, MC22692-5

6.3.1

CAS No.	Compound	MC22692-3 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	46.1	92	45.7	91	1	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		50	50.6	101	50.3	101	1	70-130/30
123-91-1	1,4-Dioxane	ND		250	166	66* a	154	62* a	8	70-130/30
97-63-2	Ethyl methacrylate	ND		50	53.8	108	53.3	107	1	72-139/30
100-41-4	Ethylbenzene	2.2		50	59.2	114	58.6	113	1	70-130/30
87-68-3	Hexachlorobutadiene	ND		50	77.4	155* a	79.3	159* a	2	70-130/30
591-78-6	2-Hexanone	ND		50	43.6	87	43.7	87	0	70-130/30
98-82-8	Isopropylbenzene	191		50	213	44* b	212	42* b	0	70-130/30
99-87-6	p-Isopropyltoluene	ND		50	59.6	119	59.2	118	1	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		50	87.0	174* a	86.6	173* a	0	70-130/30
108-10-1	4-Metbyl-2-pentanone (MIBK)	ND		50	36.6	73	36.1	72	1	70-130/30
74-95-3	Methylene bromide	ND		50	47.0	94	46.1	92	2	70-130/30
75-09-2	Methylene chloride	ND		50	39.9	80	39.4	79	1	70-130/30
91-20-3	Naphthalene	ND		50	49.4	99	55.2	110	11	70-130/30
103-65-1	n-Propylbenzene	229		50	240	22* b	239	20* b	0	70-130/30
100-42-5	Styrene	ND		50	56.5	113	56.1	112	1	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		50	65.2	130	65.6	131* a	1	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		50	47.3	95	46.9	94	1	70-130/30
127-18-4	Tetrachloroethene	ND		50	69.4	139* a	68.5	137* a	1	70-130/30
108-88-3	Toluene	1.8		50	52.1	101	50.9	98	2	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		50	53.4	107	58.5	117	9	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		50	56.7	113	59.2	118	4	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		50	50.2	100	49.6	99	1	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		50	48.8	98	47.9	96	2	70-130/30
79-01-6	Trichloroethene	ND		50	54.1	108	52.6	105	3	70-130/30
75-69-4	Trichlorofluoromethane	ND		50	49.4	99	48.4	97	2	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		50	36.1	72	42.9	86	17	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		50	52.4	105	52.4	105	0	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		50	52.6	105	52.6	105	0	70-130/30
108-05-4	Vinyl Acetate	ND		50	50.8	102	50.1	100	1	70-130/30
75-01-4	Vinyl chloride	ND		50	36.8	74	35.8	72	3	70-130/30
	m,p-Xylene	ND		100	122	122	120	120	2	70-130/30
95-47-6	o-Xylene	1.0		50	62.9	124	62.9	124	0	70-130/30
1330-20-7	Xylene (total)	1.5		150	185	122	183	121	1	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22692-3MS	V21181.D	1	07/24/13	AMY	n/a	n/a	MSV821
MC22692-3MSD	V21182.D	1	07/24/13	AMY	n/a	n/a	MSV821
MC22692-3	V21165.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4, MC22692-5

CAS No.	Surrogate Recoveries	MS	MSD	MC22692-3	Limits
1868-53-7	Dibromofluoromethane	90%	90%	94%	70-130%
2037-26-5	Toluene-D8	100%	100%	105%	70-130%
460-00-4	4-Bromofluorobenzene	95%	95%	96%	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.
(c) High RPD due to possible matrix interference and/or sample non-homogeneity.

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSV821-CC776	Injection Date:	07/24/13
Lab File ID:	V21157.D	Injection Time:	12:14
Instrument ID:	GCMSV	Method:	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	266854	6.59	369435	7.77	189496	11.10	203236	13.31	60077	3.52
Upper Limit [a]	533708	7.09	738870	8.27	378992	11.60	406472	13.81	120154	4.02
Lower Limit [b]	133427	6.09	184718	7.27	94748	10.60	101618	12.81	30039	3.02

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSV821-BS	272318	6.59	374510	7.77	190485	11.10	205257	13.31	64667	3.52
MSV821-MB	259369	6.60	360407	7.77	186786	11.10	195103	13.31	56752	3.53
MC22692-5	253995	6.60	356631	7.77	183542	11.10	191408	13.31	57217	3.53
ZZZZZZ	248014	6.59	347981	7.77	179447	11.10	187068	13.31	56079	3.53
ZZZZZZ	239746	6.60	337596	7.77	174885	11.10	181634	13.31	53686	3.53
ZZZZZZ	240601	6.59	336878	7.77	175108	11.10	184422	13.31	60707	3.53
MC22692-3	251626	6.59	337348	7.77	181190	11.09	194466	13.30	58534	3.52
MC22692-1	266675	6.59	372892	7.77	191431	11.09	210034	13.30	57293	3.52
MC22692-2	278589	6.59	377396	7.77	194603	11.09	209048	13.30	68305	3.53
MC22692-4	273858	6.59	383835	7.77	194823	11.09	205664	13.30	60599	3.53
ZZZZZZ	276696	6.59	384208	7.77	200854	11.09	210912	13.30	87182	3.53
ZZZZZZ	287703	6.59	397104	7.77	206698	11.09	219355	13.30	140500[c]	3.55
ZZZZZZ	291812	6.60	407754	7.77	209420	11.10	222711	13.30	120538[c]	3.55
ZZZZZZ	293703	6.69	394523	7.81	210525	11.10	216899	13.30	146454[c]	3.57
ZZZZZZ	291129	6.74	403084	7.83	213277	11.10	222216	13.30	92242	3.53
MC22692-3MS	322586	6.58	435313	7.76	213929	11.09	239324	13.30	76589	3.52
MC22692-3MSD	319923	6.58	436016	7.76	211471	11.09	236373	13.30	74228	3.52

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

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Outside control limits. Target analytes not associated with this internal standard.

6.4.1

Volatile Surrogate Recovery Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22692-1	V21166.D	95.0	100.0	97.0
MC22692-2	V21167.D	92.0	101.0	97.0
MC22692-3	V21165.D	94.0	105.0	96.0
MC22692-4	V21168.D	95.0	99.0	96.0
MC22692-5	V21161.D	98.0	99.0	97.0
MC22692-3MS	V21181.D	90.0	100.0	95.0
MC22692-3MSD	V21182.D	90.0	100.0	95.0
MSV821-BS	V21158.D	97.0	99.0	97.0
MSV821-MB	V21160.D	97.0	99.0	97.0

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

6.5.1

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: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34036-MB	F65676.D	1	07/18/13	KR	07/17/13	OP34036	MSF3043

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4

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	0.38	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.49	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.33	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	1.1	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	2.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	1.2	ug/l	
95-48-7	2-Methylphenol	ND	10	1.3	ug/l	
	3&4-Methylphenol	ND	10	2.0	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.50	ug/l	
100-02-7	4-Nitrophenol	ND	20	0.58	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.0	0.51	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.57	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.32	ug/l	
62-53-3	Aniline	ND	10	0.64	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.20	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.85	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.57	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.92	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.25	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.21	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.23	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.13	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.20	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.65	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.68	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.64	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.50	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.16	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.39	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.43	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.50	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.50	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.49	ng/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.30	ug/l	

Method Blank Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34036-MB	F65676.D	1	07/18/13	KR	07/17/13	OP34036	MSF3043

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	2.5	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.44	ug/l	
78-59-1	Isophorone	ND	5.0	0.20	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.50	ug/l	
100-01-6	4-Nitroaniline	ND	10	4.3	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.50	og/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.81	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.54	ug/l	
110-86-1	Pyridine	ND	10	0.52	ug/l	

CAS No.	Surrogate Recoverics		Limits
367-12-4	2-Fluorophenol	48%	15-110%
4165-62-2	Phenol-d5	33%	15-110%
118-79-6	2,4,6-Tribromophenol	87%	15-110%
4165-60-0	Nitrobenzene-d5	85%	30-130%
321-60-8	2-Flnorobiphenyl	71%	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	ng/l	

Method Blank Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Projeet: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34037-MB	W13976.D	1	07/18/13	KR	07/17/13	OP34037	MSW634

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.065	0.10	0.014	ug/l	J
208-96-8	Acenaphthylene	0.043	0.10	0.013	ug/l	J
120-12-7	Anthracene	0.040	0.10	0.018	ug/l	J
56-55-3	Benzo(a)anthracene	0.035	0.050	0.030	ug/l	J
50-32-8	Benzo(a)pyrene	0.031	0.10	0.017	ug/l	J
205-99-2	Benzo(b)fluoranthene	0.031	0.050	0.024	ug/l	J
191-24-2	Benzo(g,h,i)perylene	0.043	0.10	0.038	ug/l	J
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.059	ug/l	
218-01-9	Chrysene	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	0.045	0.10	0.033	ug/l	J
86-73-7	Fluorene	0.069	0.10	0.046	ug/l	J
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	0.10	0.20	0.052	ug/l	J
85-01-8	Phenanthrene	0.081	0.050	0.013	ug/l	
129-00-0	Pyrene	0.040	0.10	0.036	ug/l	J

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	47%	15-110%
4165-62-2	Phenol-d5	34%	15-110%
118-79-6	2,4,6-Tribromophenol	95%	15-110%
4165-60-0	Nitrobenzene-d5	86%	30-130%
321-60-8	2-Fluorobiphenyl	71%	30-130%
1718-51-0	Terphenyl-d14	94%	30-130%

Blank Spike Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34036-BS	F65677.D	1	07/18/13	KR	07/17/13	OP34036	MSF3043

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	50	5.4	11* a	30-130
95-57-8	2-Chlorophenol	50	24.7	49	30-130
59-50-7	4-Chloro-3-methyl phenol	50	33.2	66	30-130
120-83-2	2,4-Dichlorophenol	50	30.5	61	30-130
105-67-9	2,4-Dimethylphenol	50	30.4	61	30-130
51-28-5	2,4-Dinitrophenol	50	27.6	55	30-130
534-52-1	4,6-Dinitro-o-cresol	50	38.6	77	30-130
95-48-7	2-Methylphenol	50	25.2	50	30-130
	3&4-Methylphenol	100	45.8	46	30-130
88-75-5	2-Nitrophenol	50	28.4	57	30-130
100-02-7	4-Nitrophenol	50	17.6	35	30-130
87-86-5	Pentachlorophenol	50	36.9	74	30-130
108-95-2	Phenol	50	12.8	26* a	30-130
95-95-4	2,4,5-Trichlorophenol	50	35.6	71	30-130
88-06-2	2,4,6-Trichlorophenol	50	34.1	68	30-130
62-53-3	Aniline	50	24.2	48	40-140
101-55-3	4-Bromophenyl phenyl ether	50	42.5	85	40-140
85-68-7	Butyl benzyl phthalate	50	45.1	90	40-140
100-51-6	Benzyl Alcohol	50	30.5	61	40-140
91-58-7	2-Chloronaphthalene	50	27.6	55	40-140
106-47-8	4-Chloroaniline	50	35.6	71	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	36.7	73	40-140
111-44-4	bis(2-Chloroethyl)ether	50	32.0	64	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	39.4	79	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	38.7	77	40-140
122-66-7	1,2-Diphenylhydrazine	50	43.3	87	40-140
121-14-2	2,4-Dinitrotoluene	50	55.4	111	40-140
606-20-2	2,6-Dinitrotoluene	50	48.5	97	40-140
91-94-1	3,3'-Dichlorobenzidine	50	39.1	78	40-140
132-64-9	Dibenzofuran	50	36.2	72	40-140
84-74-2	Di-n-butyl phthalate	50	48.7	97	40-140
117-84-0	Di-n-octyl phthalate	50	54.4	109	40-140
84-66-2	Diethyl phthalate	50	26.2	52	40-140
131-11-3	Dimethyl phthalate	50	5.4	11* a	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	66.1	132	40-140
118-74-1	Hexachlorobenzene	50	48.4	97	40-140

* = Outside of Control Limits.

7.2.1

7

Blank Spike Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34036-BS	F65677.D	1	07/18/13	KR	07/17/13	OP34036	MSF3043

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	5.4	11* a	40-140
67-72-1	Hexachloroethane	50	11.5	23* a	40-140
78-59-1	Isophorone	50	39.6	79	40-140
88-74-4	2-Nitroaniline	50	48.7	97	40-140
99-09-2	3-Nitroaniline	50	48.3	97	40-140
100-01-6	4-Nitroaniline	50	52.2	104	40-140
98-95-3	Nitrobenzene	50	34.3	69	40-140
62-75-9	n-Nitrosodimethylamine	50	19.6	39* a	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	39.8	80	40-140
86-30-6	N-Nitrosodiphenylamine	50	45.9	92	40-140
110-86-1	Pyridine	50	15.3	31* a	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	32%	15-110%
4165-62-2	Phenol-d5	25%	15-110%
118-79-6	2,4,6-Tribromophenol	81%	15-110%
4165-60-0	Nitrobenzene-d5	59%	30-130%
321-60-8	2-Fluorobiphenyl	49%	30-130%
1718-51-0	Terphenyl-d14	89%	30-130%

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

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34037-BS	W13977.D	1	07/18/13	KR	07/17/13	OP34037	MSW634

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	34.9	70	40-140
208-96-8	Acenaphthylene	50	30.8	62	40-140
120-12-7	Anthracene	50	47.5	95	40-140
56-55-3	Benzo(a)anthracene	50	54.6	109	40-140
50-32-8	Benzo(a)pyrene	50	50.5	101	40-140
205-99-2	Benzo(b)fluoranthene	50	56.3	113	40-140
191-24-2	Benzo(g,h,i)perylene	50	56.3	113	40-140
207-08-9	Benzo(k)fluoranthene	50	51.7	103	40-140
218-01-9	Chrysene	50	50.9	102	40-140
53-70-3	Dibenzo(a,h)anthracene	50	55.7	111	40-140
206-44-0	Fluoranthene	50	53.1	106	40-140
86-73-7	Fluorene	50	41.4	83	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	55.0	110	40-140
90-12-0	1-Methylnaphthalene	50	27.6	55	40-140
91-57-6	2-Methylnaphthalene	50	25.0	50	40-140
85-01-8	Phenanthrene	50	47.2	94	40-140
129-00-0	Pyrene	50	50.1	100	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	32%	15-110%
4165-62-2	Phenol-d5	25%	15-110%
118-79-6	2,4,6-Tribromophenol	89%	15-110%
4165-60-0	Nitrobenzene-d5	60%	30-130%
321-60-8	2-Fluorobiphenyl	51%	30-130%
1718-51-0	Terphenyl-d14	90%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34036-MS	F65722.D	1	07/19/13	KR	07/17/13	OP34036	MSF3044
OP34036-MSD	F65723.D	1	07/19/13	KR	07/17/13	OP34036	MSF3044
MC22692-3	F65724.D	1	07/19/13	KR	07/17/13	OP34036	MSF3044

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4

CAS No.	Compound	MC22692-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		53.8	27.2	51	29.3	53	7	30-130/20
95-57-8	2-Chlorophenol	ND		53.8	28.6	53	29.7	54	4	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		53.8	45.6	85	46.5	85	2	30-130/20
120-83-2	2,4-Dichlorophenol	ND		53.8	35.6	66	37.4	68	5	30-130/20
105-67-9	2,4-Dimethylphenol	ND		53.8	38.6	72	40.9	74	6	30-130/20
51-28-5	2,4-Dinitrophenol	ND		53.8	37.0	69	41.6	76	12	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		53.8	46.9	87	49.6	90	6	30-130/20
95-48-7	2-Methylphenol	ND		53.8	33.5	62	35.3	64	5	30-130/20
	3&4-Methylphenol	ND		108	65.2	61	67.5	61	3	30-130/20
88-75-5	2-Nitrophenol	ND		53.8	32.2	60	34.6	63	7	30-130/20
100-02-7	4-Nitrophenol	ND		53.8	36.1	67	41.7	76	14	30-130/20
87-86-5	Pentachlorophenol	ND		53.8	44.6	83	46.2	84	4	30-130/20
108-95-2	Phenol	3.5	J	53.8	25.1	40	26.3	41	5	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		53.8	42.9	80	45.9	84	7	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		53.8	40.0	74	43.0	78	7	30-130/20
62-53-3	Aniline	ND		53.8	27.0	50	27.8	51	3	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		53.8	52.7	98	55.3	101	5	40-140/20
85-68-7	Butyl benzyl phthalate	ND		53.8	60.4	112	62.8	114	4	40-140/20
100-51-6	Benzyl Alcohol	ND		53.8	36.0	67	37.6	68	4	40-140/20
91-58-7	2-Chloronaphthalene	ND		53.8	39.8	74	41.4	75	4	40-140/20
106-47-8	4-Chloroaniline	ND		53.8	40.9	76	44.2	80	8	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		53.8	42.6	79	46.2	84	8	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		53.8	35.9	67	39.5	72	10	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		53.8	45.0	84	47.5	86	5	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		53.8	53.0	99	56.6	103	7	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		53.8	53.7	100	57.1	104	6	40-140/20
121-14-2	2,4-Dinitrotolnene	ND		53.8	62.1	116	66.4	121	7	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		53.8	56.4	105	57.3	104	2	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		53.8	16.9	31* a	13.7	25* a	21* b	40-140/20
132-64-9	Dibenzofuran	1.6	J	53.8	47.5	85	51.3	90	8	40-140/20
84-74-2	Di-n-butyl phthalate	ND		53.8	59.8	111	61.9	113	3	40-140/20
117-84-0	Di-n-octyl phthalate	ND		53.8	63.7	118	68.2	124	7	40-140/20
84-66-2	Diethyl phthalate	ND		53.8	59.1	110	63.4	115	7	40-140/20
131-11-3	Dimethyl phthalate	ND		53.8	56.0	104	59.3	108	6	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	12.4		53.8	63.7	95	65.0	96	2	40-140/20
118-74-1	Hexachlorobenzene	ND		53.8	52.6	98	54.9	100	4	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34036-MS	F65722.D	1	07/19/13	KR	07/17/13	OP34036	MSF3044
OP34036-MSD	F65723.D	1	07/19/13	KR	07/17/13	OP34036	MSF3044
MC22692-3	F65724.D	1	07/19/13	KR	07/17/13	OP34036	MSF3044

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4

CAS No.	Compound	MC22692-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		53.8	10.7	20* c	10.9	20* c	2	40-140/20
67-72-1	Hexachloroethane	ND		53.8	16.2	30* c	14.8	27* c	9	40-140/20
78-59-1	Isophorone	ND		53.8	44.4	83	47.6	87	7	40-140/20
88-74-4	2-Nitroaniline	ND		53.8	58.8	109	60.6	110	3	40-140/20
99-09-2	3-Nitroaniline	ND		53.8	55.1	102	56.0	102	2	40-140/20
100-01-6	4-Nitroaniline	ND		53.8	56.5	105	60.7	110	7	40-140/20
98-95-3	Nitrobenzene	ND		53.8	41.8	78	45.8	83	9	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		53.8	21.0	39* c	22.9	42	9	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		53.8	45.4	84	47.0	86	3	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		53.8	53.4	99	56.9	104	6	40-140/20
110-86-1	Pyridine	ND		53.8	17.9	33* c	18.5	34* c	3	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC22692-3	Limits
367-12-4	2-Fluorophenol	35%	36%	47%	15-110%
4165-62-2	Phenol-d5	37%	37%	45%	15-110%
118-79-6	2,4,6-Tribromophenol	84%	87%	86%	15-110%
4165-60-0	Nitrobenzene-d5	65%	68%	89%	30-130%
321-60-8	2-Fluorobiphenyl	60%	62%	69%	30-130%
1718-51-0	Terphenyl-d14	86%	88%	87%	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: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34037-MS	W13978.D	1	07/18/13	KR	07/17/13	OP34037	MSW634
OP34037-MSD	W13979.D	1	07/18/13	KR	07/17/13	OP34037	MSW634
MC22692-3	W13980.D	1	07/18/13	KR	07/17/13	OP34037	MSW634

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4

CAS No.	Compound	MC22692-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	0.87		53.8	44.3	81	46.1	82	4	40-140/20
208-96-8	Acenaphthylene	ND		53.8	36.4	68	37.9	69	4	40-140/20
120-12-7	Anthracene	0.20	B	53.8	52.6	97	54.7	99	4	40-140/20
56-55-3	Benzo(a)anthracene	0.18	B	53.8	59.1	110	61.8	112	4	40-140/20
50-32-8	Benzo(a)pyrene	0.15	B	53.8	54.5	101	56.9	103	4	40-140/20
205-99-2	Benzo(b)fluoranthene	0.17	B	53.8	60.0	111	61.5	112	2	40-140/20
191-24-2	Benzo(g,h,i)perylene	0.19	B	53.8	60.5	112	64.2	116	6	40-140/20
207-08-9	Benzo(k)fluoranthene	0.15		53.8	55.1	102	57.9	105	5	40-140/20
218-01-9	Chrysene	0.17		53.8	54.5	101	56.8	103	4	40-140/20
53-70-3	Dibenzo(a,h)anthracene	0.17		53.8	60.4	112	63.1	115	4	40-140/20
206-44-0	Fluoranthene	0.19	B	53.8	56.2	104	57.5	104	2	40-140/20
86-73-7	Fluorene	1.8		53.8	50.6	91	52.2	92	3	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	0.17		53.8	59.0	109	62.2	113	5	40-140/20
90-12-0	1-Methylnaphthalene	68.8		53.8	88.6	37* a	91.1	41	3	40-140/20
91-57-6	2-Methylnaphthalene	64.2		53.8	38.4	-48* a	38.8	-46* a	1	40-140/20
85-01-8	Phenanthrene	0.88		53.8	53.5	98	55.4	99	3	40-140/20
129-00-0	Pyrene	0.20	B	53.8	53.5	99	54.9	100	3	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC22692-3	Limits
367-12-4	2-Fluorophenol	35%	37%		15-110%
4165-62-2	Phenol-d5	36%	37%		15-110%
118-79-6	2,4,6-Trihromophenol	91%	91%		15-110%
4165-60-0	Nitrohenzene-d5	61%	65%	79%	30-130%
321-60-8	2-Fluorobiphenyl	59%	60%	65%	30-130%
1718-51-0	Terphenyl-d14	86%	86%	85%	30-130%

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

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSF3043-CC3031	Injection Date:	07/18/13
Lab File ID:	F65674.D	Injection Time:	13:28
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	41934	4.33	153535	5.45	100141	7.10	183572	8.57	204923	11.37	201845	12.90
Upper Limit [a]	83868	4.83	307070	5.95	200282	7.60	367144	9.07	409846	11.87	403690	13.40
Lower Limit [b]	20967	3.83	76768	4.95	50071	6.60	91786	8.07	102462	10.87	100923	12.40
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	63860	4.33	241452	5.45	153449	7.10	283986	8.57	318819	11.37	310579	12.90
OP34036-MB	37539	4.32	143003	5.46	89721	7.10	167892	8.57	186086	11.37	177684	12.89
OP34036-BS	51320	4.33	190682	5.45	122504	7.10	230378	8.57	255082	11.37	248022	12.90
ZZZZZZ	68590	4.32	252703	5.46	160708	7.10	293375	8.57	311614	11.37	315478	12.90
ZZZZZZ	37198	4.32	145194	5.46	92778	7.10	165719	8.57	188053	11.37	196237	12.90
ZZZZZZ	36314	4.33	140824	5.45	90492	7.10	168472	8.57	187883	11.37	193447	12.90
ZZZZZZ	56550	4.33	216911	5.46	136725	7.10	250621	8.57	273495	11.37	280460	12.90
ZZZZZZ	41682	4.33	160046	5.45	101560	7.10	186356	8.57	213673	11.38	218808	12.90
ZZZZZZ	58958	4.33	220395	5.46	140924	7.10	253949	8.57	292498	11.38	314468	12.91
ZZZZZZ	67598	4.33	250336	5.45	158222	7.10	294025	8.57	326430	11.38	343363	12.90
ZZZZZZ	56390	4.33	220468	5.45	144578	7.10	266053	8.57	314765	11.37	310912	12.90
ZZZZZZ	53213	4.33	199836	5.46	129841	7.10	242886	8.57	276518	11.37	290264	12.90
ZZZZZZ	58044	4.33	228461	5.46	150432	7.10	278702	8.57	325043	11.37	325522	12.90
ZZZZZZ	73254	4.33	278811	5.46	175332	7.10	318906	8.57	344490	11.37	353938	12.91
ZZZZZZ	50673	4.33	190685	5.46	122724	7.10	229065	8.57	254478	11.37	264637	12.90
ZZZZZZ	58282	4.33	222575	5.46	145765	7.10	269374	8.57	300671	11.37	311767	12.90
ZZZZZZ	53595	4.33	200414	5.45	130295	7.10	240481	8.57	276581	11.37	289301	12.90
ZZZZZZ	52434	4.33	199686	5.45	125449	7.10	229859	8.57	264910	11.37	268689	12.90
ZZZZZZ	45291	4.33	170210	5.45	109947	7.10	206504	8.57	234201	11.37	244498	12.90
ZZZZZZ	55912	4.33	211678	5.45	134801	7.10	255205	8.57	279483	11.37	293889	12.90
ZZZZZZ	36140	4.33	136075	5.46	87629	7.10	166389	8.57	191998	11.37	200656	12.90
ZZZZZZ	52811	4.33	199153	5.45	128567	7.10	240015	8.57	268762	11.37	286433	12.90
ZZZZZZ	52777	4.32	201504	5.46	131775	7.10	243673	8.57	276400	11.37	279592	12.90

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: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSF3044-CC3031	Injection Date:	07/19/13
Lab File ID:	F65707.D	Injection Time:	07:43
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	62334	4.33	233280	5.46	152826	7.10	281398	8.57	312945	11.38	294708	12.90
Upper Limit [a]	124668	4.83	466560	5.96	305652	7.60	562796	9.07	625890	11.88	589416	13.40
Lower Limit [b]	31167	3.83	116640	4.96	76413	6.60	140699	8.07	156473	10.88	147354	12.40
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
OP34009-MB	70905	4.33	274624	5.45	178192	7.10	326856	8.57	356910	11.37	340997	12.90
OP34009-BS	55669	4.33	206571	5.45	134851	7.10	247448	8.57	273462	11.37	263813	12.90
OP34009-MS	68413	4.32	262271	5.46	167801	7.10	315148	8.57	346869	11.37	322569	12.90
OP34009-MSD	71992	4.33	273376	5.45	180223	7.10	331435	8.57	362118	11.38	338806	12.90
MC22548-18	66832	4.33	257542	5.45	165695	7.10	306527	8.57	329648	11.37	315104	12.90
ZZZZZZ	48281	4.33	185008	5.45	120442	7.10	221566	8.57	243211	11.37	232416	12.90
ZZZZZZ	58714	4.33	228181	5.46	147830	7.10	270245	8.57	297865	11.37	283084	12.90
ZZZZZZ	56307	4.33	218540	5.46	140006	7.10	257447	8.57	285274	11.37	270999	12.90
ZZZZZZ	59414	4.33	232629	5.46	148886	7.10	272444	8.57	297329	11.37	284899	12.90
ZZZZZZ	59170	4.33	219207	5.46	144277	7.10	264907	8.57	295952	11.37	284444	12.90
ZZZZZZ	51351	4.33	200621	5.45	129489	7.10	237372	8.57	269113	11.37	253633	12.90
ZZZZZZ	61213	4.33	227417	5.46	149061	7.10	273556	8.57	312604	11.37	294482	12.90
ZZZZZZ	59440	4.33	229822	5.46	147360	7.10	270348	8.57	299376	11.37	290574	12.90
ZZZZZZ	66657	4.33	257682	5.46	172650	7.10	303284	8.57	337999	11.38	328441	12.90
OP34036-MS	44327	4.32	165058	5.46	103615	7.10	190704	8.57	218106	11.37	209625	12.90
OP34036-MSD	64825	4.32	240425	5.46	149770	7.10	277418	8.58	317900	11.37	296854	12.90
MC22692-3	51513	4.33	193957	5.46	121865	7.10	229520	8.57	258658	11.38	249167	12.90
MC22692-1	46809	4.33	181948	5.46	117501	7.10	210723	8.57	237092	11.37	227439	12.90
MC22692-2	57689	4.33	221940	5.46	144683	7.10	263139	8.57	296522	11.37	279295	12.90
MC22692-4	55736	4.32	214500	5.46	138092	7.10	249160	8.57	280390	11.37	270793	12.90
ZZZZZZ	64012	4.33	256804	5.45	163312	7.10	297843	8.57	330635	11.37	320252	12.90
ZZZZZZ	62166	4.33	244107	5.45	156475	7.10	287072	8.57	319616	11.37	300279	12.90
ZZZZZZ	58772	4.33	224817	5.46	139248	7.10	245167	8.57	299176	11.37	284327	12.90
ZZZZZZ	48157	4.33	181889	5.45	114635	7.10	204173	8.57	241540	11.37	229174	12.90
ZZZZZZ	51203	4.33	200930	5.45	129962	7.10	239888	8.57	265944	11.37	247545	12.90
ZZZZZZ	61134	4.33	237461	5.46	165387	7.11	296234	8.58	294580	11.37	282702	12.90
ZZZZZZ	63079	4.33	244052	5.46	152431	7.10	277115	8.57	309899	11.37	298790	12.90
ZZZZZZ	57327	4.32	226756	5.46	146389	7.10	268283	8.57	300634	11.37	283917	12.90

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

7.4.2

7

Semivolatile Internal Standard Area Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSF3044-CC3031	Injection Date:	07/19/13
Lab File ID:	F65707.D	Injection Time:	07:43
Instrument ID:	GCMSF	Method:	SW846 8270C

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

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

Semivolatile Internal Standard Area Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSW634-CC633	Injection Date:	07/18/13
Lab File ID:	W13961.D	Injection Time:	07:23
Instrument ID:	GCMSW	Method:	SW846 8270C BY SIM

	1S 1		1S 2		1S 3		1S 4		1S 5		1S 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	165326	3.65	435603	4.63	214468	6.05	334909	7.33	215314	10.10	535092	11.53
Upper Limit [a]	330652	4.15	871206	5.13	428936	6.55	669818	7.83	430628	10.60	1070184	12.03
Lower Limit [b]	82663	3.15	217802	4.13	107234	5.55	167455	6.83	107657	9.60	267546	11.03
Lab Sample ID	1S 1 AREA	RT	1S 2 AREA	RT	IS 3 AREA	RT	1S 4 AREA	RT	1S 5 AREA	RT	1S 6 AREA	RT
OP34029-MB	172454	3.65	452875	4.63	223213	6.05	359609	7.32	231269	10.10	564362	11.53
OP34029-BS	164397	3.65	437614	4.63	215654	6.05	345373	7.33	228825	10.10	557139	11.53
OP34029-MS	167247	3.65	448698	4.63	220642	6.05	354180	7.33	231767	10.10	574955	11.53
OP34029-MSD	158554	3.65	428177	4.63	209235	6.05	337112	7.33	219664	10.10	536969	11.53
ZZZZZZ	153618	3.65	413704	4.63	204163	6.05	326526	7.32	217976	10.10	539014	11.53
MC22702-7	158298	3.65	429487	4.63	212600	6.05	335378	7.32	227908	10.10	549858	11.53
ZZZZZZ	178031	3.65	477267	4.63	235201	6.05	367964	7.32	243811	10.10	591444	11.53
ZZZZZZ	162087	3.65	439664	4.63	217787	6.05	344006	7.32	230489	10.10	566383	11.53
ZZZZZZ	169415	3.65	454768	4.63	221432	6.05	350165	7.32	225531	10.10	551928	11.53
ZZZZZZ	176208	3.65	472415	4.63	231096	6.05	364822	7.32	235540	10.10	579151	11.53
ZZZZZZ	163923	3.65	436533	4.63	213321	6.05	342877	7.32	221487	10.10	538214	11.53
ZZZZZZ	175025	3.65	459410	4.63	225391	6.05	352959	7.32	228271	10.10	554434	11.53
OP34033-MB	189700	3.65	505915	4.63	245595	6.05	381589	7.32	245816	10.10	588873	11.53
OP34033-BS	177170	3.65	469101	4.63	227966	6.05	354476	7.33	220708	10.10	526845	11.53
OP34037-MB	160880	3.65	428233	4.63	211197	6.05	331753	7.32	222838	10.10	526143	11.53
OP34037-BS	163036	3.65	434744	4.63	212746	6.05	339948	7.33	222863	10.10	549088	11.53
OP34037-MS	156630	3.64	415316	4.63	205855	6.05	317742	7.33	214656	10.10	536159	11.53
OP34037-MSD	141894	3.64	380476	4.63	191364	6.05	299221	7.33	208145	10.10	531935	11.53
MC22692-3	127731	3.64	352659	4.63	179120	6.05	285045	7.33	199642	10.10	512497	11.53
ZZZZZZ	113995	3.64	309335	4.62	158161	6.05	256621	7.32	184023	10.10	469992	11.53
OP34033-MS	132133	3.65	360499	4.63	179619	6.05	292777	7.33	196843	10.10	480063	11.53
ZZZZZZ	127252	3.64	356672	4.62	182269	6.05	300082	7.32	216533	10.10	559968	11.53
OP34033-MSD	120430	3.65	332433	4.63	169276	6.05	277465	7.33	194490	10.10	508142	11.53
MC22641-1	126189	3.64	346630	4.62	176063	6.05	287690	7.32	203042	10.10	526312	11.53
ZZZZZZ	129411	3.65	351432	4.62	180193	6.05	298065	7.32	202690	10.10	506093	11.53
ZZZZZZ	126522	3.64	343923	4.63	174368	6.05	282871	7.32	196973	10.10	495727	11.53
ZZZZZZ	139827	3.65	377539	4.63	192325	6.05	310925	7.32	213375	10.10	543786	11.53
ZZZZZZ	131412	3.64	355063	4.62	181374	6.05	294995	7.32	204075	10.10	529669	11.53
ZZZZZZ	103288	3.73	412694	4.78	265018	6.30	452617	7.64	490704*	10.54	508222	12.11*
ZZZZZZ	83932	3.73	335178	4.78	223213	6.30	395851	7.64	458075*	10.53	467731	12.10*
ZZZZZZ	80887*	3.73	319393	4.78	210813	6.30	370522	7.64	421347	10.53	449023	12.10*
ZZZZZZ	89771	3.73	352807	4.78	230238	6.30	408270	7.64	461103*	10.53	486634	12.11*
ZZZZZZ	86558	3.73	339961	4.78	221881	6.30	383109	7.64	446380*	10.53	475118	12.11*
ZZZZZZ	91705	3.73	363797	4.78	236025	6.30	406501	7.64	451830*	10.53	462113	12.11*
ZZZZZZ	100844	3.73	408055	4.78	264451	6.30	465018	7.64	513589*	10.53	526507	12.11*

Semivolatile Internal Standard Area Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSW634-CC633	Injection Date:	07/18/13
Lab File ID:	W13961.D	Injection Time:	07:23
Instrument ID:	GCMSW	Method:	SW846 8270C BY SIM

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	85802	3.73	337396	4.78	223872	6.30	388640	7.64	447368*	10.53	471782	12.11*
ZZZZZZ	78572*	3.73	311232	4.78	207145	6.30	367858	7.64	432051*	10.53	460423	12.10*
ZZZZZZ	91742	3.73	358234	4.78	238154	6.30	413948	7.64	486104*	10.53	484877	12.11*
ZZZZZZ	84386	3.73	330526	4.78	217328	6.30	387546	7.64	459511*	10.53	480130	12.11*
ZZZZZZ	94838	3.73	373138	4.78	242779	6.30	423686	7.64	477834*	10.53	488661	12.11*
ZZZZZZ	91251	3.73	357835	4.78	238350	6.30	416408	7.64	471540*	10.53	493365	12.11*
ZZZZZZ	83717	3.73	335659	4.78	218485	6.30	381653	7.64	444896*	10.53	476755	12.11*
ZZZZZZ	86126	3.73	341757	4.78	223854	6.30	387272	7.64	443457*	10.53	461682	12.10*
ZZZZZZ	96248	3.73	386281	4.78	253902	6.30	441276	7.64	487825*	10.53	507757	12.11*
ZZZZZZ	103846	3.73	410739	4.78	264088	6.30	461308	7.64	513289*	10.53	501599	12.11*
ZZZZZZ	98693	3.73	384089	4.78	252687	6.30	445749	7.64	485082*	10.53	479324	12.11*
ZZZZZZ	93168	3.73	367480	4.78	237793	6.30	416036	7.64	467711*	10.53	468813	12.11*
ZZZZZZ	97736	3.73	381870	4.78	246926	6.30	422883	7.64	464986*	10.53	464714	12.11*
ZZZZZZ	96632	3.73	375955	4.78	245600	6.30	433975	7.64	467188*	10.53	474265	12.11*

IS 1 = 1,4-Dichlorohenzene-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 minnte.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Internal Standard Area Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSW635-CC633	Injection Date:	07/19/13
Lab File ID:	W14017.D	Injection Time:	09:22
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	113387	3.65	289616	4.63	140621	6.05	224190	7.32	149610	10.10	377129	11.53
Upper Limit [a]	226774	4.15	579232	5.13	281242	6.55	448380	7.82	299220	10.60	754258	12.03
Lower Limit [b]	56694	3.15	144808	4.13	70311	5.55	112095	6.82	74805	9.60	188565	11.03
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
MC22692-1	99433	3.65	259655	4.63	128406	6.05	204854	7.32	139407	10.10	339886	11.53
MC22692-2	124677	3.64	326012	4.63	160730	6.05	259481	7.32	174683	10.10	429346	11.53
MC22692-4	124185	3.64	321042	4.62	155481	6.05	244939	7.32	163698	10.10	402103	11.53
ZZZZZZ	112482	3.65	287733	4.62	140626	6.05	218004	7.32	151915	10.10	376156	11.53
ZZZZZZ	115164	3.65	310651	4.63	155534	6.05	249328	7.32	165679	10.10	400380	11.53
ZZZZZZ	97692	3.65	257615	4.63	128269	6.05	205230	7.32	139907	10.09	343688	11.53
OP34010-MB	115724	3.65	303728	4.63	146157	6.05	228343	7.33	151535	10.10	367745	11.53
OP34010-BS	129889	3.64	338679	4.63	164977	6.05	260771	7.33	170423	10.10	426361	11.53
OP34010-MS	126936	3.65	327843	4.63	156010	6.05	245389	7.32	161418	10.10	403367	11.53
OP34010-MSD	118372	3.65	308643	4.63	151532	6.05	240157	7.33	155132	10.10	383440	11.53
MC22548-19	122874	3.65	320405	4.62	157340	6.05	250882	7.32	168739	10.10	405206	11.53
ZZZZZZ	131768	3.65	349573	4.63	172733	6.05	270335	7.32	182826	10.10	448371	11.53
ZZZZZZ	134073	3.65	354219	4.63	173498	6.05	277495	7.33	182239	10.10	442481	11.53
ZZZZZZ	125126	3.65	329731	4.63	161831	6.05	252032	7.32	170474	10.10	417889	11.53
ZZZZZZ	122854	3.65	328865	4.63	159782	6.05	250816	7.32	168555	10.10	404086	11.53
ZZZZZZ	137063	3.65	357427	4.63	179208	6.05	282695	7.32	187015	10.10	456562	11.53
ZZZZZZ	125573	3.65	326545	4.62	165855	6.05	261367	7.32	180557	10.10	427000	11.53
ZZZZZZ	126455	3.65	324416	4.63	158806	6.05	250447	7.32	170965	10.10	412274	11.53
ZZZZZZ	131788	3.65	355924	4.63	185476	6.05	273056	7.33	181881	10.10	434604	11.53
ZZZZZZ	157738	3.65	434591	4.63	221786	6.05	341491	7.33	225172	10.10	539525	11.53
OP33952-MB	88627	3.73	331387	4.78	207718	6.30	346292	7.64	370851*	10.53	360453	12.10*

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: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22692-1	F65725.D	38.0	32.0	75.0	79.0	62.0	80.0
MC22692-2	F65726.D	42.0	34.0	84.0	79.0	65.0	83.0
MC22692-3	F65724.D	47.0	45.0	86.0	89.0	69.0	87.0
MC22692-4	F65727.D	19.0	15.0	42.0	85.0	70.0	101.0
OP34036-BS	F65677.D	32.0	25.0	81.0	59.0	49.0	89.0
OP34036-MB	F65676.D	48.0	33.0	87.0	85.0	71.0	95.0
OP34036-MS	F65722.D	35.0	37.0	84.0	65.0	60.0	86.0
OP34036-MSD	F65723.D	36.0	37.0	87.0	68.0	62.0	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: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22692-1	W14018.D	77.0	63.0	77.0
MC22692-2	W14019.D	81.0	67.0	82.0
MC22692-3	W13980.D	79.0	65.0	85.0
MC22692-4	W14020.D	80.0	58.0	88.0
OP34037-BS	W13977.D	60.0	51.0	90.0
OP34037-MB	W13976.D	86.0	71.0	94.0
OP34037-MS	W13978.D	61.0	59.0	86.0
OP34037-MSD	W13979.D	65.0	60.0	86.0

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

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: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34095-MB	BK27122.D	1	07/25/13	NK	07/23/13	OP34095	GBK930

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4, MC22692-6

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.0045	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.0097	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	138%	36-173%
460-00-4	Bromofluorobenzene (S)	123%	36-173%

8.1.1

Blank Spike Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34095-BS	BK27123.D	1	07/25/13	NK	07/23/13	OP34095	GBK930

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4, MC22692-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.085	120	60-140
106-93-4	1,2-Dibromoethane	0.071	0.077	108	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	125%	36-173%
460-00-4	Bromofluorobenzene (S)	107%	36-173%

8.2.1

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34095-MS	BK27124.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
OP34095-MSD	BK27125.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
MC22692-3	BK27129.D	1	07/25/13	NK	07/23/13	OP34095	GBK930

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

MC22692-1, MC22692-2, MC22692-3, MC22692-4, MC22692-6

CAS No.	Compound	MC22692-3 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		0.0677	0.060	89	0.057	84	5	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.0677	0.071	105	0.073	108	3	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC22692-3	Limits
460-00-4	Bromofluorobenzene (S)	89%	87%	123%	36-173%
460-00-4	Bromofluorobenzene (S)	76%	64%	91%	36-173%

8.3.1

8

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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]
MC22692-1	BK27126.D	86.0	67.0
MC22692-2	BK27128.D	85.0	74.0
MC22692-3	BK27129.D	123.0	91.0
MC22692-4	BK27130.D	89.0	81.0
MC22692-6	BK27131.D	76.0	66.0
OP34095-BS	BK27123.D	125.0	107.0
OP34095-MB	BK27122.D	138.0	123.0
OP34095-MS	BK27124.D	89.0	76.0
OP34095-MSD	BK27125.D	87.0	64.0

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

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

8.4.1

GC Surrogate Retention Time Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	GBK930-CC929	Injection Date:	07/25/13
Lab File ID:	BK27116A.D	Injection Time:	05:10
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.58	4.94

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK27117.D	07/25/13	05:36	4.58	4.94
ZZZZZZ	BK27118.D	07/25/13	06:00	4.58	4.94
ZZZZZZ	BK27119.D	07/25/13	06:24	4.58	4.94
ZZZZZZ	BK27120.D	07/25/13	06:48	4.58	4.94
ZZZZZZ	BK27121.D	07/25/13	07:12	4.58	4.94
OP34095-MB	BK27122.D	07/25/13	07:35	4.58	4.94
OP34095-BS	BK27123.D	07/25/13	07:59	4.58	4.94
OP34095-MS	BK27124.D	07/25/13	08:23	4.58	4.94
OP34095-MSD	BK27125.D	07/25/13	08:47	4.58	4.94
MC22692-1	BK27126.D	07/25/13	09:11	4.58	4.94

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC22692
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	GBK930-CC929	Injection Date:	07/25/13
Lab File ID:	BK27127.D	Injection Time:	09:36
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.58	4.94

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
MC22692-2	BK27128.D	07/25/13	10:00	4.58	4.94
MC22692-3	BK27129.D	07/25/13	10:24	4.58	4.94
MC22692-4	BK27130.D	07/25/13	10:49	4.58	4.94
MC22692-6	BK27131.D	07/25/13	11:13	4.58	4.94
ZZZZZZ	BK27132.D	07/25/13	11:37	4.58	4.94
ZZZZZZ	BK27133.D	07/25/13	12:01	4.58	4.94
ZZZZZZ	BK27134.D	07/25/13	12:25	4.58	4.94
ZZZZZZ	BK27135.D	07/25/13	12:50	4.58	4.94
ZZZZZZ	BK27136.D	07/25/13	13:14	4.58	4.94
ZZZZZZ	BK27137.D	07/25/13	13:38	4.58	4.94

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

8.5.2

Roxana Groundwater Quarterly – 3rd Quarter 2013 Data Review

Laboratory SDG: MC22752

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 8/16/2013

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

Sample Identification	Sample Identification
P55-ROX-071613	T12-ROX-071613
P59-ROX-071613-EB	P59-ROX-071613
P57-ROX-071613	P58-ROX-071613
TB-ROX-071613-HCL	TB-ROX-071613-ST

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. SVOC surrogate phenol-d_5 was outside evaluation criteria in Run #2 for sample P57-ROX-071613. The internal standard area recoveries for 1,4-dichlorobenzene-d_4 and tert butyl alcohol-d_9 were outside criteria in several samples. Although not indicated in the laboratory case narrative, SVOCs and PAHs were detected in the equipment blank, and PAHs were detected in the method blank. Samples were diluted due to high levels of VOC target analytes. Additionally, the initial calibration verification for acrolein and hexachlorocyclopentadiene exceeded 50 percent difference (%D), and the continuing calibration verification for 2-chloroethyl vinyl ether and hexachlorobutadiene exceeded 50 percent difference (%D). These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated the coolers were received by the laboratory at temperatures of 0.5ºC and 1.7ºC, which are 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
P59-ROX-071613-EB	SVOCs	bis(2-Ethylhexyl)phthalate	0.97 ug/L
P59-ROX-071613-EB	PAHs	Phenanthrene	0.055 ug/L
P59-ROX-071613-EB	PAHs	Pyrene	0.068 ug/L
OP34084-MB	PAHs	Acenaphthene	0.019 ug/L
OP34084-MB	PAHs	Phenanthrene	0.034 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 required qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
P55-ROX-071613	SVOCs	bis(2-Ethylhexyl)phthalate	-	**U**
T12-ROX-071613	SVOCs	bis(2-Ethylhexyl)phthalate	4.4 ug/L	**U**
T12-ROX-071613	PAHs	Pyrene	-	**U**
P59-ROX-071613	PAHs	Pyrene	-	**U**
P57-ROX-071613	PAHs	Pyrene	-	**U**
P58-ROX-071613	PAHs	Pyrene	0.20 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
MSV821-BS	VOCs	Carbon tetrachloride	**131**	NA	70-130
MSV821-BS	VOCs	2-Chloroethyl vinyl ether	**356**	NA	70-130
MSV821-BS	VOCs	Dichlorodifluoromethane	**134**	NA	70-130
MSV821-BS	VOCs	Hexachlorobutadiene	**156**	NA	70-130
MSV821-BS	VOCs	Vinyl acetate	**63**	NA	70-130
OP34082-BS	SVOCs	Hexachlorocyclopentadiene	**38**	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 MSV821-BS was associated with the trip blank and equipment blank. LCS OP34082-BS was associated with the equipment blank. Trip blanks and equipment blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
P55-ROX-071613	VOCs	Vinyl acetate	**UJ**
T12-ROX-071613	VOCs	Vinyl acetate	**UJ**
P59-ROX-071613	VOCs	Vinyl acetate	**UJ**
P57-ROX-071613	VOCs	Vinyl acetate	**UJ**

Sample ID	Parameter	Analyte	Qualification
P58-ROX-071613	VOCs	Vinyl acetate	**UJ**
P55-ROX-071613	SVOCs	Hexachlorocyclopentadiene	**UJ**
T12-ROX-071613	SVOCs	Hexachlorocyclopentadiene	**UJ**
P59-ROX-071613	SVOCs	Hexachlorocyclopentadiene	**UJ**
P57-ROX-071613	SVOCs	Hexachlorocyclopentadiene	**UJ**
P58-ROX-071613	SVOCs	Hexachlorocyclopentadiene	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
P57-ROX-071613 Run#2	SVOCs	Phenol-d_5	**13**	15-110

Analytical data that required qualification based on surrogate data are included in the table below.

Sample ID	Parameter	Analyte	Qualification
P57-ROX-071613	SVOCs	Phenol	**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?

No

Sample ID	Parameter	Analyte	IS Area Recovery	IS Criteria
T12-ROX-071613	VOCs	Tert butyl alcohol-d_9	**140500**	30039-120154
P59-ROX-071613	VOCs	Tert butyl alcohol-d_9	**120538**	30039-120154
P57-ROX-071613	VOCs	Tert butyl alcohol-d_9	**146454**	30039-120154
P55-ROX-071613	SVOCs	1,4-Dichlorobenzene-d_4	**138252**	139976-559904
T12-ROX-071613	SVOCs	1,4-Dichlorobenzene-d_4	**131650**	139976-559904
P59-ROX-071613-EB	SVOCs	1,4-Dichlorobenzene-d_4	**120517**	139976-559904
P59-ROX-071613	SVOCs	1,4-Dichlorobenzene-d_4	**130627**	139976-559904
P57-ROX-071613	SVOCs	1,4-Dichlorobenzene-d_4	**125788**	139976-559904
P58-ROX-071613	SVOCs	1,4-Dichlorobenzene-d_4	**128232**	139976-559904

Analytical data that required qualification based on internal standard data are included in the table below. Analytical data reported as non-detect and associated with IS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Equipment blank P59-ROX-071613-EB associated with internal standard area recoveries outside evaluation criteria is a quality control sample and is not qualified.

Field ID	Parameter	Analyte	Qualification
T12-ROX-071613	VOCs	n-Butylbenzene	**J**
T12-ROX-071613	VOCs	sec-Butylbenzene	**J**
T12-ROX-071613	VOCs	Isopropylbenzene	**J**
T12-ROX-071613	VOCs	p-Isopropyltoluene	**J**
T12-ROX-071613	VOCs	Naphthalene	**J**
T12-ROX-071613	VOCs	n-Propylbenzene	**J**
T12-ROX-071613	VOCs	Toluene	**J**
T12-ROX-071613	VOCs	1,2,4-Trimethylbenzene	**J**
T12-ROX-071613	VOCs	1,3,5-Trimethylbenzene	**J**
T12-ROX-071613	VOCs	m,p-Xylene	**J**
T12-ROX-071613	VOCs	o-Xylene	**J**
T12-ROX-071613	VOCs	Xylene (total)	**J**
P59-ROX-071613	VOCs	n-Butylbenzene	**J**
P59-ROX-071613	VOCs	sec-Butylbenzene	**J**
P59-ROX-071613	VOCs	tert-Butylbenzene	**J**
P59-ROX-071613	VOCs	Isopropylbenzene	**J**
P59-ROX-071613	VOCs	p-Isopropyltoluene	**J**
P59-ROX-071613	VOCs	Naphthalene	**J**
P59-ROX-071613	VOCs	n-Propylbenzene	**J**
P57-ROX-071613	VOCs	n-Butylbenzene	**J**
P57-ROX-071613	VOCs	sec-Butylbenzene	**J**
P57-ROX-071613	VOCs	tert-Butylbenzene	**J**
P57-ROX-071613	VOCs	Isopropylbenzene	**J**
P57-ROX-071613	VOCs	p-Isopropyltoluene	**J**
P57-ROX-071613	VOCs	Methyl tert butyl ether	**J**
P57-ROX-071613	VOCs	Naphthalene	**J**
P57-ROX-071613	VOCs	n-Propylbenzene	**J**
P57-ROX-071613	VOCs	Toluene	**J**
P57-ROX-071613	VOCs	1,3,5-Trimethylbenzene	**J**
P57-ROX-071613	VOCs	o-Xylene	**J**
P55-ROX-071613	SVOCs	Phenol	**J**
P55-ROX-071613	SVOCs	bis(2-chloroethyl) ether	**UJ**
P55-ROX-071613	SVOCs	2-Chlorophenol	**UJ**
P55-ROX-071613	SVOCs	2-Methylphenol	**UJ**
P55-ROX-071613	SVOCs	n-Nitroso-di-n-propylamine	**UJ**
P55-ROX-071613	SVOCs	Hexachloroethane	**UJ**
T12-ROX-071613	SVOCs	Phenol	**J**
T12-ROX-071613	SVOCs	bis(2-chloroethyl) ether	**UJ**
T12-ROX-071613	SVOCs	2-Chlorophenol	**UJ**
T12-ROX-071613	SVOCs	2-Methylphenol	**J**
T12-ROX-071613	SVOCs	n-Nitroso-di-n-propylamine	**UJ**
T12-ROX-071613	SVOCs	Hexachloroethane	**UJ**
P59-ROX-071613	SVOCs	Phenol	**J**
P59-ROX-071613	SVOCs	bis(2-chloroethyl) ether	**UJ**
P59-ROX-071613	SVOCs	2-Chlorophenol	**UJ**
P59-ROX-071613	SVOCs	n-Nitroso-di-n-propylamine	**UJ**

Field ID	Parameter	Analyte	Qualification
P59-ROX-071613	SVOCs	Hexachloroethane	**UJ**
P57-ROX-071613	SVOCs	bis(2-chloroethyl) ether	**UJ**
P57-ROX-071613	SVOCs	2-Chlorophenol	**UJ**
P57-ROX-071613	SVOCs	2-Methylphenol	**UJ**
P57-ROX-071613	SVOCs	n-Nitroso-di-n-propylamine	**UJ**
P57-ROX-071613	SVOCs	Hexachloroethane	**UJ**
P58-ROX-071613	SVOCs	bis(2-chloroethyl) ether	**UJ**
P58-ROX-071613	SVOCs	2-Chlorophenol	**UJ**
P58-ROX-071613	SVOCs	2-Methylphenol	**UJ**
P58-ROX-071613	SVOCs	n-Nitroso-di-n-propylamine	**UJ**
P58-ROX-071613	SVOCs	Hexachloroethane	**UJ**

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?

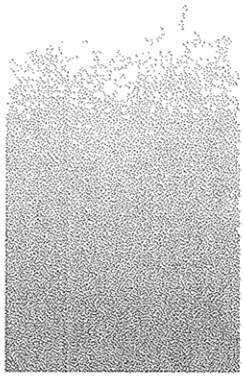
Yes, the initial calibration verification for acrolein and hexachlorocyclopentadiene exceeded 50 percent difference (%D), and the continuing calibration verification for 2-chloroethyl vinyl ether and hexachlorobutadiene exceeded 50 percent difference (%D). Hexachlorocyclopentadiene in associated samples was qualified in Section 5.0 in this data review due to LCS criteria. Analytes in associated samples were qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
P55-ROX-071613	VOCs	Acrolein	**UJ**
P55-ROX-071613	VOCs	2-Chloroethyl vinyl ether	**UJ**
P55-ROX-071613	VOCs	Hexachlorobutadiene	**UJ**
T12-ROX-071613	VOCs	Acrolein	**UJ**
T12-ROX-071613	VOCs	2-Chloroethyl vinyl ether	**UJ**
T12-ROX-071613	VOCs	Hexachlorobutadiene	**UJ**
P59-ROX-071613	VOCs	Acrolein	**UJ**
P59-ROX-071613	VOCs	2-Chloroethyl vinyl ether	**UJ**
P59-ROX-071613	VOCs	Hexachlorobutadiene	**UJ**
P57-ROX-071613	VOCs	Acrolein	**UJ**
P57-ROX-071613	VOCs	2-Chloroethyl vinyl ether	**UJ**

Sample ID	Parameter	Analyte	Qualification
P57-ROX-071613	VOCs	Hexachlorobutadiene	**UJ**
P58-ROX-071613	VOCs	Acrolein	**UJ**
P58-ROX-071613	VOCs	2-Chloroethyl vinyl ether	**UJ**
P58-ROX-071613	VOCs	Hexachlorobutadiene	**UJ**

New England ACCUTEST LABORATORIES

08/12/13



Technical Report for

Shell Oil

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana,

Accutest Job Number: MC22752

Sampling Date: 07/16/13

Report to:

URS Corporation

Melissa.mansker@urs.com

ATTN: Melissa Mansker

Total number of pages in report: **108**

Reviewed on: 8/16/2013

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: Matthew Morrell 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)

Test results relate only to samples analyzed.

Table of Contents

Sections: 1 2 3 4 5 6 7 8

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Summary of Hits **6**
Section 4: Sample Results **10**
4.1: MC22752-1: P55-ROX-071613 11
4.2: MC22752-2: T12-ROX-071613 18
4.3: MC22752-3: P59-ROX-071613-EB 25
4.4: MC22752-4: P59-ROX-071613 32
4.5: MC22752-5: P57-ROX-071613 39
4.6: MC22752-6: P58-ROX-071613 46
4.7: MC22752-7: TB-ROX-071613-HCL 53
4.8: MC22752-8: TB-ROX-071613-ST 56
Section 5: Misc. Forms **57**
5.1: Chain of Custody 58
5.2: Sample Tracking Chronicle 60
5.3: Internal Chain of Custody 62
Section 6: GC/MS Volatiles - QC Data Summaries **65**
6.1: Method Blank Summary 66
6.2: Blank Spike Summary 70
6.3: Matrix Spike/Matrix Spike Duplicate Summary 74
6.4: Internal Standard Area Summaries 78
6.5: Surrogate Recovery Summaries 80
Section 7: GC/MS Semi-volatiles - QC Data Summaries **81**
7.1: Method Blank Summary 82
7.2: Blank Spike Summary 85
7.3: Matrix Spike/Matrix Spike Duplicate Summary 88
7.4: Internal Standard Area Summaries 91
7.5: Surrogate Recovery Summaries 99
Sectiou 8: GC Volatiles - QC Data Summaries **101**
8.1: Method Blank Summary 102
8.2: Blank Spike Summary 103
8.3: Matrix Spike/Matrix Spike Duplicate Summary 104
8.4: Surrogate Recovery Summaries 105
8.5: GC Surrogate Retention Time Summaries 106

Sample Summary

Shell Oil

Job No: MC22752

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC22752-1	07/16/13	09:45	LRDM	07/17/13	AQ	Ground Water	P55-ROX-071613
MC22752-2	07/16/13	10:30	LRDM	07/17/13	AQ	Gronnd Water	T12-ROX-071613
MC22752-3	07/16/13	10:45	LRDM	07/17/13	AQ	Equipment Blank	P59-ROX-071613-EB
MC22752-4	07/16/13	11:20	LRDM	07/17/13	AQ	Ground Water	P59-ROX-071613
MC22752-5	07/16/13	13:25	LRDM	07/17/13	AQ	Ground Water	P57-ROX-071613
MC22752-6	07/16/13	14:05	LRDM	07/17/13	AQ	Gronnd Water	P58-ROX-071613
MC22752-7	07/16/13	00:00	LRDM	07/17/13	AQ	Trip Blank Water	TB-ROX-071613-HCL
MC22752-8	07/16/13	00:00	LRDM	07/17/13	AQ	Trip Blank Water	TB-ROX-071613-ST

ACCUTEST Laboratories

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	Job No	MC22752
Site:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central	Report Date	8/2/2013 12:28:37 PM

6 Sample(s), 2 Trip Blank(s) and 0 Field Blank(s) were collected on 07/16/2013 and were received at Accutest on 07/17/2013 properly preserved, at 1.7 Deg. C and intact. These Samples received an Accutest job number of MC22752. 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: MSV821

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22692-3MS, MC22692-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MSV821-BS for Carbon tetrachloride, Dichlorodifluoromethane, Vinyl Acetate are outside control limits. Blank Spike meets program technical requirements.
- MC22692-3MS for , 1,4-Dioxane, 2-Butanone (MEK), 2-Chloroethyl vinyl ether, Acetone, Hexachlorobutadiene, Methyl Tert Butyl Ether, Tetrachloroethene are outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC22692-3MSD for 1,1,1,2-Tetrachloroethane, 1,4-Dioxane, 2-Butanone (MEK), Acetone, Acrolein, Hexachlorobutadiene, Methyl Tert Butyl Ether, Tetrachloroethene, 2-Chloroethyl vinyl ether are outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC22692-3MS/MSD for n-Propylbenzene, Benzene, Isopropylbenzene are outside control limits due to high level in sample relative to spike amount.
- RPD(s) for MC22692-3MSD for 2-Chloroethyl vinyl ether are outside control limits. High RPD due to possible matrix interference and/or sample non-homogeneity.
- MSV821-BS for 2-Chloroethyl vinyl ether, Hexachlorobutadiene: Outside control limits. Associated samples are non-detect for this compound.
- Initial calibration verification MSV776-ICV776 for Acrolein exceeds 50% Difference. Acrolein is within criteria in continuing calibration check MSV821-CC776.
- MC22752-2, -4, -6 have internal standard recovery(s) outside control limits. Target analytes not associated with this internal standard.
- Continuing calibration check standard MSV821-CC776 for 2-chloroethyl vinyl ether, hexachlorobutadiene exceed 50% Difference (results biased high). Associated samples are non-detect for these compounds.

Matrix: AQ Batch ID: MSV823

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC22841-11MS, MC22841-11MSD were used as the QC samples indicated.

Extractables by GCMS By Method SW846 8270C

Matrix: AQ	Batch ID: OP34082

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22900-3MS, MC22900-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- OP34082-BS for Hexachlorocyclopentadiene are ontside control limits. Blank Spike meets program technical requirements.
- OP34082-MSD for Hexachlorocyclopentadiene are outside control limits. Blank Spike meets program technical requirements.
- MC22752-5 for Phenol-d5: Outside control limits. Meets technical reqnirements.
- Initial calibration verification MSR1160-ICV1159 for Hexachlorocyclopentadiene exceeds 50% Difference. Hexachlorocyelopentadiene is within criteria in continuing calibration check MSR1179-CC1159.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix: AQ	Batch ID: OP34084

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22900-4MS, MC22900-4MSD 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: OP34093

- 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 specifie criteria.
- Sample(s) MC23000-1MS, MC23000-1MSD 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(MC22752).

Summary of Hits

Job Number: MC22752
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/16/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC22752-1	P55-ROX-071613					
Benzene		573	5.0	4.5	ug/l	SW846 8260B
n-Butylbenzene		25.6	5.0	0.54	ug/l	SW846 8260B
sec-Butylbenzene		15.5	5.0	0.58	ug/l	SW846 8260B
Ethylbenzene		495	10	3.8	ug/l	SW846 8260B
Isopropylbenzene		88.4	5.0	0.64	ug/l	SW846 8260B
p-Isopropyltoluene		6.5	5.0	0.55	ug/l	SW846 8260B
Naphthalene		84.1	5.0	0.79	ng/l	SW846 8260B
n-Propylbenzene		175	5.0	0.59	ug/l	SW846 8260B
Toluene		343	1.0	0.46	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		73.0	5.0	0.47	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		55.9	5.0	1.1	ug/l	SW846 8260B
m,p-Xylene		535	1.0	0.70	ug/l	SW846 8260B
o-Xylene		558	10	4.1	ug/l	SW846 8260B
Xylene (total)		1110	10	4.1	ug/l	SW846 8260B
Total TIC, Volatile		1600 J			ug/l	
2,4-Dimethylphenol		2.4 J	11	1.3	ug/l	SW846 8270C
Phenol		4.8 J	5.6	0.57	ug/l	SW846 8270C
Dibenzofuran		1.6 J	2.2	0.17	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		0.66 J	2.2	0.54	ug/l	SW846 8270C
Acenaphthene		0.66	0.11	0.015	ug/l	SW846 8270C BY SIM
Acenaphthylene		0.20	0.11	0.015	ug/l	SW846 8270C BY SIM
Fluorene		1.5	0.11	0.051	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		24.4	0.22	0.16	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		35.3	0.22	0.058	ug/l	SW846 8270C BY SIM
Phenanthrene		1.9	0.056	0.014	ug/l	SW846 8270C BY SIM
MC22752-2	T12-ROX-071613					
Benzene		1650	5.0	4.5	ug/l	SW846 8260B
n-Butylbenzene		6.9	5.0	0.54	ug/l	SW846 8260B
sec-Butylbenzene		3.0 J	5.0	0.58	ug/l	SW846 8260B
Ethylbenzene		450	10	3.8	ug/l	SW846 8260B
Isopropylbenzene		36.3	5.0	0.64	ug/l	SW846 8260B
p-Isopropyltoluene		2.5 J	5.0	0.55	ug/l	SW846 8260B
Naphthalene		122	5.0	0.79	ug/l	SW846 8260B
n-Propylbenzene		62.7	5.0	0.59	ug/l	SW846 8260B
Toluene		186	1.0	0.46	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		361	5.0	0.47	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		23.8	5.0	1.1	ug/l	SW846 8260B
m,p-Xylene		794	1.0	0.70	ug/l	SW846 8260B
o-Xylene		14.5	1.0	0.41	ng/l	SW846 8260B
Xylene (total)		808	1.0	0.41	ug/l	SW846 8260B
2,4-Dimethylphenol		9.6 J	11	1.2	ug/l	SW846 8270C

Summary of Hits

Job Number: MC22752
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/16/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
2-Methylphenol		2.9 J	11	1.4	ug/l	SW846 8270C
Phenol		51.4	5.4	0.56	ug/l	SW846 8270C
Benzyl Alcohol		1.0 J	11	0.62	ug/l	SW846 8270C
Dibenzofuran		0.42 J	2.2	0.17	ug/l	SW846 8270C
bis(2-Ethylhexyl)phthalate		4.4	2.2	0.53	ug/l	SW846 8270C
Acenaphthene		0.55	0.11	0.015	ug/l	SW846 8270C BY SIM
Acenaphthylene		0.10 J	0.11	0.014	ug/l	SW846 8270C BY SIM
Anthracene		0.15	0.11	0.019	ug/l	SW846 8270C BY SIM
Benzo(a)anthracene		0.13	0.054	0.033	ug/l	SW846 8270C BY SIM
Fluoranthene		0.044 J	0.11	0.035	ug/l	SW846 8270C BY SIM
Fluorene		0.34	0.11	0.050	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		23.6	0.22	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		33.1	0.22	0.056	ug/l	SW846 8270C BY SIM
Phenanthrene		1.1	0.054	0.014	ug/l	SW846 8270C BY SIM
Pyrene		0.090 J	0.11	0.039	ug/l	SW846 8270C BY SIM
MC22752-3	P59-ROX-071613-EB					
bis(2-Ethylhexyl)phthalate		0.97 J	2.2	0.54	ug/l	SW846 8270C
Phenanthrene		0.055 J	0.056	0.014	ug/l	SW846 8270C BY SIM
Pyrene		0.068 J	0.11	0.039	ug/l	SW846 8270C BY SIM
MC22752-4	P59-ROX-071613					
Benzene		10200	25	23	ug/l	SW846 8260B
n-Butylbenzene		21.3	5.0	0.54	ug/l	SW846 8260B
sec-Butylbenzene		6.8	5.0	0.58	ug/l	SW846 8260B
tert-Butylbenzene		2.7 J	5.0	0.87	ug/l	SW846 8260B
Ethylbenzene		2400	50	19	ug/l	SW846 8260B
Isopropylbenzene		74.0	5.0	0.64	ug/l	SW846 8260B
p-Isopropyltoluene		4.6 J	5.0	0.55	ug/l	SW846 8260B
Naphthalene		215	5.0	0.79	ug/l	SW846 8260B
n-Propylbenzene		149	5.0	0.59	ug/l	SW846 8260B
Toluene		1030	50	23	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		784	250	23	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		219	5.0	1.1	ug/l	SW846 8260B
m,p-Xylene		5760	50	35	ug/l	SW846 8260B
o-Xylene		431	50	20	ug/l	SW846 8260B
Xylene (total)		6190	50	20	ug/l	SW846 8260B
2,4-Dimethylphenol		58.3	11	1.2	ug/l	SW846 8270C
2-Methylphenol		170	54	7.0	ug/l	SW846 8270C
3&4-Methylphenol		42.0	11	2.2	ug/l	SW846 8270C
Phenol		121	5.4	0.56	ug/l	SW846 8270C
Dibenzofuran		0.41 J	2.2	0.17	ug/l	SW846 8270C
Acenaphthene		0.35	0.11	0.015	ug/l	SW846 8270C BY SIM

Summary of Hits

Job Number: MC22752
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/16/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Acenaphthylene		0.071 J	0.11	0.014	ug/l	SW846 8270C BY SIM
Anthracene		0.092 J	0.11	0.019	ug/l	SW846 8270C BY SIM
Fluoranthene		0.061 J	0.11	0.035	ug/l	SW846 8270C BY SIM
Fluorene		0.63	0.11	0.050	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		18.9	0.22	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		30.2	0.22	0.056	ug/l	SW846 8270C BY SIM
Phenanthrene		0.87	0.054	0.014	ug/l	SW846 8270C BY SIM
Pyrene		0.078 J	0.11	0.039	ug/l	SW846 8270C BY SIM
MC22752-5	P57-ROX-071613					
Benzene		254000	500	450	ug/l	SW846 8260B
n-Butylbenzene		14.3	5.0	0.54	ug/l	SW846 8260B
sec-Butylbenzene		13.1	5.0	0.58	ug/l	SW846 8260B
tert-Butylbenzene		10.3	5.0	0.87	ug/l	SW846 8260B
Ethylbenzene		1590	1000	380	ug/l	SW846 8260B
Isopropylbenzene		69.8	5.0	0.64	ug/l	SW846 8260B
p-Isopropyltoluene		11.9	5.0	0.55	ug/l	SW846 8260B
Methyl Tert Butyl Ether		112	1.0	0.43	ug/l	SW846 8260B
Naphthalene		203	5.0	0.79	ug/l	SW846 8260B
n-Propylbenzene		80.2	5.0	0.59	ug/l	SW846 8260B
Toluene		202	1.0	0.46	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		129	5.0	1.1	ug/l	SW846 8260B
m,p-Xylene		1810	1000	700	ug/l	SW846 8260B
o-Xylene		256	1.0	0.41	ug/l	SW846 8260B
Xylene (total)		2010	1000	410	ug/l	SW846 8260B
2,4-Dimethylphenol		2.0 J	11	1.3	ug/l	SW846 8270C
3&4-Methylphenol		8.6 J	11	2.3	ug/l	SW846 8270C
Phenol		164	28	2.9	ug/l	SW846 8270C
Dibenzofuran		0.88 J	2.2	0.18	ug/l	SW846 8270C
Acenaphthene		0.47	0.11	0.015	ug/l	SW846 8270C BY SIM
Acenaphthylene		0.10 J	0.11	0.015	ug/l	SW846 8270C BY SIM
Anthracene		0.077 J	0.11	0.020	ug/l	SW846 8270C BY SIM
Benzo(a)anthracene		0.12	0.056	0.034	ug/l	SW846 8270C BY SIM
Fluoranthene		0.038 J	0.11	0.037	ug/l	SW846 8270C BY SIM
Fluorene		0.80	0.11	0.052	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		26.7	0.22	0.16	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		36.5	0.22	0.058	ug/l	SW846 8270C BY SIM
Phenanthrene		0.73	0.056	0.014	ug/l	SW846 8270C BY SIM
Pyrene		0.052 J	0.11	0.040	ug/l	SW846 8270C BY SIM
MC22752-6	P58-ROX-071613					
Benzene		398000	500	450	ug/l	SW846 8260B
n-Butylbenzene		23.9	5.0	0.54	ug/l	SW846 8260B

Summary of Hits

Job Number: MC22752
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/16/13

Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
sec-Butylbenzene	21.5	5.0	0.58	ug/l	SW846 8260B
tert-Butylbenzene	53.2	5.0	0.87	ug/l	SW846 8260B
Chlorobenzene	1.7	1.0	0.48	ug/l	SW846 8260B
Ethylbenzene	1070	1000	380	ug/l	SW846 8260B
Isopropylbenzene	101	5.0	0.64	ug/l	SW846 8260B
p-Isopropyltoluene	15.2	5.0	0.55	ug/l	SW846 8260B
Naphthalene	234	5.0	0.79	ug/l	SW846 8260B
n-Propylbenzene	131	5.0	0.59	ug/l	SW846 8260B
Toluene	147	1.0	0.46	ug/l	SW846 8260B
1,2,4-Trimethylbenzene	634 J	5000	470	ug/l	SW846 8260B
1,3,5-Trimethylbenzene	130	5.0	1.1	ug/l	SW846 8260B
m,p-Xylene	723	1.0	0.70	ug/l	SW846 8260B
o-Xylene	120	1.0	0.41	ug/l	SW846 8260B
Xylene (total)	843	1.0	0.41	ug/l	SW846 8260B
3&4-Methylphenol	35.9	11	2.2	ug/l	SW846 8270C
Phenol	247	27	2.8	ug/l	SW846 8270C
Dibenzofuran	2.5	2.2	0.17	ug/l	SW846 8270C
Acenaphthene	0.76	0.11	0.015	ug/l	SW846 8270C BY SIM
Acenaphthylene	0.27	0.11	0.015	ug/l	SW846 8270C BY SIM
Anthracene	0.096 J	0.11	0.019	ug/l	SW846 8270C BY SIM
Benzo(a)anthracene	0.18	0.055	0.033	ug/l	SW846 8270C BY SIM
Benzo(a)pyrene	0.073 J	0.11	0.019	ug/l	SW846 8270C BY SIM
Benzo(b)fluoranthene	0.045 J	0.055	0.026	ug/l	SW846 8270C BY SIM
Chrysene	0.12	0.11	0.080	ug/l	SW846 8270C BY SIM
Fluoranthene	0.071 J	0.11	0.036	ug/l	SW846 8270C BY SIM
Fluorene	1.3	0.11	0.051	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene	54.4	0.22	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene	70.8	0.22	0.057	ug/l	SW846 8270C BY SIM
Phenanthrene	0.99	0.055	0.014	ug/l	SW846 8270C BY SIM
Pyrene	0.20	0.11	0.039	ug/l	SW846 8270C BY SIM

MC22752-7 TB-ROX-071613-HCL

No hits reported in this sample.

MC22752-8 TB-ROX-071613-ST

No hits reported in this sample.

New England ACCUTEST LABORATORIES

4

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	P55-ROX-071613		
Lab Sample ID:	MC22752-1	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V21169.D	1	07/24/13	AMY	n/a	n/a	MSV821
Run #2	V21253.D	10	07/26/13	AMY	n/a	n/a	MSV823

	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	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	uJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	573 [a]	5.0	4.5	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	25.6	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	15.5	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	uJ
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

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

Report of Analysis

Client Sample ID:	P55-ROX-071613		
Lab Sample ID:	MC22752-1	Date Sampled:	07/16/13
Matrix:	AQ - Gronnd Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Projeet:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

4.1

4

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	495 [a]	10	3.8	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	UJ
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	88.4	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	6.5	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	84.1	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	175	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	343	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	73.0	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	55.9	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	535	1.0	0.70	ug/l	
95-47-6	o-Xylene	558 [a]	10	4.1	ug/l	
1330-20-7	Xylene (total)	1110 [a]	10	4.1	ug/l	

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

Report of Analysis

Client Sample ID:	P55-ROX-071613		
Lab Sample ID:	MC22752-1	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%	94%	70-130%
2037-26-5	Toluene-D8	101%	100%	70-130%
460-00-4	4-Bromofluorobenzene	97%	96%	70-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
106-97-8	Butane	1.75	880	ug/l	JN
78-78-4	Butane, 2-methyl-	2.20	720	ug/l	JN
	Total TIC, Volatile		1600	ug/l	J

(a) Result is from Run# 2

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

Report of Analysis

Client Sample ID:	P55-ROX-071613		
Lab Sample ID:	MC22752-1	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14269.D	1	07/31/13	KR	07/22/13	OP34082	MSW645
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	0.43	ug/l	UJ
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.55	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.36	ug/l	
105-67-9	2,4-Dimethylphenol	2.4	11	1.3	ug/l	J
51-28-5	2,4-Dinitrophenol	ND	22	2.8	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ng/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	UJ
	3&4-Methylphenol	ND	11	2.3	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.56	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.65	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	4.8	5.6	0.57	ug/l	J J
95-95-4	2,4,5-Trichlorophenol	ND	11	0.64	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.35	ug/l	
62-53-3	Aniline	ND	11	0.71	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.6	0.23	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.6	0.95	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.64	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.6	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.28	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.6	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.6	0.26	ng/l	UJ
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.6	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.6	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.6	0.72	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.75	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.71	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.6	0.56	ug/l	
132-64-9	Dibenzofuran	1.6	2.2	0.17	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.6	0.43	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.6	0.48	ug/l	

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

Report of Analysis

Client Sample ID:	P55-ROX-071613		
Lab Sample ID:	MC22752-1	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.56	ug/l	
131-11-3	Dimethyl phthalate	ND	5.6	0.56	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	~~0.66~~ U	2.2	0.54	ug/l	J U
118-74-1	Hexachlorobenzene	ND	5.6	0.33	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.8	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.6	0.49	ug/l	UJ
78-59-1	Isophorone	ND	5.6	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.31	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.56	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.8	ug/l	
98-95-3	Nitrobenzene	ND	5.6	0.28	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.6	0.56	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.6	0.90	ug/l	UJ
86-30-6	N-Nitrosodiphenylamine	ND	5.6	0.60	ug/l	
110-86-1	Pyridine	ND	11	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	52%		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	77%		30-130%
321-60-8	2-Fluorobiphenyl	78%		30-130%
1718-51-0	Terphenyl-d14	85%		30-130%

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

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

Report of Analysis

Client Sample ID:	P55-ROX-071613		
Lab Sample ID:	MC22752-1	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14229.D	1	07/30/13	KR	07/22/13	OP34084	MSW643
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	0.66	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	0.20	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	1.5	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	24.4	0.22	0.16	ug/l	
91-57-6	2-Methylnaphthalene	35.3	0.22	0.058	ug/l	
85-01-8	Phenanthrene	1.9	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
4165-60-0	Nitrobenzene-d5	83%		30-130%
321-60-8	2-Fluorobiphenyl	83%		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:	P55-ROX-071613		
Lab Sample ID:	MC22752-1	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27114.D	1	07/25/13	NK	07/23/13	OP34093	GBK929
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	0.0043	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0092	ug/l	

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

Report of Analysis

Client Sample ID:	T12-ROX-071613		
Lab Sample ID:	MC22752-2	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V21170.D	1	07/24/13	AMY	n/a	n/a	MSV821
Run #2	V21254.D	10	07/26/13	AMY	n/a	n/a	MSV823

	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	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	1650 [a]	5.0	4.5	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	6.9	5.0	0.54	ug/l	J
135-98-8	sec-Butylbenzene	3.0	5.0	0.58	ng/l	J J
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ng/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	UJ
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotolnene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dicblorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

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

Report of Analysis

Client Sample ID:	T12-ROX-071613		
Lab Sample ID:	MC22752-2	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ng/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	450 [a]	10	3.8	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	UJ
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	36.3	5.0	0.64	ug/l	J
99-87-6	p-Isopropyltoluene	2.5	5.0	0.55	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ng/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	122	5.0	0.79	ug/l	J
103-65-1	n-Propylbenzene	62.7	5.0	0.59	ug/l	J
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	186	1.0	0.46	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ng/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	361	5.0	0.47	ug/l	J
108-67-8	1,3,5-Trimethylbenzene	23.8	5.0	1.1	ug/l	J
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	794	1.0	0.70	ug/l	J
95-47-6	o-Xylene	14.5	1.0	0.41	ug/l	J
1330-20-7	Xylene (total)	808	1.0	0.41	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:	T12-ROX-071613		
Lab Sample ID:	MC22752-2	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8260B	Pereent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoverics	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%	94%	70-130%
2037-26-5	Toluene-D8	101%	99%	70-130%
460-00-4	4-Bromofluorobenzene	98%	96%	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:	T12-ROX-071613		
Lab Sample ID:	MC22752-2	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14270.D	1	07/31/13	KR	07/22/13	OP34082	MSW645
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	0.42	ug/l	UJ
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.53	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.36	ng/l	
105-67-9	2,4-Dimethylphenol	9.6	11	1.2	ug/l	J
51-28-5	2,4-Dinitrophenol	ND	22	2.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	2.9	11	1.4	ug/l	J J
	3&4-Methylphenol	ND	11	2.2	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.54	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.63	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	51.4	5.4	0.56	ug/l	J
95-95-4	2,4,5-Trichlorophenol	ND	11	0.62	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.34	ug/l	
62-53-3	Aniline	ND	11	0.69	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.22	ug/l	
85-68-7	Bntyl benzyl phthalate	ND	5.4	0.93	ug/l	
100-51-6	Benzyl Alcohol	1.0	11	0.62	ug/l	J
91-58-7	2-Chloronaphthalene	ND	5.4	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.27	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	0.25	ug/l	UJ
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.71	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.73	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.70	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.54	ug/l	
132-64-9	Dibenzofuran	0.42	2.2	0.17	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.4	0.42	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	0.47	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates valne exceeds calibration range
J = Indicates 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-071613		
Lab Sample ID:	MC22752-2	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.54	ug/l	
131-11-3	Dimethyl phthalate	ND	5.4	0.54	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	~~4.4~~ 4.4	~~2.2~~ 5.4	0.53	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.4	0.32	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.7	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.4	0.48	ug/l	UJ
78-59-1	Isophorone	ND	5.4	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.30	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.54	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.7	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.54	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.88	ug/l	UJ
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.59	ug/l	
110-86-1	Pyridine	ND	11	0.56	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	60%		15-110%
4165-62-2	Phenol-d5	28%		15-110%
118-79-6	2,4,6-Tribromophenol	82%		15-110%
4165-60-0	Nitrobenzene-d5	75%		30-130%
321-60-8	2-Fluorobiphenyl	74%		30-130%
1718-51-0	Terphenyl-d14	81%		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:	T12-ROX-071613		
Lab Sample ID:	MC22752-2	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14230.D	1	07/30/13	KR	07/22/13	OP34084	MSW643
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	0.55	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	0.10	0.11	0.014	ug/l	J
120-12-7	Anthracene	0.15	0.11	0.019	ug/l	
56-55-3	Benzo(a)anthracene	0.13	0.054	0.033	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.054	0.026	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.041	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.064	ug/l	
218-01-9	Chrysene	ND	0.11	0.079	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.045	ug/l	
206-44-0	Fluoranthene	0.044	0.11	0.035	ug/l	J
86-73-7	Fluorene	0.34	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	23.6	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	33.1	0.22	0.056	ug/l	
85-01-8	Phenanthrene	1.1	0.054	0.014	ug/l	
129-00-0	Pyrene	~~0.090~~ U	0.11	0.039	ug/l	J U

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	81%		30-130%
321-60-8	2-Fluorobipheuyl	77%		30-130%
1718-51-0	Terphenyl-d14	82%		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-071613		
Lab Sample ID:	MC22752-2	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Bateh
Run #1	BK27115.D	1	07/25/13	NK	07/23/13	OP34093	GBK929
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	0.0043	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0091	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	113%		36-173%
460-00-4	Bromofluorobenzene (S)	95%		36-173%

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

Report of Analysis

Client Sample ID:	P59-ROX-071613-EB		
Lab Sample ID:	MC22752-3	Date Sampled:	07/16/13
Matrix:	AQ - Equipment Blank	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V21164.D	1	07/24/13	AMY	n/a	u/a	MSV821
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	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

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

Report of Analysis

Client Sample ID:	P59-ROX-071613-EB		
Lab Sample ID:	MC22752-3	Date Sampled:	07/16/13
Matrix:	AQ - Equipment Blank	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	og/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	P59-ROX-071613-EB		
Lab Sample ID:	MC22752-3	Date Sampled:	07/16/13
Matrix:	AQ - Equipment Blank	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

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

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071613-EB		
Lab Sample ID:	MC22752-3	Date Sampled:	07/16/13
Matrix:	AQ - Equipment Blank	Date Received:	07/17/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14271.D	1	07/31/13	KR	07/22/13	OP34082	MSW645
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	0.43	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.55	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.36	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	1.3	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.8	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	
	3&4-Methylphenol	ND	11	2.3	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.56	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.65	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	ND	5.6	0.57	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.64	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.35	ug/l	
62-53-3	Aniline	ND	11	0.71	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.6	0.23	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.6	0.95	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.64	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.6	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.28	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.6	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.6	0.26	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.6	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.6	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.6	0.72	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.75	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.71	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.6	0.56	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.6	0.43	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.6	0.48	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071613-EB		
Lab Sample ID:	MC22752-3	Date Sampled:	07/16/13
Matrix:	AQ - Equipment Blank	Date Received:	07/17/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

ABN Speeial List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.6	0.56	ug/l	
131-11-3	Dimethyl phthalate	ND	5.6	0.56	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	0.97	2.2	0.54	ug/l	J
118-74-1	Hexachlorobenzene	ND	5.6	0.33	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.8	ug/l	
67-72-1	Hexachloroethane	ND	5.6	0.49	ug/l	
78-59-1	Isophorone	ND	5.6	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.31	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.56	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.8	ug/l	
98-95-3	Nitrobenzene	ND	5.6	0.28	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.6	0.56	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.6	0.90	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.6	0.60	ug/l	
110-86-1	Pyridine	ND	11	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	40%		15-110%
4165-62-2	Phenol-d5	15%		15-110%
118-79-6	2,4,6-Tribromophenol	77%		15-110%
4165-60-0	Nitrobenzene-d5	51%		30-130%
321-60-8	2-Fluorobiphenyl	53%		30-130%
1718-51-0	Terphenyl-d14	78%		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-071613-EB		
Lab Sample ID:	MC22752-3	Date Sampled:	07/16/13
Matrix:	AQ - Equipment Blank	Date Received:	07/17/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14231.D	1	07/31/13	KR	07/22/13	OP34084	MSW643
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

BN Speeial 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	Fluoreue	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	0.055	0.056	0.014	ug/l	J
129-00-0	Pyrene	0.068	0.11	0.039	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	54%		30-130%
321-60-8	2-Fluorobiphenyl	57%		30-130%
1718-51-0	Terphenyl-d14	82%		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-071613-EB		
Lab Sample ID:	MC22752-3	Date Sampled:	07/16/13
Matrix:	AQ - Equipment Blank	Date Received:	07/17/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27117.D	1	07/25/13	NK	07/23/13	OP34093	GBK930
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	0.0044	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.0094	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromoflnorobenzene (S)	145%		36-173%
460-00-4	Bromofluorobenzene (S)	132%		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-071613		
Lab Sample ID:	MC22752-4	Date Sampled:	07/16/13
Matrix:	AQ - Gronnd Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V21171.D	1	07/24/13	AMY	n/a	n/a	MSV821
Run #2	V21255.D	50	07/26/13	AMY	n/a	n/a	MSV823

	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	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	10200 [a]	25	23	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	21.3	5.0	0.54	ug/l	J
135-98-8	sec-Butylbenzene	6.8	5.0	0.58	ug/l	J
98-06-6	tert-Butylbenzene	2.7	5.0	0.87	ug/l	JJ
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ng/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	UJ
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ng/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ng/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ng/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reportiug Limit
E = Indicates value exceeds calihration range
J = Indicates 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-071613		
Lab Sample ID:	MC22752-4	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	2400 [a]	50	19	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	UJ
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	74.0	5.0	0.64	ug/l	J
99-87-6	p-Isopropyltoluene	4.6	5.0	0.55	ug/l	JJ
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	215	5.0	0.79	ug/l	J
103-65-1	n-Propylbenzene	149	5.0	0.59	ug/l	J
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	1030 [a]	50	23	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	784 [a]	250	23	ug/l	
108-67-8	1,3,5-Trimethylbenzene	219	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	5760 [a]	50	35	ug/l	
95-47-6	o-Xylene	431 [a]	50	20	ug/l	
1330-20-7	Xylene (total)	6190 [a]	50	20	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071613		
Lab Sample ID:	MC22752-4	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%	94%	70-130%
2037-26-5	Toluene-D8	101%	99%	70-130%
460-00-4	4-Bromofluorobenzene	98%	96%	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:	P59-ROX-071613		
Lab Sample ID:	MC22752-4	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14272.D	1	07/31/13	KR	07/22/13	OP34082	MSW645
Run #2	R32575.D	5	08/01/13	KR	07/22/13	OP34082	MSR1187

	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2	920 ml	1.0 ml

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	0.42	ug/l	UJ
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.53	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.36	ug/l	
105-67-9	2,4-Dimethylphenol	58.3	11	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	170 [a]	54	7.0	ng/l	
	3&4-Methylphenol	42.0	11	2.2	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.54	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.63	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	121	5.4	0.56	ug/l	J
95-95-4	2,4,5-Trichlorophenol	ND	11	0.62	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.34	ug/l	
62-53-3	Aniline	ND	11	0.69	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.22	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	0.93	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.62	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.27	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	0.25	ng/l	UJ
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.71	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.73	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.70	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.54	ug/l	
132-64-9	Dibenzofurau	0.41	2.2	0.17	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.4	0.42	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	0.47	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071613		
Lab Sample ID:	MC22752-4	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.54	ug/l	
131-11-3	Dimethyl phthalate	ND	5.4	0.54	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.53	ug/l	
118-74-1	Hexachlorobenzene	ND	5.4	0.32	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.7	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.4	0.48	ug/l	UJ
78-59-1	Isophorone	ND	5.4	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.30	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.54	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.7	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.54	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.88	ug/l	UJ
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.59	ug/l	
110-86-1	Pyridine	ND	11	0.56	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	61%	47%	15-110%
4165-62-2	Phenol-d5	29%	19%	15-110%
118-79-6	2,4,6-Tribromophenol	83%	57%	15-110%
4165-60-0	Nitrobenzene-d5	71%	49%	30-130%
321-60-8	2-Fluorobiphenyl	72%	60%	30-130%
1718-51-0	Terphenyl-d14	79%	57%	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:	P59-ROX-071613		
Lab Sample ID:	MC22752-4	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14232.D	1	07/31/13	KR	07/22/13	OP34084	MSW643
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	0.35	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	0.071	0.11	0.014	ug/l	J
120-12-7	Anthracene	0.092	0.11	0.019	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.054	0.033	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.054	0.026	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.041	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.064	ug/l	
218-01-9	Chrysene	ND	0.11	0.079	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.045	ug/l	
206-44-0	Fluoranthene	0.061	0.11	0.035	ng/l	J
86-73-7	Fluorene	0.63	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	18.9	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	30.2	0.22	0.056	ug/l	
85-01-8	Phenanthrene	0.87	0.054	0.014	ug/l	
129-00-0	Pyrene	~~0.078~~ U	0.11	0.039	ug/l	J U

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	77%		30-130%
321-60-8	2-Fluorobiphenyl	76%		30-130%
1718-51-0	Terphenyl-d14	82%		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-071613		
Lab Sample ID:	MC22752-4	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Aveuue, Roxaua, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27118.D	1	07/25/13	NK	07/23/13	OP34093	GBK930
Run #2							

	Initial Volume	Final Volume
Run #1	36.9 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.014	0.0043	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0092	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobeuzene (S)	136%		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 blauk
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P57-ROX-071613		
Lab Sample ID:	MC22752-5	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V21172.D	1	07/24/13	AMY	n/a	n/a	MSV821
Run #2	V21256.D	1000	07/26/13	AMY	n/a	n/a	MSV823

	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	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	254000 [a]	500	450	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ng/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Bntylbenzene	14.3	5.0	0.54	ug/l	J
135-98-8	sec-Butylbenzene	13.1	5.0	0.58	ug/l	J
98-06-6	tert-Butylbenzene	10.3	5.0	0.87	ug/l	J
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	UJ
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071613		
Lab Sample ID:	MC22752-5	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	1590 [a]	1000	380	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	UJ
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	69.8	5.0	0.64	ug/l	J
99-87-6	p-Isopropyltoluene	11.9	5.0	0.55	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	112	1.0	0.43	ug/l	J
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	203	5.0	0.79	ug/l	J
103-65-1	n-Propylbenzene	80.2	5.0	0.59	ug/l	J
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	202	1.0	0.46	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND [a]	5000	470	ug/l	
108-67-8	1,3,5-Trimethylbenzene	129	5.0	1.1	ug/l	J
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	1810 [a]	1000	700	ug/l	
95-47-6	o-Xylene	256	1.0	0.41	ug/l	J
1330-20-7	Xylene (total)	2010 [a]	1000	410	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071613		
Lab Sample ID:	MC22752-5	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	90%	95%	70-130%
2037-26-5	Toluene-D8	104%	99%	70-130%
460-00-4	4-Bromofluorobenzene	97%	95%	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:	P57-ROX-071613		
Lab Sample ID:	MC22752-5	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14273.D	1	07/31/13	KR	07/22/13	OP34082	MSW645
Run #2	R32576.D	5	08/01/13	KR	07/22/13	OP34082	MSR1187

	Initial Volume	Final Volume
Run #1	890 ml	1.0 ml
Run #2	890 ml	1.0 ml

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	0.43	ug/l	UJ
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.55	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	2.0	11	1.3	ug/l	J
51-28-5	2,4-Dinitrophenol	ND	22	2.8	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	UJ
	3&4-Methylphenol	8.6	11	2.3	ug/l	J
88-75-5	2-Nitrophenol	ND	11	0.56	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.66	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	164 [a]	28	2.9	ug/l	J
95-95-4	2,4,5-Trichlorophenol	ND	11	0.64	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.36	ug/l	
62-53-3	Aniline	ND	11	0.72	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.6	0.23	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.6	0.96	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.65	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.6	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.28	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	0.26	ug/l	UJ
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.6	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.6	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.6	0.73	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.76	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.72	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.6	0.56	ug/l	
132-64-9	Dibenzofuran	0.88	2.2	0.18	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.6	0.44	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.6	0.49	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071613		
Lab Sample ID:	MC22752-5	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.56	ug/l	
131-11-3	Dimethyl phthalate	ND	5.6	0.56	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.55	ug/l	
118-74-1	Hexachlorobenzene	ND	5.6	0.33	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.8	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.6	0.49	ug/l	UJ
78-59-1	Isophorone	ND	5.6	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.31	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.56	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.9	ug/l	
98-95-3	Nitrobenzene	ND	5.6	0.28	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.6	0.56	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.6	0.91	ug/l	UJ
86-30-6	N-Nitrosodiphenylamine	ND	5.6	0.61	ug/l	
110-86-1	Pyridine	ND	11	0.58	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	66%	44%	15-110%
4165-62-2	Phenol-d5	23%	13% b	15-110%
118-79-6	2,4,6-Tribromophenol	72%	47%	15-110%
4165-60-0	Nitrobenzene-d5	64%	43%	30-130%
321-60-8	2-Fluorohiphenyl	64%	47%	30-130%
1718-51-0	Terphenyl-d14	66%	43%	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
(b) Outside control limits. Meets technical requirements.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071613		
Lab Sample ID:	MC22752-5	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14233.D	1	07/31/13	KR	07/22/13	OP34084	MSW643
Run #2							

	Initial Volume	Final Volume
Run #1	890 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.47	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	0.10	0.11	0.015	ug/l	J
120-12-7	Anthracene	0.077	0.11	0.020	ug/l	J
56-55-3	Benzo(a)anthracene	0.12	0.056	0.034	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.020	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.056	0.027	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.042	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.066	ug/l	
218-01-9	Chrysene	ND	0.11	0.082	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.047	ug/l	
206-44-0	Fluoranthene	0.038	0.11	0.037	ug/l	J
86-73-7	Fluorene	0.80	0.11	0.052	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.052	ug/l	
90-12-0	1-Methylnaphthalene	26.7	0.22	0.16	ug/l	
91-57-6	2-Methylnaphthalene	36.5	0.22	0.058	ug/l	
85-01-8	Phenanthrene	0.73	0.056	0.014	ug/l	
129-00-0	Pyrene	~~0.052~~	0.11	0.040	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	69%		30-130%
321-60-8	2-Fluorobiphenyl	68%		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:	P57-ROX-071613		
Lab Sample ID:	MC22752-5	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27119.D	1	07/25/13	NK	07/23/13	OP34093	GBK930
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	0.0043	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0092	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorohenzene (S)	94%		36-173%
460-00-4	Bromofluorobenzene (S)	80%		36-173%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates valne exceeds calibration range
J = Indicates 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-071613		
Lab Sample ID:	MC22752-6	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V21173.D	1	07/24/13	AMY	n/a	n/a	MSV821
Run #2	V21257.D	1000	07/26/13	AMY	n/a	n/a	MSV823

	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	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	398000 [a]	500	450	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	23.9	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	21.5	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	53.2	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	1.7	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	UJ
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071613		
Lab Sample ID:	MC22752-6	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	1070 [a]	1000	380	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	UJ
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	101	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	15.2	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (M1BK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	234	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	131	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	147	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	634 [a]	5000	470	ng/l	J
108-67-8	1,3,5-Trimethylbenzene	130	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ng/l	
	m,p-Xylene	723	1.0	0.70	ug/l	
95-47-6	o-Xylene	120	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	843	1.0	0.41	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:	P58-ROX-071613		
Lab Sample ID:	MC22752-6	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%	96%	70-130%
2037-26-5	Toluene-D8	105%	98%	70-130%
460-00-4	4-Bromofluorobenzene	97%	95%	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-071613		
Lab Sample ID:	MC22752-6	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14274.D	1	07/31/13	KR	07/22/13	OP34082	MSW645
Run #2	R32580.D	5	08/01/13	KR	07/22/13	OP34082	MSR1187

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2	910 ml	1.0 ml

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	0.42	ug/l	UJ
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.54	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.36	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	1.3	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	UJ
	3&4-Methylphenol	35.9	11	2.2	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.55	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.64	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	247 [a]	27	2.8	ng/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.63	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.35	ug/l	
62-53-3	Aniline	ND	11	0.70	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.5	0.22	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.5	0.94	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.63	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.5	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.27	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.5	0.23	ng/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.5	0.25	ug/l	UJ
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.5	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.5	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.5	0.72	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.74	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.71	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.5	0.55	ug/l	
132-64-9	Dibenzofuran	2.5	2.2	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.5	0.43	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.5	0.48	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071613		
Lab Sample ID:	MC22752-6	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.55	ug/l	
131-11-3	Dimethyl phthalate	ND	5.5	0.55	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.54	ug/l	
118-74-1	Hexachlorobenzene	ND	5.5	0.33	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.7	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.5	0.48	ug/l	UJ
78-59-1	Isophorone	ND	5.5	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.31	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.55	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.8	ug/l	
98-95-3	Nitrobenzene	ND	5.5	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.5	0.55	ng/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.5	0.89	ug/l	UJ
86-30-6	N-Nitrosodiphenylamine	ND	5.5	0.59	ng/l	
110-86-1	Pyridine	ND	11	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	54%	34%	15-110%
4165-62-2	Phenol-d5	24%	17%	15-110%
118-79-6	2,4,6-Tribromophenol	81%	62%	15-110%
4165-60-0	Nitrobenzene-d5	71%	50%	30-130%
321-60-8	2-Fluorobiphenyl	74%	59%	30-130%
1718-51-0	Terphenyl-d14	77%	58%	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 valne exceeds calibration range
J = Indicates an estimated valne
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a componnd

Report of Analysis

Client Sample ID:	P58-ROX-071613		
Lab Sample ID:	MC22752-6	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	WI4234.D	1	07/31/13	KR	07/22/13	OP34084	MSW643
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	0.76	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	0.27	0.11	0.015	ug/l	
120-12-7	Anthracene	0.096	0.11	0.019	ug/l	J
56-55-3	Benzo(a)anthracene	0.18	0.055	0.033	ug/l	
50-32-8	Benzo(a)pyrene	0.073	0.11	0.019	ug/l	J
205-99-2	Benzo(b)fluoranthene	0.045	0.055	0.026	ug/l	J
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	0.12	0.11	0.080	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.046	ug/l	
206-44-0	Fluoranthene	0.071	0.11	0.036	ug/l	J
86-73-7	Fluorene	I.3	0.11	0.051	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.051	ng/l	
90-12-0	1-Methylnaphthalene	54.4	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	70.8	0.22	0.057	ug/l	
85-01-8	Phenanthrene	0.99	0.055	0.014	ug/l	
129-00-0	Pyrene	~~0.20~~ 0.2	~~0.11~~ 0.2	0.039	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	76%		30-130%
321-60-8	2-Fluorobiphenyl	78%		30-130%
1718-51-0	Terphenyl-d14	83%		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:	P58-ROX-071613		
Lab Sample ID:	MC22752-6	Date Sampled:	07/16/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27120.D	1	07/25/13	NK	07/23/13	OP34093	GBK930
Run #2							

	Initial Volume	Final Volume
Run #1	37.1 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	0.014	0.0043	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0091	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	139%		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

Report of Analysis

Client Sample ID:	TB-ROX-071613-HCL		
Lab Sample ID:	MC22752-7	Date Sampled:	07/16/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxaua, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V21162.D	1	07/24/13	AMY	n/a	n/a	MSV821
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	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Bntanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ng/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotolueue	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

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

Report of Analysis

Client Sample ID:	TB-ROX-071613-HCL		
Lab Sample ID:	MC22752-7	Date Sampled:	07/16/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenne, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ng/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltolnene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ng/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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 fonud in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-ROX-071613-HCL		
Lab Sample ID:	MC22752-7	Date Sampled:	07/16/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		70-130%
2037-26-5	Toluene-D8	100%		70-130%
460-00-4	4-Bromofluorobenzene	98%		70-130%

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071613-ST		
Lab Sample ID:	MC22752-8	Date Sampled:	07/16/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/17/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27121.D	1	07/25/13	NK	07/23/13	OP34093	GBK930
Run #2							

	Initial Volume	Final Volume
Run #1	36.6 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	0.014	0.0043	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0092	ug/l	

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

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: Bob Billman

INCIDENT # (ENV SERVICES): 9 7 2 1 8 6 4 0

☐ CHECK IF NO INCIDENT # APPLIES

DATE: 7/16/13

PAGE: 1 of 1

PO #

SAP #: 3 4 0 0 6 1

SAMPLING COMPANY: URS CORPORATION

ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS MO 63110

PROJECT CONTACT: Elizabeth Kunkel, Wendy Pennington, Bob Billman

TELEPHONE: 314-429-0100 FAX: 314-429-0462

SITE ADDRESS: 900 South Central Ave, ROXANA STATE: IL

CONSULTANT PROJECT NO.: Roxana Quarterly GW / 21562850.03003

SAMPLER NAME(S) (Print): L. Rathnow, D. Mattingly

LAB USE ONLY: MC22752

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 DISK

REQUESTED ANALYSIS

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	DATE	TIME	MATRIX	HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	VOC 8260B SL+TICS	VOC 8011 SL	SVOC 8270C SL+TICS	PAH 8270LL	PID (ppm)	Notes
-1	P55-ROX-071613	7/16/13	0945	water	2			2	2	6	X	X	X	X	O	
-2	T12-ROX-071613		1030		2			2	2	6	X	X	X	X		
-3	P59-ROX-071613-EB		1045		2			2	2	6	X	X	X	X		
-4	P59-ROX-071613		1120		2			2	2	6	X	X	X	X		
-5	P57-ROX-071613		1325		2			2	2	6	X	X	X	X		
-6	P58-ROX-071613		1405		2			2	2	6	X	X	X	X		18C,563
-7	TB-ROX-071613-HCl		0000		2					2	X	~~X~~	~~X~~	~~X~~		
-8	TB-ROX-071613-ST		0000						2	2	~~X~~	X	~~X~~	~~X~~		VOC 8260B analysis
																VOC 8011 analysis

Relinquished by (Signature)	Received by (Signature)	Date	Time
[signature]	FED EX	7/16/13	
FedEx	[signature]	7-17-13	930

Cooler Temp: 0.0 -1.7°C

MC22752: Chain of Custody
Page 1 of 2

5.1

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC22752 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 7/17/2013 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900 SPOUTH CENTRAL AVE **No. Coolers:** 2 **Airbill #'s:**

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

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

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

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

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

Comments

5.1

MC22752: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC22752

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC22752-1 Collected: 16-JUL-13 09:45 By: LRDM Received: 17-JUL-13 By: P55-ROX-071613						
MC22752-1	SW846 8260B	24-JUL-13 17:32	AMY			V8260SL+
MC22752-1	SW846 8011	25-JUL-13 04:20	NK	23-JUL-13	BJ	V8011SL
MC22752-1	SW846 8260B	26-JUL-13 08:17	AMY			V8260SL+
MC22752-1	SW846 8270C BY SIM	30-JUL-13 23:29	KR	22-JUL-13	MEW	B8270SIMSL
MC22752-1	SW846 8270C	31-JUL-13 19:43	KR	22-JUL-13	MEW	AB8270SL+
MC22752-2 Collected: 16-JUL-13 10:30 By: LRDM Received: 17-JUL-13 By: T12-ROX-071613						
MC22752-2	SW846 8260B	24-JUL-13 17:59	AMY			V8260SL+
MC22752-2	SW846 8011	25-JUL-13 04:45	NK	23-JUL-13	BJ	V8011SL
MC22752-2	SW846 8260B	26-JUL-13 08:44	AMY			V8260SL+
MC22752-2	SW846 8270C BY SIM	30-JUL-13 23:51	KR	22-JUL-13	MEW	B8270SIMSL
MC22752-2	SW846 8270C	31-JUL-13 20:06	KR	22-JUL-13	MEW	AB8270SL+
MC22752-3 Collected: 16-JUL-13 10:45 By: LRDM Received: 17-JUL-13 By: P59-ROX-071613-EB						
MC22752-3	SW846 8260B	24-JUL-13 15:20	AMY			V8260SL+
MC22752-3	SW846 8011	25-JUL-13 05:36	NK	23-JUL-13	BJ	V8011SL
MC22752-3	SW846 8270C BY SIM	31-JUL-13 00:13	KR	22-JUL-13	MEW	B8270SIMSL
MC22752-3	SW846 8270C	31-JUL-13 20:29	KR	22-JUL-13	MEW	AB8270SL+
MC22752-4 Collected: 16-JUL-13 11:20 By: LRDM Received: 17-JUL-13 By: P59-ROX-071613						
MC22752-4	SW846 8260B	24-JUL-13 18:26	AMY			V8260SL+
MC22752-4	SW846 8011	25-JUL-13 06:00	NK	23-JUL-13	BJ	V8011SL
MC22752-4	SW846 8260B	26-JUL-13 09:11	AMY			V8260SL+
MC22752-4	SW846 8270C BY SIM	31-JUL-13 00:34	KR	22-JUL-13	MEW	B8270SIMSL
MC22752-4	SW846 8270C	31-JUL-13 20:52	KR	22-JUL-13	MEW	AB8270SL+
MC22752-4	SW846 8270C	01-AUG-13 11:51	KR	22-JUL-13	MEW	AB8270SL+
MC22752-5 Collected: 16-JUL-13 13:25 By: LRDM Received: 17-JUL-13 By: P57-ROX-071613						
MC22752-5	SW846 8260B	24-JUL-13 18:51	AMY			V8260SL+

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC22752

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC22752-5	SW846 8011	25-JUL-13 06:24	NK	23-JUL-13	BJ	V8011SL
MC22752-5	SW846 8260B	26-JUL-13 09:38	AMY			V8260SL+
MC22752-5	SW846 8270C BY SIM	31-JUL-13 00:56	KR	22-JUL-13	MEW	B8270SIMSL
MC22752-5	SW846 8270C	31-JUL-13 21:15	KR	22-JUL-13	MEW	AB8270SL+
MC22752-5	SW846 8270C	01-AUG-13 12:16	KR	22-JUL-13	MEW	AB8270SL+
MC22752-6	Collected: 16-JUL-13 14:05 By: LRDM Received: 17-JUL-13 By: P58-ROX-071613					
MC22752-6	SW846 8260B	24-JUL-13 19:18	AMY			V8260SL+
MC22752-6	SW846 8011	25-JUL-13 06:48	NK	23-JUL-13	BJ	V8011SL
MC22752-6	SW846 8260B	26-JUL-13 10:05	AMY			V8260SL+
MC22752-6	SW846 8270C BY SIM	31-JUL-13 01:18	KR	22-JUL-13	MEW	B8270SIMSL
MC22752-6	SW846 8270C	31-JUL-13 21:38	KR	22-JUL-13	MEW	AB8270SL+
MC22752-6	SW846 8270C	01-AUG-13 13:47	KR	22-JUL-13	MEW	AB8270SL+
MC22752-7	Collected: 16-JUL-13 00:00 By: LRDM Received: 17-JUL-13 By: TB-ROX-071613-HCL					
MC22752-7	SW846 8260B	24-JUL-13 14:27	AMY			V8260SL+
MC22752-8	Collected: 16-JUL-13 00:00 By: LRDM Received: 17-JUL-13 By: TB-ROX-071613-ST					
MC22752-8	SW846 8011	25-JUL-13 07:12	NK	23-JUL-13	BJ	V8011SL

Accutest Internal Chain of Custody

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/17/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22752-1.1	Walk In Ref #22	Thomas Abruzzise	07/22/13 15:39	Retrieve from Storage
MC22752-1.1	Thomas Abruzzise		07/30/13 14:35	Depleted
MC22752-1.3	VOC Ref #5	Amy Min Yang	07/24/13 13:15	Retrieve from Storage
MC22752-1.3	Amy Min Yang	GCMSV	07/24/13 13:16	Load on Instrument
MC22752-1.3	GCMSV	Amy Min Yang	07/26/13 15:01	Unload from Instrument
MC22752-1.3	Amy Min Yang	VOC Ref #5	07/26/13 15:01	Return to Storage
MC22752-1.4	VOC Ref #5	Amy Min Yang	07/26/13 07:52	Retrieve from Storage
MC22752-1.4	Amy Min Yang	GCMSV	07/26/13 07:52	Load on Instrument
MC22752-1.4	GCMSV	Amy Min Yang	07/29/13 13:04	Unload from Instrument
MC22752-1.4	Amy Min Yang	VOC Ref #5	07/29/13 13:04	Return to Storage
MC22752-1.6	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22752-1.6	Bijan Jafari		07/23/13 18:13	Depleted
MC22752-2.2	Walk In Ref #22	Thomas Abruzzise	07/22/13 15:39	Retrieve from Storage
MC22752-2.2	Thomas Abruzzise		07/30/13 14:35	Depleted
MC22752-2.3	VOC Ref #5	Amy Min Yang	07/24/13 13:15	Retrieve from Storage
MC22752-2.3	Amy Min Yang	GCMSV	07/24/13 13:16	Load on Instrument
MC22752-2.3	GCMSV	Amy Min Yang	07/26/13 15:01	Unload from Instrument
MC22752-2.3	Amy Min Yang	VOC Ref #5	07/26/13 15:01	Return to Storage
MC22752-2.4	VOC Ref #5	Amy Min Yang	07/26/13 07:52	Retrieve from Storage
MC22752-2.4	Amy Min Yang	GCMSV	07/26/13 07:52	Load on Instrument
MC22752-2.4	GCMSV	Amy Min Yang	07/29/13 13:04	Unload from Instrument
MC22752-2.4	Amy Min Yang	VOC Ref #5	07/29/13 13:04	Return to Storage
MC22752-2.5	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22752-2.5	Bijan Jafari		07/23/13 18:13	Depleted
MC22752-3.1	Walk In Ref #22	Thomas Abruzzise	07/22/13 15:39	Retrieve from Storage
MC22752-3.1	Thomas Abruzzise		07/30/13 14:35	Depleted
MC22752-3.3	VOC Ref #5	Amy Min Yang	07/24/13 13:15	Retrieve from Storage
MC22752-3.3	Amy Min Yang	GCMSV	07/24/13 13:16	Load on Instrument
MC22752-3.3	GCMSV	Amy Min Yang	07/26/13 15:01	Unload from Instrument
MC22752-3.3	Amy Min Yang	VOC Ref #5	07/26/13 15:01	Return to Storage
MC22752-3.5	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22752-3.5	Bijan Jafari		07/23/13 18:13	Depleted
MC22752-4.1	Walk In Ref #22	Thomas Abruzzise	07/22/13 15:39	Retrieve from Storage

Accutest Internal Chain of Custody

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/17/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22752-4.1	Thomas Abruzzise		07/30/13 14:35	Depleted
MC22752-4.3	VOC Ref #5	Amy Min Yang	07/26/13 07:52	Retrieve from Storage
MC22752-4.3	Amy Min Yang	GCMSV	07/26/13 07:52	Load on Instrument
MC22752-4.3	GCMSV	Amy Min Yang	07/29/13 13:04	Unload from Instrument
MC22752-4.3	Amy Min Yang	VOC Ref #5	07/29/13 13:04	Return to Storage
MC22752-4.4	VOC Ref #5	Amy Min Yang	07/24/13 13:15	Retrieve from Storage
MC22752-4.4	Amy Min Yang	GCMSV	07/24/13 13:16	Load on Instrument
MC22752-4.4	GCMSV	Amy Min Yang	07/26/13 15:01	Unload from Instrument
MC22752-4.4	Amy Min Yang	VOC Ref #5	07/26/13 15:01	Return to Storage
MC22752-4.5	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22752-4.5	Bijan Jafari		07/23/13 18:13	Depleted
MC22752-5.2	Walk In Ref #22	Thomas Abruzzise	07/22/13 15:39	Retrieve from Storage
MC22752-5.2	Thomas Abruzzise		07/30/13 14:35	Depleted
MC22752-5.3	VOC Ref #5	Amy Min Yang	07/24/13 13:15	Retrieve from Storage
MC22752-5.3	Amy Min Yang	GCMSV	07/24/13 13:16	Load on Instrument
MC22752-5.3	GCMSV	Amy Min Yang	07/26/13 15:01	Unload from Instrnment
MC22752-5.3	Amy Min Yang	VOC Ref #5	07/26/13 15:01	Return to Storage
MC22752-5.4	VOC Ref #5	Amy Min Yang	07/26/13 07:52	Retrieve from Storage
MC22752-5.4	Amy Min Yang	GCMSV	07/26/13 07:52	Load on Instrument
MC22752-5.4	GCMSV	Amy Min Yang	07/29/13 13:04	Unload from Instrument
MC22752-5.4	Amy Min Yang	VOC Ref #5	07/29/13 13:04	Return to Storage
MC22752-5.5	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22752-5.5	Bijan Jafari		07/23/13 18:13	Depleted
MC22752-6.2	Walk In Ref #22	Thomas Abruzzise	07/22/13 15:39	Retrieve from Storage
MC22752-6.2	Thomas Abruzzise		07/30/13 14:35	Depleted
MC22752-6.3	VOC Ref #5	Amy Min Yang	07/26/13 07:52	Retrieve from Storage
MC22752-6.3	Amy Min Yang	GCMSV	07/26/13 07:52	Load on Instrument
MC22752-6.3	GCMSV	Amy Min Yang	07/29/13 13:04	Unload from Instrument
MC22752-6.3	Amy Min Yang	VOC Ref #5	07/29/13 13:04	Return to Storage
MC22752-6.4	VOC Ref #5	Amy Min Yang	07/24/13 13:15	Retrieve from Storage
MC22752-6.4	Amy Min Yang	GCMSV	07/24/13 13:16	Load on Instrument
MC22752-6.4	GCMSV	Amy Min Yang	07/26/13 15:01	Unload from Instrument
MC22752-6.4	Amy Min Yang	VOC Ref #5	07/26/13 15:01	Return to Storage

Accutest Internal Chain of Custody

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/17/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22752-6.6	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22752-6.6	Bijan Jafari		07/23/13 18:13	Depleted
MC22752-7.1	VOC Ref #5	Amy Min Yang	07/24/13 13:15	Retrieve from Storage
MC22752-7.1	Amy Min Yang	GCMSV	07/24/13 13:16	Load on Instrument
MC22752-7.1	GCMSV	Amy Min Yang	07/26/13 15:01	Unload from Instrument
MC22752-7.1	Amy Min Yang	VOC Ref #5	07/26/13 15:01	Return to Storage
MC22752-8.2	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22752-8.2	Bijan Jafari		07/23/13 18:13	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: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV821-MB	V21160.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6, MC22752-7

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	

Method Blank Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV821-MB	V21160.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6, MC22752-7

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ng/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ng/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ng/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	ug/l	

6.1.1

Method Blank Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV821-MB	V21160.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6, MC22752-7

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

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

Method Blank Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV823-MB	V21252.D	1	07/26/13	AMY	n/a	n/a	MSV823

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

MC22752-1, MC22752-2, MC22752-4, MC22752-5, MC22752-6

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.45	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.47	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	ug/l	

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

6.1.2

6

Blank Spike Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV821-BS	V21158.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6, MC22752-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	41.7	83	70-130
107-02-8	Acrolein	250	238	95	70-130
107-13-1	Acrylonitrile	50	48.4	97	70-130
71-43-2	Benzene	50	45.3	91	70-130
108-86-1	Bromobenzene	50	54.6	109	70-130
74-97-5	Bromochloromethane	50	46.6	93	70-130
75-27-4	Bromodichloromethane	50	56.3	113	70-130
75-25-2	Bromoform	50	59.1	118	70-130
74-83-9	Bromomethane	50	59.0	118	70-130
78-93-3	2-Butanone (MEK)	50	42.4	85	70-130
104-51-8	n-Butylbenzene	50	54.1	108	70-130
135-98-8	sec-Butylbenzene	50	58.1	116	70-130
98-06-6	tert-Butylbenzene	50	60.0	120	70-130
75-15-0	Carbon disulfide	50	60.2	120	70-130
56-23-5	Carbon tetrachloride	50	65.6	131* a	70-130
108-90-7	Chlorobenzene	50	56.6	113	70-130
75-00-3	Chloroethane	50	52.4	105	70-130
110-75-8	2-Chloroethyl vinyl ether	50	178	356* b	70-130
67-66-3	Chloroform	50	47.7	95	70-130
74-87-3	Chloromethane	50	50.3	101	70-130
95-49-8	o-Chlorotoluene	50	54.0	108	70-130
106-43-4	p-Chlorotoluene	50	56.1	112	70-130
124-48-1	Dibromochloromethane	50	59.2	118	70-130
95-50-1	1,2-Dichlorobenzene	50	57.1	114	70-130
541-73-1	1,3-Dichlorobenzene	50	57.8	116	70-130
106-46-7	1,4-Dichlorobenzene	50	53.3	107	70-130
75-71-8	Dichlorodifluoromethane	50	67.0	134* a	70-130
75-34-3	1,1-Dichloroethane	50	42.7	85	70-130
107-06-2	1,2-Dichloroethane	50	52.4	105	70-130
75-35-4	1,1-Dichloroethene	50	48.8	98	70-130
156-59-2	cis-1,2-Dichloroethene	50	41.4	83	70-130
156-60-5	trans-1,2-Dichloroethene	50	43.7	87	70-130
78-87-5	1,2-Dichloropropane	50	43.7	87	70-130
142-28-9	1,3-Dichloropropane	50	47.7	95	70-130
594-20-7	2,2-Dichloropropane	50	60.8	122	70-130
563-58-6	1,1-Dichloropropene	50	54.4	109	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV821-BS	V21158.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6, MC22752-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	47.1	94	70-130
10061-02-6	trans-1,3-Dichloropropene	50	53.1	106	70-130
123-91-1	1,4-Dioxane	250	185	74	70-130
97-63-2	Ethyl methacrylate	50	45.8	92	77-137
100-41-4	Ethylbenzene	50	55.7	111	70-130
87-68-3	Hexachlorobutadiene	50	78.1	156* b	70-130
591-78-6	2-Hexanone	50	49.0	98	70-130
98-82-8	Isopropylbenzene	50	57.7	115	70-130
99-87-6	p-Isopropyltoluene	50	59.8	120	70-130
1634-04-4	Methyl Tert Butyl Ether	50	42.2	84	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	38.0	76	70-130
74-95-3	Methylene bromide	50	49.2	98	70-130
75-09-2	Methylene chloride	50	39.1	78	70-130
91-20-3	Naphthalene	50	49.2	98	70-130
103-65-1	n-Propylbenzene	50	54.5	109	70-130
100-42-5	Styrene	50	52.8	106	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	64.2	128	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	46.8	94	70-130
127-18-4	Tetrachloroethene	50	63.5	127	70-130
108-88-3	Toluene	50	49.0	98	70-130
87-61-6	1,2,3-Trichlorobenzene	50	57.2	114	70-130
120-82-1	1,2,4-Trichlorobenzene	50	58.0	116	70-130
71-55-6	1,1,1-Trichloroethane	50	52.2	104	70-130
79-00-5	1,1,2-Trichloroethane	50	48.1	96	70-130
79-01-6	Trichloroethene	50	52.8	106	70-130
75-69-4	Trichlorofluoromethane	50	57.7	115	70-130
96-18-4	1,2,3-Trichloropropane	50	42.6	85	70-130
95-63-6	1,2,4-Trimethylbenzene	50	53.2	106	70-130
108-67-8	1,3,5-Trimethylbenzene	50	53.3	107	70-130
108-05-4	Vinyl Acetate	50	31.5	63* a	70-130
75-01-4	Vinyl chloride	50	41.0	82	70-130
	m,p-Xylene	100	113	113	70-130
95-47-6	o-Xylene	50	57.9	116	70-130
1330-20-7	Xylene (total)	150	171	114	70-130

* = Outside of Control Limits.

6.2.1

Blank Spike Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV821-BS	V21158.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6, MC22752-7

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	70-130%
2037-26-5	Toluene-D8	99%	70-130%
460-00-4	4-Bromofluorobenzene	97%	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: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV823-BS	V21250.D	1	07/26/13	AMY	n/a	n/a	MSV823

6.2.2

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

MC22752-1, MC22752-2, MC22752-4, MC22752-5, MC22752-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	50	45.9	92	70-130
100-41-4	Ethylbenzene	50	56.2	112	70-130
108-88-3	Toluene	50	50.0	100	70-130
95-63-6	1,2,4-Trimethylbenzene	50	53.3	107	70-130
	m,p-Xylene	100	114	114	70-130
95-47-6	o-Xylene	50	58.9	118	70-130
1330-20-7	Xylene (total)	150	173	115	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	70-130%
2037-26-5	Toluene-D8	100%	70-130%
460-00-4	4-Bromofluorobenzene	96%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22692-3MS	V21181.D	1	07/24/13	AMY	n/a	n/a	MSV821
MC22692-3MSD	V21182.D	1	07/24/13	AMY	n/a	n/a	MSV821
MC22692-3	V21165.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6, MC22752-7

CAS No.	Compound	MC22692-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		50	30.1	60* [a]	27.2	54* [a]	10	70-130/30
107-02-8	Acrolein	ND		250	174	70	173	69* [a]	1	70-130/30
107-13-1	Acrylonitrile	ND		50	42.4	85	41.7	83	2	70-130/30
71-43-2	Benzene	187		50	209	44* [b]	204	34* [b]	2	70-130/30
108-86-1	Bromobenzene	ND		50	56.0	112	56.4	113	1	70-130/30
74-97-5	Bromochloromethane	ND		50	46.3	93	45.6	91	2	70-130/30
75-27-4	Bromodichloromethane	ND		50	53.3	107	52.8	106	1	70-130/30
75-25-2	Bromoform	ND		50	59.3	119	59.5	119	0	70-130/30
74-83-9	Bromomethane	ND		50	53.7	107	52.9	106	2	70-130/30
78-93-3	2-Butanone (MEK)	ND		50	29.4	59* [a]	29.9	60* [a]	2	70-130/30
104-51-8	n-Butylbenzene	14.6		50	64.4	100	64.3	99	0	70-130/30
135-98-8	sec-Butylbenzene	22.1		50	76.5	109	76.2	108	0	70-130/30
98-06-6	tert-Butylbenzene	6.0		50	61.9	112	61.9	112	0	70-130/30
75-15-0	Carbon disulfide	ND		50	60.7	121	59.5	119	2	70-130/30
56-23-5	Carbon tetrachloride	ND		50	60.5	121	59.6	119	1	70-130/30
108-90-7	Chlorobenzene	0.59	J	50	60.7	120	60.6	120	0	70-130/30
75-00-3	Chloroethane	ND		50	46.0	92	45.1	90	2	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		50	ND	0* [a]	8.6	17* [a]	200* [c]	70-130/30
67-66-3	Chloroform	ND		50	44.4	89	43.9	88	1	70-130/30
74-87-3	Chloromethane	ND		50	43.5	87	42.0	84	4	70-130/30
95-49-8	o-Chlorotoluene	ND		50	52.6	105	52.7	105	0	70-130/30
106-43-4	p-Chlorotoluene	ND		50	54.2	108	54.3	109	0	70-130/30
124-48-1	Dibromochloromethane	ND		50	58.2	116	58.1	116	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		50	56.9	114	57.3	115	1	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		50	59.1	118	58.9	118	0	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		50	54.1	108	53.9	108	0	70-130/30
75-71-8	Dichlorodifluoromethane	ND		50	60.8	122	57.7	115	5	70-130/30
75-34-3	1,1-Dichloroethane	ND		50	40.7	81	40.1	80	1	70-130/30
107-06-2	1,2-Dichloroethane	ND		50	45.5	91	44.3	89	3	70-130/30
75-35-4	1,1-Dichloroethene	ND		50	49.3	99	48.3	97	2	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		50	41.8	84	41.3	83	1	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		50	43.0	86	42.6	85	1	70-130/30
78-87-5	1,2-Dichloropropane	ND		50	47.4	95	46.3	93	2	70-130/30
142-28-9	1,3-Dichloropropane	ND		50	47.4	95	46.8	94	1	70-130/30
594-20-7	2,2-Dichloropropane	ND		50	55.9	112	55.3	111	1	70-130/30
563-58-6	1,1-Dichloropropene	ND		50	53.9	108	52.7	105	2	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22692-3MS	V21181.D	1	07/24/13	AMY	n/a	n/a	MSV821
MC22692-3MSD	V21182.D	1	07/24/13	AMY	n/a	n/a	MSV821
MC22692-3	V21165.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6, MC22752-7

CAS No.	Compound	MC22692-3 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	46.1	92	45.7	91	1	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		50	50.6	101	50.3	101	1	70-130/30
123-91-1	1,4-Dioxane	ND		250	166	66* [a]	154	62* [a]	8	70-130/30
97-63-2	Ethyl methacrylate	ND		50	53.8	108	53.3	107	1	72-139/30
100-41-4	Ethylbenzene	2.2		50	59.2	114	58.6	113	1	70-130/30
87-68-3	Hexachlorobutadiene	ND		50	77.4	155* [a]	79.3	159* [a]	2	70-130/30
591-78-6	2-Hexanone	ND		50	43.6	87	43.7	87	0	70-130/30
98-82-8	Isopropylbenzene	191		50	213	44* [b]	212	42* [b]	0	70-130/30
99-87-6	p-Isopropyltoluene	ND		50	59.6	119	59.2	118	1	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		50	87.0	174* [a]	86.6	173* [a]	0	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		50	36.6	73	36.1	72	1	70-130/30
74-95-3	Methylene bromide	ND		50	47.0	94	46.1	92	2	70-130/30
75-09-2	Methylene chloride	ND		50	39.9	80	39.4	79	1	70-130/30
91-20-3	Naphthalene	ND		50	49.4	99	55.2	110	11	70-130/30
103-65-1	n-Propylbenzene	229		50	240	22* [b]	239	20* [b]	0	70-130/30
100-42-5	Styrene	ND		50	56.5	113	56.1	112	1	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		50	65.2	130	65.6	131* [a]	1	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		50	47.3	95	46.9	94	1	70-130/30
127-18-4	Tetrachloroethene	ND		50	69.4	139* [a]	68.5	137* [a]	1	70-130/30
108-88-3	Toluene	1.8		50	52.1	101	50.9	98	2	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		50	53.4	107	58.5	117	9	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		50	56.7	113	59.2	118	4	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		50	50.2	100	49.6	99	1	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		50	48.8	98	47.9	96	2	70-130/30
79-01-6	Trichloroethene	ND		50	54.1	108	52.6	105	3	70-130/30
75-69-4	Trichlorofluoromethane	ND		50	49.4	99	48.4	97	2	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		50	36.1	72	42.9	86	17	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		50	52.4	105	52.4	105	0	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		50	52.6	105	52.6	105	0	70-130/30
108-05-4	Vinyl Acetate	ND		50	50.8	102	50.1	100	1	70-130/30
75-01-4	Vinyl chloride	ND		50	36.8	74	35.8	72	3	70-130/30
	m,p-Xylene	ND		100	122	122	120	120	2	70-130/30
95-47-6	o-Xylene	1.0		50	62.9	124	62.9	124	0	70-130/30
1330-20-7	Xylene (total)	1.5		150	185	122	183	121	1	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22692-3MS	V21181.D	1	07/24/13	AMY	n/a	n/a	MSV821
MC22692-3MSD	V21182.D	1	07/24/13	AMY	n/a	n/a	MSV821
MC22692-3	V21165.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6, MC22752-7

CAS No.	Surrogate Recoveries	MS	MSD	MC22692-3	Limits
1868-53-7	Dibromofluoromethane	90%	90%	94%	70-130%
2037-26-5	Toluene-D8	100%	100%	105%	70-130%
460-00-4	4-Bromofluorobenzene	95%	95%	96%	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.
(c) High RPD due to possible matrix interference and/or sample non-homogeneity.

6.3.1

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22841-11MS	V21262.D	5	07/26/13	AMY	n/a	n/a	MSV823
MC22841-11MSD	V21263.D	5	07/26/13	AMY	n/a	n/a	MSV823
MC22841-11	V21258.D	1	07/26/13	AMY	n/a	n/a	MSV823

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

MC22752-1, MC22752-2, MC22752-4, MC22752-5, MC22752-6

CAS No.	Compound	MC22841-11 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	219		250	407	75	397	71	2	70-130/30
100-41-4	Ethylbenzene	0.64		250	284	113	273	109	4	70-130/30
108-88-3	Toluene	3.7		250	253	100	247	97	2	70-130/30
95-63-6	1,2,4-Trimethylbenzene	1.3		250	266	106	261	104	2	70-130/30
	m,p-Xylene	16.4		500	583	113	570	111	2	70-130/30
95-47-6	o-Xylene	2.5		250	298	118	288	114	3	70-130/30
1330-20-7	Xylene (total)	19.0		750	881	115	858	112	3	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	MC22841-11	Limits
1868-53-7	Dibromofluoromethane	98%	98%	94%	70-130%
2037-26-5	Toluene-D8	99%	100%	100%	70-130%
460-00-4	4-Bromofluorobenzene	97%	97%	100%	70-130%

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSV821-CC776	Injection Date:	07/24/13
Lab File ID:	V21157.D	Injection Time:	12:14
Instrument ID:	GCMSV	Method:	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	266854	6.59	369435	7.77	189496	11.10	203236	13.31	60077	3.52
Upper Limit [a]	533708	7.09	738870	8.27	378992	11.60	406472	13.81	120154	4.02
Lower Limit [b]	133427	6.09	184718	7.27	94748	10.60	101618	12.81	30039	3.02

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSV821-BS	272318	6.59	374510	7.77	190485	11.10	205257	13.31	64667	3.52
MSV821-MB	259369	6.60	360407	7.77	186786	11.10	195103	13.31	56752	3.53
ZZZZZZ	253995	6.60	356631	7.77	183542	11.10	191408	13.31	57217	3.53
MC22752-7	248014	6.59	347981	7.77	179447	11.10	187068	13.31	56079	3.53
ZZZZZZ	239746	6.60	337596	7.77	174885	11.10	181634	13.31	53686	3.53
MC22752-3	240601	6.59	336878	7.77	175108	11.10	184422	13.31	60707	3.53
MC22692-3	251626	6.59	337348	7.77	181190	11.09	194466	13.30	58534	3.52
ZZZZZZ	266675	6.59	372892	7.77	191431	11.09	210034	13.30	57293	3.52
ZZZZZZ	278589	6.59	377396	7.77	194603	11.09	209048	13.30	68305	3.53
ZZZZZZ	273858	6.59	383835	7.77	194823	11.09	205664	13.30	60599	3.53
MC22752-1	276696	6.59	384208	7.77	200854	11.09	210912	13.30	87182	3.53
MC22752-2	287703	6.59	397104	7.77	206698	11.09	219355	13.30	140500[c]	3.55
MC22752-4	291812	6.60	407754	7.77	209420	11.10	222711	13.30	120538[c]	3.55
MC22752-5	293703	6.69	394523	7.81	210525	11.10	216899	13.30	146454[c]	3.57
MC22752-6	291129	6.74	403084	7.83	213277	11.10	222216	13.30	92242	3.53
MC22692-3MS	322586	6.58	435313	7.76	213929	11.09	239324	13.30	76589	3.52
MC22692-3MSD	319923	6.58	436016	7.76	211471	11.09	236373	13.30	74228	3.52

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

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Outside control limits. Target analytes not associated with this internal standard.

6.4.1

Volatile Internal Standard Area Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSV823-CC776	Injection Date:	07/26/13
Lab File ID:	V21248.D	Injection Time:	04:46
Instrument ID:	GCMSV	Method:	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	231139	6.57	314132	7.75	161653	11.08	177888	13.29	51639	3.50
Upper Limit [a]	462278	7.07	628264	8.25	323306	11.58	355776	13.79	103278	4.00
Lower Limit [b]	115570	6.07	157066	7.25	80827	10.58	88944	12.79	25820	3.00
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSV823-BS	238355	6.57	322860	7.75	166000	11.08	179327	13.29	53697	3.51
MSV823-MB	231381	6.57	320687	7.75	162631	11.08	171865	13.29	51264	3.50
MC22752-1	241583	6.56	326876	7.75	167888	11.08	181581	13.29	49952	3.50
MC22752-2	237575	6.57	327629	7.75	166858	11.08	181101	13.29	59438	3.52
MC22752-4	250594	6.58	344471	7.76	174120	11.08	189849	13.29	57944	3.51
MC22752-5	233063	6.57	318441	7.75	162972	11.08	175632	13.29	54815	3.51
MC22752-6	225280	6.58	313551	7.75	159340	11.08	172778	13.29	54341	3.51
MC22841-11	227526	6.58	307961	7.76	159005	11.08	173207	13.29	67431	3.52
ZZZZZZ	224874	6.58	310386	7.76	158037	11.08	172685	13.29	53053	3.51
ZZZZZZ	220485	6.58	306143	7.76	157268	11.08	169176	13.29	55163	3.51
ZZZZZZ	216806	6.57	299033	7.75	156548	11.08	169500	13.29	56297	3.51
MC22841-11MS	225198	6.57	307342	7.75	157744	11.08	173328	13.29	61206	3.51
MC22841-11MSD	228546	6.57	311407	7.75	160938	11.08	175089	13.29	63263	3.50
ZZZZZZ	227211	6.58	311239	7.76	158717	11.08	172696	13.29	60105	3.51
ZZZZZZ	220173	6.58	308010	7.76	157514	11.08	168650	13.29	58963	3.52
ZZZZZZ	217220	6.58	301109	7.76	154853	11.08	165731	13.30	57622	3.51
ZZZZZZ	216301	6.57	297455	7.75	153394	11.08	162997	13.29	57534	3.51
ZZZZZZ	219486	6.58	302811	7.76	156357	11.09	168974	13.30	50825	3.52

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

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

6.4.2

Volatile Surrogate Recovery Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22752-1	V21253.D	94.0	100.0	96.0
MC22752-1	V21169.D	94.0	101.0	97.0
MC22752-2	V21254.D	94.0	99.0	96.0
MC22752-2	V21170.D	91.0	101.0	98.0
MC22752-3	V21164.D	100.0	100.0	96.0
MC22752-4	V21171.D	92.0	101.0	98.0
MC22752-4	V21255.D	94.0	99.0	96.0
MC22752-5	V21256.D	95.0	99.0	95.0
MC22752-5	V21172.D	90.0	104.0	97.0
MC22752-6	V21257.D	96.0	98.0	95.0
MC22752-6	V21173.D	93.0	105.0	97.0
MC22752-7	V21162.D	99.0	100.0	98.0
MC22692-3MS	V21181.D	90.0	100.0	95.0
MC22692-3MSD	V21182.D	90.0	100.0	95.0
MC22841-11MS	V21262.D	98.0	99.0	97.0
MC22841-11MSD	V21263.D	98.0	100.0	97.0
MSV821-BS	V21158.D	97.0	99.0	97.0
MSV821-MB	V21160.D	97.0	99.0	97.0
MSV823-BS	V21250.D	96.0	100.0	96.0
MSV823-MB	V21252.D	95.0	99.0	97.0

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

6.5.1

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: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34082-MB	R32331.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6

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	0.38	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.49	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.33	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	1.1	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	2.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	1.2	ug/l	
95-48-7	2-Methylphenol	ND	10	1.3	ug/l	
	3&4-Methylphenol	ND	10	2.0	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.50	ug/l	
100-02-7	4-Nitrophenol	ND	20	0.58	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.0	0.51	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.57	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.32	ug/l	
62-53-3	Aniline	ND	10	0.64	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.20	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.85	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.57	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.92	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.25	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.21	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.23	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.13	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.20	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.65	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.68	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.64	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.50	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.16	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.39	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.43	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.50	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.50	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.49	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.30	ug/l	

Method Blank Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34082-MB	R32331.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	2.5	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.44	ug/l	
78-59-1	Isophorone	ND	5.0	0.20	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.50	ug/l	
100-01-6	4-Nitroaniliue	ND	10	4.3	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.50	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.81	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.54	ug/l	
110-86-1	Pyridine	ND	10	0.52	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	48%	15-110%
4165-62-2	Phenol-d5	18%	15-110%
118-79-6	2,4,6-Tribromophenol	73%	15-110%
4165-60-0	Nitrobenzene-d5	67%	30-130%
321-60-8	2-Fluorobiphenyl	77%	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: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34084-MB	W14109.D	1	07/23/13	KR	07/22/13	OP34084	MSW638

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.019	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	ND	0.20	0.052	ng/l	
85-01-8	Phenanthrene	0.034	0.050	0.013	ug/l	J
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Flnorophenol	48%	15-110%
4165-62-2	Phenol-d5	18%	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	73%	30-130%
1718-51-0	Terphenyl-d14	81%	30-130%

Blank Spike Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34082-BS	R32332.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	50	20.7	41	30-130
95-57-8	2-Chlorophenol	50	42.4	85	30-130
59-50-7	4-Chloro-3-methyl phenol	50	43.2	86	30-130
120-83-2	2,4-Dichlorophenol	50	42.4	85	30-130
105-67-9	2,4-Dimethylphenol	50	39.3	79	30-130
51-28-5	2,4-Dinitrophenol	50	41.1	82	30-130
534-52-1	4,6-Dinitro-o-cresol	50	45.1	90	30-130
95-48-7	2-Methylphenol	50	39.3	79	30-130
	3&4-Methylphenol	100	72.2	72	30-130
88-75-5	2-Nitrophenol	50	44.1	88	30-130
100-02-7	4-Nitrophenol	50	18.0	36	30-130
87-86-5	Pentachlorophenol	50	43.7	87	30-130
108-95-2	Phenol	50	19.6	39	30-130
95-95-4	2,4,5-Trichlorophenol	50	46.9	94	30-130
88-06-2	2,4,6-Trichlorophenol	50	45.7	91	30-130
62-53-3	Aniline	50	33.4	67	40-140
101-55-3	4-Bromophenyl phenyl ether	50	43.5	87	40-140
85-68-7	Butyl benzyl phthalate	50	40.8	82	40-140
100-51-6	Benzyl Alcohol	50	34.7	69	40-140
91-58-7	2-Chloronaphthalene	50	40.2	80	40-140
106-47-8	4-Chloroaniline	50	36.9	74	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	36.3	73	40-140
111-44-4	bis(2-Chloroethyl)ether	50	36.3	73	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	37.4	75	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	45.7	91	40-140
122-66-7	1,2-Diphenylhydrazine	50	35.9	72	40-140
121-14-2	2,4-Dinitrotoluene	50	44.0	88	40-140
606-20-2	2,6-Dinitrotoluene	50	42.5	85	40-140
91-94-1	3,3'-Dichlorobenzidine	50	40.9	82	40-140
132-64-9	Dibenzofuran	50	42.4	85	40-140
84-74-2	Di-n-butyl phthalate	50	41.8	84	40-140
117-84-0	Di-n-octyl phthalate	50	45.2	90	40-140
84-66-2	Diethyl phthalate	50	40.0	80	40-140
131-11-3	Dimethyl phthalate	50	30.5	61	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	41.0	82	40-140
118-74-1	Hexachlorobenzene	50	42.4	85	40-140

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34082-BS	R32332.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	18.8	38* a	40-140
67-72-1	Hexachloroethane	50	31.9	64	40-140
78-59-1	Isophorone	50	36.4	73	40-140
88-74-4	2-Nitroaniline	50	45.9	92	40-140
99-09-2	3-Nitroaniline	50	41.8	84	40-140
100-01-6	4-Nitroaniline	50	44.5	89	40-140
98-95-3	Nitrobenzene	50	33.7	67	40-140
62-75-9	n-Nitrosodimethylamine	50	23.5	47	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	38.3	77	40-140
86-30-6	N-Nitrosodiphenylamine	50	40.2	80	40-140
110-86-1	Pyridine	50	22.4	45	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	57%	15-110%
4165-62-2	Phenol-d5	21%	15-110%
118-79-6	2,4,6-Tribromophenol	93%	15-110%
4165-60-0	Nitrobenzene-d5	76%	30-130%
321-60-8	2-Fluorobiphenyl	87%	30-130%
1718-51-0	Terphenyl-d14	80%	30-130%

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

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34084-BS	W14110.D	1	07/23/13	KR	07/22/13	OP34084	MSW638

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	40.2	80	40-140
208-96-8	Acenaphthylene	50	33.2	66	40-140
120-12-7	Anthracene	50	39.3	79	40-140
56-55-3	Benzo(a)anthracene	50	42.6	85	40-140
50-32-8	Benzo(a)pyrene	50	42.1	84	40-140
205-99-2	Benzo(b)fluoranthene	50	47.5	95	40-140
191-24-2	Benzo(g,h,i)perylene	50	39.6	79	40-140
207-08-9	Benzo(k)fluoranthene	50	43.5	87	40-140
218-01-9	Chrysene	50	39.3	79	40-140
53-70-3	Dibenzo(a,h)anthracene	50	41.5	83	40-140
206-44-0	Fluoranthene	50	42.4	85	40-140
86-73-7	Fluorene	50	41.1	82	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	40.3	81	40-140
90-12-0	1-Methylnaphthalene	50	39.0	78	40-140
91-57-6	2-Methylnaphthalene	50	37.1	74	40-140
85-01-8	Phenanthrene	50	38.9	78	40-140
129-00-0	Pyrene	50	40.2	80	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	56%	15-110%
4165-62-2	Phenol-d5	20%	15-110%
118-79-6	2,4,6-Tribromophenol	97%	15-110%
4165-60-0	Nitrobenzene-d5	88%	30-130%
321-60-8	2-Fluorobiphenyl	84%	30-130%
1718-51-0	Terphenyl-d14	85%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34082-MS	R32333.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179
OP34082-MSD	R32334.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179
MC22900-3	R32335.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6

CAS No.	Compound	MC22900-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		50	22.6	45	21.9	44	3	30-130/20
95-57-8	2-Chlorophenol	ND		50	43.8	88	41.4	83	6	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		50	45.7	91	43.7	87	4	30-130/20
120-83-2	2,4-Dichlorophenol	ND		50	45.6	91	43.8	88	4	30-130/20
105-67-9	2,4-Dimethylphenol	ND		50	41.5	83	39.1	78	6	30-130/20
51-28-5	2,4-Dinitrophenol	ND		50	44.6	89	43.4	87	3	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		50	46.9	94	45.8	92	2	30-130/20
95-48-7	2-Methylphenol	ND		50	40.3	81	39.1	78	3	30-130/20
	3&4-Methylphenol	ND		100	74.8	75	73.0	73	2	30-130/20
88-75-5	2-Nitrophenol	ND		50	46.2	92	44.3	89	4	30-130/20
100-02-7	4-Nitrophenol	ND		50	20.0	40	19.0	38	5	30-130/20
87-86-5	Pentachlorophenol	ND		50	46.7	93	43.9	88	6	30-130/20
108-95-2	Phenol	ND		50	20.2	40	19.3	39	5	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		50	49.8	100	48.4	97	3	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		50	48.2	96	46.7	93	3	30-130/20
62-53-3	Aniline	ND		50	34.9	70	34.3	69	2	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		50	44.7	89	44.4	89	1	40-140/20
85-68-7	Butyl benzyl phthalate	ND		50	42.5	85	42.3	85	0	40-140/20
100-51-6	Benzyl Alcohol	ND		50	36.5	73	36.1	72	1	40-140/20
91-58-7	2-Chloronaphthalene	ND		50	42.7	85	43.2	86	1	40-140/20
106-47-8	4-Chloroaniline	ND		50	39.3	79	38.7	77	2	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		50	38.3	77	38.8	78	1	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		50	37.2	74	37.5	75	1	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		50	38.1	76	37.9	76	1	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		50	48.4	97	48.4	97	0	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		50	37.4	75	37.8	76	1	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		50	47.3	95	46.9	94	1	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		50	44.6	89	45.6	91	2	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		50	41.9	84	42.5	85	1	40-140/20
132-64-9	Dibenzofurau	ND		50	44.6	89	44.1	88	1	40-140/20
84-74-2	Di-n-butyl phthalate	ND		50	43.1	86	42.8	86	1	40-140/20
117-84-0	Di-n-octyl phthalate	ND		50	46.7	93	46.9	94	0	40-140/20
84-66-2	Diethyl phthalate	ND		50	42.1	84	43.1	86	2	40-140/20
131-11-3	Dimethyl phthalate	ND		50	32.5	65	34.9	70	7	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND		50	42.5	85	42.2	84	1	40-140/20
118-74-1	Hexachlorobenzene	ND		50	42.9	86	42.9	86	0	40-140/20

* = Outside of Control Limits.

7.3.1

7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34082-MS	R32333.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179
OP34082-MSD	R32334.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179
MC22900-3	R32335.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6

CAS No.	Compound	MC22900-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		50	20.4	41	18.9	38* [a]	8	40-140/20
67-72-1	Hexachloroethane	ND		50	32.4	65	32.3	65	0	40-140/20
78-59-1	Isophorone	ND		50	39.3	79	38.7	77	2	40-140/20
88-74-4	2-Nitroaniline	ND		50	50.0	100	49.7	99	1	40-140/20
99-09-2	3-Nitroaniline	ND		50	44.2	88	44.6	89	1	40-140/20
100-01-6	4-Nitroaniline	ND		50	48.5	97	46.7	93	4	40-140/20
98-95-3	Nitrobenzene	ND		50	35.4	71	34.3	69	3	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		50	25.3	51	24.5	49	3	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		50	38.7	77	38.7	77	0	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		50	40.8	82	40.9	82	0	40-140/20
110-86-1	Pyridine	ND		50	23.1	46	21.1	42	9	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC22900-3	Limits
367-12-4	2-Fluorophenol	57%	54%	55%	15-110%
4165-62-2	Phenol-d5	21%	21%	20%	15-110%
118-79-6	2,4,6-Tribromophenol	92%	89%	83%	15-110%
4165-60-0	Nitrobenzene-d5	80%	79%	74%	30-130%
321-60-8	2-Fluorobiphenyl	91%	92%	87%	30-130%
1718-51-0	Terphenyl-d14	81%	82%	85%	30-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34084-MS	W14111.D	1	07/23/13	KR	07/22/13	OP34084	MSW638
OP34084-MSD	W14112.D	1	07/23/13	KR	07/22/13	OP34084	MSW638
MC22900-4	W14113.D	1	07/23/13	KR	07/22/13	OP34084	MSW638

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6

CAS No.	Compound	MC22900-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		50	41.6	83	42.2	84	1	40-140/20
208-96-8	Acenaphthylene	ND		50	34.8	70	34.9	70	0	40-140/20
120-12-7	Anthracene	ND		50	40.4	81	41.2	82	2	40-140/20
56-55-3	Benzo(a)anthracene	ND		50	44.6	89	44.8	90	0	40-140/20
50-32-8	Benzo(a)pyrene	ND		50	43.4	87	44.1	88	2	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		50	49.1	98	49.2	98	0	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND		50	41.1	82	42.0	84	2	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		50	44.4	89	46.3	93	4	40-140/20
218-01-9	Chrysene	ND		50	41.1	82	41.3	83	0	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		50	42.9	86	43.7	87	2	40-140/20
206-44-0	Fluoranthene	ND		50	44.2	88	43.9	88	1	40-140/20
86-73-7	Fluorene	ND		50	42.3	85	43.0	86	2	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		50	41.3	83	42.3	85	2	40-140/20
90-12-0	1-Methylnaphthalene	ND		50	41.1	82	40.6	81	1	40-140/20
91-57-6	2-Methylnaphthalene	ND		50	38.9	78	38.8	78	0	40-140/20
85-01-8	Phenanthreue	0.026	J	50	40.0	80	41.4	83	3	40-140/20
129-00-0	Pyrene	ND		50	41.8	84	41.5	83	1	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC22900-4	Limits
367-12-4	2-Fluorophenol	57%	54%		15-110%
4165-62-2	Phenol-d5	21%	20%		15-110%
118-79-6	2,4,6-Tribromophenol	100%	99%		15-110%
4165-60-0	Nitrobenzene-d5	90%	90%	87%	30-130%
321-60-8	2-Fluorobiphenyl	86%	87%	82%	30-130%
1718-51-0	Terphenyl-d14	87%	87%	87%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSR1179-CC1159	Injection Date:	07/23/13
Lab File ID:	R32324.D	Injection Time:	11:40
Instrument ID:	GCMSR	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	76980	4.31	284275	5.37	178259	6.91	309710	8.32	356647	11.31	330501	12.90
Upper Limit [a]	153960	4.81	568550	5.87	356518	7.41	619420	8.82	713294	11.81	661002	13.40
Lower Limit [b]	38490	3.81	142138	4.87	89130	6.41	154855	7.82	178324	10.81	165251	12.40
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	90139	4.31	332191	5.37	199647	6.91	359456	8.32	413652	11.31	388344	12.90
ZZZZZZ	97620	4.31	366536	5.37	218947	6.91	393783	8.32	433912	11.31	405931	12.90
ZZZZZZ	111842	4.31	420997	5.37	258497	6.91	477849	8.32	537374	11.31	498751	12.90
OP34082-MB	101685	4.31	392549	5.37	241136	6.91	448433	8.32	502615	11.31	463400	12.90
OP34082-BS	97361	4.31	376246	5.37	228589	6.91	413741	8.32	468013	11.31	429704	12.90
OP34082-MS	97244	4.31	367656	5.37	222273	6.91	410899	8.32	458195	11.31	423812	12.90
OP34082-MSD	91413	4.31	351479	5.37	213138	6.91	393915	8.32	440020	11.31	401259	12.90
MC22900-3	93519	4.31	359279	5.37	216730	6.91	409341	8.32	456193	11.31	422669	12.90
ZZZZZZ	100825	4.31	380769	5.37	232915	6.91	428455	8.32	483203	11.31	447809	12.90
OP34083-MB	99233	4.31	372747	5.37	229869	6.91	422841	8.32	463738	11.31	400551	12.90
OP34083-BS	88760	4.31	333984	5.37	204423	6.91	373144	8.32	407105	11.31	360533	12.90
ZZZZZZ	90436	4.31	347779	5.37	215813	6.91	389451	8.32	428320	11.31	380729	12.90
ZZZZZZ	81259	4.31	314145	5.37	188126	6.90	347518	8.32	386157	11.31	353482	12.90
ZZZZZZ	84804	4.31	319554	5.37	194654	6.91	358864	8.32	396199	11.31	367243	12.90

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

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

7.4.1

Semivolatile Internal Standard Area Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSR1187-CC1159	Injection Date:	08/01/13
Lab File ID:	R32565.D	Injection Time:	07:56
Instrument ID:	GCMSR	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	63698	4.26	235198	5.32	140668	6.85	253415	8.27	289744	11.24	270318	12.83
Upper Limit [a]	127396	4.76	470396	5.82	281336	7.35	506830	8.77	579488	11.74	540636	13.33
Lower Limit [b]	31849	3.76	117599	4.82	70334	6.35	126708	7.77	144872	10.74	135159	12.33
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
OP34150-MB	50409	4.26	184361	5.32	113363	6.85	205284	8.26	233885	11.24	217226	12.83
OP34150-BS	51331	4.26	191235	5.32	115941	6.85	208281	8.27	239786	11.24	219676	12.83
OP34216-MB	46903	4.26	168766	5.32	102245	6.85	182827	8.26	206080	11.24	189734	12.83
OP34216-BS	39182	4.26	144844	5.32	86482	6.85	158082	8.26	177920	11.24	165533	12.83
ZZZZZZ	34448	4.26	123593	5.32	76623	6.85	137162	8.27	154789	11.24	146682	12.83
ZZZZZZ	44379	4.26	161404	5.32	98423	6.85	184898	8.26	204555	11.24	189706	12.83
ZZZZZZ	38925	4.26	140828	5.32	87253	6.85	157240	8.26	178398	11.24	165986	12.83
ZZZZZZ	39765	4.26	142032	5.32	86207	6.85	156934	8.26	176789	11.24	166334	12.83
ZZZZZZ	55623	4.26	206705	5.32	127334	6.85	236066	8.26	263134	11.24	245789	12.83
MC22752-4	36985	4.26	135828	5.32	81422	6.85	147279	8.26	167685	11.24	158973	12.83
MC22752-5	39353	4.26	144746	5.32	89069	6.85	161569	8.26	184898	11.24	174810	12.83
ZZZZZZ	32424	4.26	121471	5.32	75259	6.85	142662	8.26	160752	11.24	157251	12.83
MC22752-6	37490	4.26	134510	5.32	84263	6.85	152854	8.26	172038	11.24	164369	12.83
ZZZZZZ	34211	4.26	121146	5.31	74158	6.85	130934	8.26	153936	11.24	146654	12.83
ZZZZZZ	77001	4.26	273965	5.32	173827	6.85	309700	8.26	333122	11.24	307872	12.83
ZZZZZZ	44969	4.26	161334	5.31	101635	6.85	180748	8.26	197886	11.24	193358	12.83
ZZZZZZ	68843	4.26	254866	5.32	160266	6.85	284605	8.26	305306	11.24	287336	12.83
ZZZZZZ	60954	4.26	220865	5.32	134217	6.85	244693	8.27	267398	11.24	254606	12.84
OP34150-MS	66199	4.26	234066	5.32	148373	6.85	267846	8.27	285984	11.24	276533	12.83
OP34150-MSD	59548	4.26	214652	5.32	133393	6.85	241093	8.27	263524	11.24	252940	12.83
ZZZZZZ	46819	4.26	166359	5.32	103362	6.85	186057	8.26	206380	11.24	198494	12.83
MC22880-5	36228	4.26	126826	5.32	78172	6.85	143769	8.26	161694	11.24	152565	12.83
ZZZZZZ	41130	4.26	148215	5.31	92603	6.85	163659	8.26	189895	11.24	175052	12.83
ZZZZZZ	62444	4.26	222472	5.32	140761	6.85	250377	8.26	270666	11.24	256293	12.83
ZZZZZZ	89617	4.26	319945	5.32	195277	6.85	343181	8.26	364730	11.24	338193	12.84
ZZZZZZ	96490	4.26	349794	5.32	214095	6.85	383069	8.27	380594	11.24	355711	12.83
ZZZZZZ	104755	4.26	382431	5.32	239974	6.85	430176	8.26	445415	11.24	419965	12.84
ZZZZZZ	68500	4.26	247335	5.32	157415	6.85	282817	8.26	306712	11.24	288708	12.83

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

Semivolatile Internal Standard Area Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSR1187-CC1159	Injection Date:	08/01/13
Lab File ID:	R32565.D	Injection Time:	07:56
Instrument ID:	GCMSR	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.

Semivolatile Internal Standard Area Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSW638-CC633	Injection Date:	07/23/13
Lab File ID:	W14092.D	Injection Time:	08:11
Instrument ID:	GCMSW	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	193102	3.63	502863	4.61	249930	6.03	404799	7.30	268740	10.08	644563	11.51
Upper Limit [a]	386204	4.13	1005726	5.11	499860	6.53	809598	7.80	537480	10.58	1289126	12.01
Lower Limit [b]	96551	3.13	251432	4.11	124965	5.53	202400	6.80	134370	9.58	322282	11.01

Lab Sample ID	IS 1 AREA	RT	1S 2 AREA	RT	1S 3 AREA	RT	1S 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP34059-MB	227441	3.63	594659	4.61	290205	6.03	460865	7.30	296043	10.08	693169	11.51
OP34059-BS	247653	3.63	633787	4.61	308659	6.03	495635	7.31	313466	10.08	718454	11.51
OP34059-MS	199896	3.63	517447	4.61	256506	6.03	409986	7.30	267440	10.08	626882	11.51
OP34059-MSD	197570	3.63	513947	4.61	254707	6.03	401500	7.30	261986	10.08	616051	11.51
MC22780-2A	205158	3.63	524572	4.61	262105	6.03	416845	7.30	272931	10.08	628663	11.51
ZZZZZZ	223423	3.63	568670	4.61	281800	6.03	439385	7.30	271509	10.08	631337	11.51
ZZZZZZ	204734	3.63	527019	4.61	258101	6.03	406500	7.30	262023	10.08	613670	11.51
ZZZZZZ	199557	3.63	508799	4.61	252964	6.03	404531	7.30	259465	10.08	607928	11.51
ZZZZZZ	237633	3.63	597335	4.61	292539	6.03	455016	7.31	280495	10.08	668282	11.51
ZZZZZZ	212837	3.63	539459	4.61	264515	6.03	414826	7.31	265236	10.08	616273	11.51
ZZZZZZ	213783	3.63	531745	4.61	252444	6.03	388139	7.31	252172	10.09	591767	11.51
ZZZZZZ	194809	3.63	501228	4.61	251199	6.03	392673	7.31	257965	10.09	592241	11.51
ZZZZZZ	217940	3.63	552841	4.61	271603	6.04	428731	7.31	281977	10.09	635272	11.52
ZZZZZZ	213390	3.63	550600	4.61	266240	6.03	419457	7.31	276414	10.09	607733	11.52
ZZZZZZ	219145	3.63	560134	4.61	276938	6.03	433502	7.31	286472	10.08	631560	11.51
OP34084-MB	217687	3.63	568133	4.61	284906	6.03	455578	7.31	298780	10.08	675248	11.51
OP34084-BS	210003	3.63	542202	4.61	273649	6.03	446118	7.31	282638	10.09	636862	11.52
OP34084-MS	212301	3.63	543439	4.61	273490	6.04	447051	7.31	277522	10.09	629588	11.52
OP34084-MSD	201352	3.63	513546	4.61	257097	6.03	413036	7.31	268466	10.09	607255	11.51
MC22900-4	197277	3.63	511587	4.61	255686	6.03	411341	7.31	273525	10.08	615810	11.51
ZZZZZZ	365554	3.63	926319	4.61	464462	6.04	739852	7.31	490313	10.09	1068505	11.52
ZZZZZZ	193545	3.63	494930	4.61	245614	6.03	387318	7.31	260187	10.09	563524	11.51
ZZZZZZ	211425	3.63	542503	4.61	266401	6.03	422599	7.31	275534	10.09	607089	11.52
ZZZZZZ	196096	3.63	500770	4.61	248864	6.03	392632	7.31	256143	10.08	574069	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: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSW643-CC633	Injection Date:	07/30/13
Lab File ID:	W14207A.D	Injection Time:	15:33
Instrument ID:	GCMSW	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	158670	3.60	414604	4.58	205242	6.01	327251	7.28	219591	10.05	524243	11.48
Upper Limit [a]	317340	4.10	829208	5.08	410484	6.51	654502	7.78	439182	10.55	1048486	11.98
Lower Limit [b]	79335	3.10	207302	4.08	102621	5.51	163626	6.78	109796	9.55	262122	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
OP34122-MB	177072	3.60	476666	4.58	233161	6.01	378794	7.28	242515	10.05	556671	11.48
OP34122-BS	86204	3.60	224730	4.58	112496	6.01	182011	7.28	119656	10.05	282229	11.48
OP34122-MS	200445	3.60	526942	4.58	259369	6.01	420528	7.28	271634	10.06	623968	11.48
OP34122-MSD	199009	3.60	517416	4.58	257014	6.01	413183	7.28	264313	10.06	603275	11.48
MC22900-21	204035	3.60	533372	4.58	262921	6.01	421923	7.28	273995	10.05	623116	11.48
ZZZZZZ	165567	3.60	436255	4.58	215659	6.01	340526	7.28	224257	10.05	518600	11.48
OP34127-MS	195199	3.60	507089	4.58	246484	6.01	386188	7.28	240938	10.05	562431	11.48
OP34127-MSD	182910	3.60	475096	4.58	232124	6.01	364459	7.28	231415	10.05	545145	11.48
MC22903-2A	179648	3.60	467941	4.58	228940	6.01	358098	7.28	228004	10.05	528231	11.48
ZZZZZZ	182587	3.60	480516	4.58	235233	6.01	367872	7.28	237967	10.05	549517	11.48
ZZZZZZ	190527	3.60	499057	4.58	243646	6.01	383164	7.28	240740	10.05	556470	11.48
ZZZZZZ	176566	3.60	459107	4.58	224949	6.01	348770	7.28	219916	10.05	518714	11.48
ZZZZZZ	165626	3.60	436959	4.58	215852	6.01	333405	7.28	210592	10.05	496876	11.48
ZZZZZZ	154296	3.60	412769	4.58	202099	6.01	318023	7.28	200918	10.05	467693	11.48
ZZZZZZ	196363	3.60	514698	4.58	249726	6.01	387149	7.28	244078	10.05	556688	11.48
ZZZZZZ	165068	3.60	445394	4.58	220168	6.01	350480	7.28	227517	10.05	515518	11.48
ZZZZZZ	187999	3.60	488456	4.58	243372	6.01	386995	7.28	246010	10.05	550567	11.48
ZZZZZZ	162810	3.60	431416	4.58	214458	6.01	341244	7.28	221431	10.05	510638	11.48
ZZZZZZ	205999	3.60	549592	4.58	271893	6.01	434115	7.28	277186	10.05	618033	11.48
OP34127-MB	204307	3.60	540423	4.58	262877	6.01	407907	7.28	250609	10.05	570445	11.48
OP34127-BS	177000	3.60	458929	4.58	227785	6.01	364747	7.28	229915	10.05	533465	11.48
MC22752-1	205717	3.60	545746	4.58	268305	6.01	428969	7.28	277430	10.05	645500	11.48
MC22752-2	164765	3.60	431320	4.58	217212	6.01	346360	7.28	234035	10.05	546751	11.48
MC22752-3	192284	3.60	507740	4.58	248417	6.01	393110	7.28	245669	10.05	553470	11.48
MC22752-4	178904	3.60	473610	4.58	234631	6.01	370428	7.28	244431	10.05	561186	11.48
MC22752-5	178748	3.60	466955	4.58	231068	6.01	366848	7.28	234187	10.05	532612	11.48
MC22752-6	192154	3.60	515855	4.58	254486	6.01	404147	7.28	260871	10.05	586388	11.48
ZZZZZZ	163260	3.60	431624	4.58	217873	6.01	350311	7.28	233706	10.05	539238	11.48
ZZZZZZ	151221	3.60	400891	4.58	200150	6.01	324872	7.28	219014	10.05	519128	11.48

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

7.4.4

Semivolatile Internal Standard Area Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSW643-CC633	Injection Date:	07/30/13
Lab File ID:	W14207A.D	Injection Time:	15:33
Instrument ID:	GCMSW	Method:	SW846 8270C BY SIM

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

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: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSW646-CC633	Injection Date:	07/31/13
Lab File ID:	W14262.D	Injection Time:	17:03
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	279952	3.59	738324	4.57	370376	5.99	583458	7.26	372922	10.03	859175	11.45
Upper Limit [a]	559904	4.09	1476648	5.07	740752	6.49	1166916	7.76	745844	10.53	1718350	11.95
Lower Limit [b]	139976	3.09	369162	4.07	185188	5.49	291729	6.76	186461	9.53	429588	10.95

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
OP34211-MB	140801	3.68	564115	4.73	352961	6.24	591071	7.57	611115	10.46	574573	12.03*
OP34202-MB	140801	3.68	564115	4.73	352961	6.24	591071	7.57	611115	10.46	574573	12.03*
OP34211-BS	160225	3.68	634919	4.73	392657	6.24	665835	7.57	647082	10.47	635978	12.03*
OP34202-BS	160225	3.68	634919	4.73	392657	6.24	665835	7.57	647082	10.47	635978	12.03*
OP34202-MS	145729	3.68	582949	4.73	363057	6.24	620214	7.57	603623	10.46	589831	12.03*
OP34202-MSD	145829	3.68	584815	4.73	360489	6.24	614454	7.57	598399	10.46	597719	12.03*
MC23100-2	139860*	3.68	558470	4.73	351045	6.24	594952	7.57	588691	10.46	557155	12.03*
MC22752-1	138252*	3.68	556022	4.73	347601	6.24	581874	7.57	592400	10.46	567722	12.03*
MC22752-2	131650*	3.68	517184	4.73	322347	6.24	557014	7.57	560337	10.46	541625	12.03*
MC22752-3	120517*	3.68	487874	4.73	303129	6.24	516166	7.57	514153	10.46	496478	12.03*
MC22752-4	130627*	3.68	522938	4.73	322872	6.24	540342	7.57	554106	10.46	529899	12.03*
MC22752-5	125788*	3.68	501678	4.73	312953	6.24	523425	7.57	545010	10.46	519366	12.03*
MC22752-6	128232*	3.68	506830	4.73	313849	6.24	524818	7.57	543409	10.46	521977	12.03*
ZZZZZZ	128266*	3.68	510255	4.73	323150	6.24	536949	7.57	549363	10.46	523197	12.03*
ZZZZZZ	140318	3.68	559313	4.73	347683	6.24	582272	7.57	599147	10.46	565883	12.03*
ZZZZZZ	314724	3.59	830039	4.57	416044	5.99	649114	7.26	415052	10.03	955285	11.45
ZZZZZZ	295197	3.59	781273	4.57	387606	5.99	615043	7.26	398232	10.03	907045	11.45
ZZZZZZ	286831	3.59	756162	4.57	373246	5.99	588475	7.26	378914	10.03	871619	11.45
ZZZZZZ	282479	3.59	738703	4.57	372057	5.99	588240	7.26	379750	10.03	866568	11.45
ZZZZZZ	300844	3.59	786733	4.57	393744	5.99	618768	7.26	408114	10.03	918684	11.45
ZZZZZZ	293503	3.59	772726	4.57	383463	5.99	603941	7.26	391700	10.03	900407	11.45
ZZZZZZ	296200	3.59	783061	4.57	391731	5.99	619437	7.26	395510	10.03	911718	11.45
ZZZZZZ	276759	3.59	724469	4.57	358355	5.99	568653	7.26	366102	10.03	844639	11.45
ZZZZZZ	301192	3.59	799512	4.57	396573	5.99	625152	7.26	395491	10.03	912997	11.45
ZZZZZZ	146887	3.68	583950	4.73	363193	6.24	606435	7.57	623190	10.46	603834	12.03*
ZZZZZZ	143646	3.68	574389	4.73	355073	6.24	585831	7.58	601639	10.46	571888	12.03*

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: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSW646-CC633	Injection Date:	07/31/13
Lab File ID:	W14262.D	Injection Time:	17:03
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.

Semivolatile Surrogate Recovery Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22752-1	W14269.D	52.0	24.0	75.0	77.0	78.0	85.0
MC22752-2	W14270.D	60.0	28.0	82.0	75.0	74.0	81.0
MC22752-3	W14271.D	40.0	15.0	77.0	51.0	53.0	78.0
MC22752-4	W14272.D	61.0	29.0	83.0	71.0	72.0	79.0
MC22752-4	R32575.D	47.0	19.0	57.0	49.0	60.0	57.0
MC22752-5	R32576.D	44.0	13.0* [a]	47.0	43.0	47.0	43.0
MC22752-5	W14273.D	66.0	23.0	72.0	64.0	64.0	66.0
MC22752-6	W14274.D	54.0	24.0	81.0	71.0	74.0	77.0
MC22752-6	R32580.D	34.0	17.0	62.0	50.0	59.0	58.0
OP34082-BS	R32332.D	57.0	21.0	93.0	76.0	87.0	80.0
OP34082-MB	R32331.D	48.0	18.0	73.0	67.0	77.0	77.0
OP34082-MS	R32333.D	57.0	21.0	92.0	80.0	91.0	81.0
OP34082-MSD	R32334.D	54.0	21.0	89.0	79.0	92.0	82.0

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-Fluorobipheuyl	30-130%
S6 = Terphenyl-d14	30-130%

(a) Outside control limits. Meets technical requirements.

7.5.1

7

Semivolatile Surrogate Recovery Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22752-1	W14229.D	83.0	83.0	87.0
MC22752-2	W14230.D	81.0	77.0	82.0
MC22752-3	W14231.D	54.0	57.0	82.0
MC22752-4	W14232.D	77.0	76.0	82.0
MC22752-5	W14233.D	69.0	68.0	69.0
MC22752-6	W14234.D	76.0	78.0	83.0
OP34084-BS	W14110.D	88.0	84.0	85.0
OP34084-MB	W14109.D	76.0	73.0	81.0
OP34084-MS	W14111.D	90.0	86.0	87.0
OP34084-MSD	W14112.D	90.0	87.0	87.0

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: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34093-MB	BK27097.D	1	07/24/13	NK	07/23/13	OP34093	GBK929

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6, MC22752-8

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.0045	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.0097	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	135%	36-173%
460-00-4	Bromofluorobenzene (S)	126%	36-173%

8.1.1

Blank Spike Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34093-BS	BK27098.D	1	07/24/13	NK	07/23/13	OP34093	GBK929

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6, MC22752-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.082	115	60-140
106-93-4	1,2-Dibromoetbane	0.071	0.071	100	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	124%	36-173%
460-00-4	Bromofluorobenzene (S)	112%	36-173%

8.2.1

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34093-MS	BK27099.D	1	07/24/13	NK	07/23/13	OP34093	GBK929
OP34093-MSD	BK27100.D	1	07/24/13	NK	07/23/13	OP34093	GBK929
MC23000-1	BK27101.D	1	07/24/13	NK	07/23/13	OP34093	GBK929

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

MC22752-1, MC22752-2, MC22752-3, MC22752-4, MC22752-5, MC22752-6, MC22752-8

CAS No.	Compound	MC23000-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
96-12-8	1,2-Dihromo-3-chloropropane	ND		0.0675	0.13	97	0.15	111	14	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.0675	0.12	89	0.14	103	15	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC23000-1	Limits
460-00-4	Bromofluorobenzene (S)	110%	109%	129%	36-173%
460-00-4	Bromofluorobeuzene (S)	99%	98%	115%	36-173%

8.3.1

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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]
MC22752-1	BK27114.D	125.0	119.0
MC22752-2	BK27115.D	113.0	95.0
MC22752-3	BK27117.D	145.0	132.0
MC22752-4	BK27118.D	136.0	108.0
MC22752-5	BK27119.D	94.0	80.0
MC22752-6	BK27120.D	139.0	119.0
MC22752-8	BK27121.D	95.0	87.0
OP34093-BS	BK27098.D	124.0	112.0
OP34093-MB	BK27097.D	135.0	126.0
OP34093-MS	BK27099.D	110.0	99.0
OP34093-MSD	BK27100.D	109.0	98.0

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

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

GC Surrogate Retention Time Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	GBK929-CC929	Injection Date:	07/24/13
Lab File ID:	BK27094.D	Injection Time:	20:26
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.58	4.94

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK27095.D	07/24/13	20:48	4.58	4.94
ZZZZZZ	BK27096.D	07/24/13	21:11	4.58	4.94
OP34093-MB	BK27097.D	07/24/13	21:34	4.58	4.94
OP34094-MB	BK27097A.D	07/24/13	21:34	4.58	4.94
OP34093-BS	BK27098.D	07/24/13	21:58	4.58	4.94
OP34094-BS	BK27098A.D	07/24/13	21:58	4.58	4.94
OP34094-MS	BK27099A.D	07/24/13	22:21	4.58	4.94
OP34093-MS	BK27099.D	07/24/13	22:21	4.58	4.94
OP34094-MSD	BK27100A.D	07/24/13	22:44	4.58	4.94
OP34093-MSD	BK27100.D	07/24/13	22:44	4.58	4.94
MC23000-1	BK27101.D	07/24/13	23:07	4.58	4.94
MC22702-4	BK27101A.D	07/24/13	23:07	4.58	4.94
ZZZZZZ	BK27102.D	07/24/13	23:31	4.58	4.94
ZZZZZZ	BK27103.D	07/24/13	23:54	4.58	4.94
ZZZZZZ	BK27104.D	07/25/13	00:18	4.58	4.94

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

8.5.1

GC Surrogate Retention Time Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	GBK929-CC929	Injection Date:	07/25/13
Lab File ID:	BK27105.D	Injection Time:	00:41
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.58	4.94

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK27106.D	07/25/13	01:04	4.58	4.94
ZZZZZZ	BK27107.D	07/25/13	01:27	4.58	4.94
ZZZZZZ	BK27108.D	07/25/13	01:50	4.58	4.94
ZZZZZZ	BK27109.D	07/25/13	02:14	4.58	4.94
ZZZZZZ	BK27110.D	07/25/13	02:39	4.58	4.94
ZZZZZZ	BK27111.D	07/25/13	03:04	4.58	4.94
ZZZZZZ	BK27112.D	07/25/13	03:29	4.58	4.94
ZZZZZZ	BK27113.D	07/25/13	03:55	4.58	4.94
MC22752-1	BK27114.D	07/25/13	04:20	4.58	4.94
MC22752-2	BK27115.D	07/25/13	04:45	4.58	4.94
GBK929-ECC929	BK27116.D	07/25/13	05:10	4.58	4.94

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

8.5.2

GC Surrogate Retention Time Summary

Job Number: MC22752
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	GBK930-CC929	Injection Date:	07/25/13
Lab File ID:	BK27116A.D	Injection Time:	05:10
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.58	4.94

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
MC22752-3	BK27117.D	07/25/13	05:36	4.58	4.94
MC22752-4	BK27118.D	07/25/13	06:00	4.58	4.94
MC22752-5	BK27119.D	07/25/13	06:24	4.58	4.94
MC22752-6	BK27120.D	07/25/13	06:48	4.58	4.94
MC22752-8	BK27121.D	07/25/13	07:12	4.58	4.94
OP34095-MB	BK27122.D	07/25/13	07:35	4.58	4.94
OP34095-BS	BK27123.D	07/25/13	07:59	4.58	4.94
OP34095-MS	BK27124.D	07/25/13	08:23	4.58	4.94
OP34095-MSD	BK27125.D	07/25/13	08:47	4.58	4.94
ZZZZZZ	BK27126.D	07/25/13	09:11	4.58	4.94

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

8.5.3

Roxana Groundwater Quarterly – 3rd Quarter 2013 Data Review

Laboratory SDG: MC22754

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 8/15/2013

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

Sample Identification	Sample Identification
P56-ROX-071513	P74-ROX-071513
TB-ROX-071513-HCL	TB-ROX-071513-ST

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. The internal standard area recovery for 1,4-dichlorobenzene-d_4 in sample P56-ROX-071513 was outside criteria. Although not indicated in the laboratory case narrative, PAHs were detected in the method blank. Sample P56-ROX-071513 was diluted due to high levels of VOC target analytes. Additionally, the initial calibration verification for acrolein exceeded 50 percent difference (%D), and the continuing calibration verification for 2-chloroethyl vinyl ether, hexachlorobutadiene and 4-bromofluorobenzene analytes exceeded 50 percent difference (%D). Professional judgment was used to qualify the common laboratory contaminant acetone in samples P56-ROX-071513 and P74-ROX-071513. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated the cooler was received by the laboratory at a temperature of 0.8ºC, 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
OP34084-MB	PAHs	Acenaphthene	0.019 ug/L
OP34084-MB	PAHs	Phenanthrene	0.034 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 required qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
P74-ROX-071513	PAHs	Acenaphthene	-	**U**
P74-ROX-071513	PAHs	Phenanthrene	0.080 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
MSV821-BS	VOCs	Carbon tetrachloride	**131**	NA	70-130
MSV821-BS	VOCs	2-Chloroethyl vinyl ether	**356**	NA	70-130
MSV821-BS	VOCs	Dichlorodifluoromethane	**134**	NA	70-130
MSV821-BS	VOCs	Hexachlorobutadiene	**156**	NA	70-130
MSV821-BS	VOCs	Vinyl acetate	**63**	NA	70-130
MSK2359-BS	VOCs	Acrolein	**29**	NA	70-130
OP34082-BS	SVOCs	Hexachlorocyclopentadiene	**38**	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 MSV821-BS was associated with the trip blank. Trip blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
P56-ROX-071513	VOCs	Acrolein	**UJ**
P74-ROX-071513	VOCs	Acrolein	**UJ**
P56-ROX-071513	SVOCs	Hexachlorocyclopentadiene	**UJ**
P74-ROX-071513	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?

No

Sample ID	Parameter	Analyte	IS Area Recovery	IS Criteria
P56-ROX-071513	SVOCs	1,4-Dichlorobenzene-d_4	**128266**	139976-559904

Analytical data that required qualification based on internal standard data are included in the table below.

Field ID	Parameter	Analyte	Qualification
P56-ROX-071513	SVOCs	Phenol	**UJ**
P56-ROX-071513	SVOCs	bis(2-chloroethyl) ether	**UJ**
P56-ROX-071513	SVOCs	2-Chlorophenol	**UJ**
P56-ROX-071513	SVOCs	2-Methylphenol	**UJ**
P56-ROX-071513	SVOCs	n-Nitroso-di-n-propylamine	**UJ**
P56-ROX-071513	SVOCs	Hexachloroethane	**UJ**

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 for acrolein exceeded 50 percent difference (%D), and the continuing calibration verification for 2-chloroethyl vinyl ether, hexachlorobutadiene and 4-bromofluorobenzene analytes exceeded 50 percent difference (%D). Analytes in associated samples were qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
P56-ROX-071513	VOCs by 8011	1,2-Dibromo-3-chloropropane	**UJ**
P56-ROX-071513	VOCs by 8011	1,2-Dibromoethane	**UJ**
P74-ROX-071513	VOCs by 8011	1,2-Dibromo-3-chloropropane	**UJ**
P74-ROX-071513	VOCs by 8011	1,2-Dibromoethane	**UJ**

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

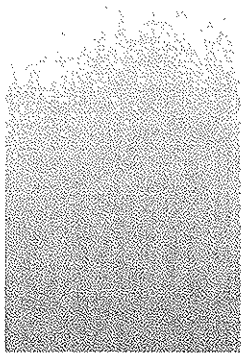
Sample ID	Analyte	New RL	Qualification	Comment
P74-ROX-071513	Acetone	-	**U**	Professional Judgment

Additionally, professional judgment was also 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
P56-ROX-071513	Acetone	156 ug/L	**U**	Professional Judgment

New England ACCUTEST LABORATORIES

08/12/13



Technical Report for

Shell Oil

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana,

Accutest Job Number: MC22754

Sampling Date: 07/15/13

Report to:

URS Corporation

Melissa.mansker@urs.com

ATTN: Melissa Mansker

Total number of pages in report: **82**

Reviewed on 8/15/2013

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: Matthew Morrell 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)

Test results relate only to samples analyzed.

Table of Contents

Sections: 1 2 3 4 5 6 7 8

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Summary of Hits **6**
Section 4: Sample Results **8**
4.1: MC22754-1: P56-ROX-071513 9
4.2: MC22754-2: P74-ROX-071513 16
4.3: MC22754-3: TB-ROX-071513-HCL 23
4.4: MC22754-4: TB-ROX-071513-ST 26
Section 5: Misc. Forms **27**
5.1: Chain of Custody 28
5.2: Sample Tracking Chronicle 30
5.3: Internal Chain of Custody 31
Section 6: GC/MS Volatiles - QC Data Summaries **32**
6.1: Method Blank Summary 33
6.2: Blank Spike Summary 40
6.3: Matrix Spike/Matrix Spike Duplicate Summary 47
6.4: Internal Standard Area Summaries 54
6.5: Surrogate Recovery Summaries 57
Section 7: GC/MS Semi-volatiles - QC Data Summaries **58**
7.1: Method Blank Summary 59
7.2: Blank Spike Summary 62
7.3: Matrix Spike/Matrix Spike Duplicate Summary 65
7.4: Internal Standard Area Summaries 68
7.5: Surrogate Recovery Summaries 74
Section 8: GC Volatiles - QC Data Summaries **76**
8.1: Method Blank Summary 77
8.2: Blank Spike Summary 78
8.3: Matrix Spike/Matrix Spike Duplicate Summary 79
8.4: Surrogate Recovery Summaries 80
8.5: GC Surrogate Retention Time Summaries 81

Sample Summary

Shell Oil

Job No: MC22754

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Colleeted Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC22754-1	07/15/13	13:35	DMLR	07/17/13	AQ	Ground Water	P56-ROX-071513
MC22754-2	07/15/13	14:40	DMLR	07/17/13	AQ	Ground Water	P74-ROX-071513
MC22754-3	07/15/13	00:00	DMLR	07/17/13	AQ	Trip Blauk Water	TB-ROX-071513-HCL
MC22754-4	07/15/13	00:00	DMLR	07/17/13	AQ	Trip Blank Water	TB-ROX-071513-ST

ACCUTEST Laboratories

2

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	**Job No**	MC22754
Site:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central	**Report Date**	8/2/2013 2:15:13 PM

2 Sample(s), 2 Trip Blank(s) and 0 Field Blank(s) were collected on 07/15/2013 and were received at Accutest on 07/17/2013 properly preserved, at 0.8 Deg. C and intact. These Samples received an Accutest job number of MC22754. 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:** MSK2359

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22730-2MS, MC22730-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MSK2359-BS for Acrolein are outside control limits. Blank Spike meets program technical requirements.
- MC22730-2MS for 2-Chloroethyl vinyl ether, Aerolein, Dichlorodifluoromethane are ontside control limits due to possible matrix interference. Refer to Blank Spike.
- MC22730-2MSD for 1,2,3-Trichlorobenzene, 2-Chloroethyl vinyl ether, Dichlorodifluoromethane, Naphthalene, tert-Butylbenzene are outside control limits due to possible matrix interference. Refer to Blank Spike.
- RPD(s) for MC22730-2MSD for tert-Butylbenzene are outside control limits. High RPD due to possible matrix interferenee and/or sample non-homogeneity.

Matrix: AQ **Batch ID:** MSK2360

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22966-2MS, MC22966-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** MSV821

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22692-3MS, MC22692-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MSV821-BS for Carbon tetrachloride, Dichlorodifluoromethane, Vinyl Acetate are outside control limits. Blank Spike meets program technical requirements.
- MC22692-3MS for , 1,4-Dioxane, 2-Butanone (MEK), 2-Chloroethyl vinyl ether, Acetone, Hexachlorobutadiene, Methyl Tert Butyl Ether, Tetrachloroethene are outside control limits due to possible matrix interferenee. Refer to Blank Spike.
- MC22692-3MSD for 1,1,1,2-Tetrachloroethane, 1,4-Dioxane, 2-Butanone (MEK), Acetone, Acrolein, Hexachlorobutadiene, Methyl Tert Butyl Ether, Tetrachloroethene, 2-Chloroethyl vinyl ether are outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC22692-3MS/MSD for n-Propylbenzene, Benzene, Isopropylbenzene are outside control limits due to high level in sample relative to spike amount.
- RPD(s) for MC22692-3MSD for 2-Chloroethyl vinyl ether are outside control limits. High RPD due to possible matrix interference and/or sample non-homogeneity.
- MSV821-BS for 2-Chloroethyl vinyl ether, Hexachlorobutadiene: Outside control limits. Associated samples are non-detect for this compound.
- Continuing calibration check standard MSV821-CC776 for 2-chloroethyl vinyl ether, hexachlorobutadiene exceed 50% Difference (results biased high). Associated samples are non-detect for these compounds.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ	Batch ID: MSV821

- Initial calibration verification MSV776-ICV776 for Aerolein exeeeds 50% Differenee. Aerolein is within criteria in continuing calibration check MSV821-CC776.

Extractables by GCMS By Method SW846 8270C

Matrix: AQ	Batch ID: OP34082

- 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) MC22900-3MS, MC22900-3MSD were used as the QC samples indicated.
- OP34082-BS for Hexachlorocyclopentadiene are outside control limits. Blank Spike meets program technical requirements.
- OP34082-MSD for Hexachlorocyclopentadiene are outside control limits, Blank Spike meets program technical requirements.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix: AQ	Batch ID: OP34084

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22900-4MS, MC22900-4MSD were used as the QC samples indicated.
- Sample(s) MC22754-2 bave 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: OP34095

- All samples were analyzed within the recommeuded method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC22692-3MS, MC22692-3MSD were used as the QC samples indicated.
- Continuing calibration check standard GBK930-CC929 for 4-Bromofluorobenzene exeeed criteria. Targets recovery satisfactory.

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(MC22754).

Summary of Hits

Job Number: MC22754
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/15/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC22754-1	P56-ROX-071513					
Acetone		156	10	2.8	ug/l	SW846 8260B
Benzene		131	0.50	0.45	ug/l	SW846 8260B
n-Butylbenzene		14.1	5.0	0.54	ug/l	SW846 8260B
sec-Butylbenzene		7.2	5.0	0.58	ug/l	SW846 8260B
tert-Butylbenzene		3.8 J	5.0	0.87	ug/l	SW846 8260B
Chloroethane		4.7	2.0	0.84	ug/l	SW846 8260B
Ethylbenzene		2000	10	3.8	ug/l	SW846 8260B
Isopropylbenzene		96.8	5.0	0.64	ug/l	SW846 8260B
p-Isopropyltoluene		6.1	5.0	0.55	ug/l	SW846 8260B
Naphthalene		316	5.0	0.79	ug/l	SW846 8260B
n-Propylbenzene		145	5.0	0.59	ug/l	SW846 8260B
Toluene		311	1.0	0.46	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		551	50	4.7	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		134	5.0	1.1	ug/l	SW846 8260B
m,p-Xylene		2670	10	7.0	ng/l	SW846 8260B
o-Xylene		210	1.0	0.41	ug/l	SW846 8260B
Xylene (total)		2850	10	4.1	ug/l	SW846 8260B
2,4-Dimethylphenol		8.6 J	11	1.3	ug/l	SW846 8270C
3&4-Methylphenol		6.4 J	11	2.2	ug/l	SW846 8270C
Dibenzofuran		0.75 J	2.2	0.17	ug/l	SW846 8270C
Acenaphthene		0.65	0.11	0.015	ug/l	SW846 8270C BY SIM
Acenaphthylene		0.13	0.11	0.015	ug/l	SW846 8270C BY SIM
Anthracene		0.14	0.11	0.019	ug/l	SW846 8270C BY SIM
Fluorene		0.59	0.11	0.051	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		31.5	0.22	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		43.1	0.22	0.057	ug/l	SW846 8270C BY SIM
Phenanthrene		1.5	0.055	0.014	ug/l	SW846 8270C BY SIM
MC22754-2	P74-ROX-071513					
Acetone		4.6 J	10	2.8	ug/l	SW846 8260B
Benzene		117	0.50	0.45	ug/l	SW846 8260B
n-Butylbenzene		8.8	5.0	0.54	ug/l	SW846 8260B
sec-Butylbenzene		2.0 J	5.0	0.58	ug/l	SW846 8260B
Ethylbenzene		30.6	1.0	0.38	ug/l	SW846 8260B
Isopropylbenzene		3.1 J	5.0	0.64	ug/l	SW846 8260B
p-Isopropyltoluene		1.7 J	5.0	0.55	ug/l	SW846 8260B
Naphthalene		24.0	5.0	0.79	ug/l	SW846 8260B
n-Propylbenzene		5.4	5.0	0.59	ug/l	SW846 8260B
Toluene		6.4	1.0	0.46	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		101	5.0	0.47	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		36.5	5.0	1.1	ug/l	SW846 8260B
m,p-Xylene		109	1.0	0.70	ug/l	SW846 8260B

Summary of Hits

Job Number: MC22754
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/15/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
o-Xylene		27.0	1.0	0.41	ug/l	SW846 8260B
Xylene (total)		136	1.0	0.41	ug/l	SW846 8260B
2,4-Dichlorophenol		1.3 J	11	0.36	ug/l	SW846 8270C
Phenol		8.0	5.4	0.56	ug/l	SW846 8270C
Acenaphthene		0.063 J	0.11	0.015	ug/l	SW846 8270C BY SIM
Anthracene		0.032 J	0.11	0.019	ug/l	SW846 8270C BY SIM
Fluoranthene		0.14	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		1.9	0.22	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		0.19 J	0.22	0.056	ug/l	SW846 8270C BY SIM
Phenanthrene		0.080 B	0.054	0.014	ug/l	SW846 8270C BY SIM
Pyrene		0.074 J	0.11	0.039	ug/l	SW846 8270C BY SIM

MC22754-3 TB-ROX-071513-HCL

No hits reported in this sample.

MC22754-4 TB-ROX-071513-ST

No hits reported in this sample.

New England ACCUTEST LABORATORIES

4

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	P56-ROX-071513		
Lab Sample ID:	MC22754-1	Date Sampled:	07/15/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K72447.D	1	07/26/13	GK	n/a	n/a	MSK2359
Run #2	K72460.D	10	07/26/13	GK	n/a	n/a	MSK2360

	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	~~156~~ U	~~10~~ 156	2.8	ug/l	U
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	131	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	14.1	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	7.2	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	3.8	5.0	0.87	ug/l	J
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	4.7	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dihromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ng/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071513		
Lab Sample ID:	MC22754-1	Date Sampled:	07/15/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	2000 [a]	10	3.8	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	96.8	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	6.1	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	316	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	145	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	311	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	551 [a]	50	4.7	ug/l	
108-67-8	1,3,5-Trimethylbenzene	134	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	2670 [a]	10	7.0	ug/l	
95-47-6	o-Xylene	210	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	2850 [a]	10	4.1	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071513		
Lab Sample ID:	MC22754-1	Date Sampled:	07/15/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%	103%	70-130%
2037-26-5	Toluene-D8	101%	99%	70-130%
460-00-4	4-Bromofluorobenzene	93%	95%	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-071513		
Lab Sample ID:	MC22754-1	Date Sampled:	07/15/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14275.D	1	07/31/13	KR	07/22/13	OP34082	MSW645
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	0.42	ug/l	UJ
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.54	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.36	ug/l	
105-67-9	2,4-Dimethylphenol	8.6	11	1.3	ug/l	J
51-28-5	2,4-Dinitrophenol	ND	22	2.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	UJ
	3&4-Methylphenol	6.4	11	2.2	ug/l	J
88-75-5	2-Nitrophenol	ND	11	0.55	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.64	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	ND	5.5	0.56	ug/l	UJ
95-95-4	2,4,5-Trichlorophenol	ND	11	0.63	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.35	ug/l	
62-53-3	Aniline	ND	11	0.70	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.5	0.22	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.5	0.94	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.63	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.5	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.27	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.5	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.5	0.25	ug/l	UJ
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.5	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.5	0.22	ng/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.5	0.72	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.74	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.71	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.5	0.55	ug/l	
132-64-9	Dibenzofuran	0.75	2.2	0.17	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.5	0.43	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.5	0.48	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates valne exceeds calibration range
J = Indicates 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-071513		
Lab Sample ID:	MC22754-1	Date Sampled:	07/15/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.55	ug/l	
131-11-3	Dimethyl phthalate	ND	5.5	0.55	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.54	ug/l	
118-74-1	Hexachlorobenzene	ND	5.5	0.33	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.7	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.5	0.48	ug/l	UJ
78-59-1	Isophorone	ND	5.5	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.31	ng/l	
99-09-2	3-Nitroaniline	ND	11	0.55	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.8	ug/l	
98-95-3	Nitrobenzene	ND	5.5	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.5	0.55	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.5	0.89	ug/l	UJ
86-30-6	N-Nitrosodiphenylamine	ND	5.5	0.59	ug/l	
110-86-1	Pyridine	ND	11	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	60%		15-110%
4165-62-2	Phenol-d5	32%		15-110%
118-79-6	2,4,6-Tribromophenol	87%		15-110%
4165-60-0	Nitrobenzene-d5	72%		30-130%
321-60-8	2-Fluorobiphenyl	75%		30-130%
1718-51-0	Terphenyl-d14	79%		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-071513		
Lab Sample ID:	MC22754-1	Date Sampled:	07/15/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14235.D	1	07/31/13	KR	07/22/13	OP34084	MSW643
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	0.65	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	0.13	0.11	0.015	ug/l	
120-12-7	Anthracene	0.14	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	ng/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	ng/l	
206-44-0	Fluoranthene	ND	0.11	0.036	ug/l	
86-73-7	Fluorene	0.59	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	31.5	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	43.1	0.22	0.057	ug/l	
85-01-8	Phenanthrene	1.5	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
4165-60-0	Nitrobenzene-d5	79%		30-130%
321-60-8	2-Fluorobiphenyl	80%		30-130%
1718-51-0	Terphenyl-d14	80%		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-071513		
Lab Sample ID:	MC22754-1	Date Sampled:	07/15/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27132.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
Run #2							

	Initial Volume	Final Volume
Run #1	36.9 ml	2.0 ml
Run #2		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.014	0.0043	ug/l	uJ
106-93-4	1,2-Dibromoethane	ND	0.014	0.0092	ug/l	uJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	105%		36-173%
460-00-4	Bromofluorobenzene (S)	82%		36-173%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates valne exceeds calibration range
J = Indicates 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-071513		
Lab Sample ID:	MC22754-2	Date Sampled:	07/15/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K72448.D	1	07/26/13	GK	n/a	n/a	MSK2359
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	~~4.6~~ U	10	2.8	ug/l	J U
107-02-8	Acrolein	ND	25	6.3	ug/l	U
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	117	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	8.8	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	2.0	5.0	0.58	ug/l	J
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071513		
Lab Sample ID:	MC22754-2	Date Sampled:	07/15/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	30.6	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	3.1	5.0	0.64	ug/l	J
99-87-6	p-Isopropyltoluene	1.7	5.0	0.55	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	24.0	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	5.4	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	6.4	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	101	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbeuzene	36.5	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	109	1.0	0.70	ug/l	
95-47-6	o-Xylene	27.0	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	136	1.0	0.41	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reportiug Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071513		
Lab Sample ID:	MC22754-2	Date Sampled:	07/15/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoverics	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		70-130%
2037-26-5	Toluene-D8	99%		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	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071513		
Lab Sample ID:	MC22754-2	Date Sampled:	07/15/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14276.D	1	07/31/13	KR	07/22/13	OP34082	MSW645
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	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.53	ug/l	
120-83-2	2,4-Dichlorophenol	1.3	11	0.36	ug/l	J
105-67-9	2,4-Dimethylphenol	ND	11	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	
	3&4-Methylphenol	ND	11	2.2	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.54	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.63	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	8.0	5.4	0.56	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.62	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.34	ug/l	
62-53-3	Aniline	ND	11	0.69	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.22	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	0.93	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.62	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.27	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	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.71	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.73	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.70	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.54	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.4	0.42	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	0.47	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071513		
Lab Sample ID:	MC22754-2	Date Sampled:	07/15/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.54	ug/l	
131-11-3	Dimethyl phthalate	ND	5.4	0.54	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.53	ug/l	
118-74-1	Hexachlorobenzene	ND	5.4	0.32	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.7	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.4	0.48	ug/l	
78-59-1	Isophorone	ND	5.4	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.30	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.54	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.7	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.54	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.88	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.59	ug/l	
110-86-1	Pyridine	ND	11	0.56	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	59%		15-110%
4165-62-2	Phenol-d5	23%		15-110%
118-79-6	2,4,6-Tribromophenol	97%		15-110%
4165-60-0	Nitrobenzene-d5	79%		30-130%
321-60-8	2-Fluorobiphenyl	80%		30-130%
1718-51-0	Terphenyl-d14	84%		30-130%

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071513		
Lab Sample ID:	MC22754-2	Date Sampled:	07/15/13
Matrix:	AQ - Ground Water	Date Reeeived:	07/17/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14236.D	1	07/31/13	KR	07/22/13	OP34084	MSW643
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	~~0.063~~ U	0.11	0.015	ug/l	J U
208-96-8	Acenaphthylene	ND	0.11	0.014	ug/l	
120-12-7	Anthracene	0.032	0.11	0.019	ng/l	J
56-55-3	Benzo(a)anthracene	ND	0.054	0.033	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.054	0.026	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.041	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.064	ug/l	
218-01-9	Chrysene	ND	0.11	0.079	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.045	ug/l	
206-44-0	Fluoranthene	0.14	0.11	0.035	ug/l	
86-73-7	Fluorene	0.11	0.11	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.050	ug/l	
90-12-0	1-Methylnaphthalene	1.9	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	0.19	0.22	0.056	ug/l	J
85-01-8	Phenanthrene	~~0.080~~ U	~~0.054~~ 0.08	0.014	ug/l	B U
129-00-0	Pyrene	0.074	0.11	0.039	ng/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	83%		30-130%
321-60-8	2-Fluorobiphenyl	85%		30-130%
1718-51-0	Terphenyl-d14	86%		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-071513		
Lab Sample ID:	MC22754-2	Date Sampled:	07/15/13
Matrix:	AQ - Ground Water	Date Received:	07/17/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27133.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
Run #2							

	Initial Volume	Final Volume
Run #1	36.6 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	0.014	0.0043	ug/l	UJ
106-93-4	1,2-Dibromoethane	ND	0.014	0.0092	ug/l	UJ

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	101%		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:	TB-ROX-071513-HCL		
Lab Sample ID:	MC22754-3	Date Sampled:	07/15/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V21163.D	1	07/24/13	AMY	n/a	n/a	MSV821
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Speeial List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071513-HCL		
Lab Sample ID:	MC22754-3	Date Sampled:	07/15/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ng/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	TB-ROX-071513-HCL		
Lab Sample ID:	MC22754-3	Date Sampled:	07/15/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/17/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	98%		70-130%

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071513-ST		
Lab Sample ID:	MC22754-4	Date Sampled:	07/15/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/17/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27134.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
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	0.0044	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0093	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	90%		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

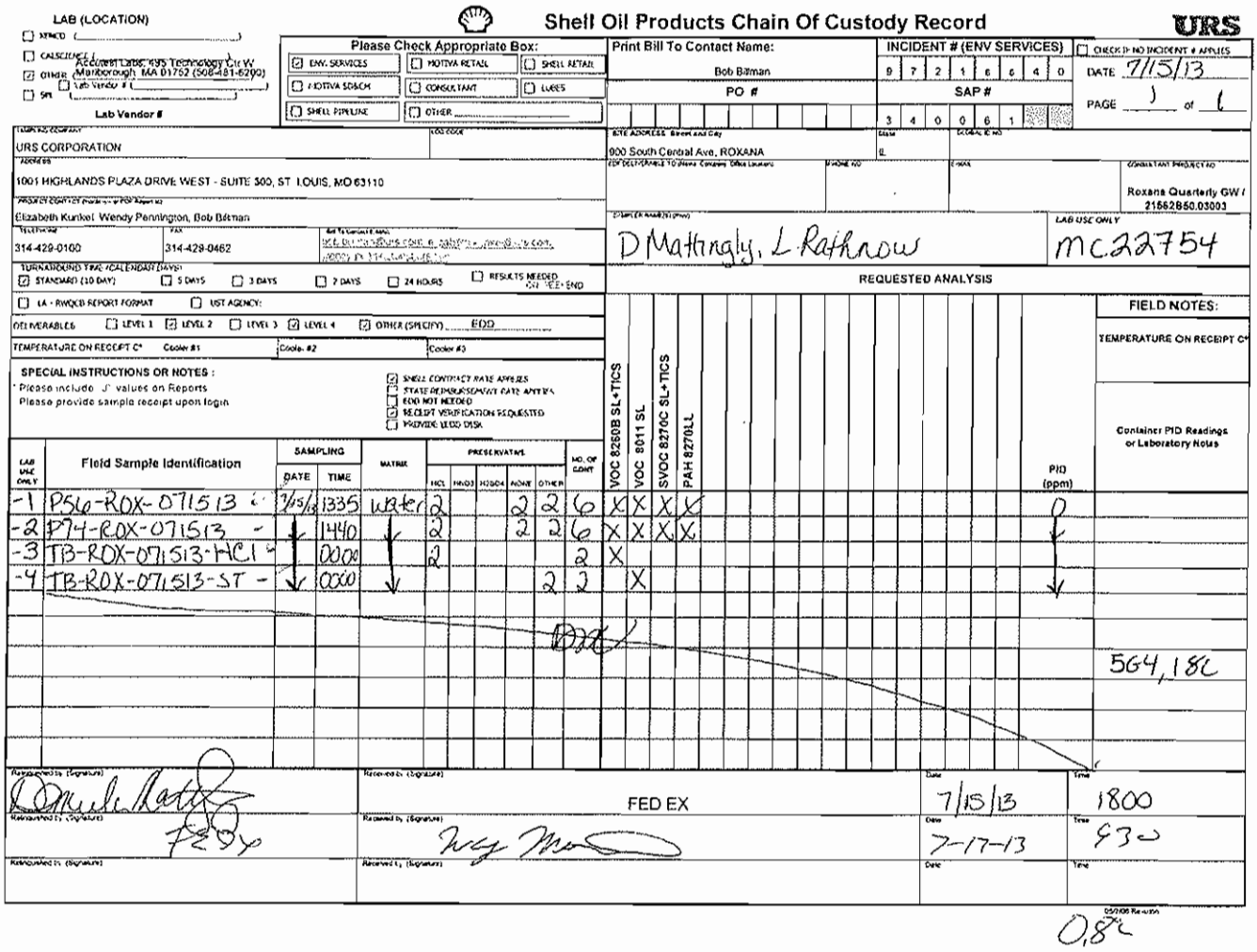
New England ACCUTEST LABORATORIES

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 #

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: Bob Bitman
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 7/15/13
PAGE 1 of 1

URS CORPORATION
1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST LOUIS, MO 63110
Elizabeth Kunkel, Wendy Pennington, Bob Bitman
314-429-0100 | 314-429-0462
SITE ADDRESS: 900 South Cendal Ave, ROXANA
Roxana Quarterly GW I 21562850.03003
D Mattingly, L Rathnow
LAB USE ONLY: MC22754

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 DISK

REQUESTED ANALYSIS: VOC 8260B SL+TICS | VOC 8011 SL | SVOC 8270C SL+TICS | PAH 8270LL

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	PS6-ROX-071513	7/15/13	1335	water	2			2	2	6	X	X	X	X	0	
-2	PT4-ROX-071513	↓	1440	↓	2			2	2	6	X	X	X	X	↓	
-3	TB-ROX-071513-HCl		0000		2					2	X					
-4	TB-ROX-071513-ST	↓	0000	↓					2	2		X			↓	

564,18C

Relinquished By (Signature)	Received By (Signature)	Date	Time
	FED EX	7/15/13	1800
FedEx		7-17-13	930

05/06 Revision

0,8C

5.1

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC22754 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 7/17/2013 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900 SOUTH 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 Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete.	☑		☐
3. Sample container label / COC agree:	☑		☐

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

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

Comments

Accutest Laboratories
v 508 481 6200

495 Technology Center West, Bldg One
F 508 481 7753

Marlborough, MA
www.accutest.com

5.1

MC22754: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC22754

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC22754-1 Collected: 15-JUL-13 13:35 By: DMLR Received: 17-JUL-13 By: P56-ROX-071513						
MC22754-1	SW846 8011	25-JUL-13 11:37	NK	23-JUL-13	BJ	V8011SL
MC22754-1	SW846 8260B	26-JUL-13 12:55	GK			V8260SL+
MC22754-1	SW846 8260B	26-JUL-13 19:06	GK			V8260SL+
MC22754-1	SW846 8270C BY SIM	31-JUL-13 01:39	KR	22-JUL-13	MEW	B8270SIMSL
MC22754-1	SW846 8270C	31-JUL-13 22:01	KR	22-JUL-13	MEW	AB8270SL+
MC22754-2 Collected: 15-JUL-13 14:40 By: DMLR Received: 17-JUL-13 By: P74-ROX-071513						
MC22754-2	SW846 8011	25-JUL-13 12:01	NK	23-JUL-13	BJ	V8011SL
MC22754-2	SW846 8260B	26-JUL-13 13:23	GK			V8260SL+
MC22754-2	SW846 8270C BY SIM	31-JUL-13 02:01	KR	22-JUL-13	MEW	B8270SIMSL
MC22754-2	SW846 8270C	31-JUL-13 22:24	KR	22-JUL-13	MEW	AB8270SL+
MC22754-3 Collected: 15-JUL-13 00:00 By: DMLR Received: 17-JUL-13 By: TB-ROX-071513-HCL						
MC22754-3	SW846 8260B	24-JUL-13 14:54	AMY			V8260SL+
MC22754-4 Collected: 15-JUL-13 00:00 By: DMLR Received: 17-JUL-13 By: TB-ROX-071513-ST						
MC22754-4	SW846 8011	25-JUL-13 12:25	NK	23-JUL-13	BJ	V8011SL

Accutest Internal Chain of Custody

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/17/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22754-1.1	Walk In Ref #22	Thomas Ahruzzise	07/22/13 15:39	Retrieve from Storage
MC22754-1.1	Thomas Ahruzzise		07/30/13 14:35	Depleted
MC22754-1.3	VOC Ref #5	Amy Min Yang	07/24/13 13:15	Retrieve from Storage
MC22754-1.3	Amy Min Yang	GCMSV	07/24/13 13:16	Load on Instrument
MC22754-1.3	GCMSV	Amy Min Yang	07/26/13 15:01	Unload from Instrument
MC22754-1.3	Amy Min Yang	VOC Ref #5	07/26/13 15:01	Return to Storage
MC22754-1.4	VOC Ref #5	Gary Krasinski	07/26/13 09:45	Retrieve from Storage
MC22754-1.4	Gary Krasinski	GCMSK	07/26/13 09:45	Load on Instrument
MC22754-1.4	GCMSK	Gary Krasinski	07/26/13 14:55	Unload from Instrument
MC22754-1.4	Gary Krasinski	VOC Ref #5	07/26/13 14:55	Return to Storage
MC22754-1.5	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22754-1.5	Bijan Jafari		07/23/13 18:13	Depleted
MC22754-1.6	VOC Ref #5	Gary Krasinski	07/26/13 15:02	Retrieve from Storage
MC22754-1.6	Gary Krasinski	GCMSK	07/26/13 15:02	Load on Instrument
MC22754-1.6	GCMSK	Gary Krasinski	07/26/13 15:14	Unload from Instrument
MC22754-1.6	Gary Krasinski	VOC Ref #5	07/26/13 15:14	Return to Storage
MC22754-2.2	Walk In Ref #22	Thomas Abruzzise	07/22/13 15:39	Retrieve from Storage
MC22754-2.2	Thomas Abruzzise		07/30/13 14:35	Depleted
MC22754-2.3	VOC Ref #5	Gary Krasinski	07/26/13 09:45	Retrieve from Storage
MC22754-2.3	Gary Krasinski	GCMSK	07/26/13 09:45	Load on Instrument
MC22754-2.3	GCMSK	Gary Krasinski	07/26/13 14:55	Unload from Instrument
MC22754-2.3	Gary Krasinski	VOC Ref #5	07/26/13 14:55	Return to Storage
MC22754-2.4	VOC Ref #5	Amy Min Yang	07/24/13 13:15	Retrieve from Storage
MC22754-2.4	Amy Min Yang	GCMSV	07/24/13 13:16	Load on Instrument
MC22754-2.4	GCMSV	Amy Min Yang	07/26/13 15:01	Unload from Instrument
MC22754-2.4	Amy Min Yang	VOC Ref #5	07/26/13 15:01	Return to Storage
MC22754-2.6	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22754-2.6	Bijan Jafari		07/23/13 18:13	Depleted
MC22754-3.1	VOC Ref #5	Amy Min Yang	07/24/13 13:15	Retrieve from Storage
MC22754-3.1	Amy Min Yang	GCMSV	07/24/13 13:16	Load on Instrument
MC22754-3.1	GCMSV	Amy Min Yang	07/26/13 15:01	Unload from Instrument
MC22754-3.1	Amy Min Yang	VOC Ref #5	07/26/13 15:01	Return to Storage
MC22754-4.1	VOC Ref #5	Bijan Jafari	07/23/13 10:47	Retrieve from Storage
MC22754-4.1	Bijan Jafari		07/23/13 18:13	Depleted

5.3

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: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV821-MB	V21160.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22754-3

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ng/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	

Method Blank Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV821-MB	V21160.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22754-3

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	ug/l	

Method Blank Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Projeet: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV821-MB	V21160.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22754-3

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

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

6.1.1

Method Blank Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2359-MB	K72441.D	1	07/26/13	GK	n/a	n/a	MSK2359

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

MC22754-1, MC22754-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylhenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	

Method Blank Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2359-MB	K72441.D	1	07/26/13	GK	n/a	n/a	MSK2359

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

MC22754-1, MC22754-2

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	ug/l	

Method Blank Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2359-MB	K72441.D	1	07/26/13	GK	n/a	n/a	MSK2359

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

MC22754-1, MC22754-2

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	109%	70-130%
2037-26-5	Toluene-D8	97%	70-130%
460-00-4	4-Bromofluorobenzene	95%	70-130%

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

6.1.2

Method Blank Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2360-MB	K72455.D	1	07/26/13	GK	n/a	n/a	MSK2360

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

MC22754-1

CAS No.	Compound	Result	RL	MDL	Units	Q
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	105%	70-130%
2037-26-5	Toluene-D8	95%	70-130%
460-00-4	4-Bromofluorobenzene	94%	70-130%

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

Blank Spike Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenne, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV821-BS	V21158.D	1	07/24/13	AMY	n/a	n/a	MSV821

6.2.1

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

MC22754-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	41.7	83	70-130
107-02-8	Acrolein	250	238	95	70-130
107-13-1	Acrylonitrile	50	48.4	97	70-130
71-43-2	Benzene	50	45.3	91	70-130
108-86-1	Bromobenzene	50	54.6	109	70-130
74-97-5	Bromochloromethane	50	46.6	93	70-130
75-27-4	Bromodichloromethane	50	56.3	113	70-130
75-25-2	Bromoform	50	59.1	118	70-130
74-83-9	Bromomethane	50	59.0	118	70-130
78-93-3	2-Butanone (MEK)	50	42.4	85	70-130
104-51-8	n-Butylbenzene	50	54.1	108	70-130
135-98-8	sec-Butylbenzene	50	58.1	116	70-130
98-06-6	tert-Butylbenzene	50	60.0	120	70-130
75-15-0	Carbon disulfide	50	60.2	120	70-130
56-23-5	Carbon tetrachloride	50	65.6	131* a	70-130
108-90-7	Chlorobenzene	50	56.6	113	70-130
75-00-3	Chloroethane	50	52.4	105	70-130
110-75-8	2-Chloroethyl vinyl ether	50	178	356* b	70-130
67-66-3	Chloroform	50	47.7	95	70-130
74-87-3	Chloromethane	50	50.3	101	70-130
95-49-8	o-Chlorotoluene	50	54.0	108	70-130
106-43-4	p-Chlorotoluene	50	56.1	112	70-130
124-48-1	Dibromochloromethane	50	59.2	118	70-130
95-50-1	1,2-Dichlorobenzene	50	57.1	114	70-130
541-73-1	1,3-Dichlorobenzene	50	57.8	116	70-130
106-46-7	1,4-Dichlorobenzene	50	53.3	107	70-130
75-71-8	Dichlorodifluoromethane	50	67.0	134* a	70-130
75-34-3	1,1-Dichloroethane	50	42.7	85	70-130
107-06-2	1,2-Dichloroethane	50	52.4	105	70-130
75-35-4	1,1-Dichloroethene	50	48.8	98	70-130
156-59-2	cis-1,2-Dichloroethene	50	41.4	83	70-130
156-60-5	trans-1,2-Dichloroethene	50	43.7	87	70-130
78-87-5	1,2-Dichloropropane	50	43.7	87	70-130
142-28-9	1,3-Dichloropropane	50	47.7	95	70-130
594-20-7	2,2-Dichloropropane	50	60.8	122	70-130
563-58-6	1,1-Dichloropropene	50	54.4	109	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV821-BS	V21158.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22754-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	47.1	94	70-130
10061-02-6	trans-1,3-Dichloropropene	50	53.1	106	70-130
123-91-1	1,4-Dioxane	250	185	74	70-130
97-63-2	Ethyl methacrylate	50	45.8	92	77-137
100-41-4	Ethylbenzene	50	55.7	111	70-130
87-68-3	Hexachlorobutadiene	50	78.1	156* b	70-130
591-78-6	2-Hexanone	50	49.0	98	70-130
98-82-8	Isopropylbenzene	50	57.7	115	70-130
99-87-6	p-Isopropyltoluene	50	59.8	120	70-130
1634-04-4	Methyl Tert Butyl Ether	50	42.2	84	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	38.0	76	70-130
74-95-3	Methylene bromide	50	49.2	98	70-130
75-09-2	Methylene chloride	50	39.1	78	70-130
91-20-3	Naphthalene	50	49.2	98	70-130
103-65-1	n-Propylbenzene	50	54.5	109	70-130
100-42-5	Styrene	50	52.8	106	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	64.2	128	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	46.8	94	70-130
127-18-4	Tetrachloroethene	50	63.5	127	70-130
108-88-3	Toluene	50	49.0	98	70-130
87-61-6	1,2,3-Trichlorobenzene	50	57.2	114	70-130
120-82-1	1,2,4-Trichlorobenzene	50	58.0	116	70-130
71-55-6	1,1,1-Trichloroethane	50	52.2	104	70-130
79-00-5	1,1,2-Trichloroethane	50	48.1	96	70-130
79-01-6	Trichloroethene	50	52.8	106	70-130
75-69-4	Trichlorofluoromethane	50	57.7	115	70-130
96-18-4	1,2,3-Trichloropropane	50	42.6	85	70-130
95-63-6	1,2,4-Trimethylbenzene	50	53.2	106	70-130
108-67-8	1,3,5-Trimethylbenzene	50	53.3	107	70-130
108-05-4	Vinyl Acetate	50	31.5	63* a	70-130
75-01-4	Vinyl chloride	50	41.0	82	70-130
	m,p-Xylene	100	113	113	70-130
95-47-6	o-Xylene	50	57.9	116	70-130
1330-20-7	Xylene (total)	150	171	114	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV821-BS	V21158.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22754-3

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	70-130%
2037-26-5	Toluene-D8	99%	70-130%
460-00-4	4-Bromofluorobenzene	97%	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: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2359-BS	K72438.D	1	07/26/13	GK	n/a	n/a	MSK2359

6.2.2

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

MC22754-1, MC22754-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	63.0	126	70-130
107-02-8	Acrolein	250	71.9	29* a	70-130
107-13-1	Acrylonitrile	50	51.6	103	70-130
71-43-2	Benzene	50	51.6	103	70-130
108-86-1	Bromobenzene	50	49.4	99	70-130
74-97-5	Bromochloromethane	50	50.8	102	70-130
75-27-4	Bromodichloromethane	50	48.3	97	70-130
75-25-2	Bromoform	50	50.3	101	70-130
74-83-9	Bromomethane	50	57.1	114	70-130
78-93-3	2-Butanone (MEK)	50	56.5	113	70-130
104-51-8	n-Butylbenzene	50	50.0	100	70-130
135-98-8	sec-Butylbenzene	50	53.3	107	70-130
98-06-6	tert-Butylbenzene	50	52.6	105	70-130
75-15-0	Carbon disulfide	50	49.3	99	70-130
56-23-5	Carbon tetrachloride	50	52.1	104	70-130
108-90-7	Chlorobenzene	50	57.3	115	70-130
75-00-3	Chloroethane	50	53.8	108	70-130
110-75-8	2-Chloroethyl vinyl ether	50	39.0	78	70-130
67-66-3	Chloroform	50	53.6	107	70-130
74-87-3	Chloromethane	50	56.4	113	70-130
95-49-8	o-Chlorotoluene	50	50.0	100	70-130
106-43-4	p-Chlorotoluene	50	52.3	105	70-130
124-48-1	Dibromochloromethane	50	52.2	104	70-130
95-50-1	1,2-Dichlorobenzene	50	53.3	107	70-130
541-73-1	1,3-Dichlorobenzene	50	52.4	105	70-130
106-46-7	1,4-Dichlorobenzene	50	49.0	98	70-130
75-71-8	Dichlorodifluoromethane	50	49.6	99	70-130
75-34-3	1,1-Dichloroethane	50	53.1	106	70-130
107-06-2	1,2-Dichloroethane	50	46.5	93	70-130
75-35-4	1,1-Dichloroethene	50	52.5	105	70-130
156-59-2	cis-1,2-Dichloroethene	50	53.5	107	70-130
156-60-5	trans-1,2-Dichloroethene	50	53.9	108	70-130
78-87-5	1,2-Dichloropropane	50	46.7	93	70-130
142-28-9	1,3-Dichloropropane	50	52.0	104	70-130
594-20-7	2,2-Dichloropropane	50	57.2	114	70-130
563-58-6	1,1-Dichloropropene	50	50.1	100	70-130

* = Ontside of Control Limits.

Blank Spike Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2359-BS	K72438.D	1	07/26/13	GK	n/a	n/a	MSK2359

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

MC22754-1, MC22754-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	46.3	93	70-130
10061-02-6	trans-1,3-Dichloropropene	50	50.2	100	70-130
123-91-1	1,4-Dioxane	250	265	106	70-130
97-63-2	Ethyl methacrylate	50	48.9	98	77-137
100-41-4	Ethylbenzene	50	50.2	100	70-130
87-68-3	Hexachlorobutadiene	50	51.3	103	70-130
591-78-6	2-Hexanone	50	51.4	103	70-130
98-82-8	Isopropylbenzene	50	52.4	105	70-130
99-87-6	p-Isopropyltoluene	50	52.1	104	70-130
1634-04-4	Methyl Tert Butyl Ether	50	49.3	99	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	44.6	89	70-130
74-95-3	Methylene bromide	50	48.6	97	70-130
75-09-2	Methylene chloride	50	53.2	106	70-130
91-20-3	Naphthalene	50	59.3	119	70-130
103-65-1	n-Propylbenzene	50	52.0	104	70-130
100-42-5	Styrene	50	52.7	105	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	52.8	106	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	51.2	102	70-130
127-18-4	Tetrachloroethene	50	56.8	114	70-130
108-88-3	Toluene	50	49.1	98	70-130
87-61-6	1,2,3-Trichlorobenzene	50	63.8	128	70-130
120-82-1	1,2,4-Trichlorobenzene	50	56.0	112	70-130
71-55-6	1,1,1-Trichloroethane	50	51.2	102	70-130
79-00-5	1,1,2-Trichloroethane	50	48.5	97	70-130
79-01-6	Trichloroethene	50	48.6	97	70-130
75-69-4	Trichlorofluoromethane	50	50.0	100	70-130
96-18-4	1,2,3-Trichloropropane	50	45.6	91	70-130
95-63-6	1,2,4-Trimethylbenzene	50	48.6	97	70-130
108-67-8	1,3,5-Trimethylbenzene	50	47.6	95	70-130
108-05-4	Vinyl Acetate	50	35.3	71	70-130
75-01-4	Vinyl chloride	50	41.3	83	70-130
	m,p-Xylene	100	104	104	70-130
95-47-6	o-Xylene	50	53.1	106	70-130
1330-20-7	Xylene (total)	150	157	105	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2359-BS	K72438.D	1	07/26/13	GK	n/a	n/a	MSK2359

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

MC22754-1, MC22754-2

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	70-130%
2037-26-5	Toluene-D8	99%	70-130%
460-00-4	4-Bromofluorobenzene	97%	70-130%

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

* = Outside of Control Limits.

6.2.2

Blank Spike Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2360-BS	K72453.D	1	07/26/13	GK	n/a	n/a	MSK2360

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

MC22754-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
100-41-4	Ethylbenzene	50	51.8	104	70-130
95-63-6	1,2,4-Trimethylbenzene	50	47.5	95	70-130
	m,p-Xylene	100	108	108	70-130
1330-20-7	Xylene (total)	150	163	109	70-130

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22692-3MS	V21181.D	1	07/24/13	AMY	n/a	n/a	MSV821
MC22692-3MSD	V21182.D	1	07/24/13	AMY	n/a	n/a	MSV821
MC22692-3	V21165.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22754-3

CAS No.	Compound	MC22692-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		50	30.1	60* [a]	27.2	54* [a]	10	70-130/30
107-02-8	Acrolein	ND		250	174	70	173	69* [a]	1	70-130/30
107-13-1	Acrylonitrile	ND		50	42.4	85	41.7	83	2	70-130/30
71-43-2	Benzene	187		50	209	44* [b]	204	34* [b]	2	70-130/30
108-86-1	Bromobenzene	ND		50	56.0	112	56.4	113	1	70-130/30
74-97-5	Bromochloromethane	ND		50	46.3	93	45.6	91	2	70-130/30
75-27-4	Bromodichloromethane	ND		50	53.3	107	52.8	106	1	70-130/30
75-25-2	Bromoform	ND		50	59.3	119	59.5	119	0	70-130/30
74-83-9	Bromomethane	ND		50	53.7	107	52.9	106	2	70-130/30
78-93-3	2-Butanone (MEK)	ND		50	29.4	59* [a]	29.9	60* [a]	2	70-130/30
104-51-8	n-Butylbenzene	14.6		50	64.4	100	64.3	99	0	70-130/30
135-98-8	sec-Butylbenzene	22.1		50	76.5	109	76.2	108	0	70-130/30
98-06-6	tert-Butylbenzene	6.0		50	61.9	112	61.9	112	0	70-130/30
75-15-0	Carbon disulfide	ND		50	60.7	121	59.5	119	2	70-130/30
56-23-5	Carbon tetrachloride	ND		50	60.5	121	59.6	119	1	70-130/30
108-90-7	Chlorobenzene	0.59	J	50	60.7	120	60.6	120	0	70-130/30
75-00-3	Chloroethane	ND		50	46.0	92	45.1	90	2	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		50	ND	0* [a]	8.6	17* [a]	200* [c]	70-130/30
67-66-3	Chloroform	ND		50	44.4	89	43.9	88	1	70-130/30
74-87-3	Chloromethane	ND		50	43.5	87	42.0	84	4	70-130/30
95-49-8	o-Chlorotoluene	ND		50	52.6	105	52.7	105	0	70-130/30
106-43-4	p-Chlorotoluene	ND		50	54.2	108	54.3	109	0	70-130/30
124-48-1	Dibromochloromethane	ND		50	58.2	116	58.1	116	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		50	56.9	114	57.3	115	1	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		50	59.1	118	58.9	118	0	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		50	54.1	108	53.9	108	0	70-130/30
75-71-8	Dichlorodifluoromethane	ND		50	60.8	122	57.7	115	5	70-130/30
75-34-3	1,1-Dichloroethane	ND		50	40.7	81	40.1	80	1	70-130/30
107-06-2	1,2-Dichloroethane	ND		50	45.5	91	44.3	89	3	70-130/30
75-35-4	1,1-Dichloroethene	ND		50	49.3	99	48.3	97	2	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		50	41.8	84	41.3	83	1	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		50	43.0	86	42.6	85	1	70-130/30
78-87-5	1,2-Dichloropropane	ND		50	47.4	95	46.3	93	2	70-130/30
142-28-9	1,3-Dichloropropane	ND		50	47.4	95	46.8	94	1	70-130/30
594-20-7	2,2-Dichloropropane	ND		50	55.9	112	55.3	111	1	70-130/30
563-58-6	1,1-Dichloropropene	ND		50	53.9	108	52.7	105	2	70-130/30

* = Outside of Control Limits.

6.3.1

6

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22692-3MS	V21181.D	1	07/24/13	AMY	n/a	n/a	MSV821
MC22692-3MSD	V21182.D	1	07/24/13	AMY	n/a	n/a	MSV821
MC22692-3	V21165.D	1	07/24/13	AMY	n/a	n/a	MSV821

6.3.1

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

MC22754-3

CAS No.	Compound	MC22692-3 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	46.1	92	45.7	91	1	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		50	50.6	101	50.3	101	1	70-130/30
123-91-1	1,4-Dioxane	ND		250	166	66* [a]	154	62* [a]	8	70-130/30
97-63-2	Ethyl methacrylate	ND		50	53.8	108	53.3	107	1	72-139/30
100-41-4	Ethylbenzene	2.2		50	59.2	114	58.6	113	1	70-130/30
87-68-3	Hexachlorobutadiene	ND		50	77.4	155* [a]	79.3	159* [a]	2	70-130/30
591-78-6	2-Hexanone	ND		50	43.6	87	43.7	87	0	70-130/30
98-82-8	Isopropylbenzene	191		50	213	44* [b]	212	42* [b]	0	70-130/30
99-87-6	p-Isopropyltoluene	ND		50	59.6	119	59.2	118	1	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		50	87.0	174* [a]	86.6	173* [a]	0	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		50	36.6	73	36.1	72	1	70-130/30
74-95-3	Methylene bromide	ND		50	47.0	94	46.1	92	2	70-130/30
75-09-2	Methylene chloride	ND		50	39.9	80	39.4	79	1	70-130/30
91-20-3	Naphthalene	ND		50	49.4	99	55.2	110	11	70-130/30
103-65-1	n-Propylbenzene	229		50	240	22* [b]	239	20* [b]	0	70-130/30
100-42-5	Styrene	ND		50	56.5	113	56.1	112	1	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		50	65.2	130	65.6	131* [a]	1	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		50	47.3	95	46.9	94	1	70-130/30
127-18-4	Tetrachloroethene	ND		50	69.4	139* [a]	68.5	137* [a]	1	70-130/30
108-88-3	Toluene	1.8		50	52.1	101	50.9	98	2	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		50	53.4	107	58.5	117	9	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		50	56.7	113	59.2	118	4	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		50	50.2	100	49.6	99	1	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		50	48.8	98	47.9	96	2	70-130/30
79-01-6	Trichloroethene	ND		50	54.1	108	52.6	105	3	70-130/30
75-69-4	Trichlorofluoromethane	ND		50	49.4	99	48.4	97	2	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		50	36.1	72	42.9	86	17	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		50	52.4	105	52.4	105	0	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		50	52.6	105	52.6	105	0	70-130/30
108-05-4	Vinyl Acetate	ND		50	50.8	102	50.1	100	1	70-130/30
75-01-4	Vinyl chloride	ND		50	36.8	74	35.8	72	3	70-130/30
	m,p-Xylene	ND		100	122	122	120	120	2	70-130/30
95-47-6	o-Xylene	1.0		50	62.9	124	62.9	124	0	70-130/30
1330-20-7	Xylene (total)	1.5		150	185	122	183	121	1	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22692-3MS	V21181.D	1	07/24/13	AMY	n/a	n/a	MSV821
MC22692-3MSD	V21182.D	1	07/24/13	AMY	n/a	n/a	MSV821
MC22692-3	V21165.D	1	07/24/13	AMY	n/a	n/a	MSV821

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

MC22754-3

CAS No.	Surrogate Recoveries	MS	MSD	MC22692-3	Limits
1868-53-7	Dibromofluoromethane	90%	90%	94%	70-130%
2037-26-5	Toluene-D8	100%	100%	105%	70-130%
460-00-4	4-Bromofluorobenzene	95%	95%	96%	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.
(c) High RPD due to possible matrix interference and/or sample non-homogeneity.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22730-2MS	K72449.D	5	07/26/13	GK	n/a	n/a	MSK2359
MC22730-2MSD	K72450.D	5	07/26/13	GK	n/a	n/a	MSK2359
MC22730-2	K72443.D	1	07/26/13	GK	n/a	n/a	MSK2359

6.3.2

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

MC22754-1, MC22754-2

CAS No.	Compound	MC22730-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	185	74	186	74	1	70-130/30
107-02-8	Acrolein	ND		1250	835	67* [a]	930	74	11	70-130/30
107-13-1	Acrylonitrile	ND		250	254	102	262	105	3	70-130/30
71-43-2	Benzene	ND		250	259	104	253	101	2	70-130/30
108-86-1	Bromobenzene	ND		250	253	101	250	100	1	70-130/30
74-97-5	Bromochloromethane	ND		250	253	101	252	101	0	70-130/30
75-27-4	Bromodichloromethane	ND		250	236	94	235	94	0	70-130/30
75-25-2	Bromoform	ND		250	268	107	274	110	2	70-130/30
74-83-9	Bromomethane	ND		250	252	101	238	95	6	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	243	97	251	100	3	70-130/30
104-51-8	n-Butylbenzene	ND		250	245	98	240	96	2	70-130/30
135-98-8	sec-Butylbenzene	ND		250	247	99	243	97	2	70-130/30
98-06-6	tert-Butylbenzene	ND		250	240	96	45.7	18* [a]	136* [b]	70-130/30
75-15-0	Carbon disulfide	ND		250	207	83	195	78	6	70-130/30
56-23-5	Carbon tetrachloride	ND		250	237	95	227	91	4	70-130/30
108-90-7	Chlorobenzene	ND		250	287	115	283	113	1	70-130/30
75-00-3	Chloroethane	ND		250	238	95	230	92	3	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	5.9	2* [a]	5.6	2* [a]	5	70-130/30
67-66-3	Chloroform	0.86	J	250	254	101	250	100	2	70-130/30
74-87-3	Chloromethane	ND		250	204	82	193	77	6	70-130/30
95-49-8	o-Chlorotoluene	ND		250	232	93	228	91	2	70-130/30
106-43-4	p-Chlorotoluene	ND		250	236	94	232	93	2	70-130/30
124-48-1	Dibromochloromethane	ND		250	270	108	272	109	1	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	255	102	253	101	1	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	250	100	245	98	2	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	245	98	245	98	0	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	167	67* [a]	152	61* [a]	9	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	245	98	236	94	4	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	227	91	227	91	0	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	233	93	225	90	3	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	263	105	254	102	3	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	263	105	253	101	4	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	232	93	228	91	2	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	270	108	275	110	2	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	261	104	248	99	5	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	245	98	238	95	3	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22730-2MS	K72449.D	5	07/26/13	GK	n/a	n/a	MSK2359
MC22730-2MSD	K72450.D	5	07/26/13	GK	n/a	n/a	MSK2359
MC22730-2	K72443.D	1	07/26/13	GK	n/a	n/a	MSK2359

6.3.2

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

MC22754-1, MC22754-2

CAS No.	Compound	MC22730-2 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	223	89	220	88	1	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	225	90	226	90	0	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1290	103	1400	112	8	70-130/30
97-63-2	Ethyl methacrylate	ND		250	259	104	265	106	2	72-139/30
100-41-4	Ethylbenzene	ND		250	265	106	259	104	2	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	245	98	243	97	1	70-130/30
591-78-6	2-Hexanone	ND		250	236	94	242	97	3	70-130/30
98-82-8	Isopropylbenzene	ND		250	245	98	239	96	2	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	247	99	242	97	2	70-130/30
1634-04-4	Methyl Tert Butyl Ether	4.0		250	258	102	254	100	2	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	236	94	241	96	2	70-130/30
74-95-3	Methylene bromide	ND		250	247	99	244	98	1	70-130/30
75-09-2	Methylene chloride	ND		250	254	102	246	98	3	70-130/30
91-20-3	Naphthalene	ND		250	322	129	331	132* [a]	3	70-130/30
103-65-1	n-Propylbenzene	ND		250	243	97	235	94	3	70-130/30
100-42-5	Styrene	ND		250	284	114	284	114	0	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	276	110	274	110	1	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	257	103	264	106	3	70-130/30
127-18-4	Tetrachloroethene	ND		250	299	120	294	118	2	70-130/30
108-88-3	Toluene	ND		250	251	100	243	97	3	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	319	128	340	136* [a]	6	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	280	112	285	114	2	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	239	96	233	93	3	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	249	100	252	101	1	70-130/30
79-01-6	Trichloroethene	ND		250	245	98	239	96	2	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	234	94	225	90	4	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	206	82	216	86	5	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	249	100	242	97	3	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	243	97	236	94	3	70-130/30
108-05-4	Vinyl Acetate	ND		250	234	94	239	96	2	70-130/30
75-01-4	Vinyl chloride	ND		250	216	86	206	82	5	70-130/30
	m,p-Xylene	ND		500	537	107	526	105	2	70-130/30
95-47-6	o-Xylene	ND		250	261	104	257	103	2	70-130/30
1330-20-7	Xylene (total)	ND		750	798	106	783	104	2	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22730-2MS	K72449.D	5	07/26/13	GK	n/a	n/a	MSK2359
MC22730-2MSD	K72450.D	5	07/26/13	GK	n/a	n/a	MSK2359
MC22730-2	K72443.D	1	07/26/13	GK	n/a	n/a	MSK2359

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

MC22754-1, MC22754-2

CAS No.	Surrogate Recoveries	MS	MSD	MC22730-2	Limits
1868-53-7	Dibromofluoromethane	96%	97%	106%	70-130%
2037-26-5	Toluene-D8	98%	99%	97%	70-130%
460-00-4	4-Bromoflnorobenzene	94%	92%	98%	70-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Bateh
MC22966-2MS	K72458.D	5	07/26/13	GK	n/a	n/a	MSK2360
MC22966-2MSD	K72459.D	5	07/26/13	GK	n/a	n/a	MSK2360
MC22966-2	K72457.D	1	07/26/13	GK	n/a	n/a	MSK2360

6.3.3

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

MC22754-1

CAS No.	Compound	MC22966-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
100-41-4	Ethylbenzene	ND		250	267	107	257	103	4	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	245	98	238	95	3	70-130/30
	m,p-Xylene	ND		500	548	110	531	106	3	70-130/30
1330-20-7	Xylene (total)	ND		750	832	111	805	107	3	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	MC22966-2	Limits
1868-53-7	Dibromofluoromethane	99%	99%	106%	70-130%
2037-26-5	Toluene-D8	100%	99%	96%	70-130%
460-00-4	4-Bromofluorobenzene	94%	94%	94%	70-130%

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSK2359-CC2349	Injection Date:	07/26/13
Lab File ID:	K72437.D	Injection Time:	08:17
Instrument ID:	GCMSK	Method:	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	322098	8.84	482285	9.69	215685	12.94	232121	15.51	65586	6.42
Upper Limit [a]	644196	9.34	964570	10.19	431370	13.44	464242	16.01	131172	6.92
Lower Limit [b]	161049	8.34	241143	9.19	107843	12.44	116061	15.01	32793	5.92

Lab Sample ID	IS 1 AREA	RT	1S 2 AREA	RT	IS 3 AREA	RT	1S 4 AREA	RT	IS 5 AREA	RT
MSK2359-BS	332836	8.84	503959	9.69	223248	12.94	240772	15.51	67657	6.42
MSK2359-MB	332692	8.84	508097	9.69	210173	12.95	225928	15.51	68559	6.42
ZZZZZZ	340133	8.84	524216	9.69	223614	12.95	239769	15.51	68941	6.42
MC22730-2	349212	8.84	530351	9.69	222369	12.95	238662	15.5I	70028	6.42
ZZZZZZ	349157	8.84	537256	9.69	226961	12.95	244328	15.51	72394	6.42
ZZZZZZ	340063	8.84	517548	9.69	216190	12.95	238468	15.51	73101	6.42
ZZZZZZ	342406	8.84	527710	9.69	219111	12.95	243346	15.51	75388	6.42
MC22754-1	338044	8.85	517971	9.69	235001	12.95	264912	15.51	77627	6.42
MC22754-2	384841	8.84	569327	9.69	243594	12.95	278122	15.51	84419	6.43
MC22730-2MS	387291	8.84	562510	9.69	240820	12.95	270405	15.50	80148	6.42
MC22730-2MSD	394556	8.84	573317	9.69	243786	12.95	275209	15.5I	85559	6.42

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

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

6.4.1

Volatile Internal Standard Area Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSK2360-CC2349	Injection Date:	07/26/13
Lab File ID:	K72452.D	Injection Time:	15:27
Instrument ID:	GCMSK	Method:	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	371662	8.84	544089	9.69	232115	12.94	263293	15.50	70738	6.42
Upper Limit [a]	743324	9.34	1088178	10.19	464230	13.44	526586	16.00	141476	6.92
Lower Limit [b]	185831	8.34	272045	9.19	116058	12.44	131647	15.00	35369	5.92

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSK2360-BS	367916	8.84	537563	9.69	229320	12.95	261656	15.50	71035	6.42
MSK2360-MB	379033	8.84	573492	9.69	231592	12.95	257791	15.51	72399	6.42
ZZZZZZ	364564	8.84	553542	9.69	226122	12.95	248686	15.51	71361	6.42
MC22966-2	352469	8.84	538247	9.69	218239	12.95	240296	15.51	65848	6.42
MC22966-2MS	350911	8.84	515116	9.69	224033	12.94	249354	15.50	62213	6.42
MC22966-2MSD	353046	8.84	517023	9.69	225952	12.94	251547	15.50	64425	6.42
MC22754-1	360257	8.84	541504	9.69	230929	12.95	257268	15.50	69207	6.43
ZZZZZZ	365266	8.84	558119	9.69	229744	12.95	258643	15.50	67395	6.42
ZZZZZZ	376724	8.84	566871	9.69	231529	12.95	258361	15.51	68707	6.42
ZZZZZZ	360370	8.84	541573	9.69	225339	12.95	257263	15.50	75700	6.42
ZZZZZZ	377687	8.84	574130	9.69	235310	12.95	258830	15.50	72306	6.42
ZZZZZZ	370404	8.84	562885	9.69	228598	12.95	248672	15.51	76250	6.42
ZZZZZZ	354302	8.84	536937	9.69	222255	12.95	242360	15.51	76027	6.42
ZZZZZZ	343814	8.84	522484	9.69	216691	12.95	237476	15.51	75783	6.42
ZZZZZZ	332571	8.84	505679	9.69	213004	12.95	229888	15.51	71292	6.42
ZZZZZZ	346088	8.84	526310	9.69	218144	12.95	236744	15.50	73175	6.42
ZZZZZZ	325726	8.84	496611	9.69	209632	12.95	226124	15.51	68680	6.42
ZZZZZZ	334099	8.84	509954	9.69	210541	12.95	230513	15.51	69751	6.42
ZZZZZZ	322396	8.84	497247	9.69	205044	12.95	222499	15.50	64879	6.42
ZZZZZZ	324628	8.84	484900	9.69	207910	12.95	227188	15.50	65351	6.43
ZZZZZZ	318165	8.84	478756	9.69	211603	12.95	231472	15.51	62861	6.42
ZZZZZZ	325092	8.84	493854	9.69	208669	12.95	223922	15.51	62546	6.42
ZZZZZZ	318310	8.84	480275	9.69	203501	12.95	218409	15.51	58606	6.42
ZZZZZZ	314669	8.84	484522	9.69	199596	12.95	221728	15.51	70071	6.42

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 miuutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

6.4.2

Volatile Internal Standard Area Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSV821-CC776	Injection Date:	07/24/13
Lab File ID:	V21157.D	Injection Time:	12:14
Instrument ID:	GCMSV	Method:	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	266854	6.59	369435	7.77	189496	11.10	203236	13.31	60077	3.52
Upper Limit [a]	533708	7.09	738870	8.27	378992	11.60	406472	13.81	120154	4.02
Lower Limit [b]	133427	6.09	184718	7.27	94748	10.60	101618	12.81	30039	3.02

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSV821-BS	272318	6.59	374510	7.77	190485	11.10	205257	13.31	64667	3.52
MSV821-MB	259369	6.60	360407	7.77	186786	11.10	195103	13.31	56752	3.53
ZZZZZZ	253995	6.60	356631	7.77	183542	11.10	191408	13.31	57217	3.53
ZZZZZZ	248014	6.59	347981	7.77	179447	11.10	187068	13.31	56079	3.53
MC22754-3	239746	6.60	337596	7.77	174885	11.10	181634	13.31	53686	3.53
ZZZZZZ	240601	6.59	336878	7.77	175108	11.10	184422	13.31	60707	3.53
MC22692-3	251626	6.59	337348	7.77	181190	11.09	194466	13.30	58534	3.52
ZZZZZZ	266675	6.59	372892	7.77	191431	11.09	210034	13.30	57293	3.52
ZZZZZZ	278589	6.59	377396	7.77	194603	11.09	209048	13.30	68305	3.53
ZZZZZZ	273858	6.59	383835	7.77	194823	11.09	205664	13.30	60599	3.53
ZZZZZZ	276696	6.59	384208	7.77	200854	11.09	210912	13.30	87182	3.53
ZZZZZZ	287703	6.59	397104	7.77	206698	11.09	219355	13.30	140500[c]	3.55
ZZZZZZ	291812	6.60	407754	7.77	209420	11.10	222711	13.30	120538[c]	3.55
ZZZZZZ	293703	6.69	394523	7.81	210525	11.10	216899	13.30	146454[c]	3.57
ZZZZZZ	291129	6.74	403084	7.83	213277	11.10	222216	13.30	92242	3.53
MC22692-3MS	322586	6.58	435313	7.76	213929	11.09	239324	13.30	76589	3.52
MC22692-3MSD	319923	6.58	436016	7.76	211471	11.09	236373	13.30	74228	3.52

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

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Outside control limits. Target analytes not associated with this internal standard.

6.4.3

Volatile Surrogate Recovery Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22754-1	K72460.D	103.0	99.0	95.0
MC22754-1	K72447.D	98.0	101.0	93.0
MC22754-2	K72448.D	102.0	99.0	95.0
MC22754-3	V21163.D	100.0	99.0	98.0
MC22692-3MS	V21181.D	90.0	100.0	95.0
MC22692-3MSD	V21182.D	90.0	100.0	95.0
MC22730-2MS	K72449.D	96.0	98.0	94.0
MC22730-2MSD	K72450.D	97.0	99.0	92.0
MC22966-2MS	K72458.D	99.0	100.0	94.0
MC22966-2MSD	K72459.D	99.0	99.0	94.0
MSK2359-BS	K72438.D	103.0	99.0	97.0
MSK2359-MB	K72441.D	109.0	97.0	95.0
MSK2360-BS	K72453.D	98.0	98.0	92.0
MSK2360-MB	K72455.D	105.0	95.0	94.0
MSV821-BS	V21158.D	97.0	99.0	97.0
MSV821-MB	V21160.D	97.0	99.0	97.0

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

6.5.1

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: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34082-MB	R32331.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179

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

MC22754-1, MC22754-2

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	0.38	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.49	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.33	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	1.1	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	2.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	1.2	ug/l	
95-48-7	2-Methylphenol	ND	10	1.3	ug/l	
	3&4-Methylphenol	ND	10	2.0	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.50	ug/l	
100-02-7	4-Nitrophenol	ND	20	0.58	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.0	0.51	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.57	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.32	ug/l	
62-53-3	Aniline	ND	10	0.64	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.20	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.85	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.57	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.92	ug/l	
106-47-8	4-Chloroauiline	ND	10	0.25	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.21	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.23	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.13	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.20	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.65	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.68	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.64	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.50	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.16	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.39	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.43	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.50	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.50	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.49	ng/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.30	ug/l	

Method Blank Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytieal Batch
OP34082-MB	R32331.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179

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

MC22754-1, MC22754-2

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	2.5	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.44	ug/l	
78-59-1	Isophorone	ND	5.0	0.20	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.50	ug/l	
100-01-6	4-Nitroaniline	ND	10	4.3	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.50	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.81	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.54	ug/l	
110-86-1	Pyridine	ND	10	0.52	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	48%	15-110%
4165-62-2	Phenol-d5	18%	15-110%
118-79-6	2,4,6-Tribromophenol	73%	15-110%
4165-60-0	Nitrobenzene-d5	67%	30-130%
321-60-8	2-Fluorobiphenyl	77%	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: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34084-MB	W14109.D	1	07/23/13	KR	07/22/13	OP34084	MSW638

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

MC22754-1, MC22754-2

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.019	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	ng/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	0.034	0.050	0.013	ug/l	J
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	48%	15-110%
4165-62-2	Phenol-d5	18%	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	73%	30-130%
1718-51-0	Terpheuyl-d14	81%	30-130%

Blank Spike Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34082-BS	R32332.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179

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

MC22754-1, MC22754-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	50	20.7	41	30-130
95-57-8	2-Chlorophenol	50	42.4	85	30-130
59-50-7	4-Chloro-3-methyl phenol	50	43.2	86	30-130
120-83-2	2,4-Dichlorophenol	50	42.4	85	30-130
105-67-9	2,4-Dimethylphenol	50	39.3	79	30-130
51-28-5	2,4-Dinitrophenol	50	41.1	82	30-130
534-52-1	4,6-Dinitro-o-cresol	50	45.1	90	30-130
95-48-7	2-Methylphenol	50	39.3	79	30-130
	3&4-Methylphenol	100	72.2	72	30-130
88-75-5	2-Nitrophenol	50	44.1	88	30-130
100-02-7	4-Nitrophenol	50	18.0	36	30-130
87-86-5	Pentachlorophenol	50	43.7	87	30-130
108-95-2	Phenol	50	19.6	39	30-130
95-95-4	2,4,5-Trichlorophenol	50	46.9	94	30-130
88-06-2	2,4,6-Trichlorophenol	50	45.7	91	30-130
62-53-3	Aniline	50	33.4	67	40-140
101-55-3	4-Bromophenyl phenyl ether	50	43.5	87	40-140
85-68-7	Butyl benzyl phthalate	50	40.8	82	40-140
100-51-6	Benzyl Alcohol	50	34.7	69	40-140
91-58-7	2-Chloronaphthalene	50	40.2	80	40-140
106-47-8	4-Chloroaniline	50	36.9	74	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	36.3	73	40-140
111-44-4	bis(2-Chloroethyl)ether	50	36.3	73	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	37.4	75	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	45.7	91	40-140
122-66-7	1,2-Diphenylhydrazine	50	35.9	72	40-140
121-14-2	2,4-Dinitrotoluene	50	44.0	88	40-140
606-20-2	2,6-Dinitrotoluene	50	42.5	85	40-140
91-94-1	3,3'-Dichlorobenzidine	50	40.9	82	40-140
132-64-9	Dibenzofuran	50	42.4	85	40-140
84-74-2	Di-n-butyl phthalate	50	41.8	84	40-140
117-84-0	Di-n-octyl phthalate	50	45.2	90	40-140
84-66-2	Diethyl phthalate	50	40.0	80	40-140
131-11-3	Dimethyl phthalate	50	30.5	61	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	41.0	82	40-140
118-74-1	Hexachlorobenzene	50	42.4	85	40-140

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34082-BS	R32332.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179

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

MC22754-1, MC22754-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopentadiene	50	18.8	38* a	40-140
67-72-1	Hexachloroethane	50	31.9	64	40-140
78-59-1	Isophorone	50	36.4	73	40-140
88-74-4	2-Nitroaniline	50	45.9	92	40-140
99-09-2	3-Nitroaniline	50	41.8	84	40-140
100-01-6	4-Nitroaniline	50	44.5	89	40-140
98-95-3	Nitrobenzene	50	33.7	67	40-140
62-75-9	n-Nitrosodimethylamine	50	23.5	47	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	38.3	77	40-140
86-30-6	N-Nitrosodiphenylamine	50	40.2	80	40-140
110-86-1	Pyridine	50	22.4	45	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	57%	15-110%
4165-62-2	Phenol-d5	21%	15-110%
118-79-6	2,4,6-Tribromophenol	93%	15-110%
4165-60-0	Nitrobenzene-d5	76%	30-130%
321-60-8	2-Fluorobiphenyl	87%	30-130%
1718-51-0	Terphenyl-d14	80%	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: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34084-BS	W14110.D	1	07/23/13	KR	07/22/13	OP34084	MSW638

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

MC22754-1, MC22754-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	40.2	80	40-140
208-96-8	Acenaphthylene	50	33.2	66	40-140
120-12-7	Anthracene	50	39.3	79	40-140
56-55-3	Benzo(a)anthracene	50	42.6	85	40-140
50-32-8	Benzo(a)pyrene	50	42.1	84	40-140
205-99-2	Benzo(b)fluoranthene	50	47.5	95	40-140
191-24-2	Benzo(g,h,i)perylene	50	39.6	79	40-140
207-08-9	Benzo(k)fluoranthene	50	43.5	87	40-140
218-01-9	Chrysene	50	39.3	79	40-140
53-70-3	Dibenzo(a,h)anthracene	50	41.5	83	40-140
206-44-0	Fluoranthene	50	42.4	85	40-140
86-73-7	Fluorene	50	41.1	82	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	40.3	81	40-140
90-12-0	1-Methylnaphthalene	50	39.0	78	40-140
91-57-6	2-Methylnaphthalene	50	37.1	74	40-140
85-01-8	Phenanthrene	50	38.9	78	40-140
129-00-0	Pyrene	50	40.2	80	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	56%	15-110%
4165-62-2	Phenol-d5	20%	15-110%
118-79-6	2,4,6-Tribromophenol	97%	15-110%
4165-60-0	Nitrobenzene-d5	88%	30-130%
321-60-8	2-Fluorobiphenyl	84%	30-130%
1718-51-0	Terphenyl-d14	85%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34082-MS	R32333.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179
OP34082-MSD	R32334.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179
MC22900-3	R32335.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179

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

MC22754-1, MC22754-2

CAS No.	Compound	MC22900-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		50	22.6	45	21.9	44	3	30-130/20
95-57-8	2-Chlorophenol	ND		50	43.8	88	41.4	83	6	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		50	45.7	91	43.7	87	4	30-130/20
120-83-2	2,4-Dichlorophenol	ND		50	45.6	91	43.8	88	4	30-130/20
105-67-9	2,4-Dimethylphenol	ND		50	41.5	83	39.1	78	6	30-130/20
51-28-5	2,4-Dinitrophenol	ND		50	44.6	89	43.4	87	3	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		50	46.9	94	45.8	92	2	30-130/20
95-48-7	2-Methylphenol	ND		50	40.3	81	39.1	78	3	30-130/20
	3&4-Methylphenol	ND		100	74.8	75	73.0	73	2	30-130/20
88-75-5	2-Nitrophenol	ND		50	46.2	92	44.3	89	4	30-130/20
100-02-7	4-Nitrophenol	ND		50	20.0	40	19.0	38	5	30-130/20
87-86-5	Pentachlorophenol	ND		50	46.7	93	43.9	88	6	30-130/20
108-95-2	Phenol	ND		50	20.2	40	19.3	39	5	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		50	49.8	100	48.4	97	3	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		50	48.2	96	46.7	93	3	30-130/20
62-53-3	Aniline	ND		50	34.9	70	34.3	69	2	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		50	44.7	89	44.4	89	1	40-140/20
85-68-7	Butyl benzyl phthalate	ND		50	42.5	85	42.3	85	0	40-140/20
100-51-6	Benzyl Alcohol	ND		50	36.5	73	36.1	72	1	40-140/20
91-58-7	2-Chloronaphthalene	ND		50	42.7	85	43.2	86	1	40-140/20
106-47-8	4-Chloroaniline	ND		50	39.3	79	38.7	77	2	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		50	38.3	77	38.8	78	1	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		50	37.2	74	37.5	75	1	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		50	38.1	76	37.9	76	1	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		50	48.4	97	48.4	97	0	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		50	37.4	75	37.8	76	1	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		50	47.3	95	46.9	94	1	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		50	44.6	89	45.6	91	2	40-140/20
91-94-1	3,3'-Dichlorohenzidine	ND		50	41.9	84	42.5	85	1	40-140/20
132-64-9	Dibenzofuran	ND		50	44.6	89	44.1	88	1	40-140/20
84-74-2	Di-n-butyl phthalate	ND		50	43.1	86	42.8	86	1	40-140/20
117-84-0	Di-n-octyl phthalate	ND		50	46.7	93	46.9	94	0	40-140/20
84-66-2	Diethyl phthalate	ND		50	42.1	84	43.1	86	2	40-140/20
131-11-3	Dimethyl phthalate	ND		50	32.5	65	34.9	70	7	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND		50	42.5	85	42.2	84	1	40-140/20
118-74-1	Hexachlorobenzene	ND		50	42.9	86	42.9	86	0	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34082-MS	R32333.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179
OP34082-MSD	R32334.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179
MC22900-3	R32335.D	1	07/23/13	KR	07/22/13	OP34082	MSR1179

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

MC22754-1, MC22754-2

CAS No.	Compound	MC22900-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		50	20.4	41	18.9	38* [a]	8	40-140/20
67-72-1	Hexachloroethane	ND		50	32.4	65	32.3	65	0	40-140/20
78-59-1	Isophorone	ND		50	39.3	79	38.7	77	2	40-140/20
88-74-4	2-Nitroaniline	ND		50	50.0	100	49.7	99	1	40-140/20
99-09-2	3-Nitroaniline	ND		50	44.2	88	44.6	89	1	40-140/20
100-01-6	4-Nitroaniline	ND		50	48.5	97	46.7	93	4	40-140/20
98-95-3	Nitrobenzene	ND		50	35.4	71	34.3	69	3	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		50	25.3	51	24.5	49	3	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		50	38.7	77	38.7	77	0	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		50	40.8	82	40.9	82	0	40-140/20
110-86-1	Pyridine	ND		50	23.1	46	21.1	42	9	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC22900-3	Limits
367-12-4	2-Fluorophenol	57%	54%	55%	15-110%
4165-62-2	Phenol-d5	21%	21%	20%	15-110%
118-79-6	2,4,6-Tribromophenol	92%	89%	83%	15-110%
4165-60-0	Nitrobenzene-d5	80%	79%	74%	30-130%
321-60-8	2-Fluorobiphenyl	91%	92%	87%	30-130%
1718-51-0	Terphenyl-d14	81%	82%	85%	30-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34084-MS	WI4111.D	1	07/23/13	KR	07/22/13	OP34084	MSW638
OP34084-MSD	WI4112.D	1	07/23/13	KR	07/22/13	OP34084	MSW638
MC22900-4	WI4113.D	1	07/23/13	KR	07/22/13	OP34084	MSW638

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

MC22754-1, MC22754-2

CAS No.	Compound	MC22900-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		50	41.6	83	42.2	84	1	40-140/20
208-96-8	Acenaphthylene	ND		50	34.8	70	34.9	70	0	40-140/20
120-12-7	Anthracene	ND		50	40.4	81	41.2	82	2	40-140/20
56-55-3	Benzo(a)anthracene	ND		50	44.6	89	44.8	90	0	40-140/20
50-32-8	Benzo(a)pyrene	ND		50	43.4	87	44.1	88	2	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		50	49.1	98	49.2	98	0	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND		50	41.1	82	42.0	84	2	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		50	44.4	89	46.3	93	4	40-140/20
218-01-9	Chrysene	ND		50	41.1	82	41.3	83	0	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		50	42.9	86	43.7	87	2	40-140/20
206-44-0	Fluoranthene	ND		50	44.2	88	43.9	88	1	40-140/20
86-73-7	Fluorene	ND		50	42.3	85	43.0	86	2	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		50	41.3	83	42.3	85	2	40-140/20
90-12-0	1-Methylnaphthalene	ND		50	41.1	82	40.6	81	1	40-140/20
91-57-6	2-Methylnaphthalene	ND		50	38.9	78	38.8	78	0	40-140/20
85-01-8	Phenanthrene	0.026	J	50	40.0	80	41.4	83	3	40-140/20
129-00-0	Pyrene	ND		50	41.8	84	41.5	83	1	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC22900-4	Limits
367-12-4	2-Fluorophenol	57%	54%		15-110%
4165-62-2	Phenol-d5	21%	20%		15-110%
118-79-6	2,4,6-Tribromophenol	100%	99%		15-110%
4165-60-0	Nitrobenzene-d5	90%	90%	87%	30-130%
321-60-8	2-Fluorobiphenyl	86%	87%	82%	30-130%
1718-51-0	Terphenyl-d14	87%	87%	87%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSR1179-CC1159	Injection Date:	07/23/13
Lab File ID:	R32324.D	Injection Time:	11:40
Instrument ID:	GCMSR	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	76980	4.31	284275	5.37	178259	6.91	309710	8.32	356647	11.31	330501	12.90
Upper Limit [a]	153960	4.81	568550	5.87	356518	7.41	619420	8.82	713294	11.81	661002	13.40
Lower Limit [b]	38490	3.81	142138	4.87	89130	6.41	154855	7.82	178324	10.81	165251	12.40
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	90139	4.31	332191	5.37	199647	6.91	359456	8.32	413652	11.31	388344	12.90
ZZZZZZ	97620	4.31	366536	5.37	218947	6.91	393783	8.32	433912	11.31	405931	12.90
ZZZZZZ	111842	4.31	420997	5.37	258497	6.91	477849	8.32	537374	11.31	498751	12.90
OP34082-MB	101685	4.31	392549	5.37	241136	6.91	448433	8.32	502615	11.31	463400	12.90
OP34082-BS	97361	4.31	376246	5.37	228589	6.91	413741	8.32	468013	11.31	429704	12.90
OP34082-MS	97244	4.31	367656	5.37	222273	6.91	410899	8.32	458195	11.31	423812	12.90
OP34082-MSD	91413	4.31	351479	5.37	213138	6.91	393915	8.32	440020	11.31	401259	12.90
MC22900-3	93519	4.31	359279	5.37	216730	6.91	409341	8.32	456193	11.31	422669	12.90
ZZZZZZ	100825	4.31	380769	5.37	232915	6.91	428455	8.32	483203	11.31	447809	12.90
OP34083-MB	99233	4.31	372747	5.37	229869	6.91	422841	8.32	463738	11.31	400551	12.90
OP34083-BS	88760	4.31	333984	5.37	204423	6.91	373144	8.32	407105	11.31	360533	12.90
ZZZZZZ	90436	4.31	347779	5.37	215813	6.91	389451	8.32	428320	11.31	380729	12.90
ZZZZZZ	81259	4.31	314145	5.37	188126	6.90	347518	8.32	386157	11.31	353482	12.90
ZZZZZZ	84804	4.31	319554	5.37	194654	6.91	358864	8.32	396199	11.31	367243	12.90

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Cbrysene-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: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSW638-CC633	Injection Date:	07/23/13
Lab File ID:	W14092.D	Injection Time:	08:11
Instrument ID:	GCMSW	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	193102	3.63	502863	4.61	249930	6.03	404799	7.30	268740	10.08	644563	11.51
Upper Limit [a]	386204	4.13	1005726	5.11	499860	6.53	809598	7.80	537480	10.58	1289126	12.01
Lower Limit [b]	96551	3.13	251432	4.11	124965	5.53	202400	6.80	134370	9.58	322282	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
OP34059-MB	227441	3.63	594659	4.61	290205	6.03	460865	7.30	296043	10.08	693169	11.51
OP34059-BS	247653	3.63	633787	4.61	308659	6.03	495635	7.31	313466	10.08	718454	11.51
OP34059-MS	199896	3.63	517447	4.61	256506	6.03	409986	7.30	267440	10.08	626882	11.51
OP34059-MSD	197570	3.63	513947	4.61	254707	6.03	401500	7.30	261986	10.08	616051	11.51
MC22780-2A	205158	3.63	524572	4.61	262105	6.03	416845	7.30	272931	10.08	628663	11.51
ZZZZZZ	223423	3.63	568670	4.61	281800	6.03	439385	7.30	271509	10.08	631337	11.51
ZZZZZZ	204734	3.63	527019	4.61	258101	6.03	406500	7.30	262023	10.08	613670	11.51
ZZZZZZ	199557	3.63	508799	4.61	252964	6.03	404531	7.30	259465	10.08	607928	11.51
ZZZZZZ	237633	3.63	597335	4.61	292539	6.03	455016	7.31	280495	10.08	668282	11.51
ZZZZZZ	212837	3.63	539459	4.61	264515	6.03	414826	7.31	265236	10.08	616273	11.51
ZZZZZZ	213783	3.63	531745	4.61	252444	6.03	388139	7.31	252172	10.09	591767	11.51
ZZZZZZ	194809	3.63	501228	4.61	251199	6.03	392673	7.31	257965	10.09	592241	11.51
ZZZZZZ	217940	3.63	552841	4.61	271603	6.04	428731	7.31	281977	10.09	635272	11.52
ZZZZZZ	213390	3.63	550600	4.61	266240	6.03	419457	7.31	276414	10.09	607733	11.52
ZZZZZZ	219145	3.63	560134	4.61	276938	6.03	433502	7.31	286472	10.08	631560	11.51
OP34084-MB	217687	3.63	568133	4.61	284906	6.03	455578	7.31	298780	10.08	675248	11.51
OP34084-BS	210003	3.63	542202	4.61	273649	6.03	446118	7.31	282638	10.09	636862	11.52
OP34084-MS	212301	3.63	543439	4.61	273490	6.04	447051	7.31	277522	10.09	629588	11.52
OP34084-MSD	201352	3.63	513546	4.61	257097	6.03	413036	7.31	268466	10.09	607255	11.51
MC22900-4	197277	3.63	511587	4.61	255686	6.03	411341	7.31	273525	10.08	615810	11.51
ZZZZZZ	365554	3.63	926319	4.61	464462	6.04	739852	7.31	490313	10.09	1068505	11.52
ZZZZZZ	193545	3.63	494930	4.61	245614	6.03	387318	7.31	260187	10.09	563524	11.51
ZZZZZZ	211425	3.63	542503	4.61	266401	6.03	422599	7.31	275534	10.09	607089	11.52
ZZZZZZ	196096	3.63	500770	4.61	248864	6.03	392632	7.31	256143	10.08	574069	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: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSW643-CC633	Injection Date:	07/30/13
Lab File ID:	W14207A.D	Injection Time:	15:33
Instrument ID:	GCMSW	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	158670	3.60	414604	4.58	205242	6.01	327251	7.28	219591	10.05	524243	11.48
Upper Limit [a]	317340	4.10	829208	5.08	410484	6.51	654502	7.78	439182	10.55	1048486	11.98
Lower Limit [b]	79335	3.10	207302	4.08	102621	5.51	163626	6.78	109796	9.55	262122	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
OP34122-MB	177072	3.60	476666	4.58	233161	6.01	378794	7.28	242515	10.05	556671	11.48
OP34122-BS	86204	3.60	224730	4.58	112496	6.01	182011	7.28	119656	10.05	282229	11.48
OP34122-MS	200445	3.60	526942	4.58	259369	6.01	420528	7.28	271634	10.06	623968	11.48
OP34122-MSD	199009	3.60	517416	4.58	257014	6.01	413183	7.28	264313	10.06	603275	11.48
MC22900-21	204035	3.60	533372	4.58	262921	6.01	421923	7.28	273995	10.05	623116	11.48
ZZZZZZ	165567	3.60	436255	4.58	215659	6.01	340526	7.28	224257	10.05	518600	11.48
OP34127-MS	195199	3.60	507089	4.58	246484	6.01	386188	7.28	240938	10.05	562431	11.48
OP34127-MSD	182910	3.60	475096	4.58	232124	6.01	364459	7.28	231415	10.05	545145	11.48
MC22903-2A	179648	3.60	467941	4.58	228940	6.01	358098	7.28	228004	10.05	528231	11.48
ZZZZZZ	182587	3.60	480516	4.58	235233	6.01	367872	7.28	237967	10.05	549517	11.48
ZZZZZZ	190527	3.60	499057	4.58	243646	6.01	383164	7.28	240740	10.05	556470	11.48
ZZZZZZ	176566	3.60	459107	4.58	224949	6.01	348770	7.28	219916	10.05	518714	11.48
ZZZZZZ	165626	3.60	436959	4.58	215852	6.01	333405	7.28	210592	10.05	496876	11.48
ZZZZZZ	154296	3.60	412769	4.58	202099	6.01	318023	7.28	200918	10.05	467693	11.48
ZZZZZZ	196363	3.60	514698	4.58	249726	6.01	387149	7.28	244078	10.05	556688	11.48
ZZZZZZ	165068	3.60	445394	4.58	220168	6.01	350480	7.28	227517	10.05	515518	11.48
ZZZZZZ	187999	3.60	488456	4.58	243372	6.01	386995	7.28	246010	10.05	550567	11.48
ZZZZZZ	162810	3.60	431416	4.58	214458	6.01	341244	7.28	221431	10.05	510638	11.48
ZZZZZZ	205999	3.60	549592	4.58	271893	6.01	434115	7.28	277186	10.05	618033	11.48
OP34127-MB	204307	3.60	540423	4.58	262877	6.01	407907	7.28	250609	10.05	570445	11.48
OP34127-BS	177000	3.60	458929	4.58	227785	6.01	364747	7.28	229915	10.05	533465	11.48
ZZZZZZ	205717	3.60	545746	4.58	268305	6.01	428969	7.28	277430	10.05	645500	11.48
ZZZZZZ	164765	3.60	431320	4.58	217212	6.01	346360	7.28	234035	10.05	546751	11.48
ZZZZZZ	192284	3.60	507740	4.58	248417	6.01	393110	7.28	245669	10.05	553470	11.48
ZZZZZZ	178904	3.60	473610	4.58	234631	6.01	370428	7.28	244431	10.05	561186	11.48
ZZZZZZ	178748	3.60	466955	4.58	231068	6.01	366848	7.28	234187	10.05	532612	11.48
ZZZZZZ	192154	3.60	515855	4.58	254486	6.01	404147	7.28	260871	10.05	586388	11.48
MC22754-1	163260	3.60	431624	4.58	217873	6.01	350311	7.28	233706	10.05	539238	11.48
MC22754-2	151221	3.60	400891	4.58	200150	6.01	324872	7.28	219014	10.05	519128	11.48

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: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSW643-CC633	Injection Date:	07/30/13
Lab File ID:	W14207A.D	Injection Time:	15:33
Instrument ID:	GCMSW	Method:	SW846 8270C BY SIM

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

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: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSW646-CC633	Injection Date:	07/31/13
Lab File ID:	W14262.D	Injection Time:	17:03
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	279952	3.59	738324	4.57	370376	5.99	583458	7.26	372922	10.03	859175	11.45
Upper Limit [a]	559904	4.09	1476648	5.07	740752	6.49	1166916	7.76	745844	10.53	1718350	11.95
Lower Limit [b]	139976	3.09	369162	4.07	185188	5.49	291729	6.76	186461	9.53	429588	10.95

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
OP34211-MB	140801	3.68	564115	4.73	352961	6.24	591071	7.57	611115	10.46	574573	12.03*
OP34202-MB	140801	3.68	564115	4.73	352961	6.24	591071	7.57	611115	10.46	574573	12.03*
OP34211-BS	160225	3.68	634919	4.73	392657	6.24	665835	7.57	647082	10.47	635978	12.03*
OP34202-BS	160225	3.68	634919	4.73	392657	6.24	665835	7.57	647082	10.47	635978	12.03*
OP34202-MS	145729	3.68	582949	4.73	363057	6.24	620214	7.57	603623	10.46	589831	12.03*
OP34202-MSD	145829	3.68	584815	4.73	360489	6.24	614454	7.57	598399	10.46	597719	12.03*
MC23100-2	139860*	3.68	558470	4.73	351045	6.24	594952	7.57	588691	10.46	557155	12.03*
ZZZZZZ	138252*	3.68	556022	4.73	347601	6.24	581874	7.57	592400	10.46	567722	12.03*
ZZZZZZ	131650*	3.68	517184	4.73	322347	6.24	557014	7.57	560337	10.46	541625	12.03*
ZZZZZZ	120517*	3.68	487874	4.73	303129	6.24	516166	7.57	514153	10.46	496478	12.03*
ZZZZZZ	130627*	3.68	522938	4.73	322872	6.24	540342	7.57	554106	10.46	529899	12.03*
ZZZZZZ	125788*	3.68	501678	4.73	312953	6.24	523425	7.57	545010	10.46	519366	12.03*
ZZZZZZ	128232*	3.68	506830	4.73	313849	6.24	524818	7.57	543409	10.46	521977	12.03*
MC22754-1	128266*	3.68	510255	4.73	323150	6.24	536949	7.57	549363	10.46	523197	12.03*
MC22754-2	140318	3.68	559313	4.73	347683	6.24	582272	7.57	599147	10.46	565883	12.03*
ZZZZZZ	314724	3.59	830039	4.57	416044	5.99	649114	7.26	415052	10.03	955285	11.45
ZZZZZZ	295197	3.59	781273	4.57	387606	5.99	615043	7.26	398232	10.03	907045	11.45
ZZZZZZ	286831	3.59	756162	4.57	373246	5.99	588475	7.26	378914	10.03	871619	11.45
ZZZZZZ	282479	3.59	738703	4.57	372057	5.99	588240	7.26	379750	10.03	866568	11.45
ZZZZZZ	300844	3.59	786733	4.57	393744	5.99	618768	7.26	408114	10.03	918684	11.45
ZZZZZZ	293503	3.59	772726	4.57	383463	5.99	603941	7.26	391700	10.03	900407	11.45
ZZZZZZ	296200	3.59	783061	4.57	391731	5.99	619437	7.26	395510	10.03	911718	11.45
ZZZZZZ	276759	3.59	724469	4.57	358355	5.99	568653	7.26	366102	10.03	844639	11.45
ZZZZZZ	301192	3.59	799512	4.57	396573	5.99	625152	7.26	395491	10.03	912997	11.45
ZZZZZZ	146887	3.68	583950	4.73	363193	6.24	606435	7.57	623190	10.46	603834	12.03*
ZZZZZZ	143646	3.68	574389	4.73	355073	6.24	585831	7.58	601639	10.46	571888	12.03*

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: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSW646-CC633	Injection Date:	07/31/13
Lab File ID:	W14262.D	Injection Time:	17:03
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.

7.4.4

7

Semivolatile Surrogate Recovery Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22754-1	W14275.D	60.0	32.0	87.0	72.0	75.0	79.0
MC22754-2	W14276.D	59.0	23.0	97.0	79.0	80.0	84.0
OP34082-BS	R32332.D	57.0	21.0	93.0	76.0	87.0	80.0
OP34082-MB	R32331.D	48.0	18.0	73.0	67.0	77.0	77.0
OP34082-MS	R32333.D	57.0	21.0	92.0	80.0	91.0	81.0
OP34082-MSD	R32334.D	54.0	21.0	89.0	79.0	92.0	82.0

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: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22754-1	W14235.D	79.0	80.0	80.0
MC22754-2	W14236.D	83.0	85.0	86.0
OP34084-BS	W14110.D	88.0	84.0	85.0
OP34084-MB	W14109.D	76.0	73.0	81.0
OP34084-MS	W14111.D	90.0	86.0	87.0
OP34084-MSD	W14112.D	90.0	87.0	87.0

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: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34095-MB	BK27122.D	1	07/25/13	NK	07/23/13	OP34095	GBK930

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

MC22754-1, MC22754-2, MC22754-4

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropaue	ND	0.015	0.0045	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.0097	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	138%	36-173%
460-00-4	Bromofluorobenzene (S)	123%	36-173%

Blank Spike Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34095-BS	BK27123.D	1	07/25/13	NK	07/23/13	OP34095	GBK930

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

MC22754-1, MC22754-2, MC22754-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.085	120	60-140
106-93-4	1,2-Dibromoethane	0.071	0.077	108	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	125%	36-173%
460-00-4	Bromofluorobenzene (S)	107%	36-173%

8.2.1

8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34095-MS	BK27124.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
OP34095-MSD	BK27125.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
MC22692-3	BK27129.D	1	07/25/13	NK	07/23/13	OP34095	GBK930

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

MC22754-1, MC22754-2, MC22754-4

CAS No.	Compound	MC22692-3 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		0.0677	0.060	89	0.057	84	5	64-141/29
106-93-4	1,2-Dibromoetbane	ND		0.0677	0.071	105	0.073	108	3	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC22692-3	Limits
460-00-4	Bromofluorobenzene (S)	89%	87%	123%	36-173%
460-00-4	Bromofluorobenzene (S)	76%	64%	91%	36-173%

8.3.1

8

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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]
MC22754-1	BK27132.D	105.0	82.0
MC22754-2	BK27133.D	101.0	81.0
MC22754-4	BK27134.D	90.0	81.0
OP34095-BS	BK27123.D	125.0	107.0
OP34095-MB	BK27122.D	138.0	123.0
OP34095-MS	BK27124.D	89.0	76.0
OP34095-MSD	BK27125.D	87.0	64.0

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

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

8.4.1

GC Surrogate Retention Time Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	GBK930-CC929	Injection Date:	07/25/13
Lab File ID:	BK27116A.D	Injection Time:	05:10
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.58	4.94

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK27117.D	07/25/13	05:36	4.58	4.94
ZZZZZZ	BK27118.D	07/25/13	06:00	4.58	4.94
ZZZZZZ	BK27119.D	07/25/13	06:24	4.58	4.94
ZZZZZZ	BK27120.D	07/25/13	06:48	4.58	4.94
ZZZZZZ	BK27121.D	07/25/13	07:12	4.58	4.94
OP34095-MB	BK27122.D	07/25/13	07:35	4.58	4.94
OP34095-BS	BK27123.D	07/25/13	07:59	4.58	4.94
OP34095-MS	BK27124.D	07/25/13	08:23	4.58	4.94
OP34095-MSD	BK27125.D	07/25/13	08:47	4.58	4.94
ZZZZZZ	BK27126.D	07/25/13	09:11	4.58	4.94

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC22754
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	GBK930-CC929	Injection Date:	07/25/13
Lab File ID:	BK27127.D	Injection Time:	09:36
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.58	4.94

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK27128.D	07/25/13	10:00	4.58	4.94
MC22692-3	BK27129.D	07/25/13	10:24	4.58	4.94
ZZZZZZ	BK27130.D	07/25/13	10:49	4.58	4.94
ZZZZZZ	BK27131.D	07/25/13	11:13	4.58	4.94
MC22754-1	BK27132.D	07/25/13	11:37	4.58	4.94
MC22754-2	BK27133.D	07/25/13	12:01	4.58	4.94
MC22754-4	BK27134.D	07/25/13	12:25	4.58	4.94
ZZZZZZ	BK27135.D	07/25/13	12:50	4.58	4.94
ZZZZZZ	BK27136.D	07/25/13	13:14	4.58	4.94
ZZZZZZ	BK27137.D	07/25/13	13:38	4.58	4.94

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

Roxana Groundwater Quarterly – 3rd Quarter 2013 Data Review

Laboratory SDG: MC22808

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 8/15/2013

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

Sample Identification	Sample Identification
MW4-ROX-071713	MW7-ROX-071713
MW8-ROX-071713	MW8-ROX-071713-Dup
TB-ROX-071713-HCL	TB-ROX-071713-ST

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 sample MW7-ROX071713 was re-analyzed for benzene outside holding time criteria. VOC and SVOC LCS recoveries were outside evaluation criteria. The VOC surrogate toluene-d_8 was outside evaluation criteria for sample MW7-ROX-071713. Although not indicated in the laboratory case narrative, SVOCs and PAHs were detected in the method blank. The difference in 1-methylnaphthalene results for the field duplicate pair MW8-ROX-071713/MW8-ROX-071713-Dup was greater than two times (2X) the reporting level; therefore, results were qualified as estimated. Samples were diluted due to high levels of VOC target analytes. Additionally, the initial calibration verification for acrolein and hexachlorocyclopentadiene exceeded 50 percent difference (%D). Professional judgment was used to qualify the common laboratory contaminant acetone in sample MW8-ROX-071713. 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, sample MW7-ROX-071713 was re-analyzed for benzene one day outside the fourteen (14) day holding time criteria for analysis.

Sample ID	Parameter	Analyte	Qualification
MW7-ROX-071713 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
OP34099-MB	SVOCs	3,3'-Dichlorobenzidine	2.6 ug/L
OP34099-MB	SVOCs	Di-n-butyl phthalate	0.40 ug/L
OP34099-MB	SVOCs	Di-n-octyl phthalate	5.7 ug/L
OP34099-MB	SVOCs	bis(2-Ethylhexyl)phthalate	2.5 ug/L
OP34100-MB	PAHs	Acenaphthene	0.015 ug/L
OP34100-MB	PAHs	Phenanthrene	0.024 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 required qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
MW4-ROX-071713	PAHs	Acenaphthene	-	**U**
MW4-ROX-071713	PAHs	Phenanthrene	-	**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
MSL3537-BS	VOCs	Vinyl acetate	**57**	NA	70-130
MSK2364-BS	VOCs	2-Butanone (MEK)	**133**	NA	70-130
MSK2364-BS	VOCs	2-Chloroethyl vinyl ether	**66**	NA	70-130
MSK2364-BS	VOCs	Vinyl acetate	**69**	NA	70-130
OP34099-BS	SVOCs	Hexachlorocyclopentadiene	**29**	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 MSL3537-BS and MSK2364-BS were associated with the trip blank. Trip blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
MW4-ROX-071713	VOCs	Vinyl acetate	**J**
MW7-ROX-071713	VOCs	Vinyl acetate	**J**
MW8-ROX-071713	VOCs	Vinyl acetate	**UJ**
MW8-ROX-071713-Dup	VOCs	Vinyl acetate	**UJ**
MW4-ROX-071713	VOCs	2-Chloroethyl vinyl ether	**UJ**
MW7-ROX-071713	VOCs	2-Chloroethyl vinyl ether	**UJ**
MW8-ROX-071713	VOCs	2-Chloroethyl vinyl ether	**UJ**
MW8-ROX-071713-Dup	VOCs	2-Chloroethyl vinyl ether	**UJ**
MW4-ROX-071713	SVOCs	Hexachlorocyclopentadiene	**UJ**

Sample ID	Parameter	Analyte	Qualification
MW7-ROX-071713	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW8-ROX-071713	SVOCs	Hexachlorocyclopentadiene	**UJ**
MW8-ROX-071713-Dup	SVOCs	Hexachlorocyclopentadiene	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
MW7-ROX-071713 Run#1	VOCs	Toluene-d_8	**139**	70-130

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
MW7-ROX-071713	VOCs	sec-Butylbenzene	**J**
MW7-ROX-071713	VOCs	Ethylbenzene	**J**
MW7-ROX-071713	VOCs	Isopropylbenzene	**J**
MW7-ROX-071713	VOCs	p-Isopropyltoluene	**J**
MW7-ROX-071713	VOCs	Methyl tert butyl ether	**J**
MW7-ROX-071713	VOCs	Naphthalene	**J**
MW7-ROX-071713	VOCs	n-Propylbenzene	**J**
MW7-ROX-071713	VOCs	Toluene	**J**
MW7-ROX-071713	VOCs	1,2,4-Trimethylbenzene	**J**
MW7-ROX-071713	VOCs	1,3,5-Trimethylbenzene	**J**
MW7-ROX-071713	VOCs	m,p-Xylene	**J**
MW7-ROX-071713	VOCs	o-Xylene	**J**
MW7-ROX-071713	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?

Yes

Field ID	Field Duplicate ID
MW8-ROX-071713	MW8-ROX-071713-Dup

Were field duplicates within evaluation criteria?

No

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
MW8-ROX-071713	MW8-ROX-071713-Dup	PAHs	1-Methylnaphthalene	**>2X RL**	**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 for acrolein and hexachlorocyclopentadiene exceeded 50 percent difference (%D). Hexachlorocyclopentadiene in associated samples was qualified in Section 5.0 in this data review due to LCS criteria; no further qualification of data was required. Acrolein in associated samples was qualified as summarized in the following table.

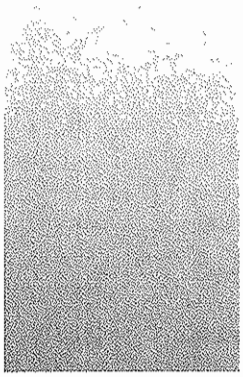
Sample ID	Parameter	Analyte	Qualification
MW4-ROX-071713	VOCs	Acrolein	**UJ**
MW7-ROX-071713	VOCs	Acrolein	**UJ**
MW8-ROX-071713	VOCs	Acrolein	**UJ**
MW8-ROX-071713-Dup	VOCs	Acrolein	**UJ**

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

Sample ID	Analyte	New RL	Qualification	Comment
MW8-ROX-071713	Acetone	-	**U**	Professional Judgment

New England ACCUTEST LABORATORIES

08/12/13



Technical Report for

Shell Oil

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana,

Accutest Job Number: MC22808

Sampling Date: 07/17/13

Report to:

URS Corporation

Melissa.mansker@urs.com

ATTN: Melissa Mansker

Total number of pages in report: **102**

Reviewed on 8/15/2013

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: Matthew Morrell 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)

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6 7 8

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Summary of Hits **6**
Section 4: Sample Results **9**
4.1: MC22808-1: MW4-ROX-071713 10
4.2: MC22808-2: MW7-ROX-071713 17
4.3: MC22808-3: MW8-ROX-071713 24
4.4: MC22808-4: MW8-ROX-071713-DUP 31
4.5: MC22808-5: TB-ROX-071713-HCL 38
4.6: MC22808-6: TB-ROX-071713-ST 41
Section 5: Misc. Forms **42**
5.1: Chain of Custody 43
5.2: Sample Tracking Chronicle 45
5.3: Internal Chain of Custody 47
Section 6: GC/MS Volatiles - QC Data Summaries **50**
6.1: Method Blank Summary 51
6.2: Blank Spike Summary 59
6.3: Matrix Spike/Matrix Spike Duplicate Summary 67
6.4: Internal Standard Area Summaries 75
6.5: Surrogate Recovery Summaries 79
Section 7: GC/MS Semi-volatiles - QC Data Summaries **80**
7.1: Method Blank Summary 81
7.2: Blank Spike Summary 84
7.3: Matrix Spike/Matrix Spike Duplicate Summary 87
7.4: Internal Standard Area Summaries 90
7.5: Surrogate Recovery Summaries 93
Section 8: GC Volatiles - QC Data Summaries **95**
8.1: Method Blank Summary 96
8.2: Blank Spike Summary 97
8.3: Matrix Spike/Matrix Spike Duplicate Summary 98
8.4: Surrogate Recovery Summaries 99
8.5: GC Surrogate Retention Time Summaries 100

1

Sample Summary

Shell Oil

Job No: MC22808

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC22808-1	07/17/13	09:35	LRDM	07/18/13	AQ	Ground Water	MW4-ROX-071713
MC22808-2	07/17/13	10:30	LRDM	07/18/13	AQ	Ground Water	MW7-ROX-071713
MC22808-3	07/17/13	11:30	LRDM	07/18/13	AQ	Ground Water	MW8-ROX-071713
MC22808-4	07/17/13	11:30	LRDM	07/18/13	AQ	Ground Water	MW8-ROX-071713-DUP
MC22808-5	07/17/13	00:00	LRDM	07/18/13	AQ	Ground Water	TB-ROX-071713-HCL
MC22808-6	07/17/13	00:00	LRDM	07/18/13	AQ	Ground Water	TB-ROX-071713-ST

ACCUTEST Laboratories

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	**Job No**	MC22808
Site:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central	**Report Date**	8/2/2013 11:29:33 AM

6 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 07/17/2013 and were received at Accutest on 07/18/2013 properly preserved, at 2.1 Deg. C and intact. These Samples received an Accutest job number of MC22808. 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:** MSK2364

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC23063-7MS, MC23063-7MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MSK2364-BS for 2-Butanone (MEK), 2-Chloroethyl vinyl ether, Vinyl Acetate are outside control limits. Blank Spike meets program technical requirements.
- MC23063-7MS/MSD for Acetone are outside control limits due to possible matrix interferenee. Refer to Blank Spike.

Matrix: AQ **Batch ID:** MSK2366

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22784-4MS, MC22784-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MC22784-4MS/MSD for Benzene are outside control limits due to high level in sample relative to spike amount.

Matrix: AQ **Batch ID:** MSK2368

- All method blanks for this batch meet method specific criteria.
- The following samples were run outside of holding time for method SW846 8260B: MC22808-2. Sample reanalyzed past recommended hold time.

Matrix: AQ **Batch ID:** MSL3537

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC22841-37MS, MC22841-37MSD were used as the QC samples indicated.
- MSL3537-BS for Vinyl Acetate are outside control limits. Blank Spike meets program technical requirements.
- MC22841-37MS for 2-Butanone (MEK), 4-Methyl-2-pentanone (MIBK), Acetone, Acrylonitrile, Chloromethane, Ethylbenzene, Vinyl Acetate, Vinyl chloride are outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC22841-37MSD for 2-Butanone (MEK), Acetone, Acrylonitrile, Chloromethane, Vinyl Acetate, Vinyl chloride are outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC22808-2 for Toluene-D8: Outside control limits due to possible matrix interference. Confirmed by reanalysis.
- Initial calibration verification MSL3534-ICV3534 for acrolein exceeds 50% Difference. Acrolein is within criteria in continuing calibration check MSL3537-CC3534.

Extractables by GCMS By Method SW846 8270C

Matrix: AQ	Batch ID: OP34099

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22900-7MS, MC22900-7MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- OP34099-BS for Hexachlorocyclopentadiene are outside control limits. Blank Spike meets program technical requirements.
- OP34099-MS for Hexachlorocyclopentadiene are outside control limits due to possible matrix interference. Refer to Blank Spike.
- OP34099-MSD for Hexachlorocyclopentadiene, Pyridine are outside control limits due to possible matrix interference. Refer to Blank Spike.
- Initial calibration verification MSF3031-ICV3031 for Hexachlorocyclopentadiene exceeds 50% Difference. Hexachlorocyclopentadiene is within criteria in continuing calibration check MSF3050-CC3031.
- Initial calibration verification MSR1160-ICV1159 for Hexachlorocyclopentadiene exceeds 50% Difference. Hexachlorocyclopentadiene is within criteria in continuing calibration check MSR1181-CC1159.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix: AQ	Batch ID: OP34100

- 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) MC22900-8MS, MC22900-8MSD were used as the QC samples indicated.

Volatiles by GC By Method SW846 8011

Matrix: AQ	Batch ID: OP34095

- 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) MC22692-3MS, MC22692-3MSD 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(MC22808).

Summary of Hits

Job Number: MC22808
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/17/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC22808-1	MW4-ROX-071713					
Benzene		12200	130	110	ug/l	SW846 8260B
sec-Butylbenzene		1.6 J	5.0	0.58	ug/l	SW846 8260B
Ethylbenzene		1.5	1.0	0.38	ug/l	SW846 8260B
2-Hexanone		4.1 J	5.0	2.3	ug/l	SW846 8260B
Isopropylbenzene		6.7	5.0	0.64	ug/l	SW846 8260B
Methyl Tert Butyl Ether		55.9	1.0	0.43	ug/l	SW846 8260B
n-Propylbenzene		8.0	5.0	0.59	ug/l	SW846 8260B
Toluene		38.1	1.0	0.46	ug/l	SW846 8260B
1,1,2-Trichloroethane		0.85 J	1.0	0.49	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		1.2 J	5.0	0.47	ug/l	SW846 8260B
Vinyl Acetate		39.2	5.0	1.3	ng/l	SW846 8260B
m,p-Xylene		30.2	1.0	0.70	ug/l	SW846 8260B
o-Xylene		5.2	1.0	0.41	ug/l	SW846 8260B
Xylene (total)		35.3	1.0	0.41	ug/l	SW846 8260B
Phenol		66.1	5.5	0.56	ug/l	SW846 8270C
Acenaphthene		0.036 J	0.11	0.015	ug/l	SW846 8270C BY SIM
Benzo(a)pyrene		0.040 J	0.11	0.019	ug/l	SW846 8270C BY SIM
Benzo(b)fluoranthene		0.034 J	0.055	0.026	ug/l	SW846 8270C BY SIM
Benzu(g,h,i)perylene		0.061 J	0.11	0.041	ug/l	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene		0.052 J	0.11	0.051	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		0.37	0.22	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		0.23	0.22	0.057	ug/l	SW846 8270C BY SIM
Phenanthrene		0.030 J	0.055	0.014	ug/l	SW846 8270C BY SIM
MC22808-2	MW7-ROX-071713					
Benzene [a]		1000000	5000	4500	ug/l	SW846 8260B
sec-Butylbenzene		2.3 J	5.0	0.58	ug/l	SW846 8260B
Ethylbenzene		200	1.0	0.38	ug/l	SW846 8260B
Isopropylbenzene		9.6	5.0	0.64	ug/l	SW846 8260B
p-Isopropyltoluene		1.6 J	5.0	0.55	ng/l	SW846 8260B
Methyl Tert Butyl Ether		3.1	1.0	0.43	ug/l	SW846 8260B
Naphthalene		18.5	5.0	0.79	ug/l	SW846 8260B
n-Propylbenzene		17.3	5.0	0.59	ug/l	SW846 8260B
Toluene		289	1.0	0.46	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		117	5.0	0.47	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		26.4	5.0	1.1	ug/l	SW846 8260B
Vinyl Acetate		9.4	5.0	1.3	ug/l	SW846 8260B
m,p-Xylene		455	1.0	0.70	ug/l	SW846 8260B
o-Xylene		183	1.0	0.41	ug/l	SW846 8260B
Xylene (total)		639	1.0	0.41	ug/l	SW846 8260B
Phenol		118	5.4	0.56	ug/l	SW846 8270C
Acenaphthene		0.19	0.11	0.015	ug/l	SW846 8270C BY SIM

Summary of Hits

Job Number: MC22808
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/17/13

Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
Acenaphthylene	0.031 J	0.11	0.014	ug/l	SW846 8270C BY SIM
Anthracene	0.028 J	0.11	0.019	ug/l	SW846 8270C BY SIM
Benzo(a)anthracene	0.040 J	0.054	0.033	ug/l	SW846 8270C BY SIM
Benzo(a)pyrene	0.044 J	0.11	0.019	ug/l	SW846 8270C BY SIM
Benzo(b)fluoranthene	0.045 J	0.054	0.026	ug/l	SW846 8270C BY SIM
Benzo(g,h,i)perylene	0.080 J	0.11	0.041	ug/l	SW846 8270C BY SIM
Dibenzo(a,h)anthracene	0.077 J	0.11	0.045	ug/l	SW846 8270C BY SIM
Fluorene	0.19	0.11	0.050	ug/l	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene	0.078 J	0.11	0.050	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene	4.3	0.22	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene	6.0	0.22	0.056	ug/l	SW846 8270C BY SIM
Phenanthrene	0.24	0.054	0.014	ug/l	SW846 8270C BY SIM
Pyrene	0.039 J	0.11	0.039	ug/l	SW846 8270C BY SIM
MC22808-3 MW8-ROX-071713					
Acetone	8.0 J	10	2.8	ug/l	SW846 8260B
Benzene	532000	1000	900	ug/l	SW846 8260B
sec-Butylbenzene	3.3 J	5.0	0.58	ug/l	SW846 8260B
Ethylbenzene	508	100	38	ug/l	SW846 8260B
Isopropylbenzene	17.3	5.0	0.64	ug/l	SW846 8260B
p-Isopropyltoluene	2.3 J	5.0	0.55	ug/l	SW846 8260B
Methyl Tert Butyl Ether	197	1.0	0.43	ug/l	SW846 8260B
Naphthalene	33.5	5.0	0.79	ug/l	SW846 8260B
n-Propylbenzene	37.4	5.0	0.59	ug/l	SW846 8260B
Toluene	348	1.0	0.46	ug/l	SW846 8260B
1,2,4-Trimethylbenzene	199	5.0	0.47	ug/l	SW846 8260B
1,3,5-Trimethylbenzene	59.8	5.0	1.1	ug/l	SW846 8260B
m,p-Xylene	1010	100	70	ug/l	SW846 8260B
o-Xylene	361	1.0	0.41	ug/l	SW846 8260B
Xylene (total)	1300	100	41	ug/l	SW846 8260B
2,4-Dimethylphenol	9.0 J	10	1.2	ug/l	SW846 8270C
2-Methylphenol	4.6 J	10	1.3	ug/l	SW846 8270C
3&4-Methylphenol	10.6	10	2.1	ug/l	SW846 8270C
Phenol	328	26	2.7	ug/l	SW846 8270C
Acenaphthene	0.20	0.10	0.014	ug/l	SW846 8270C BY SIM
Anthracene	0.049 J	0.10	0.018	ug/l	SW846 8270C BY SIM
Benzo(a)pyrene	0.021 J	0.10	0.018	ug/l	SW846 8270C BY SIM
Benzo(g,h,i)perylene	0.040 J	0.10	0.039	ug/l	SW846 8270C BY SIM
Fluorene	0.33	0.10	0.048	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene	9.7	0.21	0.15	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene	11.3	0.21	0.054	ug/l	SW846 8270C BY SIM
Phenanthrene	0.15	0.052	0.013	ug/l	SW846 8270C BY SIM
Pyrene	0.062 J	0.10	0.037	ug/l	SW846 8270C BY SIM

Summary of Hits

Job Number: MC22808
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/17/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC22808-4	MW8-ROX-071713-DUP					
Benzene		494000	2500	2300	ug/l	SW846 8260B
sec-Butylbenzene		3.1 J	5.0	0.58	ug/l	SW846 8260B
Ethylbenzene		442 J	1000	380	ug/l	SW846 8260B
Isopropylbenzene		17.4	5.0	0.64	ug/l	SW846 8260B
p-Isopropyltoluene		2.4 J	5.0	0.55	ug/l	SW846 8260B
Methyl Tert Butyl Ether		187	1.0	0.43	ug/l	SW846 8260B
Naphthalene		34.7	5.0	0.79	ug/l	SW846 8260B
n-Propylbenzene		38.3	5.0	0.59	ug/l	SW846 8260B
Toluene		341	1.0	0.46	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		203	5.0	0.47	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		61.3	5.0	1.1	ug/l	SW846 8260B
m,p-Xylene		818 J	1000	700	ug/l	SW846 8260B
o-Xylene		364	1.0	0.41	ug/l	SW846 8260B
Xylene (total)		1050	1000	410	ug/l	SW846 8260B
2,4-Dimethylphenol		8.9 J	11	1.2	ug/l	SW846 8270C
2-Methylphenol		3.7 J	11	1.4	ug/l	SW846 8270C
3&4-Methylphenol		9.1 J	11	2.2	ug/l	SW846 8270C
Pheuol		303	27	2.8	ug/l	SW846 8270C
Dibenzofuran		0.40 J	2.2	0.17	ng/l	SW846 8270C
Acenaphthene		0.19	0.11	0.015	ug/l	SW846 8270C BY SIM
Acenaphthylene		0.056 J	0.11	0.014	ug/l	SW846 8270C BY SIM
Anthracene		0.061 J	0.11	0.019	ug/l	SW846 8270C BY SIM
Fluorene		0.36	0.11	0.050	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		8.7	0.22	0.15	ug/l	SW846 8270C BY SIM
2-Methyluaphthalene		9.8	0.22	0.056	ug/l	SW846 8270C BY SIM
Phenanthrene		0.16	0.054	0.014	ug/l	SW846 8270C BY SIM
MC22808-5	TB-ROX-071713-HCL					
No hits reported in this sample.						
MC22808-6	TB-ROX-071713-ST					
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:	MW4-ROX-071713		
Lab Sample ID:	MC22808-1	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L76152.D	1	07/30/13	KR	n/a	n/a	MSL3537
Run #2	K72604.D	25	07/30/13	GK	n/a	n/a	MSK2364
Run #3	K72655.D	250	07/31/13	GK	n/a	n/a	MSK2366

	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	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	12200 [a]	130	110	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ng/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ng/l	
75-25-2	Bromoform	ND	1.0	0.42	ng/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	1.6	5.0	0.58	ug/l	J
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND [b]	130	28	ug/l	UJ
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotolnene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromocbloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorohenzene	ND	1.0	0.35	ng/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071713		
Lab Sample ID:	MC22808-1	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	50	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	1.5	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	4.1	5.0	2.3	ug/l	J
98-82-8	Isopropylbenzene	6.7	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	55.9	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	8.0	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	38.1	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	0.85	1.0	0.49	ug/l	J
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	1.2	5.0	0.47	ug/l	J
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	39.2	5.0	1.3	ug/l	J
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	30.2	1.0	0.70	ug/l	
95-47-6	o-Xylene	5.2	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	35.3	1.0	0.41	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:	MW4-ROX-071713		
Lab Sample ID:	MC22808-1	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
1868-53-7	Dibromofluoromethane	86%	108%	113%	70-130%
2037-26-5	Toluene-D8	94%	100%	98%	70-130%
460-00-4	4-Bromofluorobenzene	107%	94%	93%	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
(b) 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:	MW4-ROX-071713		
Lab Sample ID:	MC22808-1	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32372.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181
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	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.54	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.36	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	1.3	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	
	3&4-Methylphenol	ND	11	2.2	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.55	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.64	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ng/l	
108-95-2	Phenol	66.1	5.5	0.56	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.63	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.35	ug/l	
62-53-3	Aniline	ND	11	0.70	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.5	0.22	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.5	0.94	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.63	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.5	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.27	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.5	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.5	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.5	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.5	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.5	0.72	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.74	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.71	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.5	0.55	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.5	0.43	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.5	0.48	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration rauge
J = Indicates 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-071713		
Lab Sample ID:	MC22808-1	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

ABN Spccial List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.5	0.55	ug/l	
131-11-3	Dimethyl phthalate	ND	5.5	0.55	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.54	ug/l	
118-74-1	Hexachlorobenzene	ND	5.5	0.33	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.7	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.5	0.48	ug/l	
78-59-1	Isophorone	ND	5.5	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.31	ng/l	
99-09-2	3-Nitroaniline	ND	11	0.55	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.8	ug/l	
98-95-3	Nitrobenzene	ND	5.5	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.5	0.55	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.5	0.89	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.5	0.59	ug/l	
110-86-1	Pyridine	ND	11	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	37%		15-110%
4165-62-2	Phenol-d5	17%		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	75%		30-130%
1718-51-0	Terphenyl-d14	81%		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:	MW4-ROX-071713		
Lab Sample ID:	MC22808-1	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14163.D	1	07/25/13	WK	07/23/13	OP34100	MSW640
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	~~0.036~~ 0.015	0.11	0.015	ug/l	J 0.015
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	0.040	0.11	0.019	ug/l	J
205-99-2	Benzo(b)fluoranthene	0.034	0.055	0.026	ug/l	J
191-24-2	Benzo(g,h,i)perylene	0.061	0.11	0.041	ug/l	J
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	0.052	0.11	0.051	ug/l	J
90-12-0	1-Methylnaphthalene	0.37	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	0.23	0.22	0.057	ug/l	
85-01-8	Phenanthrene	~~0.030~~ 0.014	0.055	0.014	ug/l	J 0.014
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	37%		15-110%
4165-62-2	Phenol-d5	17%		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	72%		30-130%
1718-51-0	Terphenyl-d14	85%		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-071713		
Lab Sample ID:	MC22808-1	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxaua 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27135.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
Run #2							

	Initial Volume	Final Volume
Run #1	36.6 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	0.014	0.0043	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0092	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	89%		36-173%
460-00-4	Bromofluorobenzene (S)	95%		36-173%

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

Report of Analysis

Client Sample ID:	MW7-ROX-071713		
Lab Sample ID:	MC22808-2	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L76153.D	1	07/30/13	KR	n/a	n/a	MSL3537
Run #2	K72605.D	100	07/30/13	GK	n/a	n/a	MSK2364
Run #3 [a]	K72705.D	10000	08/01/13	GK	n/a	n/a	MSK2368

	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	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	1000000 [b]	5000	4500	ug/l	J
108-86-1	Bromohenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethaue	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	2.3	5.0	0.58	ug/l	J J
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND [c]	500	110	ug/l	UJ
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethaue	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071713		
Lab Sample ID:	MC22808-2	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	50	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	200	1.0	0.38	ug/l	J
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	9.6	5.0	0.64	ug/l	J
99-87-6	p-Isopropyltoluene	1.6	5.0	0.55	ug/l	J J
1634-04-4	Methyl Tert Butyl Ether	3.1	1.0	0.43	ug/l	J
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	18.5	5.0	0.79	ug/l	J
103-65-1	n-Propylbenzene	17.3	5.0	0.59	ug/l	J
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	289	1.0	0.46	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	117	5.0	0.47	ug/l	J J J
108-67-8	1,3,5-Trimethylbenzene	26.4	5.0	1.1	ug/l	J J
108-05-4	Vinyl Acetate	9.4	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	455	1.0	0.70	ug/l	J J J
95-47-6	o-Xylene	183	1.0	0.41	ug/l	J
1330-20-7	Xylene (total)	639	1.0	0.41	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:	MW7-ROX-071713		
Lab Sample ID:	MC22808-2	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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%	110%	113%	70-130%
2037-26-5	Toluene-D8	139% [d]	103%	99%	70-130%
460-00-4	4-Bromofluorobenzene	100%	94%	92%	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) Result is from Run# 3
(c) Result is from Run# 2
(d) 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:	MW7-ROX-071713		
Lab Sample ID:	MC22808-2	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32373.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181
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	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.53	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.36	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	
	3&4-Methylphenol	ND	11	2.2	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.54	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.63	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	118	5.4	0.56	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.62	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.34	ug/l	
62-53-3	Aniline	ND	11	0.69	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.22	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	0.93	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.62	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.27	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	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.71	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.73	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.70	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.54	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.4	0.42	ng/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	0.47	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071713		
Lab Sample ID:	MC22808-2	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.54	ug/l	
131-11-3	Dimethyl phthalate	ND	5.4	0.54	ng/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.53	ug/l	
118-74-1	Hexachlorohenzene	ND	5.4	0.32	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.7	ug/l	U
67-72-1	Hexachloroethane	ND	5.4	0.48	ug/l	
78-59-1	Isophorone	ND	5.4	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.30	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.54	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.7	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.54	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.88	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.59	ug/l	
110-86-1	Pyridine	ND	11	0.56	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	40%		15-110%
4165-62-2	Phenol-d5	21%		15-110%
118-79-6	2,4,6-Tribromophenol	85%		15-110%
4165-60-0	Nitrobenzene-d5	56%		30-130%
321-60-8	2-Fluorobiphenyl	73%		30-130%
1718-51-0	Terphenyl-d14	79%		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-071713		
Lab Sample ID:	MC22808-2	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14164.D	1	07/25/13	WK	07/23/13	OP34100	MSW640
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	0.19	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	0.031	0.11	0.014	ug/l	J
120-12-7	Anthracene	0.028	0.11	0.019	ug/l	J
56-55-3	Benzo(a)anthracene	0.040	0.054	0.033	ug/l	J
50-32-8	Benzo(a)pyrene	0.044	0.11	0.019	ug/l	J
205-99-2	Benzo(b)fluoranthene	0.045	0.054	0.026	ug/l	J
191-24-2	Benzo(g,h,i)perylene	0.080	0.11	0.041	ug/l	J
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	0.077	0.11	0.045	ug/l	J
206-44-0	Fluoranthene	ND	0.11	0.035	ug/l	
86-73-7	Fluorene	0.19	0.11	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	0.078	0.11	0.050	ug/l	J
90-12-0	1-Methylnaphthalene	4.3	0.22	0.15	ug/l	
91-57-6	2-Methylnaphthalene	6.0	0.22	0.056	ug/l	
85-01-8	Phenanthrene	0.24	0.054	0.014	ug/l	
129-00-0	Pyrene	0.039	0.11	0.039	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	40%		15-110%
4165-62-2	Phenol-d5	20%		15-110%
118-79-6	2,4,6-Tribromophenol	91%		15-110%
4165-60-0	Nitrobenzene-d5	65%		30-130%
321-60-8	2-Fluorobiphenyl	69%		30-130%
1718-51-0	Terphenyl-d14	83%		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-071713		
Lab Sample ID:	MC22808-2	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27136.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
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	0.0044	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.0094	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	51%		36-173%
460-00-4	Bromofluorobenzene (S)	50%		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-071713		
Lab Sample ID:	MC22808-3	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L76154.D	1	07/30/13	KR	n/a	n/a	MSL3537
Run #2	K72606.D	100	07/30/13	GK	n/a	n/a	MSK2364
Run #3	K72657.D	2000	07/31/13	GK	n/a	n/a	MSK2366

	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	~~8.0~~ U	10	2.8	ug/l	J U
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	532000 [a]	1000	900	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ng/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	3.3	5.0	0.58	ug/l	J
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND [b]	500	110	ug/l	UJ
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ng/l	

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

Report of Analysis

Client Sample ID:	MW8-ROX-071713		
Lab Sample ID:	MC22808-3	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropaue	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ng/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	50	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	508 [b]	100	38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	17.3	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	2.3	5.0	0.55	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	197	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	33.5	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	37.4	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	348	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	199	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	59.8	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	1010 [b]	100	70	ug/l	
95-47-6	o-Xylene	361	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	1300 [b]	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:	MW8-ROX-071713		
Lab Sample ID:	MC22808-3	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Speeial List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
1868-53-7	Dibromofluoromethane	81%	109%	113%	70-130%
2037-26-5	Toluene-D8	119%	100%	100%	70-130%
460-00-4	4-Bromofluorobenzene	99%	93%	93%	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
(b) 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-071713		
Lab Sample ID:	MC22808-3	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32374.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181
Run #2	F65884.D	5	07/31/13	KR	07/23/13	OP34099	MSF3050

	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	0.40	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.51	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.34	ug/l	
105-67-9	2,4-Dimethylphenol	9.0	10	1.2	ug/l	J
51-28-5	2,4-Dinitrophenol	ND	21	2.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	1.2	ug/l	
95-48-7	2-Methylphenol	4.6	10	1.3	ug/l	J
	3&4-Methylphenol	10.6	10	2.1	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.52	ug/l	
100-02-7	4-Nitrophenol	ND	21	0.61	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	328 [a]	26	2.7	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.60	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.33	ug/l	
62-53-3	Aniline	ND	10	0.66	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.2	0.21	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.2	0.89	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.60	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.2	0.96	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.26	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	0.24	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.2	0.14	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.2	0.21	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.2	0.68	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.70	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.67	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.2	0.52	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.16	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.2	0.40	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.2	0.45	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071713		
Lab Sample ID:	MC22808-3	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.52	ug/l	
131-11-3	Dimethyl phthalate	ND	5.2	0.52	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.1	0.51	ug/l	
118-74-1	Hexachlorobenzene	ND	5.2	0.31	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	2.6	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.2	0.46	ug/l	
78-59-1	Isophorone	ND	5.2	0.21	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.29	ng/l	
99-09-2	3-Nitroaniline	ND	10	0.52	ug/l	
100-01-6	4-Nitroaniline	ND	10	4.5	ug/l	
98-95-3	Nitrobenzene	ND	5.2	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.2	0.52	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.2	0.84	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.2	0.56	ug/l	
110-86-1	Pyridine	ND	10	0.54	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	50%	61%	15-110%
4165-62-2	Phenol-d5	23%	31%	15-110%
118-79-6	2,4,6-Tribromophenol	92%	98%	15-110%
4165-60-0	Nitrobenzene-d5	68%	99%	30-130%
321-60-8	2-Fluorohiphenyl	80%	93%	30-130%
1718-51-0	Terphenyl-d14	75%	89%	30-130%

CAS No.	Tentativcly 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:	MW8-ROX-071713		
Lab Sample ID:	MC22808-3	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14165.D	1	07/25/13	WK	07/23/13	OP34100	MSW640
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	0.20	0.10	0.014	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.014	ug/l	
120-12-7	Anthracene	0.049	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	0.021	0.10	0.018	ug/l	J
205-99-2	Benzo(b)fluoranthene	ND	0.052	0.025	ug/l	
191-24-2	Benzo(g,h,i)perylene	0.040	0.10	0.039	ug/l	J
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	0.33	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	9.7	0.21	0.15	ug/l	J
91-57-6	2-Methylnaphthalene	11.3	0.21	0.054	ug/l	
85-01-8	Phenanthrene	0.15	0.052	0.013	ug/l	
129-00-0	Pyrene	0.062	0.10	0.037	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	52%		15-110%
4165-62-2	Phenol-d5	23%		15-110%
118-79-6	2,4,6-Tribromophenol	94%		15-110%
4165-60-0	Nitrobenzene-d5	77%		30-130%
321-60-8	2-Fluorobiphenyl	74%		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:	MW8-ROX-071713		
Lab Sample ID:	MC22808-3	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27137.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
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	0.0043	ug/l	
106-93-4	1,2-Dihromoethane	ND	0.014	0.0092	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	104%		36-173%
460-00-4	Bromofluorobenzene (S)	99%		36-173%

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

Report of Analysis

Client Sample ID:	MW8-ROX-071713-DUP		
Lab Sample ID:	MC22808-4	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L76155.D	1	07/30/13	KR	n/a	n/a	MSL3537
Run #2	K72607.D	1000	07/30/13	GK	n/a	n/a	MSK2364
Run #3	K72656.D	5000	07/31/13	GK	n/a	n/a	MSK2366

	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	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	494000 [a]	2500	2300	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	3.1	5.0	0.58	ug/l	J
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND [b]	5000	1100	ug/l	UJ
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ng/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071713-DUP		
Lab Sample ID:	MC22808-4	Date Sampled:	07/17/13
Matrix:	AQ - Grouud Water	Date Received:	07/18/13
Method:	SW846 8260B	Pereent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, 1L		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	50	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ng/l	
100-41-4	Ethylbenzene	442 [b]	1000	380	ug/l	J
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	17.4	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	2.4	5.0	0.55	ug/l	J
1634-04-4	Methyl Tert Bntyl Ether	187	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	34.7	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	38.3	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	341	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ng/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	203	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	61.3	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	818 [b]	1000	700	ug/l	J
95-47-6	o-Xylene	364	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	1050 [b]	1000	410	ug/l	

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

Report of Analysis

Client Sample ID:	MW8-ROX-071713-DUP		
Lab Sample ID:	MC22808-4	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
1868-53-7	Dibromofluoromethane	80%	110%	115%	70-130%
2037-26-5	Toluene-D8	118%	100%	98%	70-130%
460-00-4	4-Bromofluorobenzene	100%	94%	94%	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
(b) 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-071713-DUP		
Lab Sample ID:	MC22808-4	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32375.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181
Run #2	F65885.D	5	07/31/13	KR	07/23/13	OP34099	MSF3050

	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2	920 ml	1.0 ml

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	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.53	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.36	ug/l	
105-67-9	2,4-Dimethylpheuol	8.9	11	1.2	ug/l	J
51-28-5	2,4-Dinitrophenol	ND	22	2.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	3.7	11	1.4	ug/l	J
	3&4-Methylphenol	9.1	11	2.2	ug/l	J
88-75-5	2-Nitrophenol	ND	11	0.54	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.63	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	303 [a]	27	2.8	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.62	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.34	ug/l	
62-53-3	Aniline	ND	11	0.69	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	0.22	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	0.93	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.62	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.27	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	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	0.71	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.73	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.70	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	0.54	ug/l	
132-64-9	Dibenzofuran	0.40	2.2	0.17	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.4	0.42	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	0.47	ug/l	

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

Report of Analysis

Client Sample ID:	MW8-ROX-071713-DUP		
Lab Sample ID:	MC22808-4	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

ABN Speeial List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.4	0.54	ug/l	
131-11-3	Dimethyl phthalate	ND	5.4	0.54	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.53	ug/l	
118-74-1	Hexachlorobenzene	ND	5.4	0.32	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.7	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.4	0.48	ug/l	
78-59-1	Isophorone	ND	5.4	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.30	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.54	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.7	ug/l	
98-95-3	Nitrobenzene	ND	5.4	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	0.54	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	0.88	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	0.59	ug/l	
110-86-1	Pyridine	ND	11	0.56	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	45%	54%	15-110%
4165-62-2	Pheuol-d5	22%	27%	15-110%
118-79-6	2,4,6-Tribromophenol	94%	97%	15-110%
4165-60-0	Nitrobenzene-d5	59%	82%	30-130%
321-60-8	2-Fluorobiphenyl	72%	81%	30-130%
1718-51-0	Terphenyl-d14	75%	84%	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:	MW8-ROX-071713-DUP		
Lab Sample ID:	MC22808-4	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14166.D	1	07/26/13	WK	07/23/13	OP34100	MSW640
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	0.19	0.11	0.015	ug/l	
208-96-8	Acenaphthylene	0.056	0.11	0.014	ug/l	J
120-12-7	Anthracene	0.061	0.11	0.019	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.054	0.033	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.019	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.054	0.026	ng/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.041	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.064	ug/l	
218-01-9	Chrysene	ND	0.11	0.079	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.045	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.035	ug/l	
86-73-7	Fluorene	0.36	0.11	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.050	ug/l	
90-12-0	1-Methylnaphthalene	8.7	0.22	0.15	ug/l	J
91-57-6	2-Methylnaphthalene	9.8	0.22	0.056	ug/l	
85-01-8	Phenanthrene	0.16	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	46%		15-110%
4165-62-2	Phenol-d5	21%		15-110%
118-79-6	2,4,6-Tribromophenol	99%		15-110%
4165-60-0	Nitrobenzene-d5	65%		30-130%
321-60-8	2-Fluorobiphenyl	68%		30-130%
1718-51-0	Terphenyl-d14	79%		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-071713-DUP		
Lab Sample ID:	MC22808-4	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27139.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
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	0.0043	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0093	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	121%		36-173%
460-00-4	Bromofluorobenzene (S)	107%		36-173%

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

Report of Analysis

Client Sample ID:	TB-ROX-071713-HCL		
Lab Sample ID:	MC22808-5	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K72608.D	1	07/30/13	GK	n/a	n/a	MSK2364
Run #2	L76156.D	1	07/30/13	KR	n/a	n/a	MSL3537

	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	10	2.8	ug/l	
107-02-8	Acrolein	ND [a]	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ng/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071713-HCL		
Lab Sample ID:	MC22808-5	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphtbalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroetbane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Tricbloropropaue	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	TB-ROX-071713-HCL		
Lab Sample ID:	MC22808-5	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%	79%	70-130%
2037-26-5	Toluene-D8	95%	93%	70-130%
460-00-4	4-Bromofluorobenzene	94%	105%	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:	TB-ROX-071713-ST		
Lab Sample ID:	MC22808-6	Date Sampled:	07/17/13
Matrix:	AQ - Ground Water	Date Received:	07/18/13
Method:	SW846 8011 SW846 8011	Pereent Solids:	n/a
Projeet:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Bateh	Analytical Batch
Run #1	BK27140.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
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-Dihromo-3-chloropropane	ND	0.014	0.0044	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0093	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	86%		36-173%
460-00-4	Bromofluorobenzene (S)	73%		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 ☐ Sub-Vendor # (_____)
Lab Vendor #

Shell Oil Products Chain Of Custody Record

URS

Please Check Appropriate Box:
☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SERVICE ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Bob Bilman

INCIDENT # (ENV SERVICES): 0 7 2 1 6 8 4 0 ☐ CHECK IF NO INCIDENT # APPLIES

DATE: 7/17/13

PO #

SAP #: 3 4 0 0 6 1

PAGE 1 of 1

COMPANY: URS CORPORATION

ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110

PROJECT CONTACT (Reports to PM): Elizabeth Kunkel Wendy Pennington Bob Bilman

TELEPHONE: 314-429-0100 FAX: 314-429-0462

E-MAIL: elizabeth.kunkel@urs.com; wendy.pennington@urs.com

SITE ADDRESS (Street and City): 900 South Central Ave, ROXANA STATE: IL

CONSULTANT PROJECT NO: Roxana Quarterly GW / 21552660.03003

SAMPLER NAME(S) (Print): L Rathnow, D Rathnaghy

LAB USE ONLY: MC22808

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (10 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED

☐ 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
☐ PRINTER LEDD DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	H2SO4	HNO3	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	MW4-ROX-071713	7/17/13	0935	water	2			2	2	6	X	X	X	X	0	
-2	MW7-ROX-071713		1030		2			2	2	6	X	X	X	X		
-3	MW8-ROX-071713		1130		2			2	2	6	X	X	X	X		
-4	MW8-ROX-071713-DUP		1130		2			2	2	6	X	X	X	X		
-5	TB-ROX-071713-HCL		0000		2				2	2	X					
-6	TB-ROX-071713-ST		0000						2	2		X				
																19CC, 1A3
																2.1°

FIELD NOTES:
TEMPERATURE ON RECEIPT C°

Relinquished by (Signature)	Received by (Signature)	Date	Time
	FED EX	7/17/13	1800
Relinquished by (Signature): FED EX	Received by (Signature)	7-18-13	930
Relinquished by (Signature)	Received by (Signature)	Date	Time

05/06 Revision

5.1

MC22808: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC22808 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 7/18/2013 **Delivery Method:** **Client Service Action Required at Login:** No

Project: 900 SOUTH 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 Preservation	Y or N	N/A
1. Trip Blank present / cooler:	☑ ☐	☐
2. Trip Blank listed on COC:	☑ ☐	☐
3. Samples preserved properly:	☑ ☐	
4. VOCs headspace free:	☑ ☐	☐

Sample Integrity - Documentation	Y or N
1. Sample labels present on bottles:	☑ ☐
2. Container labeling complete:	☑ ☐
3. Sample container label / COC agree:	☑ ☐

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

Sample Integrity - Instructions	Y or N	N/A
1. Analysis reqnested 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: MC22808

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC22808-1 Collected: 17-JUL-13 09:35 By: LRDM Received: 18-JUL-13 By: MW4-ROX-071713						
MC22808-1	SW846 8270C	25-JUL-13 11:33	WK	23-JUL-13	PA	AB8270SL+
MC22808-1	SW846 8011	25-JUL-13 12:50	NK	23-JUL-13	BJ	V8011SL
MC22808-1	SW846 8270C BY SIM	25-JUL-13 23:06	WK	23-JUL-13	SC	B8270SIMSL
MC22808-1	SW846 8260B	30-JUL-13 13:54	KR			V8260SL+
MC22808-1	SW846 8260B	30-JUL-13 14:37	GK			V8260SL+
MC22808-1	SW846 8260B	31-JUL-13 14:11	GK			V8260SL+
MC22808-2 Collected: 17-JUL-13 10:30 By: LRDM Received: 18-JUL-13 By: MW7-ROX-071713						
MC22808-2	SW846 8270C	25-JUL-13 11:57	WK	23-JUL-13	PA	AB8270SL+
MC22808-2	SW846 8011	25-JUL-13 13:14	NK	23-JUL-13	BJ	V8011SL
MC22808-2	SW846 8270C BY SIM	25-JUL-13 23:29	WK	23-JUL-13	SC	B8270SIMSL
MC22808-2	SW846 8260B	30-JUL-13 14:23	KR			V8260SL+
MC22808-2	SW846 8260B	30-JUL-13 15:05	GK			V8260SL+
MC22808-2	SW846 8260B	01-AUG-13 13:15	GK			V8260SL+
MC22808-3 Collected: 17-JUL-13 11:30 By: LRDM Received: 18-JUL-13 By: MW8-ROX-071713						
MC22808-3	SW846 8270C	25-JUL-13 12:21	WK	23-JUL-13	PA	AB8270SL+
MC22808-3	SW846 8011	25-JUL-13 13:38	NK	23-JUL-13	BJ	V8011SL
MC22808-3	SW846 8270C BY SIM	25-JUL-13 23:53	WK	23-JUL-13	SC	B8270SIMSL
MC22808-3	SW846 8260B	30-JUL-13 14:52	KR			V8260SL+
MC22808-3	SW846 8260B	30-JUL-13 15:32	GK			V8260SL+
MC22808-3	SW846 8270C	31-JUL-13 11:41	KR	23-JUL-13	PA	AB8270SL+
MC22808-3	SW846 8260B	31-JUL-13 15:05	GK			V8260SL+
MC22808-4 Collected: 17-JUL-13 11:30 By: LRDM Received: 18-JUL-13 By: MW8-ROX-071713-DUP						
MC22808-4	SW846 8270C	25-JUL-13 12:45	WK	23-JUL-13	PA	AB8270SL+
MC22808-4	SW846 8011	25-JUL-13 14:26	NK	23-JUL-13	BJ	V8011SL
MC22808-4	SW846 8270C BY SIM	26-JUL-13 00:15	WK	23-JUL-13	SC	B8270SIMSL
MC22808-4	SW846 8260B	30-JUL-13 15:21	KR			V8260SL+
MC22808-4	SW846 8260B	30-JUL-13 15:59	GK			V8260SL+
MC22808-4	SW846 8270C	31-JUL-13 12:05	KR	23-JUL-13	PA	AB8270SL+

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC22808

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC22808-4	SW846 8260B	31-JUL-13 14:38	GK			V8260SL+
MC22808-5 Collected: 17-JUL-13 00:00 By: LRDM Received: 18-JUL-13 By: TB-ROX-071713-HCL						
MC22808-5	SW846 8260B	30-JUL-13 15:50	KR			V8260SL+
MC22808-5	SW846 8260B	30-JUL-13 16:26	GK			V8260SL+
MC22808-6 Collected: 17-JUL-13 00:00 By: LRDM Received: 18-JUL-13 By: TB-ROX-071713-ST						
MC22808-6	SW846 8011	25-JUL-13 14:51	NK	23-JUL-13	BJ	V8011SL

Accutest Internal Chain of Custody

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/18/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22808-1.1	Walk In Ref #22	Thomas Abruzzise	07/23/13 14:59	Retrieve from Storage
MC22808-1.1	Thomas Abruzzise		07/30/13 14:35	Depleted
MC22808-1.3	VOC Ref #1	Kerry Ryan	07/30/13 09:39	Retrieve from Storage
MC22808-1.3	Kerry Ryan	GCMSL	07/30/13 09:39	Load on Instrument
MC22808-1.3	GCMSL	Kerry Ryan	07/31/13 09:24	Unload from Instrument
MC22808-1.3	Kerry Ryan	VOC Ref #1	07/31/13 09:24	Return to Storage
MC22808-1.4	VOC Ref #1	Gary Krasinski	07/30/13 11:04	Retrieve from Storage
MC22808-1.4	Gary Krasinski	GCMSK	07/30/13 11:04	Load on Instrument
MC22808-1.4	GCMSK	Gary Krasinski	07/31/13 09:37	Unload from Instrument
MC22808-1.4	Gary Krasinski	VOC Ref #1	07/31/13 09:37	Return to Storage
MC22808-1.4	VOC Ref #1	Gary Krasinski	07/31/13 11:41	Retrieve from Storage
MC22808-1.4	Gary Krasinski	GCMSK	07/31/13 11:41	Load on Instrument
MC22808-1.4	GCMSK	Kerry Ryan	08/01/13 09:39	Unload from Instrument
MC22808-1.4	Kerry Ryan	VOC Ref #1	08/01/13 09:39	Return to Storage
MC22808-1.5	VOC Ref #1	Bijan Jafari	07/23/13 10:48	Retrieve from Storage
MC22808-1.5	Bijan Jafari		07/23/13 18:13	Depleted
MC22808-2.2	Walk In Ref #22	Thomas Abruzzise	07/23/13 14:59	Retrieve from Storage
MC22808-2.2	Thomas Abruzzise		07/30/13 14:35	Depleted
MC22808-2.3	VOC Ref #1	Kerry Ryan	07/30/13 09:39	Retrieve from Storage
MC22808-2.3	Kerry Ryan	GCMSL	07/30/13 09:39	Load on Instrument
MC22808-2.3	GCMSL	Kerry Ryan	08/01/13 08:44	Unload from Instrument
MC22808-2.3	Kerry Ryan	VOC Ref #1	08/01/13 08:44	Return to Storage
MC22808-2.4	VOC Ref #1	Gary Krasinski	07/30/13 11:04	Retrieve from Storage
MC22808-2.4	Gary Krasinski	GCMSK	07/30/13 11:04	Load on Instrument
MC22808-2.4	GCMSK	Gary Krasinski	07/31/13 09:37	Unload from Instrument
MC22808-2.4	Gary Krasinski	VOC Ref #1	07/31/13 09:37	Return to Storage
MC22808-2.4	VOC Ref #1	Gary Krasinski	07/31/13 11:41	Retrieve from Storage
MC22808-2.4	Gary Krasinski	GCMSK	07/31/13 11:41	Load on Instrument
MC22808-2.4	GCMSK	Kerry Ryan	08/01/13 09:39	Unload from Instrument
MC22808-2.4	Kerry Ryan	VOC Ref #1	08/01/13 09:39	Return to Storage
MC22808-2.4	VOC Ref #1	Kerry Ryan	08/01/13 11:24	Retrieve from Storage
MC22808-2.4	Kerry Ryan	GCMSK	08/01/13 11:24	Load on Instrument
MC22808-2.4	GCMSK	Kerry Ryan	08/02/13 10:28	Unload from Instrument
MC22808-2.4	Kerry Ryan	VOC Ref #1	08/02/13 10:28	Return to Storage
MC22808-2.5	VOC Ref #1	Bijan Jafari	07/23/13 10:48	Retrieve from Storage
MC22808-2.5	Bijan Jafari		07/23/13 18:13	Depleted

5.3

Accutest Internal Chain of Custody

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/18/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22808-3.2	Walk In Ref #22	Thomas Abruzzise	07/23/13 14:59	Retrieve from Storage
MC22808-3.2	Thomas Abruzzise		07/30/13 14:35	Depleted
MC22808-3.3	VOC Ref #1	Gary Krasinski	07/30/13 11:04	Retrieve from Storage
MC22808-3.3	Gary Krasinski	GCMSK	07/30/13 11:04	Load on Instrument
MC22808-3.3	GCMSK	Gary Krasinski	07/31/13 09:37	Unload from Instrument
MC22808-3.3	Gary Krasinski	VOC Ref #1	07/31/13 09:37	Return to Storage
MC22808-3.3	VOC Ref #1	Gary Krasinski	07/31/13 11:41	Retrieve from Storage
MC22808-3.3	Gary Krasinski	GCMSK	07/31/13 11:41	Load on Instrument
MC22808-3.3	GCMSK	Kerry Ryan	08/01/13 09:39	Unload from Instrument
MC22808-3.3	Kerry Ryan	VOC Ref #1	08/01/13 09:39	Return to Storage
MC22808-3.4	VOC Ref #1	Kerry Ryan	07/30/13 09:39	Retrieve from Storage
MC22808-3.4	Kerry Ryan	GCMSL	07/30/13 09:39	Load on Instrument
MC22808-3.4	GCMSL	Kerry Ryan	07/31/13 09:24	Unload from Instrument
MC22808-3.4	Kerry Ryan	VOC Ref #1	07/31/13 09:24	Return to Storage
MC22808-3.6	VOC Ref #1	Bijan Jafari	07/23/13 10:48	Retrieve from Storage
MC22808-3.6	Bijan Jafari		07/23/13 18:13	Depleted
MC22808-4.1	Walk In Ref #22	Thomas Abruzzise	07/23/13 14:59	Retrieve from Storage
MC22808-4.1	Thomas Abruzzise		07/30/13 14:35	Depleted
MC22808-4.3	VOC Ref #1	Gary Krasinski	07/30/13 11:04	Retrieve from Storage
MC22808-4.3	Gary Krasinski	GCMSK	07/30/13 11:04	Load on Instrument
MC22808-4.3	GCMSK	Gary Krasinski	07/31/13 09:37	Unload from Instrument
MC22808-4.3	Gary Krasinski	VOC Ref #1	07/31/13 09:37	Return to Storage
MC22808-4.3	VOC Ref #1	Gary Krasinski	07/31/13 11:41	Retrieve from Storage
MC22808-4.3	Gary Krasinski	GCMSK	07/31/13 11:41	Load on Instrument
MC22808-4.3	GCMSK	Kerry Ryan	08/01/13 09:39	Unload from Instrument
MC22808-4.3	Kerry Ryan	VOC Ref #1	08/01/13 09:39	Return to Storage
MC22808-4.4	VOC Ref #1	Kerry Ryan	07/30/13 09:39	Retrieve from Storage
MC22808-4.4	Kerry Ryan	GCMSL	07/30/13 09:39	Load on Instrument
MC22808-4.4	GCMSL	Kerry Ryan	07/31/13 09:24	Unload from Instrument
MC22808-4.4	Kerry Ryan	VOC Ref #1	07/31/13 09:24	Return to Storage
MC22808-4.5	VOC Ref #1	Bijan Jafari	07/23/13 10:48	Retrieve from Storage
MC22808-4.5	Bijan Jafari		07/23/13 18:13	Depleted
MC22808-5.1	VOC Ref #1	Gary Krasinski	07/30/13 11:04	Retrieve from Storage
MC22808-5.1	Gary Krasinski	GCMSK	07/30/13 11:04	Load on Instrument
MC22808-5.1	GCMSK	Gary Krasinski	07/31/13 09:37	Unload from Instrument
MC22808-5.1	Gary Krasinski	VOC Ref #1	07/31/13 09:37	Return to Storage

5.3

Accutest Internal Chain of Custody

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/18/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22808-5.2	VOC Ref #1	Kerry Ryan	07/30/13 09:39	Retrieve from Storage
MC22808-5.2	Kerry Ryan	GCMSL	07/30/13 09:39	Load on Instrument
MC22808-5.2	GCMSL	Kerry Ryan	07/31/13 09:24	Unload from Instrument
MC22808-5.2	Kerry Ryan	VOC Ref #1	07/31/13 09:24	Return to Storage
MC22808-6.2	VOC Ref #1	Bijan Jafari	07/23/13 10:48	Retrieve from Storage
MC22808-6.2	Bijan Jafari		07/23/13 18:13	Depleted

5.3
5G

New England ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL3537-MB	L76145.D	1	07/30/13	KR	n/a	n/a	MSL3537

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-5

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ng/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ng/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ng/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.29	ug/l	

6.1.1

Method Blank Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL3537-MB	L76145.D	1	07/30/13	KR	n/a	n/a	MSL3537

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-5

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	50	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	ug/l	

Method Blank Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL3537-MB	L76145.D	1	07/30/13	KR	n/a	n/a	MSL3537

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-5

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

Method Blank Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2364-MB	K72596.D	1	07/30/13	GK	n/a	n/a	MSK2364

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-5

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.8	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	

Method Blank Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2364-MB	K72596.D	1	07/30/13	GK	n/a	n/a	MSK2364

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-5

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Napbthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethaue	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethaue	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	ug/l	

Method Blank Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2364-MB	K72596.D	1	07/30/13	GK	n/a	n/a	MSK2364

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-5

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	112%	70-130%
2037-26-5	Toluene-D8	96%	70-130%
460-00-4	4-Bromofluorobenzene	94%	70-130%

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

Method Blank Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2366-MB	K72651.D	1	07/31/13	GK	n/a	n/a	MSK2366

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

MC22808-1, MC22808-3, MC22808-4

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.45	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	111%	70-130%
2037-26-5	Toluene-D8	97%	70-130%
460-00-4	4-Bromofluorobenzene	92%	70-130%

6.1.3

Method Blank Summary

Job Number: MC22808
Account: SHELLW1C Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2368-MB	K72703.D	1	08/01/13	GK	n/a	n/a	MSK2368

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

MC22808-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.50	0.45	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	112%	70-130%
2037-26-5	Toluene-D8	97%	70-130%
460-00-4	4-Bromofluorobenzene	93%	70-130%

6.1.4

Blank Spike Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL3537-BS	L76142.D	1	07/30/13	KR	n/a	n/a	MSL3537

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	42.2	84	70-130
107-02-8	Acrolein	250	321	128	70-130
107-13-1	Acrylonitrile	50	44.2	88	70-130
108-86-1	Bromobenzene	50	50.4	101	70-130
74-97-5	Bromochloromethane	50	44.4	89	70-130
75-27-4	Bromodichloromethane	50	47.1	94	70-130
75-25-2	Bromoform	50	43.4	87	70-130
74-83-9	Bromomethane	50	49.0	98	70-130
78-93-3	2-Butanone (MEK)	50	37.1	74	70-130
104-51-8	n-Butylbenzene	50	55.7	111	70-130
135-98-8	sec-Butylbenzene	50	58.0	116	70-130
98-06-6	tert-Butylbenzene	50	55.9	112	70-130
75-15-0	Carbon disulfide	50	42.1	84	70-130
56-23-5	Carbon tetrachloride	50	48.4	97	70-130
108-90-7	Chlorobenzene	50	52.8	106	70-130
75-00-3	Chloroethane	50	43.8	88	70-130
67-66-3	Chloroform	50	44.6	89	70-130
74-87-3	Chloromethane	50	42.5	85	70-130
95-49-8	o-Chlorotoluene	50	51.3	103	70-130
106-43-4	p-Chlorotoluene	50	54.7	109	70-130
124-48-1	Dibromochloromethane	50	50.4	101	70-130
95-50-1	1,2-Dichlorobenzene	50	54.5	109	70-130
541-73-1	1,3-Dichlorobenzene	50	52.7	105	70-130
106-46-7	1,4-Dichlorobenzene	50	48.6	97	70-130
75-71-8	Dichlorodifluoromethane	50	46.3	93	70-130
75-34-3	1,1-Dichloroethane	50	46.4	93	70-130
107-06-2	1,2-Dichloroethane	50	45.9	92	70-130
75-35-4	1,1-Dichloroethene	50	48.1	96	70-130
156-59-2	cis-1,2-Dichloroethene	50	44.2	88	70-130
156-60-5	trans-1,2-Dichloroethene	50	44.2	88	70-130
78-87-5	1,2-Dichloropropane	50	44.7	89	70-130
142-28-9	1,3-Dichloropropane	50	50.2	100	70-130
594-20-7	2,2-Dichloropropane	50	50.9	102	70-130
563-58-6	1,1-Dichloropropene	50	49.9	100	70-130
10061-01-5	cis-1,3-Dichloropropene	50	39.7	79	70-130
10061-02-6	trans-1,3-Dichloropropene	50	43.4	87	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL3537-BS	L76142.D	1	07/30/13	KR	n/a	n/a	MSL3537

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
123-91-1	1,4-Dioxane	250	179	72	70-130
97-63-2	Ethyl methacrylate	50	44.0	88	77-137
100-41-4	Ethylbenzene	50	50.0	100	70-130
87-68-3	Hexachlorobutadiene	50	52.5	105	70-130
591-78-6	2-Hexanone	50	45.6	91	70-130
98-82-8	Isopropylbenzene	50	54.4	109	70-130
99-87-6	p-Isopropyltoluene	50	54.8	110	70-130
1634-04-4	Methyl Tert Butyl Ether	50	37.6	75	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	39.8	80	70-130
74-95-3	Methylene bromide	50	46.3	93	70-130
75-09-2	Methylene chloride	50	45.5	91	70-130
91-20-3	Naphthalene	50	43.3	87	70-130
103-65-1	n-Propylbenzene	50	53.9	108	70-130
100-42-5	Styrene	50	50.9	102	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	50.9	102	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	47.4	95	70-130
127-18-4	Tetrachloroethene	50	56.4	113	70-130
108-88-3	Toluene	50	42.5	85	70-130
87-61-6	1,2,3-Trichlorobenzene	50	45.6	91	70-130
120-82-1	1,2,4-Trichlorobenzene	50	47.2	94	70-130
71-55-6	1,1,1-Trichloroethane	50	52.5	105	70-130
79-00-5	1,1,2-Trichloroethane	50	45.7	91	70-130
79-01-6	Trichloroethene	50	42.3	85	70-130
75-69-4	Trichlorofluoromethane	50	46.7	93	70-130
96-18-4	1,2,3-Trichloropropane	50	49.8	100	70-130
95-63-6	1,2,4-Trimethylbenzene	50	48.4	97	70-130
108-67-8	1,3,5-Trimethylbenzene	50	47.8	96	70-130
108-05-4	Vinyl Acetate	50	28.4	57* a	70-130
75-01-4	Vinyl chloride	50	36.5	73	70-130
	m,p-Xylene	100	103	103	70-130
95-47-6	o-Xylene	50	54.7	109	70-130
1330-20-7	Xylene (total)	150	157	105	70-130

* = Outside of Control Limits.

6.2.1

6

Blank Spike Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL3537-BS	L76142.D	1	07/30/13	KR	n/a	n/a	MSL3537

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-5

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	85%	70-130%
2037-26-5	Toluene-D8	90%	70-130%
460-00-4	4-Bromofluorobenzene	101%	70-130%

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

6.2.1

6

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2364-BS	K72593.D	1	07/30/13	GK	n/a	n/a	MSK2364

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	64.7	129	70-130
107-13-1	Acrylonitrile	50	49.8	100	70-130
71-43-2	Benzene	50	52.2	104	70-130
108-86-1	Bromobenzene	50	49.4	99	70-130
74-97-5	Bromochloromethane	50	53.3	107	70-130
75-27-4	Bromodichloromethane	50	50.4	101	70-130
75-25-2	Bromoform	50	51.6	103	70-130
74-83-9	Bromomethane	50	60.2	120	70-130
78-93-3	2-Butanone (MEK)	50	66.5	133* a	70-130
104-51-8	n-Butylbenzene	50	48.8	98	70-130
135-98-8	sec-Butylbenzene	50	51.7	103	70-130
98-06-6	tert-Butylbenzene	50	50.1	100	70-130
75-15-0	Carbon disulfide	50	50.8	102	70-130
56-23-5	Carbon tetrachloride	50	52.9	106	70-130
108-90-7	Chlorobenzene	50	59.3	119	70-130
75-00-3	Chloroethane	50	54.7	109	70-130
110-75-8	2-Chloroethyl vinyl ether	50	33.2	66* a	70-130
67-66-3	Chloroform	50	55.0	110	70-130
74-87-3	Chloromethane	50	57.3	115	70-130
95-49-8	o-Chlorotoluene	50	49.0	98	70-130
106-43-4	p-Chlorotoluene	50	51.9	104	70-130
124-48-1	Dibromochloromethane	50	54.2	108	70-130
95-50-1	1,2-Dichlorobenzene	50	53.7	107	70-130
541-73-1	1,3-Dichlorobenzene	50	53.4	107	70-130
106-46-7	1,4-Dichlorobenzene	50	49.4	99	70-130
75-71-8	Dichlorodifluoromethane	50	55.1	110	70-130
75-34-3	1,1-Dichloroethane	50	54.2	108	70-130
107-06-2	1,2-Dichloroethane	50	48.6	97	70-130
75-35-4	1,1-Dichloroethene	50	51.5	103	70-130
156-59-2	cis-1,2-Dichloroethene	50	53.5	107	70-130
156-60-5	trans-1,2-Dichloroethene	50	54.5	109	70-130
78-87-5	1,2-Dichloropropane	50	47.0	94	70-130
142-28-9	1,3-Dichloropropane	50	51.7	103	70-130
594-20-7	2,2-Dichloropropane	50	58.3	117	70-130
563-58-6	1,1-Dichloropropene	50	48.9	98	70-130
10061-01-5	cis-1,3-Dichloropropene	50	47.0	94	70-130

* = Outside of Control Limits.

6.2.2

Blank Spike Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2364-BS	K72593.D	1	07/30/13	GK	n/a	n/a	MSK2364

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	50.3	101	70-130
123-91-1	1,4-Dioxane	250	227	91	70-130
97-63-2	Ethyl methacrylate	50	48.5	97	77-137
100-41-4	Ethylbenzene	50	50.9	102	70-130
87-68-3	Hexachlorohutadiene	50	48.5	97	70-130
591-78-6	2-Hexanone	50	58.5	117	70-130
98-82-8	Isopropylbenzene	50	51.3	103	70-130
99-87-6	p-Isopropyltoluene	50	50.7	101	70-130
1634-04-4	Methyl Tert Butyl Ether	50	49.7	99	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	43.5	87	70-130
74-95-3	Methylene bromide	50	50.2	100	70-130
75-09-2	Methylene chloride	50	55.1	110	70-130
91-20-3	Naphthalene	50	58.0	116	70-130
103-65-1	n-Propylbenzene	50	50.6	101	70-130
100-42-5	Styrene	50	54.2	108	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	55.7	111	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	48.6	97	70-130
127-18-4	Tetrachloroethene	50	57.7	115	70-130
108-88-3	Toluene	50	50.0	100	70-130
87-61-6	1,2,3-Trichlorobenzene	50	62.9	126	70-130
120-82-1	1,2,4-Trichlorobenzene	50	54.8	110	70-130
71-55-6	1,1,1-Trichloroethane	50	52.4	105	70-130
79-00-5	1,1,2-Trichloroethane	50	48.5	97	70-130
79-01-6	Trichloroethene	50	48.8	98	70-130
75-69-4	Trichlorofluoromethane	50	50.0	100	70-130
96-18-4	1,2,3-Trichloropropane	50	42.1	84	70-130
95-63-6	1,2,4-Trimethylbenzene	50	47.9	96	70-130
108-67-8	1,3,5-Trimethylbenzene	50	46.8	94	70-130
108-05-4	Vinyl Acetate	50	34.5	69* a	70-130
75-01-4	Vinyl chloride	50	41.2	82	70-130
	m,p-Xylene	100	106	106	70-130
95-47-6	o-Xylene	50	54.5	109	70-130
1330-20-7	Xylene (total)	150	160	107	70-130

* = Outside of Control Limits.

6.2.2

Blank Spike Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2364-BS	K72593.D	1	07/30/13	GK	n/a	n/a	MSK2364

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-5

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	70-130%
2037-26-5	Toluene-D8	100%	70-130%
460-00-4	4-Bromofluorobenzene	94%	70-130%

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

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2366-BS	K72648.D	1	07/31/13	GK	n/a	n/a	MSK2366

6.2.3

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

MC22808-1, MC22808-3, MC22808-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	50	53.0	106	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	105%	70-130%
2037-26-5	Toluene-D8	100%	70-130%
460-00-4	4-Bromofluorobenzene	93%	70-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2368-BS	K72700.D	1	08/01/13	GK	n/a	n/a	MSK2368

6.2.4

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

MC22808-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	50	54.9	110	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	104%	70-130%
2037-26-5	Toluene-D8	100%	70-130%
460-00-4	4-Bromofluorobenzene	93%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC23063-7MS	K72601.D	5	07/30/13	GK	n/a	n/a	MSK2364
MC23063-7MSD	K72602.D	5	07/30/13	GK	n/a	n/a	MSK2364
MC23063-7	K72600.D	1	07/30/13	GK	n/a	n/a	MSK2364

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-5

CAS No.	Compound	MC23063-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	7.6		250	165	63* [a]	167	64* [a]	1	70-130/30
107-13-1	Acrylonitrile	ND		250	232	93	225	90	3	70-130/30
71-43-2	Benzene	ND		250	244	98	237	95	3	70-130/30
108-86-1	Bromobenzene	ND		250	223	89	228	91	2	70-130/30
74-97-5	Bromochloromethane	ND		250	243	97	238	95	2	70-130/30
75-27-4	Bromodichloromethane	ND		250	232	93	227	91	2	70-130/30
75-25-2	Bromoform	ND		250	234	94	234	94	0	70-130/30
74-83-9	Bromomethane	ND		250	249	100	239	96	4	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	219	88	216	86	1	70-130/30
104-51-8	n-Butylbenzene	ND		250	233	93	234	94	0	70-130/30
135-98-8	sec-Butylbenzene	ND		250	231	92	231	92	0	70-130/30
98-06-6	tert-Butylbenzene	ND		250	225	90	225	90	0	70-130/30
75-15-0	Carbon disulfide	ND		250	217	87	207	83	5	70-130/30
56-23-5	Carbon tetrachloride	ND		250	253	101	244	98	4	70-130/30
108-90-7	Chlorobenzene	ND		250	254	102	252	101	1	70-130/30
75-00-3	Chloroethane	ND		250	240	96	230	92	4	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	211	84	205	82	3	70-130/30
67-66-3	Chloroform	ND		250	260	104	253	101	3	70-130/30
74-87-3	Chloromethane	ND		250	207	83	201	80	3	70-130/30
95-49-8	o-Chlorotoluene	ND		250	217	87	217	87	0	70-130/30
106-43-4	p-Chlorotoluene	ND		250	219	88	220	88	0	70-130/30
124-48-1	Dibromochloromethane	ND		250	245	98	245	98	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	231	92	234	94	1	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	231	92	231	92	0	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	226	90	228	91	1	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	222	89	208	83	7	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	249	100	241	96	3	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	223	89	218	87	2	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	236	94	223	89	6	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	256	102	249	100	3	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	254	102	246	98	3	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	219	88	215	86	2	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	243	97	240	96	1	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	265	106	253	101	5	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	229	92	223	89	3	70-130/30
10061-01-5	cis-1,3-Dichloropropene	ND		250	218	87	217	87	0	70-130/30

* = Outside of Cnntrol Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC23063-7MS	K72601.D	5	07/30/13	GK	n/a	n/a	MSK2364
MC23063-7MSD	K72602.D	5	07/30/13	GK	n/a	n/a	MSK2364
MC23063-7	K72600.D	1	07/30/13	GK	n/a	n/a	MSK2364

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-5

CAS No.	Compound	MC23063-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		250	219	88	216	86	1	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1080	86	1130	90	5	70-130/30
97-63-2	Ethyl methacrylate	ND		250	222	89	218	87	2	72-139/30
100-41-4	Ethylbenzene	ND		250	238	95	236	94	1	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	234	94	235	94	0	70-130/30
591-78-6	2-Hexanone	ND		250	177	71	174	70	2	70-130/30
98-82-8	Isopropylbenzene	ND		250	225	90	226	90	0	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	231	92	233	93	1	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		250	236	94	230	92	3	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	191	76	188	75	2	70-130/30
74-95-3	Methylene bromide	ND		250	232	93	228	91	2	70-130/30
75-09-2	Methylene chloride	ND		250	256	102	247	99	4	70-130/30
91-20-3	Napbthalene	1.3		250	264	105	269	107	2	70-130/30
103-65-1	n-Propylbenzene	ND		250	224	90	223	89	0	70-130/30
100-42-5	Styrene	ND		250	253	101	254	102	0	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	258	103	258	103	0	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	224	90	225	90	0	70-130/30
127-18-4	Tetrachloroethene	ND		250	263	105	264	106	0	70-130/30
108-88-3	Toluene	0.50		250	231	92	226	90	2	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	279	112	291	116	4	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	247	99	253	101	2	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	250	100	240	96	4	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	227	91	219	88	4	70-130/30
79-01-6	Trichloroethene	ND		250	229	92	225	90	2	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	258	103	244	98	6	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	193	77	190	76	2	70-130/30
95-63-6	1,2,4-Trimethylbenzene	1.3		250	231	92	231	92	0	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	226	90	229	92	1	70-130/30
108-05-4	Vinyl Acetate	ND		250	214	86	209	84	2	70-130/30
75-01-4	Vinyl chloride	ND		250	226	90	217	87	4	70-130/30
	m,p-Xylene	ND		500	474	95	476	95	0	70-130/30
95-47-6	o-Xylene	ND		250	235	94	236	94	0	70-130/30
1330-20-7	Xylene (total)	0.80		750	709	94	712	95	0	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC23063-7MS	K72601.D	5	07/30/13	GK	n/a	n/a	MSK2364
MC23063-7MSD	K72602.D	5	07/30/13	GK	n/a	n/a	MSK2364
MC23063-7	K72600.D	1	07/30/13	GK	n/a	n/a	MSK2364

6.3.1

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-5

CAS No.	Surrogate Recoveries	MS	MSD	MC23063-7	Limits
1868-53-7	Dibromofluoromethane	105%	104%	113%	70-130%
2037-26-5	Toluene-D8	100%	99%	97%	70-130%
460-00-4	4-Bromofluorobenzene	93%	95%	93%	70-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22841-37MS	L76163.D	5	07/30/13	KR	n/a	n/a	MSL3537
MC22841-37MSD	L76164.D	5	07/30/13	KR	n/a	n/a	MSL3537
MC22841-37	L76149.D	1	07/30/13	KR	n/a	n/a	MSL3537

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-5

CAS No.	Compound	MC22841-37 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	11.1		250	119	43* [a]	130	48* [a]	9	70-130/30
107-02-8	Acrolein	ND		1250	1190	95	1280	102	7	70-130/30
107-13-1	Acrylonitrile	ND		250	157	63* [a]	168	67* [a]	7	70-130/30
108-86-1	Bromobenzene	ND		250	258	103	261	104	1	70-130/30
74-97-5	Bromochloromethane	ND		250	218	87	216	86	1	70-130/30
75-27-4	Bromodichloromethane	ND		250	227	91	228	91	0	70-130/30
75-25-2	Bromoform	ND		250	221	88	230	92	4	70-130/30
74-83-9	Bromomethane	ND		250	223	89	246	98	10	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	145	58* [a]	160	64* [a]	10	70-130/30
104-51-8	n-Butylbenzene	ND		250	261	104	271	108	4	70-130/30
135-98-8	sec-Butylbenzene	ND		250	285	114	291	116	2	70-130/30
98-06-6	tert-Butylbenzene	ND		250	283	113	281	112	1	70-130/30
75-15-0	Carbon disulfide	ND		250	196	78	194	78	1	70-130/30
56-23-5	Carbon tetrachloride	ND		250	228	91	237	95	4	70-130/30
108-90-7	Chlorobenzene	ND		250	272	109	267	107	2	70-130/30
75-00-3	Chloroethane	ND		250	218	87	211	84	3	70-130/30
67-66-3	Chloroform	ND		250	208	83	209	84	0	70-130/30
74-87-3	Chloromethane	ND		250	166	66* [a]	162	65* [a]	2	70-130/30
95-49-8	o-Chlorotoluene	ND		250	258	103	257	103	0	70-130/30
106-43-4	p-Chlorotoluene	ND		250	268	107	270	108	1	70-130/30
124-48-1	Dibromochloromethane	ND		250	252	101	253	101	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	273	109	278	111	2	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	265	106	268	107	1	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	241	96	247	99	2	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	213	85	212	85	0	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	205	82	202	81	1	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	207	83	210	84	1	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	242	97	239	96	1	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	212	85	211	84	0	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	214	86	209	84	2	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	210	84	206	82	2	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	251	100	249	100	1	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	212	85	210	84	1	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	242	97	239	96	1	70-130/30
10061-01-5	cis-1,3-Dichloropropene	ND		250	190	76	194	78	2	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	207	83	212	85	2	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22841-37MS	L76163.D	5	07/30/13	KR	n/a	n/a	MSL3537
MC22841-37MSD	L76164.D	5	07/30/13	KR	n/a	n/a	MSL3537
MC22841-37	L76149.D	1	07/30/13	KR	n/a	n/a	MSL3537

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-5

CAS No.	Compound	MC22841-37 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
123-91-1	1,4-Dioxane	ND		1250	950	76	1010	81	6	70-130/30
97-63-2	Ethyl methacrylate	ND		250	225	90	234	94	4	72-139/30
100-41-4	Ethylbenzene	ND		250	335	134* [a]	275	110	20	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	252	101	269	108	7	70-130/30
591-78-6	2-Hexanone	ND		250	178	71	186	74	4	70-130/30
98-82-8	Isopropylbenzene	ND		250	274	110	274	110	0	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	270	108	275	110	2	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		250	181	72	183	73	1	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	164	66* [a]	175	70	6	70-130/30
74-95-3	Methylene bromide	ND		250	225	90	229	92	2	70-130/30
75-09-2	Methylene chloride	ND		250	190	76	208	83	9	70-130/30
91-20-3	Naphthalene	ND		250	248	99	237	95	5	70-130/30
103-65-1	n-Propylbenzene	ND		250	271	108	271	108	0	70-130/30
100-42-5	Styrene	ND		250	256	102	253	101	1	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	257	103	251	100	2	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	227	91	241	96	6	70-130/30
127-18-4	Tetrachloroethene	ND		250	290	116	285	114	2	70-130/30
108-88-3	Toluene	ND		250	237	95	224	90	6	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	221	88	236	94	7	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	224	90	237	95	6	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	246	98	244	98	1	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	223	89	230	92	3	70-130/30
79-01-6	Trichloroethene	ND		250	206	82	210	84	2	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	214	86	215	86	0	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	235	94	248	99	5	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	283	113	256	102	10	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	247	99	243	97	2	70-130/30
108-05-4	Vinyl Acetate	ND		250	112	45* [a]	120	48* [a]	7	70-130/30
75-01-4	Vinyl chloride	ND		250	169	68* [a]	168	67* [a]	1	70-130/30
	m,p-Xylene	ND		500	616	123	569	114	8	70-130/30
95-47-6	o-Xylene	ND		250	304	122	287	115	6	70-130/30
1330-20-7	Xylene (total)	ND		750	920	123	855	114	7	70-130/30

* = Outside of Control Limits.

6.3.2

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22841-37MS	L76163.D	5	07/30/13	KR	n/a	n/a	MSL3537
MC22841-37MSD	L76164.D	5	07/30/13	KR	n/a	n/a	MSL3537
MC22841-37	L76149.D	1	07/30/13	KR	n/a	n/a	MSL3537

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-5

CAS No.	Surrogate Recoveries	MS	MSD	MC22841-37	Limits
1868-53-7	Dibromofluoromethane	78%	77%	86%	70-130%
2037-26-5	Toluene-D8	89%	90%	91%	70-130%
460-00-4	4-Bromofluorobenzene	99%	99%	110%	70-130%

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

* = Outside of Control Limits.

6.3.2

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22784-4MS	K72663.D	100	07/31/13	GK	n/a	n/a	MSK2366
MC22784-4MSD	K72664.D	100	07/31/13	GK	n/a	n/a	MSK2366
MC22784-4	K72660.D	100	07/31/13	GK	n/a	n/a	MSK2366

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

MC22808-1, MC22808-3, MC22808-4

CAS No.	Compound	MC22784-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	16600		5000	18900	46* [a]	18200	32* [a]	4	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	MC22784-4	Limits
1868-53-7	Dibromofluoromethane	103%	102%	112%	70-130%
2037-26-5	Toluene-D8	100%	100%	100%	70-130%
460-00-4	4-Bromofluorobenzene	93%	94%	93%	70-130%

(a) Outside control limits due to high level in sample relative to spike amount.

* = Ontside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22975-2MS	K72719.D	5	08/01/13	GK	n/a	n/a	MSK2368
MC22975-2MSD	K72720.D	5	08/01/13	GK	n/a	n/a	MSK2368
MC22975-2	K72717.D	1	08/01/13	GK	n/a	n/a	MSK2368

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

MC22808-2

CAS No.	Compound	MC22975-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		250	239	96	259	104	8	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	MC22975-2	Limits
1868-53-7	Dibromofluoromethane	107%	106%	118%	70-130%
2037-26-5	Toluene-D8	99%	99%	96%	70-130%
460-00-4	4-Bromofluorobenzene	93%	93%	93%	70-130%

6.3.4

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSK2364-CC2349	Injection Date:	07/30/13
Lab File ID:	K72592.D	Injection Time:	09:08
Instrument ID:	GCMSK	Method:	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	320544	8.84	489795	9.69	219173	12.94	243128	15.50	60132	6.42
Upper Limit [a]	641088	9.34	979590	10.19	438346	13.44	486256	16.00	120264	6.92
Lower Limit [b]	160272	8.34	244898	9.19	109587	12.44	121564	15.00	30066	5.92
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	1S 3 AREA	RT	1S 4 AREA	RT	1S 5 AREA	RT
MSK2364-BS	329119	8.84	495483	9.69	221013	12.94	245955	15.50	61791	6.42
MSK2364-MB	326556	8.84	499615	9.69	207915	12.95	229665	15.50	62604	6.42
ZZZZZZ	318533	8.84	495077	9.69	207202	12.94	223099	15.50	53397	6.42
ZZZZZZ	320700	8.84	497824	9.69	209451	12.95	227612	15.50	54784	6.42
ZZZZZZ	318185	8.84	495775	9.69	209475	12.95	227266	15.50	57473	6.42
MC23063-7	315918	8.84	490255	9.69	207127	12.95	227071	15.50	54974	6.42
MC23063-7MS	320430	8.84	487202	9.69	219534	12.94	244640	15.50	58048	6.42
MC23063-7MSD	333458	8.84	503292	9.69	222584	12.94	248245	15.50	58675	6.42
ZZZZZZ	345938	8.84	526637	9.69	220526	12.94	246576	15.50	61922	6.42
MC22808-1	351026	8.84	520496	9.69	224354	12.95	245895	15.50	61640	6.42
MC22808-2	330184	8.84	500727	9.69	220475	12.94	244985	15.50	61439	6.42
MC22808-3	332970	8.84	508447	9.69	219135	12.95	245836	15.50	59067	6.42
MC22808-4	328972	8.84	496261	9.69	214671	12.95	235203	15.50	57585	6.42
MC22808-5	330012	8.84	506267	9.69	210703	12.95	228576	15.50	60120	6.42
ZZZZZZ	314407	8.84	472708	9.69	203934	12.95	223361	15.50	56194	6.42
ZZZZZZ	319137	8.84	488448	9.69	204600	12.95	226441	15.50	59090	6.42
ZZZZZZ	322075	8.84	490581	9.69	207458	12.94	225171	15.50	57134	6.42
ZZZZZZ	320148	8.84	496157	9.69	210782	12.95	233189	15.50	66713	6.42
ZZZZZZ	312325	8.84	479212	9.69	204466	12.95	222858	15.50	62442	6.43
ZZZZZZ	314999	8.84	485504	9.69	205334	12.94	224129	15.50	49710	6.42
ZZZZZZ	315661	8.84	492867	9.69	207420	12.95	223862	15.50	48795	6.42
ZZZZZZ	308741	8.84	477769	9.69	203653	12.94	221439	15.50	52240	6.42
ZZZZZZ	298703	8.84	463327	9.69	198679	12.94	215736	15.50	52037	6.42
ZZZZZZ	295815	8.84	461445	9.69	198982	12.95	216406	15.50	52646	6.42

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; Reteution time -0.5 minutes.

6.4.1

Volatile Internal Standard Area Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSK2366-CC2349	Injection Date:	07/31/13
Lab File ID:	K72647.D	Injeetion Time:	10:30
Instrument ID:	GCMSK	Method:	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	300765	8.84	460487	9.68	210233	12.94	232953	15.50	59404	6.42
Upper Limit [a]	601530	9.34	920974	10.18	420466	13.44	465906	16.00	118808	6.92
Lower Limit [b]	150383	8.34	230244	9.18	105117	12.44	116477	15.00	29702	5.92
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSK2366-BS	321156	8.84	485759	9.69	216661	12.94	244551	15.50	60842	6.42
MSK2366-MB	322053	8.84	494666	9.69	208747	12.95	228574	15.50	56746	6.42
ZZZZZZ	316797	8.84	494861	9.69	203839	12.95	219531	15.50	52179	6.42
ZZZZZZ	314783	8.84	480402	9.69	203033	12.95	218166	15.50	52445	6.42
ZZZZZZ	311733	8.84	483482	9.69	203382	12.95	221351	15.50	54956	6.42
MC22808-1	305518	8.84	469152	9.69	202287	12.95	218582	15.50	53555	6.42
MC22808-4	295330	8.84	456894	9.69	197310	12.95	214363	15.50	51132	6.42
MC22808-3	303383	8.84	462409	9.69	199162	12.95	218726	15.50	56337	6.42
ZZZZZZ	297819	8.84	464055	9.69	199537	12.95	215408	15.50	54806	6.42
MC22784-4	301445	8.84	457655	9.69	201576	12.95	227421	15.50	57409	6.42
ZZZZZZ	310446	8.84	468211	9.69	203076	12.95	221825	15.50	53974	6.42
ZZZZZZ	306430	8.84	473624	9.69	210766	12.95	226847	15.50	52623	6.42
MC22784-4MS	312806	8.84	470114	9.69	213915	12.94	240223	15.50	58864	6.42
MC22784-4MSD	323610	8.84	481447	9.69	218500	12.94	241809	15.50	54738	6.42
ZZZZZZ	312926	8.84	472847	9.69	205908	12.95	225930	15.50	57423	6.42
ZZZZZZ	315857	8.84	480763	9.69	207366	12.95	226233	15.51	57091	6.42

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

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

6.4.2

Volatile Internal Standard Area Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSK2368-CC2349	Injection Date:	08/01/13
Lab File ID:	K72699.D	Injection Time:	10:29
Instrument ID:	GCMSK	Method:	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	307215	8.84	470810	9.69	211357	12.94	235543	15.50	55629	6.42
Upper Limit [a]	614430	9.34	941620	10.19	422714	13.44	471086	16.00	111258	6.92
Lower Limit [b]	153608	8.34	235405	9.19	105679	12.44	117772	15.00	27815	5.92

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSK2368-BS	312632	8.84	473849	9.69	213192	12.94	240676	15.51	55789	6.42
MSK2368-MB	307884	8.84	474067	9.69	200383	12.95	220646	15.51	55798	6.42
ZZZZZZ	315487	8.84	486749	9.69	203623	12.95	222804	15.51	50708	6.42
MC22808-2 [c]	295201	8.84	454612	9.69	193348	12.95	216610	15.51	54576	6.42
ZZZZZZ	294983	8.84	453286	9.69	195650	12.95	211953	15.51	50716	6.42
ZZZZZZ	296266	8.84	455045	9.69	195865	12.95	212070	15.51	46063	6.42
ZZZZZZ	292984	8.84	456887	9.69	193361	12.95	213007	15.51	49067	6.42
ZZZZZZ	291242	8.84	455211	9.69	191986	12.95	207157	15.51	45152	6.42
ZZZZZZ	282978	8.84	434228	9.69	187555	12.95	208940	15.51	44246	6.42
ZZZZZZ	293680	8.84	449871	9.69	193834	12.95	216871	15.51	51181	6.42
ZZZZZZ	292420	8.84	449533	9.69	195041	12.95	210601	15.51	49403	6.42
ZZZZZZ	297966	8.84	459006	9.69	197045	12.95	219588	15.51	43739	6.42
ZZZZZZ	293029	8.84	456879	9.69	193142	12.95	210831	15.51	44215	6.42
ZZZZZZ	286475	8.84	444285	9.69	191506	12.95	206548	15.51	47318	6.42
ZZZZZZ	289995	8.84	457260	9.69	195110	12.95	205503	15.51	47403	6.42
MC22975-2	279661	8.84	441830	9.69	190304	12.95	203733	15.51	47467	6.42
ZZZZZZ	280332	8.84	443730	9.69	190340	12.95	202643	15.51	50180	6.42
MC22975-2MS	286861	8.84	447386	9.69	201892	12.94	226849	15.51	48881	6.42
MC22975-2MSD	303985	8.84	462670	9.69	209337	12.94	233287	15.50	50184	6.42
ZZZZZZ	315342	8.84	476603	9.69	207795	12.95	241185	15.51	55851	6.42
ZZZZZZ	302566	8.84	469502	9.69	201059	12.95	221494	15.51	63648	6.42
ZZZZZZ	296581	8.84	463781	9.69	198530	12.95	221998	15.51	65984	6.42
ZZZZZZ	304152	8.84	478054	9.69	203936	12.95	219477	15.51	62863	6.42

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 Internal Standard Area Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSL3537-CC3534	Injection Date:	07/30/13
Lab File ID:	L76141.D	Injection Time:	08:33
Instrument ID:	GCMSL	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	99478	8.06	132962	8.90	69228	12.13	71450	14.68	27078	5.75
Upper Limit [a]	198956	8.56	265924	9.40	138456	12.63	142900	15.18	54156	6.25
Lower Limit [b]	49739	7.56	66481	8.40	34614	11.63	35725	14.18	13539	5.25
Lab Sample ID	1S 1 AREA	RT	IS 2 AREA	RT	1S 3 AREA	RT	1S 4 AREA	RT	1S 5 AREA	RT
MSL3537-BS	105109	8.06	140042	8.89	72455	12.13	74271	14.68	32829	5.75
MSL3537-MB	104362	8.07	139769	8.90	70706	12.13	67181	14.69	36489	5.79
ZZZZZZ	106821	8.06	142227	8.90	71838	12.13	70133	14.69	31405	5.79
ZZZZZZ	105001	8.06	143376	8.90	70875	12.13	68210	14.69	34256	5.79
ZZZZZZ	104929	8.06	138084	8.90	70282	12.13	67733	14.68	30817	5.79
MC22841-37	103547	8.06	140464	8.90	70497	12.13	66221	14.69	35115	5.79
ZZZZZZ	102249	8.06	136745	8.90	68886	12.13	65926	14.68	30179	5.79
ZZZZZZ	102778	8.06	135832	8.90	69093	12.13	66855	14.68	34368	5.79
MC22808-1	100661	8.06	128582	8.89	67366	12.13	69471	14.68	34083	5.78
MC22808-2	107511	8.21	92715	9.00	73523	12.14	81280	14.68	31596	5.75
MC22808-3	111049	8.12	112101	8.94	75584	12.13	81338	14.68	33046	5.74
MC22808-4	115175	8.12	116245	8.94	77796	12.13	82840	14.68	30211	5.73
MC22808-5	112803	8.06	142810	8.89	73110	12.13	72785	14.68	35753	5.78
ZZZZZZ	118405	8.11	126277	8.93	79927	12.13	86679	14.68	34473	5.75
ZZZZZZ	121680	8.07	146112	8.90	77682	12.13	81351	14.68	32423	5.78
ZZZZZZ	121449	8.07	147670	8.90	78778	12.13	82083	14.68	33107	5.78
ZZZZZZ	120042	8.08	138091	8.92	79280	12.13	85721	14.68	35628	5.73
ZZZZZZ	114085	8.06	150171	8.89	76708	12.13	85592	14.68	54138	5.70
ZZZZZZ	114350	8.06	147597	8.89	73655	12.13	79674	14.68	42291	5.76
MC22841-37MS	114003	8.06	146262	8.89	73467	12.13	78233	14.68	34748	5.75
MC22841-37MSD	113198	8.06	144863	8.89	74017	12.13	77378	14.68	37539	5.76

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

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

6.4.4

Volatile Surrogate Recovery Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22808-1	L76152.D	86.0	94.0	107.0
MC22808-1	K72655.D	113.0	98.0	93.0
MC22808-1	K72604.D	108.0	100.0	94.0
MC22808-2	L76153.D	82.0	139.0* [a]	100.0
MC22808-2	K72705.D	113.0	99.0	92.0
MC22808-2	K72605.D	110.0	103.0	94.0
MC22808-3	K72606.D	109.0	100.0	93.0
MC22808-3	L76154.D	81.0	119.0	99.0
MC22808-3	K72657.D	113.0	100.0	93.0
MC22808-4	K72607.D	110.0	100.0	94.0
MC22808-4	K72656.D	115.0	98.0	94.0
MC22808-4	L76155.D	80.0	118.0	100.0
MC22808-5	K72608.D	110.0	95.0	94.0
MC22808-5	L76156.D	79.0	93.0	105.0
MC22784-4MS	K72663.D	103.0	100.0	93.0
MC22784-4MSD	K72664.D	102.0	100.0	94.0
MC22841-37MS	L76163.D	78.0	89.0	99.0
MC22841-37MSD	L76164.D	77.0	90.0	99.0
MC22975-2MS	K72719.D	107.0	99.0	93.0
MC22975-2MSD	K72720.D	106.0	99.0	93.0
MC23063-7MS	K72601.D	105.0	100.0	93.0
MC23063-7MSD	K72602.D	104.0	99.0	95.0
MSK2364-BS	K72593.D	103.0	100.0	94.0
MSK2364-MB	K72596.D	112.0	96.0	94.0
MSK2366-BS	K72648.D	105.0	100.0	93.0
MSK2366-MB	K72651.D	111.0	97.0	92.0
MSK2368-BS	K72700.D	104.0	100.0	93.0
MSK2368-MB	K72703.D	112.0	97.0	93.0
MSL3537-BS	L76142.D	85.0	90.0	101.0
MSL3537-MB	L76145.D	85.0	90.0	108.0

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 iuterference. 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: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34099-MB	R32367.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4

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	0.38	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.49	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.33	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	1.1	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	2.5	ng/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	1.2	ug/l	
95-48-7	2-Methylphenol	ND	10	1.3	ug/l	
	3&4-Methylphenol	ND	10	2.0	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.50	ug/l	
100-02-7	4-Nitrophenol	ND	20	0.58	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.0	0.51	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.57	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.32	ug/l	
62-53-3	Aniline	ND	10	0.64	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.20	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.85	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.57	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.92	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.25	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.21	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.23	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.13	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.20	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.65	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.68	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	0.64	ug/l	
91-94-1	3,3'-Dichlorobenzidine	2.6	5.0	0.50	ug/l	J
132-64-9	Dibenzofuran	ND	2.0	0.16	ug/l	
84-74-2	Di-n-butyl phthalate	0.40	5.0	0.39	ug/l	J
117-84-0	Di-n-octyl phthalate	5.7	5.0	0.43	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.50	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.50	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	2.5	2.0	0.49	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.30	ug/l	

Method Blank Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxaua, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34099-MB	R32367.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	2.5	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.44	ug/l	
78-59-1	Isophorone	ND	5.0	0.20	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.50	ug/l	
100-01-6	4-Nitroaniline	ND	10	4.3	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.50	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.81	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.54	ug/l	
110-86-1	Pyridine	ND	10	0.52	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	51%	15-110%
4165-62-2	Phenol-d5	18%	15-110%
118-79-6	2,4,6-Tribromophenol	89%	15-110%
4165-60-0	Nitrobenzene-d5	78%	30-130%
321-60-8	2-Fluorobiphenyl	91%	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			ug/l	

Method Blank Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34100-MB	W14158.D	1	07/25/13	WK	07/23/13	OP34100	MSW640

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4

7.1.2

7

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.015	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	ng/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	0.024	0.050	0.013	ug/l	J
129-00-0	Pyrene	ND	0.10	0.036	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	52%	15-110%
4165-62-2	Phenol-d5	19%	15-110%
118-79-6	2,4,6-Tribromophenol	96%	15-110%
4165-60-0	Nitrobenzene-d5	88%	30-130%
321-60-8	2-Fluorobiphenyl	84%	30-130%
1718-51-0	Terphenyl-d14	91%	30-130%

Blank Spike Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34099-BS	R32368.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	50	19.0	38	30-130
95-57-8	2-Chlorophenol	50	45.0	90	30-130
59-50-7	4-Chloro-3-methyl phenol	50	49.4	99	30-130
120-83-2	2,4-Dichlorophenol	50	47.1	94	30-130
105-67-9	2,4-Dimethylphenol	50	42.5	85	30-130
51-28-5	2,4-Dinitrophenol	50	37.2	74	30-130
534-52-1	4,6-Dinitro-o-cresol	50	46.6	93	30-130
95-48-7	2-Methylphenol	50	40.7	81	30-130
	3&4-Methylphenol	100	74.6	75	30-130
88-75-5	2-Nitrophenol	50	48.9	98	30-130
100-02-7	4-Nitrophenol	50	19.9	40	30-130
87-86-5	Pentachlorophenol	50	43.0	86	30-130
108-95-2	Phenol	50	22.8	46	30-130
95-95-4	2,4,5-Trichlorophenol	50	52.7	105	30-130
88-06-2	2,4,6-Trichlorophenol	50	51.6	103	30-130
62-53-3	Auiline	50	34.1	68	40-140
101-55-3	4-Bromophenyl phenyl ether	50	46.7	93	40-140
85-68-7	Butyl benzyl phthalate	50	48.1	96	40-140
100-51-6	Benzyl Alcohol	50	34.9	70	40-140
91-58-7	2-Chloronaphthalene	50	44.3	89	40-140
106-47-8	4-Chloroaniline	50	39.5	79	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	40.1	80	40-140
111-44-4	bis(2-Chloroethyl)ether	50	38.5	77	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	40.2	80	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	49.5	99	40-140
122-66-7	1,2-Diphenylhydrazine	50	40.6	81	40-140
121-14-2	2,4-Dinitrotoluene	50	51.1	102	40-140
606-20-2	2,6-Dinitrotoluene	50	47.1	94	40-140
91-94-1	3,3'-Dichlorobenzidine	50	48.4	97	40-140
132-64-9	Dibenzofuran	50	46.7	93	40-140
84-74-2	Di-n-butyl phthalate	50	47.7	95	40-140
117-84-0	Di-n-octyl phthalate	50	51.7	103	40-140
84-66-2	Diethyl phthalate	50	42.6	85	40-140
131-11-3	Dimethyl phthalate	50	26.9	54	40-140
117-81-7	bis(2-Ethylhexyl)phthalate	50	47.2	94	40-140
118-74-1	Hexachlorobenzene	50	45.5	91	40-140

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34099-BS	R32368.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4

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	35.1	70	40-140
78-59-1	Isophorone	50	40.1	80	40-140
88-74-4	2-Nitroaniline	50	52.1	104	40-140
99-09-2	3-Nitroaniline	50	47.3	95	40-140
100-01-6	4-Nitroaniline	50	51.1	102	40-140
98-95-3	Nitrobenzene	50	36.7	73	40-140
62-75-9	n-Nitrosodimethylamine	50	24.4	49	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	39.4	79	40-140
86-30-6	N-Nitrosodiphenylamine	50	44.1	88	40-140
110-86-1	Pyridine	50	22.7	45	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	56%	15-110%
4165-62-2	Phenol-d5	20%	15-110%
118-79-6	2,4,6-Tribromophenol	99%	15-110%
4165-60-0	Nitrobenzene-d5	81%	30-130%
321-60-8	2-Fluorohiphenyl	91%	30-130%
1718-51-0	Terphenyl-d14	89%	30-130%

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

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34100-BS	W14159.D	1	07/25/13	WK	07/23/13	OP34100	MSW640

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	43.7	87	40-140
208-96-8	Acenaphthylene	50	36.0	72	40-140
120-12-7	Anthracene	50	43.4	87	40-140
56-55-3	Benzo(a)anthracene	50	47.8	96	40-140
50-32-8	Benzo(a)pyrene	50	46.6	93	40-140
205-99-2	Benzo(b)fluoranthene	50	52.2	104	40-140
191-24-2	Benzo(g,h,i)perylene	50	51.0	102	40-140
207-08-9	Benzo(k)fluoranthene	50	46.9	94	40-140
218-01-9	Chrysene	50	44.4	89	40-140
53-70-3	Dibenzo(a,h)anthracene	50	50.9	102	40-140
206-44-0	Fluoranthene	50	46.8	94	40-140
86-73-7	Fluorene	50	45.0	90	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	50.1	100	40-140
90-12-0	1-Methylnaphthalene	50	42.2	84	40-140
91-57-6	2-Methylnaphthalene	50	40.2	80	40-140
85-01-8	Phenanthrene	50	43.2	86	40-140
129-00-0	Pyrene	50	44.4	89	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	57%	15-110%
4165-62-2	Phenol-d5	20%	15-110%
118-79-6	2,4,6-Tribromophenol	104%	15-110%
4165-60-0	Nitrobenzene-d5	91%	30-130%
321-60-8	2-Fluorobiphenyl	88%	30-130%
1718-51-0	Terphenyl-d14	93%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34099-MS	R32369.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181
OP34099-MSD	R32370.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181
MC22900-7	R32371.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4

7.3.1

7

CAS No.	Compound	MC22900-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		50	18.4	37	16.5	33	11	30-130/20
95-57-8	2-Chlorophenol	ND		50	43.5	87	39.1	78	11	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		50	45.9	92	44.2	88	4	30-130/20
120-83-2	2,4-Dichlorophenol	ND		50	45.5	91	42.2	84	8	30-130/20
105-67-9	2,4-Dimethylphenol	ND		50	37.4	75	34.6	69	8	30-130/20
51-28-5	2,4-Dinitrophenol	ND		50	36.2	72	35.3	71	3	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		50	48.0	96	45.7	91	5	30-130/20
95-48-7	2-Methylphenol	ND		50	38.9	78	35.9	72	8	30-130/20
	3&4-Methylphenol	ND		100	72.2	72	64.7	65	11	30-130/20
88-75-5	2-Nitrophenol	ND		50	46.1	92	42.5	85	8	30-130/20
100-02-7	4-Nitrophenol	ND		50	19.5	39	19.4	39	1	30-130/20
87-86-5	Pentachlorophenol	ND		50	44.2	88	43.2	86	2	30-130/20
108-95-2	Phenol	ND		50	18.7	37	16.6	33	12	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		50	50.7	101	50.9	102	0	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		50	49.1	98	48.7	97	1	30-130/20
62-53-3	Aniline	ND		50	33.6	67	29.9	60	12	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		50	48.4	97	45.3	91	7	40-140/20
85-68-7	Butyl benzyl phthalate	ND		50	48.6	97	45.3	91	7	40-140/20
100-51-6	Benzyl Alcohol	ND		50	33.5	67	30.9	62	8	40-140/20
91-58-7	2-Chloronaphthalene	ND		50	42.1	84	41.3	83	2	40-140/20
106-47-8	4-Chloroaniline	ND		50	39.1	78	35.4	71	10	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		50	38.3	77	34.5	69	10	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		50	36.7	73	33.1	66	10	40-140/20
108-60-1	his(2-Chloroisopropyl)ether	ND		50	37.3	75	34.0	68	9	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		50	48.6	97	48.3	97	1	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		50	41.0	82	38.5	77	6	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		50	49.9	100	49.6	99	1	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		50	46.3	93	46.0	92	1	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		50	50.0	100	46.9	94	6	40-140/20
132-64-9	Dibenzofuran	ND		50	44.6	89	44.6	89	0	40-140/20
84-74-2	Di-n-butyl phthalate	ND		50	48.8	98	44.5	89	9	40-140/20
117-84-0	Di-n-octyl phthalate	ND		50	51.6	103	49.7	99	4	40-140/20
84-66-2	Diethyl phthalate	ND		50	42.4	85	42.1	84	1	40-140/20
131-11-3	Dimethyl phthalate	ND		50	27.4	55	28.8	58	5	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND		50	46.7	93	44.4	89	5	40-140/20
118-74-1	Hexachlorobenzene	ND		50	45.8	92	42.6	85	7	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22808
Aecount: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 Sonth Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Bateh	Analytieal Batch
OP34099-MS	R32369.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181
OP34099-MSD	R32370.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181
MC22900-7	R32371.D	1	07/25/13	WK	07/23/13	OP34099	MSR1181

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4

7.3.1

7

CAS No.	Compound	MC22900-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		50	13.9	28* [a]	13.2	26* [a]	5	40-140/20
67-72-1	Hexachloroethane	ND		50	32.8	66	30.2	60	8	40-140/20
78-59-1	Isophorone	ND		50	38.5	77	35.2	70	9	40-140/20
88-74-4	2-Nitroaniline	ND		50	49.5	99	50.0	100	1	40-140/20
99-09-2	3-Nitroaniline	ND		50	46.0	92	45.7	91	1	40-140/20
100-01-6	4-Nitroaniline	ND		50	49.2	98	48.0	96	2	40-140/20
98-95-3	Nitrobenzene	ND		50	33.6	67	30.6	61	9	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		50	23.9	48	21.1	42	12	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		50	38.7	77	35.9	72	8	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		50	45.4	91	43.1	86	5	40-140/20
110-86-1	Pyridine	ND		50	21.0	42	19.3	39* [a]	8	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC22900-7	Limits
367-12-4	2-Fluorophenol	52%	48%	43%	15-110%
4165-62-2	Phenol-d5	19%	18%	15%	15-110%
118-79-6	2,4,6-Trihromophenol	100%	95%	75%	15-110%
4165-60-0	Nitrobenzene-d5	75%	70%	62%	30-130%
321-60-8	2-Fluorobiphenyl	87%	86%	74%	30-130%
1718-51-0	Terphenyl-d14	88%	84%	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: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34100-MS	W14160.D	1	07/25/13	WK	07/23/13	OP34100	MSW640
OP34100-MSD	W14161.D	1	07/25/13	WK	07/23/13	OP34100	MSW640
MC22900-8	W14162.D	1	07/25/13	WK	07/23/13	OP34100	MSW640

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4

CAS No.	Compound	MC22900-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	0.016	J	50	42.5	85	40.2	80	6	40-140/20
208-96-8	Acenaphthylene	ND		50	35.1	70	33.1	66	6	40-140/20
120-12-7	Anthracene	ND		50	43.1	86	40.8	82	5	40-140/20
56-55-3	Benzo(a)anthracene	0.063		50	47.9	96	44.4	89	8	40-140/20
50-32-8	Benzo(a)pyrene	0.077	J	50	46.7	93	44.4	89	5	40-140/20
205-99-2	Benzo(b)fluoranthene	0.083		50	52.3	104	47.9	96	9	40-140/20
191-24-2	Benzo(g,h,i)perylene	0.10		50	50.8	101	48.2	96	5	40-140/20
207-08-9	Benzo(k)fluoranthene	0.089	J	50	47.1	94	46.0	92	2	40-140/20
218-01-9	Chrysene	ND		50	45.1	90	41.9	84	7	40-140/20
53-70-3	Dibenzo(a,h)anthracene	0.086	J	50	51.5	103	48.6	97	6	40-140/20
206-44-0	Fluoranthene	ND		50	46.8	94	43.8	88	7	40-140/20
86-73-7	Fluorene	ND		50	43.7	87	42.2	84	3	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	0.099	J	50	50.1	100	47.3	94	6	40-140/20
90-12-0	1-Methylnaphthalene	ND		50	41.4	83	37.9	76	9	40-140/20
91-57-6	2-Methylnaphthalene	ND		50	38.8	78	35.4	71	9	40-140/20
85-01-8	Phenanthrene	0.025	J	50	43.2	86	40.5	81	6	40-140/20
129-00-0	Pyrene	ND		50	44.4	89	41.6	83	7	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC22900-8	Limits
367-12-4	2-Fluorophenol	51%	48%	44%	15-110%
4165-62-2	Phenol-d5	19%	18%	16%	15-110%
118-79-6	2,4,6-Tribromophenol	102%	99%	80%	15-110%
4165-60-0	Nitrobenzene-d5	86%	78%	70%	30-130%
321-60-8	2-Fluorobiphenyl	84%	79%	69%	30-130%
1718-51-0	Terphenyl-d14	92%	88%	86%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSF3050-CC3031	Injection Date:	07/31/13
Lab File ID:	F65881.D	Injection Time:	10:30
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	65224	4.28	241368	5.41	155474	7.05	292526	8.52	327179	11.31	312264	12.84
Upper Limit [a]	130448	4.78	482736	5.91	310948	7.55	585052	9.02	654358	11.81	624528	13.34
Lower Limit [b]	32612	3.78	120684	4.91	77737	6.55	146263	8.02	163590	10.81	156132	12.34
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	94598	4.28	350924	5.41	215180	7.05	370087	8.52	393258	11.31	376529	12.84
ZZZZZZ	120872	4.28	445646	5.41	278310	7.05	493582	8.52	535493	11.32	536429	12.84
MC22808-3	103145	4.28	378038	5.41	239508	7.05	416550	8.52	462422	11.31	458506	12.84
MC22808-4	91381	4.28	341754	5.41	216140	7.05	389410	8.52	440868	11.31	440111	12.84
ZZZZZZ	84780	4.28	320953	5.41	207903	7.05	386682	8.51	447783	11.32	439901	12.84
OP34192-MB	92681	4.28	344679	5.41	220160	7.05	392675	8.51	429672	11.31	437141	12.84
OP34192-BS	89669	4.28	335101	5.41	214116	7.05	395262	8.52	430533	11.32	427035	12.84
OP34198-MB	72214	4.28	273744	5.41	173140	7.05	322697	8.52	358641	11.31	347610	12.84
OP34198-BS	78488	4.28	286841	5.41	184365	7.05	345011	8.51	379707	11.32	362610	12.84
MC22854-1	80929	4.28	302216	5.41	185927	7.05	327582	8.51	365869	11.31	352869	12.84
OP34198-MS	77533	4.28	294466	5.41	181775	7.05	322177	8.51	356052	11.32	344746	12.84
OP34198-MSD	75057	4.28	280556	5.41	173376	7.05	313692	8.52	347567	11.32	341239	12.84
ZZZZZZ	53621	4.28	197501	5.41	126429	7.05	240826	8.51	265815	11.31	262236	12.84
ZZZZZZ	46608	4.28	175111	5.41	112352	7.05	207830	8.52	229612	11.31	228773	12.83
ZZZZZZ	55439	4.28	206945	5.41	132536	7.05	245219	8.52	275859	11.31	276007	12.83
OP34192-MS	46451	4.28	173933	5.41	112098	7.05	211036	8.52	240971	11.31	236350	12.83
OP34192-MSD	53096	4.28	201440	5.41	130354	7.05	243852	8.51	273840	11.32	271297	12.84
MC23000-12	61034	4.28	234516	5.41	149660	7.05	276402	8.51	310276	11.31	316041	12.84

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: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSR1181-CC1159	Injection Date:	07/25/13
Lab File ID:	R32366.D	Injection Time:	09:10
Instrument ID:	GCMSR	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	91960	4.31	348159	5.37	206505	6.91	380929	8.33	435773	11.31	400128	12.91
Upper Limit [a]	183920	4.81	696318	5.87	413010	7.41	761858	8.83	871546	11.81	800256	13.41
Lower Limit [b]	45980	3.81	174080	4.87	103253	6.41	190465	7.83	217887	10.81	200064	12.41
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
OP34099-MB	78660	4.31	288087	5.37	172062	6.91	321141	8.32	373747	11.31	418554	12.90
OP34099-BS	69703	4.31	259840	5.37	157973	6.91	289204	8.32	323984	11.31	302608	12.90
OP34099-MS	79397	4.31	301780	5.37	183889	6.91	326659	8.32	372602	11.31	350917	12.90
OP34099-MSD	79356	4.31	299801	5.37	174762	6.91	328046	8.32	367379	11.31	343502	12.90
MC22900-7	73442	4.31	273692	5.37	164607	6.91	304082	8.32	347163	11.31	324634	12.90
MC22808-1	80186	4.31	300029	5.37	181395	6.91	329218	8.32	373093	11.31	358676	12.90
MC22808-2	87575	4.31	331612	5.37	197868	6.91	358566	8.32	402336	11.31	370553	12.90
MC22808-3	80571	4.31	302689	5.37	180475	6.91	323846	8.32	361731	11.31	337354	12.90
MC22808-4	66848	4.31	249641	5.37	154354	6.91	270360	8.32	306626	11.31	283874	12.90
ZZZZZZ	83207	4.31	311706	5.37	184206	6.91	344386	8.32	384883	11.31	353774	12.90
ZZZZZZ	82537	4.31	303506	5.37	182883	6.91	337051	8.32	379257	11.31	358102	12.90
ZZZZZZ	84436	4.31	318433	5.37	190440	6.91	349582	8.32	392685	11.31	367731	12.90
ZZZZZZ	63947	4.31	241663	5.37	143707	6.91	262008	8.32	294635	11.31	278779	12.90
ZZZZZZ	94576	4.31	352434	5.37	214088	6.91	393479	8.32	433790	11.31	413556	12.90
ZZZZZZ	68290	4.31	248776	5.37	151158	6.91	275847	8.32	306188	11.31	289568	12.90
ZZZZZZ	85482	4.31	324823	5.37	194291	6.91	361907	8.32	398334	11.31	371773	12.90
ZZZZZZ	82286	4.31	301271	5.37	185069	6.91	333873	8.32	379965	11.31	356403	12.90
ZZZZZZ	91686	4.31	339407	5.37	205341	6.91	372050	8.32	420247	11.31	388882	12.90
ZZZZZZ	83786	4.31	312905	5.37	188789	6.91	344819	8.32	386848	11.31	361742	12.90
ZZZZZZ	79395	4.31	291169	5.37	175498	6.91	324376	8.32	360857	11.31	343127	12.90

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: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSW640-CC633	Injection Date:	07/25/13
Lab File ID:	W14151.D	Injection Time:	18:35
Instrument ID:	GCMSW	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	147497	3.61	398872	4.59	208639	6.02	342779	7.29	227027	10.07	529874	11.50
Upper Limit [a]	294994	4.11	797744	5.09	417278	6.52	685558	7.79	454054	10.57	1059748	12.00
Lower Limit [b]	73749	3.11	199436	4.09	104320	5.52	171390	6.79	113514	9.57	264937	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
ZZZZZZ	158745	3.61	425524	4.59	213604	6.02	346415	7.29	232783	10.07	543569	11.50
ZZZZZZ	194520	3.61	515293	4.59	260518	6.02	417802	7.29	279816	10.07	658876	11.50
ZZZZZZ	196440	3.61	518923	4.59	261994	6.02	419768	7.29	284721	10.07	663360	11.50
ZZZZZZ	200445	3.61	534915	4.59	268836	6.02	435263	7.29	293127	10.07	686870	11.50
ZZZZZZ	208743	3.61	546944	4.59	280484	6.02	455571	7.29	309603	10.07	724509	11.50
ZZZZZZ	185330	3.61	486542	4.59	248902	6.02	399659	7.29	273217	10.07	637959	11.50
OP34100-MB	198321	3.61	517561	4.59	261699	6.02	420643	7.29	279529	10.07	659112	11.50
OP34100-BS	189704	3.61	497215	4.59	252552	6.02	411478	7.30	267104	10.07	627403	11.50
OP34100-MS	177507	3.61	462181	4.59	235898	6.02	383095	7.30	250045	10.07	590000	11.50
OP34100-MSD	208887	3.61	550082	4.59	276879	6.02	451205	7.30	295162	10.08	680742	11.50
MC22900-8	162797	3.61	431326	4.59	219242	6.02	354061	7.29	238052	10.07	556597	11.50
MC22808-1	188542	3.61	489659	4.59	250563	6.02	407276	7.29	269328	10.07	627769	11.50
MC22808-2	203693	3.61	535266	4.59	269964	6.02	435447	7.29	289638	10.07	681676	11.50
MC22808-3	245202	3.61	653423	4.59	327618	6.02	521551	7.30	351569	10.07	816313	11.50
MC22808-4	235507	3.61	622308	4.59	315386	6.02	499519	7.30	338232	10.08	786483	11.50
ZZZZZZ	208736	3.61	544236	4.59	276551	6.02	440110	7.29	301138	10.07	704483	11.50
ZZZZZZ	254629	3.61	663285	4.59	335801	6.02	541986	7.29	364075	10.07	864021	11.50
ZZZZZZ	206303	3.61	538383	4.59	270265	6.02	437418	7.29	294928	10.07	700763	11.50
ZZZZZZ	148489	3.61	385691	4.59	202899	6.02	342455	7.29	243249	10.07	586632	11.50
ZZZZZZ	174837	3.61	457545	4.59	234655	6.02	372204	7.29	254741	10.07	599746	11.50
ZZZZZZ	203167	3.61	533001	4.59	270126	6.02	438002	7.29	297994	10.07	703835	11.50
ZZZZZZ	205127	3.61	532499	4.59	269824	6.02	437980	7.29	296556	10.07	708155	11.50
ZZZZZZ	158871	3.61	418493	4.59	215462	6.02	351732	7.29	245145	10.07	597327	11.50

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: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22808-1	R32372.D	37.0	17.0	76.0	65.0	75.0	81.0
MC22808-2	R32373.D	40.0	21.0	85.0	56.0	73.0	79.0
MC22808-3	F65884.D	61.0	31.0	98.0	99.0	93.0	89.0
MC22808-3	R32374.D	50.0	23.0	92.0	68.0	80.0	75.0
MC22808-4	F65885.D	54.0	27.0	97.0	82.0	81.0	84.0
MC22808-4	R32375.D	45.0	22.0	94.0	59.0	72.0	75.0
OP34099-BS	R32368.D	56.0	20.0	99.0	81.0	91.0	89.0
OP34099-MB	R32367.D	51.0	18.0	89.0	78.0	91.0	86.0
OP34099-MS	R32369.D	52.0	19.0	100.0	75.0	87.0	88.0
OP34099-MSD	R32370.D	48.0	18.0	95.0	70.0	86.0	84.0

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: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22808-1	W14163.D	37.0	17.0	83.0	68.0	72.0	85.0
MC22808-2	W14164.D	40.0	20.0	91.0	65.0	69.0	83.0
MC22808-3	W14165.D	52.0	23.0	94.0	77.0	74.0	77.0
MC22808-4	W14166.D	46.0	21.0	99.0	65.0	68.0	79.0
OP34100-BS	W14159.D	57.0	20.0	104.0	91.0	88.0	93.0
OP34100-MB	W14158.D	52.0	19.0	96.0	88.0	84.0	91.0
OP34100-MS	W14160.D	51.0	19.0	102.0	86.0	84.0	92.0
OP34100-MSD	W14161.D	48.0	18.0	99.0	78.0	79.0	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-Fluorohiphenyl	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: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34095-MB	BK27122.D	1	07/25/13	NK	07/23/13	OP34095	GBK930

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-6

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.0045	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.0097	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	138%	36-173%
460-00-4	Bromofluorobenzene (S)	123%	36-173%

8.1.1

Blank Spike Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34095-BS	BK27123.D	1	07/25/13	NK	07/23/13	OP34095	GBK930

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.085	120	60-140
106-93-4	1,2-Dibromoethane	0.071	0.077	108	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	125%	36-173%
460-00-4	Bromofluorobenzene (S)	107%	36-173%

8.2.1

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34095-MS	BK27124.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
OP34095-MSD	BK27125.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
MC22692-3	BK27129.D	1	07/25/13	NK	07/23/13	OP34095	GBK930

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

MC22808-1, MC22808-2, MC22808-3, MC22808-4, MC22808-6

CAS No.	Compound	MC22692-3 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		0.0677	0.060	89	0.057	84	5	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.0677	0.071	105	0.073	108	3	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC22692-3	Limits
460-00-4	Bromofluorobenzene (S)	89%	87%	123%	36-173%
460-00-4	Bromofluorobenzene (S)	76%	64%	91%	36-173%

8.3.1

8

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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]
MC22808-1	BK27135.D	89.0	95.0
MC22808-2	BK27136.D	51.0	50.0
MC22808-3	BK27137.D	104.0	99.0
MC22808-4	BK27139.D	121.0	107.0
MC22808-6	BK27140.D	86.0	73.0
OP34095-BS	BK27123.D	125.0	107.0
OP34095-MB	BK27122.D	138.0	123.0
OP34095-MS	BK27124.D	89.0	76.0
OP34095-MSD	BK27125.D	87.0	64.0

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

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

GC Surrogate Retention Time Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	GBK930-CC929	Injection Date:	07/25/13
Lab File ID:	BK27116A.D	Injection Time:	05:10
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.58	4.94

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK27117.D	07/25/13	05:36	4.58	4.94
ZZZZZZ	BK27118.D	07/25/13	06:00	4.58	4.94
ZZZZZZ	BK27119.D	07/25/13	06:24	4.58	4.94
ZZZZZZ	BK27120.D	07/25/13	06:48	4.58	4.94
ZZZZZZ	BK27121.D	07/25/13	07:12	4.58	4.94
OP34095-MB	BK27122.D	07/25/13	07:35	4.58	4.94
OP34095-BS	BK27123.D	07/25/13	07:59	4.58	4.94
OP34095-MS	BK27124.D	07/25/13	08:23	4.58	4.94
OP34095-MSD	BK27125.D	07/25/13	08:47	4.58	4.94
ZZZZZZ	BK27126.D	07/25/13	09:11	4.58	4.94

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

8.5.1

8

GC Surrogate Retention Time Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	GBK930-CC929	Injection Date:	07/25/13
Lab File ID:	BK27127.D	Injection Time:	09:36
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.58	4.94

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK27128.D	07/25/13	10:00	4.58	4.94
MC22692-3	BK27129.D	07/25/13	10:24	4.58	4.94
ZZZZZZ	BK27130.D	07/25/13	10:49	4.58	4.94
ZZZZZZ	BK27131.D	07/25/13	11:13	4.58	4.94
ZZZZZZ	BK27132.D	07/25/13	11:37	4.58	4.94
ZZZZZZ	BK27133.D	07/25/13	12:01	4.58	4.94
ZZZZZZ	BK27134.D	07/25/13	12:25	4.58	4.94
MC22808-1	BK27135.D	07/25/13	12:50	4.58	4.94
MC22808-2	BK27136.D	07/25/13	13:14	4.58	4.94
MC22808-3	BK27137.D	07/25/13	13:38	4.58	4.94

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC22808
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	GBK930-CC929	Injection Date:	07/25/13
Lab File ID:	BK27138.D	Injection Time:	14:02
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.58	4.94

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
MC22808-4	BK27139.D	07/25/13	14:26	4.58	4.94
MC22808-6	BK27140.D	07/25/13	14:51	4.58	4.94
ZZZZZZ	BK27141.D	07/25/13	15:15	4.58	4.94
ZZZZZZ	BK27142.D	07/25/13	15:39	4.58	4.94
ZZZZZZ	BK27143.D	07/25/13	16:04	4.58	4.94
ZZZZZZ	BK27144.D	07/25/13	16:28	4.58	4.94
ZZZZZZ	BK27145.D	07/25/13	16:52	4.58	4.94
ZZZZZZ	BK27146.D	07/25/13	17:16	4.58	4.94
GBK930-ECC929	BK27147.D	07/25/13	17:41	4.58	4.94

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

8.5.3

Roxana Groundwater Quarterly – 3rd Quarter 2013 Data Review

Laboratory SDG: MC22834

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 8/15/2013

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

Sample Identification	Sample Identification
P93B-ROX-071813	P93C-ROX-071813
P93A-ROX-071813	P114-ROX-071813
P114-ROX-071813-Dup	TB-ROX-071813-HCL
TB-ROX-071813-ST	

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. The VOC surrogate 4-bromofluorobenzene was outside evaluation criteria for field duplicate pair P114-ROX-071813/P114-ROX-071813-Dup. Although not indicated in the laboratory case narrative, acenaphthene was detected in the method blank. Samples P93B-ROX-071813, P93C-ROX-071813, and P93A-ROX-071813 were diluted due to high levels of VOC target analytes. Additionally, the initial calibration verification for acrolein exceeded 50 percent difference (%D). Professional judgment was used to qualify the common laboratory contaminant acetone in sample P93A-ROX-071813 and field duplicate pair P114-ROX-071813/P114-ROX-071813-Dup. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated the coolers were received by the laboratory at temperatures of 1.2ºC and 1.5ºC, which are 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
OP34112-MB	PAHs	Acenaphthene	0.016 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 required qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
P93C-ROX-071813	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
MSL3537-BS	VOCs	Vinyl acetate	**57**	NA	70-130
MSK2364-BS	VOCs	2-Butanone (MEK)	**133**	NA	70-130
MSK2364-BS	VOCs	2-Chloroethyl vinyl ether	**66**	NA	70-130
MSK2364-BS	VOCs	Vinyl acetate	**69**	NA	70-130
OP34111-BS	SVOCs	Benzoic acid	**21**	NA	30-130
OP34111-BS	SVOCs	Hexachlorocyclopentadiene	**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 MSL3537-BS and MSK2364-BS were associated with the trip blank. Trip blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
P93B-ROX-071813	VOCs	Vinyl acetate	**J**
P93C-ROX-071813	VOCs	Vinyl acetate	**UJ**
P93A-ROX-071813	VOCs	Vinyl acetate	**UJ**
P114-ROX-071813	VOCs	Vinyl acetate	**UJ**
P114-ROX-071813-Dup	VOCs	Vinyl acetate	**UJ**
P93B-ROX-071813	VOCs	2-Chloroethyl vinyl ether	**UJ**
P93C-ROX-071813	VOCs	2-Chloroethyl vinyl ether	**UJ**
P93A-ROX-071813	VOCs	2-Chloroethyl vinyl ether	**UJ**
P114-ROX-071813	VOCs	2-Chloroethyl vinyl ether	**UJ**
P114-ROX-071813-Dup	VOCs	2-Chloroethyl vinyl ether	**UJ**
P93B-ROX-071813	SVOCs	Benzoic acid	**UJ**
P93B-ROX-071813	SVOCs	Hexachlorocyclopentadiene	**UJ**
P93C-ROX-071813	SVOCs	Benzoic acid	**UJ**
P93C-ROX-071813	SVOCs	Hexachlorocyclopentadiene	**UJ**
P93A-ROX-071813	SVOCs	Benzoic acid	**UJ**
P93A-ROX-071813	SVOCs	Hexachlorocyclopentadiene	**UJ**
P114-ROX-071813	SVOCs	Benzoic acid	**UJ**
P114-ROX-071813	SVOCs	Hexachlorocyclopentadiene	**UJ**

Sample ID	Parameter	Analyte	Qualification
P114-ROX-071813-Dup	SVOCs	Benzoic acid	**UJ**
P114-ROX-071813-Dup	SVOCs	Hexachlorocyclopentadiene	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
P114-ROX-071813 Run #1	VOCs	4-Bromofluorobenzene	**138**	70-130
P114-ROX-071813 Run #2	VOCs	4-Bromofluorobenzene	**147**	70-130
P114-ROX-071813-Dup Run #1	VOCs	4-Bromofluorobenzene	**138**	70-130
P114-ROX-071813-Dup Run #2	VOCs	4-Bromofluorobenzene	**148**	70-130

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-071813	VOCs	Methyl tert butyl ether	**J**
P114-ROX-071813-Dup	VOCs	Methyl tert butyl ether	**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?

Yes

Field ID	Field Duplicate ID
P114-ROX-071813	P114-ROX-071813-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 for acrolein exceeded 50 percent difference (%D). Acrolein in associated samples was qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
P93B-ROX-071813	VOCs	Acrolein	**UJ**
P93C-ROX-071813	VOCs	Acrolein	**UJ**
P93A-ROX-071813	VOCs	Acrolein	**UJ**
P114-ROX-071813	VOCs	Acrolein	**UJ**
P114-ROX-071813-Dup	VOCs	Acrolein	**UJ**

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

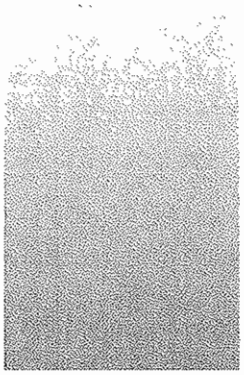
Sample ID	Analyte	New RL	Qualification	Comment
P93A-ROX-071813	Acetone	-	**U**	Professional Judgment

Professional judgment was also 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-071813	Acetone	251 ug/L	**U**	Professional Judgment
P114-ROX-071813-Dup	Acetone	245 ug/L	**U**	Professional Judgment

New England ACCUTEST LABORATORIES

08/06/13



Technical Report for

Shell Oil

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana,

Accutest Job Number: MC22834

Sampling Date: 07/18/13

Report to:

URS Corporation

elizabeth.kunkel@URS.com

ATTN: Elizabeth Kunkel

Total number of pages in report: **101**

Reviewed on 8/15/2013

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: Matthew Morrell 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)

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6 7 8

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Summary of Hits **6**
Section 4: Sample Results **9**
4.1: MC22834-1: P93B-ROX-071813 10
4.2: MC22834-2: P93C-ROX-071813 17
4.3: MC22834-3: P93A-ROX-071813 24
4.4: MC22834-4: P114-ROX-071813 31
4.5: MC22834-5: P114-ROX-071813-DUP 38
4.6: MC22834-6: TB-ROX-071813-HCL 45
4.7: MC22834-7: TB-ROX-071813-ST 48
Section 5: Misc. Forms **49**
5.1: Chain of Custody 50
5.2: Sample Tracking Chronicle 52
5.3: Internal Chain of Custody 54
Section 6: GC/MS Volatiles - QC Data Summaries **57**
6.1: Method Blank Summary 58
6.2: Blank Spike Summary 64
6.3: Matrix Spike/Matrix Spike Duplicate Summary 70
6.4: Internal Standard Area Summaries 76
6.5: Surrogate Recovery Summaries 78
Section 7: GC/MS Semi-volatiles - QC Data Summaries **79**
7.1: Method Blank Summary 80
7.2: Blank Spike Summary 83
7.3: Matrix Spike/Matrix Spike Duplicate Summary 86
7.4: Internal Standard Area Summaries 89
7.5: Surrogate Recovery Summaries 93
Section 8: GC Volatiles - QC Data Summaries **95**
8.1: Method Blank Summary 96
8.2: Blank Spike Summary 97
8.3: Matrix Spike/Matrix Spike Duplicate Summary 98
8.4: Surrogate Recovery Summaries 99
8.5: GC Surrogate Retention Time Summaries 100

Sample Summary

Shell Oil

Job No: MC22834

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC22834-1	07/18/13	10:25	LRDM	07/19/13	AQ	Ground Water	P93B-ROX-071813
MC22834-2	07/18/13	11:10	LRDM	07/19/13	AQ	Ground Water	P93C-ROX-071813
MC22834-3	07/18/13	12:00	LRDM	07/19/13	AQ	Ground Water	P93A-ROX-071813
MC22834-4	07/18/13	14:35	LRDM	07/19/13	AQ	Ground Water	P114-ROX-071813
MC22834-5	07/18/13	14:35	LRDM	07/19/13	AQ	Ground Water	P114-ROX-071813-DUP
MC22834-6	07/18/13	00:00	LRDM	07/19/13	AQ	Trip Blank Water	TB-ROX-071813-HCL
MC22834-7	07/18/13	00:00	LRDM	07/19/13	AQ	Trip Blank Water	TB-ROX-071813-ST

ACCUTEST LABORATORIES

2

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	**Job No**	MC22834
Site:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Centra	**Report Date**	8/5/2013 1:05:58 PM

5 Sample(s) and 2 Trip Blank(s) were collected on 07/18/2013 and were received at Accutest on 07/19/2013 properly preserved, at 1.2 Deg. C and intact. These Samples received an Accutest job number of MC22834. 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: MSK2364

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC23063-7MS, MC23063-7MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MSK2364-BS Recovery(s) for 2-Butanone (MEK), 2-Chloroethyl vinyl ether, Vinyl Acetate are outside control limits. Blank Spike meets program technical requirements.
- MS/MSD Recovery(s) for Acetone are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC22834-4,5 for 4-Bromofluorobenzene: Outside control limits due to possible matrix interference. Confirmed by reanalysis.

Matrix: AQ	Batch ID: MSL3537

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22841-37MS, MC22841-37MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MSL3537-BS Recovery(s) for Vinyl Acetate are outside control limits. Blank Spike meets program technical requirements.
- Matrix Spike Recovery(s) for 2-Butanone (MEK), 4-Methyl-2-pentanone (MIBK), Acetone, Acrylonitrile, Chloromethane, Ethylbenzene, Vinyl Acetate, Vinyl chloride are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- Matrix Spike Duplicate Recovery(s) for 2-Butanone (MEK), Acetone, Acrylonitrile, Chloromethane, Vinyl Acetate, Vinyl chloride are outside control limits. Outside control limits due to possible matrix interferenee. Refer to Blank Spike.
- MC22834-4,5 for 4-Bromofluorobenzene: Outside control limits due to possible matrix interference. Confirmed by reanalysis.
- Initial calibration verification standard MSL3534-ICV353 for acrolein exceeded 50% Difference (response biased high). Associated samples are non-detect for these compounds.

Extractables by GCMS By Method SW846 8270C

Matrix: AQ	Batch ID: OP34111

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22900-14MS, MC22900-14MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- OP34111-BS Recovery(s) for Benzoic Acid, Hexachlorocyclopentadiene are outside control limits. Blank Spike meets program technical requirements.
- OP34111-MS/MSD Recovery(s) for Benzoic Acid, Hexachlorocyclopentadiene are outside control limits. Outside control limits due to possible matrix interferenee. Refer to Blank Spike.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix: AQ	Batch ID: OP34112

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22900-15MS, MC22900-15MSD were used as the QC samples indicated.
- Sample(s) MC22834-2, MC22834-4 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: OP34095

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) MC22692-3MS, MC22692-3MSD 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(MC22834).

Summary of Hits

Job Number: MC22834
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/18/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC22834-1	P93B-ROX-071813					
Benzene		296000	500	450	ug/l	SW846 8260B
Ethylbenzene		65.2	1.0	0.38	ug/l	SW846 8260B
Isopropylbenzene		24.7	5.0	0.64	ug/l	SW846 8260B
Methyl Tert Butyl Ether		3.5	1.0	0.43	ug/l	SW846 8260B
Naphthalene		9.3	5.0	0.79	ug/l	SW846 8260B
n-Propylbenzene		35.7	5.0	0.59	ug/l	SW846 8260B
Toluene		64.6	1.0	0.46	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		25.0	5.0	0.47	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		6.9	5.0	1.1	ug/l	SW846 8260B
Vinyl Acetate		17.6	5.0	1.3	ug/l	SW846 8260B
m,p-Xylene		195	1.0	0.70	ug/l	SW846 8260B
o-Xylene		41.8	1.0	0.41	ug/l	SW846 8260B
Xylene (total)		236	1.0	0.41	ug/l	SW846 8260B
Phenol		151	5.6	0.57	ug/l	SW846 8270C
Di-n-butyl phthalate		0.50 J	5.6	0.43	ug/l	SW846 8270C
Phenanthrene		0.034 J	0.056	0.014	ug/l	SW846 8270C BY SIM
MC22834-2	P93C-ROX-071813					
Benzene		101000	500	450	ug/l	SW846 8260B
Ethylbenzene		4.1	1.0	0.38	ug/l	SW846 8260B
Isopropylbenzene		2.0 J	5.0	0.64	ug/l	SW846 8260B
Methyl Tert Butyl Ether		4.9	1.0	0.43	ug/l	SW846 8260B
n-Propylbenzene		2.0 J	5.0	0.59	ug/l	SW846 8260B
Toluene		7.0	1.0	0.46	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		1.6 J	5.0	0.47	ug/l	SW846 8260B
m,p-Xylene		7.6	1.0	0.70	ug/l	SW846 8260B
o-Xylene		1.5	1.0	0.41	ug/l	SW846 8260B
Xylene (total)		9.1	1.0	0.41	ug/l	SW846 8260B
Phenol		35.2	5.6	0.58	ug/l	SW846 8270C
Acenaphthene		0.045 JB	0.11	0.015	ug/l	SW846 8270C BY SIM
Anthracene		0.021 J	0.11	0.020	ug/l	SW846 8270C BY SIM
Benzo(a)pyrene		0.15	0.11	0.020	ug/l	SW846 8270C BY SIM
Phenanthrene		0.026 J	0.056	0.014	ug/l	SW846 8270C BY SIM
MC22834-3	P93A-ROX-071813					
Acetone		5.3 J	10	2.8	ug/l	SW846 8260B
Benzene		89100	500	450	ug/l	SW846 8260B
sec-Butylbenzene		5.6	5.0	0.58	ug/l	SW846 8260B
tert-Butylbenzene		91.6	5.0	0.87	ug/l	SW846 8260B
Ethylbenzene		162	1.0	0.38	ug/l	SW846 8260B
Isopropylbenzene		10.1	5.0	0.64	ug/l	SW846 8260B

Summary of Hits

Job Number: MC22834
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/18/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
p-Isopropyltoluene		2.4 J	5.0	0.55	ug/l	SW846 8260B
Methyl Tert Butyl Ether		5.4	1.0	0.43	ug/l	SW846 8260B
Naphthalene		30.3	5.0	0.79	ug/l	SW846 8260B
n-Propylbenzene		11.3	5.0	0.59	ug/l	SW846 8260B
Toluene		7.2	1.0	0.46	ug/l	SW846 8260B
1,2,4-Trimethylbenzene		91.5	5.0	0.47	ug/l	SW846 8260B
1,3,5-Trimethylbenzene		11.6	5.0	1.1	ug/l	SW846 8260B
m,p-Xylene		273	1.0	0.70	ug/l	SW846 8260B
o-Xylene		42.6	1.0	0.41	ug/l	SW846 8260B
Xylene (total)		316	1.0	0.41	ug/l	SW846 8260B
Phenol		107	5.6	0.58	ug/l	SW846 8270C
Dibenzofuran		0.24 J	2.2	0.18	ug/l	SW846 8270C
Acenaphthylene		0.032 J	0.11	0.015	ug/l	SW846 8270C BY SIM
Anthracene		0.030 J	0.11	0.020	ug/l	SW846 8270C BY SIM
Flnorene		0.23	0.11	0.052	ug/l	SW846 8270C BY SIM
1-Methylnaphthalene		8.9	0.22	0.16	ug/l	SW846 8270C BY SIM
2-Methylnaphthalene		6.2	0.22	0.058	ug/l	SW846 8270C BY SIM
Phenanthrene		0.21	0.056	0.014	ug/l	SW846 8270C BY SIM
MC22834-4	P114-ROX-071813					
Acetone		251	10	2.8	ug/l	SW846 8260B
Methyl Tert Butyl Ether		2.3	1.0	0.43	ug/l	SW846 8260B
Acenaphthene		0.13 B	0.11	0.015	ug/l	SW846 8270C BY SIM
Anthracene		0.11	0.11	0.019	ug/l	SW846 8270C BY SIM
Benzo(a)anthracene		0.045 J	0.055	0.033	ug/l	SW846 8270C BY SIM
Benzo(a)pyrene		0.034 J	0.11	0.019	ug/l	SW846 8270C BY SIM
Benzo(b)fluoranthene		0.064	0.055	0.026	ug/l	SW846 8270C BY SIM
Benzo(g,h,i)perylene		0.067 J	0.11	0.041	ug/l	SW846 8270C BY SIM
Dibenzo(a,h)anthracene		0.073 J	0.11	0.046	ug/l	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene		0.071 J	0.11	0.051	ug/l	SW846 8270C BY SIM
Phenanthrene		0.059	0.055	0.014	ug/l	SW846 8270C BY SIM
MC22834-5	P114-ROX-071813-DUP					
Acetone		245	10	2.8	ug/l	SW846 8260B
Methyl Tert Butyl Ether		2.2	1.0	0.43	ug/l	SW846 8260B
Anthracene		0.13	0.11	0.019	ug/l	SW846 8270C BY SIM
Phenanthrene		0.052 J	0.053	0.013	ug/l	SW846 8270C BY SIM
MC22834-6	TB-ROX-071813-HCL					
No hits reported in this sample.						

Summary of Hits

Job Number: MC22834
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 07/18/13

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC22834-7	TB-ROX-071813-ST					

No hits reported in this sample.

New England ACCUTEST LABORATORIES

4

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	P93B-ROX-071813		
Lab Sample ID:	MC22834-1	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L76157.D	1	07/30/13	KR	n/a	n/a	MSL3537
Run #2	K72609.D	1000	07/30/13	GK	n/a	n/a	MSK2364

	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	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	296000 [a]	500	450	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ng/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND [a]	5000	1100	ug/l	UJ
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ng/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

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

Report of Analysis

Client Sample ID:	P93B-ROX-071813		
Lab Sample ID:	MC22834-1	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	50	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	65.2	1.0	0.38	ug/l	
87-68-3	Hexachlorobntadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	24.7	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	3.5	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	9.3	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	35.7	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	64.6	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethaue	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	25.0	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	6.9	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	17.6	5.0	1.3	ug/l	J
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	195	1.0	0.70	ug/l	
95-47-6	o-Xylene	41.8	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	236	1.0	0.41	ug/l	

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

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

Report of Analysis

Client Sample ID:	P93B-ROX-071813		
Lab Sample ID:	MC22834-1	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	80%	111%	70-130%
2037-26-5	Toluene-D8	113%	100%	70-130%
460-00-4	4-Bromofluorobenzene	100%	94%	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:	P93B-ROX-071813		
Lab Sample ID:	MC22834-1	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32544.D	1	07/31/13	KR	07/24/13	OP34111	MSR1186
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	0.43	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.55	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.36	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	1.3	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.8	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	
	3&4-Methylphenol	ND	11	2.3	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.56	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.65	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	151	5.6	0.57	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.64	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.35	ug/l	
62-53-3	Aniline	ND	11	0.71	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.6	0.23	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.6	0.95	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.64	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.6	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.28	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.6	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.6	0.26	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.6	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.6	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.6	0.72	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.75	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.71	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.6	0.56	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	0.50	5.6	0.43	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	5.6	0.48	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071813		
Lab Sample ID:	MC22834-1	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

ABN Speeial List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.6	0.56	ug/l	
131-11-3	Dimethyl phthalate	ND	5.6	0.56	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.54	ug/l	
118-74-1	Hexachlorobenzene	ND	5.6	0.33	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.8	ug/l	U
67-72-1	Hexachloroethane	ND	5.6	0.49	ug/l	
78-59-1	Isophorone	ND	5.6	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.31	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.56	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.8	ug/l	
98-95-3	Nitrobenzene	ND	5.6	0.28	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.6	0.56	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.6	0.90	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.6	0.60	ug/l	
110-86-1	Pyridine	ND	11	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	54%		15-110%
4165-62-2	Phenol-d5	23%		15-110%
118-79-6	2,4,6-Tribromophenol	99%		15-110%
4165-60-0	Nitrobenzene-d5	87%		30-130%
321-60-8	2-Fluorobiphenyl	103%		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:	P93B-ROX-071813		
Lab Sample ID:	MC22834-1	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14192.D	1	07/29/13	WK	07/24/13	OP34112	MSW642
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	0.034	0.056	0.014	ng/l	J
129-00-0	Pyrene	ND	0.11	0.039	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	97%		30-130%
321-60-8	2-Fluorobiphenyl	97%		30-130%
1718-51-0	Terphenyl-d14	95%		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-071813		
Lab Sample ID:	MC22834-1	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27141.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
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	0.0044	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0093	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	108%		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:	P93C-ROX-071813		
Lab Sample ID:	MC22834-2	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Bateh	Analytical Bateh
Run #1	L76158.D	1	07/30/13	KR	n/a	n/a	MSL3537
Run #2	K72610.D	1000	07/30/13	GK	n/a	n/a	MSK2364

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

VOA Speeial List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	101000 [a]	500	450	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethaue	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylhenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylhenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ng/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND [a]	5000	1100	ug/l	UJ
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

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

Report of Analysis

Client Sample ID:	P93C-ROX-071813		
Lab Sample ID:	MC22834-2	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	50	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	4.1	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	2.0	5.0	0.64	ug/l	J
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	4.9	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	2.0	5.0	0.59	ug/l	J
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	7.0	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ng/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	1.6	5.0	0.47	ug/l	J
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	7.6	1.0	0.70	ug/l	
95-47-6	o-Xylene	1.5	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	9.1	1.0	0.41	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:	P93C-ROX-071813		
Lab Sample ID:	MC22834-2	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	77%	112%	70-130%
2037-26-5	Toluene-D8	97%	98%	70-130%
460-00-4	4-Bromofluorobenzene	104%	93%	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:	P93C-ROX-071813		
Lab Sample ID:	MC22834-2	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32545.D	1	07/31/13	KR	07/24/13	OP34111	MSR1186
Run #2							

	Initial Volume	Final Volume
Run #1	890 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.4	ug/l	UJ
95-57-8	2-Chlorophenol	ND	5.6	0.43	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.55	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	1.3	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.8	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	
	3&4-Methylphenol	ND	11	2.3	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.56	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.66	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	35.2	5.6	0.58	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.64	ng/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.36	ug/l	
62-53-3	Aniline	ND	11	0.72	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.6	0.23	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.6	0.96	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.65	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.6	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.28	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	0.26	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.6	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.6	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.6	0.73	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.76	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.72	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.6	0.56	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.18	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.6	0.44	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.6	0.49	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071813		
Lab Sample ID:	MC22834-2	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.56	ug/l	
131-11-3	Dimethyl phthalate	ND	5.6	0.56	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.55	ug/l	
118-74-1	Hexachlorobenzene	ND	5.6	0.33	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.8	ug/l	UJ
67-72-1	Hexachloroethane	ND	5.6	0.49	ug/l	
78-59-1	Isophorone	ND	5.6	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.31	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.56	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.9	ug/l	
98-95-3	Nitrobenzene	ND	5.6	0.28	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.6	0.56	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.6	0.91	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.6	0.61	ug/l	
110-86-1	Pyridine	ND	11	0.58	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	40%		15-110%
4165-62-2	Phenol-d5	18%		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	93%		30-130%
1718-51-0	Terphenyl-d14	85%		30-130%

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071813		
Lab Sample ID:	MC22834-2	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14193.D	1	07/29/13	WK	07/24/13	OP34112	MSW642
Run #2							

	Initial Volume	Final Volume
Run #1	890 ml	1.0 ml
Run #2		

BN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	~~0.045~~	0.11	0.015	ug/l	JB
208-96-8	Acenaphthylene	ND	0.11	0.015	ug/l	
120-12-7	Anthracene	0.021	0.11	0.020	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.056	0.034	ug/l	
50-32-8	Benzo(a)pyrene	0.15	0.11	0.020	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.056	0.027	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.042	ug/l	
207-08-9	Benzo(k)flnoranthene	ND	0.11	0.066	ug/l	
218-01-9	Chrysene	ND	0.11	0.082	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.047	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.037	ug/l	
86-73-7	Fluorene	ND	0.11	0.052	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.052	ng/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	0.026	0.056	0.014	ug/l	J
129-00-0	Pyrene	ND	0.11	0.040	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	88%		30-130%
321-60-8	2-Fluorobiphenyl	87%		30-130%
1718-51-0	Terphenyl-d14	86%		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-071813		
Lab Sample ID:	MC22834-2	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 Sonth Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27142.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
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	0.0044	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.0094	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	120%		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:	P93A-ROX-071813		
Lab Sample ID:	MC22834-3	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L76159.D	1	07/30/13	KR	n/a	n/a	MSL3537
Run #2	K72611.D	1000	07/30/13	GK	n/a	n/a	MSK2364

	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	~~5.3~~ 4	10	2.8	ug/l	J 4
107-02-8	Acrolein	ND	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	89100 [a]	500	450	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ng/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	5.6	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	91.6	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ng/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND [a]	5000	1100	ug/l	UJ
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ng/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071813		
Lab Sample ID:	MC22834-3	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	50	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	162	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbeuzene	10.1	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	2.4	5.0	0.55	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	5.4	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (M1BK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	30.3	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	11.3	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	7.2	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	91.5	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	11.6	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	273	1.0	0.70	ug/l	
95-47-6	o-Xylene	42.6	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	316	1.0	0.41	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:	P93A-ROX-071813		
Lab Sample ID:	MC22834-3	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	77%	111%	70-130%
2037-26-5	Toluene-D8	96%	98%	70-130%
460-00-4	4-Bromofluorobenzene	102%	95%	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-071813		
Lab Sample ID:	MC22834-3	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32546.D	1	07/31/13	KR	07/24/13	OP34111	MSR1186
Run #2							

	Initial Volume	Final Volume
Run #1	890 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	11	1.4	ug/l	UJ
95-57-8	2-Chlorophenol	ND	5.6	0.43	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.55	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.37	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	1.3	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.8	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ng/l	
	3&4-Methylphenol	ND	11	2.3	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.56	ng/l	
100-02-7	4-Nitrophenol	ND	22	0.66	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	107	5.6	0.58	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.64	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.36	ug/l	
62-53-3	Aniline	ND	11	0.72	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.6	0.23	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.6	0.96	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.65	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.6	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.28	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	0.26	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.6	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.6	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.6	0.73	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.76	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.72	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.6	0.56	ug/l	
132-64-9	Dibenzofuran	0.24	2.2	0.18	ug/l	J
84-74-2	Di-n-butyl phthalate	ND	5.6	0.44	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.6	0.49	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071813		
Lab Sample ID:	MC22834-3	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.56	ug/l	
131-11-3	Dimethyl phthalate	ND	5.6	0.56	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.55	ug/l	
118-74-1	Hexachlorobenzene	ND	5.6	0.33	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.8	ug/l	u5
67-72-1	Hexachloroethane	ND	5.6	0.49	ug/l	
78-59-1	Isophorone	ND	5.6	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.31	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.56	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.9	ug/l	
98-95-3	Nitrobenzene	ND	5.6	0.28	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.6	0.56	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.6	0.91	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.6	0.61	ug/l	
110-86-1	Pyridine	ND	11	0.58	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	50%		15-110%
4165-62-2	Phenol-d5	23%		15-110%
118-79-6	2,4,6-Tribromophenol	96%		15-110%
4165-60-0	Nitrobenzene-d5	78%		30-130%
321-60-8	2-Fluorobiphenyl	93%		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 valne exceeds calihration range
J = Indicates 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-071813		
Lab Sample ID:	MC22834-3	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14194.D	1	07/29/13	WK	07/24/13	OP34112	MSW642
Run #2							

	Initial Volume	Final Volume
Run #1	890 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	0.032	0.11	0.015	ng/l	J
120-12-7	Anthracene	0.030	0.11	0.020	ug/l	J
56-55-3	Benzo(a)anthracene	ND	0.056	0.034	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.11	0.020	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.056	0.027	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.11	0.042	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.11	0.066	ug/l	
218-01-9	Chrysene	ND	0.11	0.082	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.11	0.047	ug/l	
206-44-0	Fluoranthene	ND	0.11	0.037	ug/l	
86-73-7	Fluorene	0.23	0.11	0.052	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.11	0.052	ug/l	
90-12-0	1-Methylnaphthalene	8.9	0.22	0.16	ug/l	
91-57-6	2-Methylnaphthalene	6.2	0.22	0.058	ug/l	
85-01-8	Phenanthrene	0.21	0.056	0.014	ug/l	
129-00-0	Pyrene	ND	0.11	0.040	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	86%		30-130%
321-60-8	2-Fluorobiphenyl	84%		30-130%
1718-51-0	Terphenyl-d14	83%		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-071813		
Lab Sample ID:	MC22834-3	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27143.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
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	0.0045	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.0096	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	133%		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:	P114-ROX-071813		
Lab Sample ID:	MC22834-4	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K72612.D	1	07/30/13	GK	n/a	n/a	MSK2364
Run #2	L76150.D	1	07/30/13	KR	n/a	n/a	MSL3537

	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	~~251~~ U	~~10~~ 25	2.8	ug/l	U
107-02-8	Acrolein	ND [a]	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	UJ
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethaue	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ng/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071813		
Lab Sample ID:	MC22834-4	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 Sonth Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ng/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.3	1.0	0.43	ug/l	J
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ng/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	P114-ROX-071813		
Lab Sample ID:	MC22834-4	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%	86%	70-130%
2037-26-5	Toluene-D8	97%	91%	70-130%
460-00-4	4-Bromofluorobenzene	138% [b]	147% [b]	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
(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-071813		
Lab Sample ID:	MC22834-4	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32547.D	1	07/31/13	KR	07/24/13	OP34111	MSR1186
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	UJ
95-57-8	2-Chlorophenol	ND	5.5	0.42	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.54	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.36	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	1.3	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	2.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	
	3&4-Methylphenol	ND	11	2.2	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.55	ug/l	
100-02-7	4-Nitrophenol	ND	22	0.64	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.4	ug/l	
108-95-2	Phenol	ND	5.5	0.56	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.63	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.35	ug/l	
62-53-3	Aniline	ND	11	0.70	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.5	0.22	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.5	0.94	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.63	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.5	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.27	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.5	0.23	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.5	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.5	0.15	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.5	0.22	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.5	0.72	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.74	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.71	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.5	0.55	ug/l	
132-64-9	Dibenzofuran	ND	2.2	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.5	0.43	ng/l	
117-84-0	Di-n-octyl phthalate	ND	5.5	0.48	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071813		
Lab Sample ID:	MC22834-4	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.55	ug/l	
131-11-3	Dimethyl phthalate	ND	5.5	0.55	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	0.54	ug/l	
118-74-1	Hexachlorobenzene	ND	5.5	0.33	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.7	ug/l	uJ
67-72-1	Hexachloroethane	ND	5.5	0.48	ug/l	
78-59-1	Isophorone	ND	5.5	0.22	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.31	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.55	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.8	ug/l	
98-95-3	Nitrobenzene	ND	5.5	0.27	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.5	0.55	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.5	0.89	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.5	0.59	ug/l	
110-86-1	Pyridine	ND	11	0.57	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	43%		15-110%
4165-62-2	Phenol-d5	17%		15-110%
118-79-6	2,4,6-Tribromophenol	87%		15-110%
4165-60-0	Nitrobenzene-d5	72%		30-130%
321-60-8	2-Fluorobiphenyl	84%		30-130%
1718-51-0	Terphenyl-d14	79%		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 valne exceeds calibration range
J = Indicates 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-071813		
Lab Sample ID:	MC22834-4	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14195.D	1	07/29/13	WK	07/24/13	OP34112	MSW642
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	0.13	0.11	0.015	ug/l	B
208-96-8	Acenaphthylene	ND	0.11	0.015	ug/l	
120-12-7	Anthracene	0.11	0.11	0.019	ug/l	
56-55-3	Benzo(a)anthracene	0.045	0.055	0.033	ug/l	J
50-32-8	Benzo(a)pyrene	0.034	0.11	0.019	ug/l	J
205-99-2	Benzo(b)fluoranthene	0.064	0.055	0.026	ug/l	
191-24-2	Benzo(g,h,i)perylene	0.067	0.11	0.041	ug/l	J
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	0.073	0.11	0.046	ug/l	J
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	0.071	0.11	0.051	ug/l	J
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	0.059	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
4165-60-0	Nitrobenzene-d5	80%		30-130%
321-60-8	2-Fluorobiphenyl	80%		30-130%
1718-51-0	Terphenyl-d14	81%		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-071813		
Lab Sample ID:	MC22834-4	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27144.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
Run #2							

	Initial Volume	Final Volume
Run #1	37.3 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	0.0043	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0091	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	88%		36-173%
460-00-4	Bromofluorobenzene (S)	58%		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:	P114-ROX-071813-DUP		
Lab Sample ID:	MC22834-5	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K72613.D	1	07/30/13	GK	n/a	n/a	MSK2364
Run #2	L76151.D	1	07/30/13	KR	n/a	n/a	MSL3537

	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	~~245~~ U	~~10~~ 245	2.8	ug/l	U
107-02-8	Acrolein	ND [a]	25	6.3	ug/l	UJ
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	UJ
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071813-DUP		
Lab Sample ID:	MC22834-5	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltolueue	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.2	1.0	0.43	ug/l	J
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	UJ
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	P114-ROX-071813-DUP		
Lab Sample ID:	MC22834-5	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%	85%	70-130%
2037-26-5	Toluene-D8	98%	92%	70-130%
460-00-4	4-Bromofluorobenzene	138% [b]	148% [b]	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
(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-071813-DUP		
Lab Sample ID:	MC22834-5	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R32550.D	1	07/31/13	KR	07/24/13	OP34111	MSR1186
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	U
95-57-8	2-Chlorophenol	ND	5.3	0.41	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	0.52	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	0.35	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	21	2.7	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	1.3	ug/l	
95-48-7	2-Methylphenol	ND	11	1.4	ug/l	
	3&4-Methylphenol	ND	11	2.2	ug/l	
88-75-5	2-Nitrophenol	ND	11	0.53	ug/l	
100-02-7	4-Nitrophenol	ND	21	0.62	ug/l	
87-86-5	Pentachlorophenol	ND	11	1.3	ug/l	
108-95-2	Phenol	ND	5.3	0.54	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	0.61	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	0.34	ug/l	
62-53-3	Aniline	ND	11	0.68	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.3	0.22	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.3	0.91	ug/l	
100-51-6	Benzyl Alcohol	ND	11	0.61	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.3	0.98	ug/l	
106-47-8	4-Chloroaniline	ND	11	0.27	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.3	0.22	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.3	0.25	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.3	0.14	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.3	0.21	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.3	0.69	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	0.72	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	0.68	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.3	0.53	ug/l	
132-64-9	Dibenzofuran	ND	2.1	0.17	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.3	0.41	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.3	0.46	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071813-DUP		
Lab Sample ID:	MC22834-5	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

4.5 4

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
84-66-2	Diethyl phthalate	ND	5.3	0.53	ug/l	
131-11-3	Dimethyl phthalate	ND	5.3	0.53	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.1	0.52	ug/l	
118-74-1	Hexachlorohenzene	ND	5.3	0.32	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	11	2.7	ug/l	U5
67-72-1	Hexachloroethane	ND	5.3	0.47	ug/l	
78-59-1	Isophorone	ND	5.3	0.21	ug/l	
88-74-4	2-Nitroaniline	ND	11	0.30	ug/l	
99-09-2	3-Nitroaniline	ND	11	0.53	ug/l	
100-01-6	4-Nitroaniline	ND	11	4.6	ug/l	
98-95-3	Nitrobenzene	ND	5.3	0.26	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.3	0.53	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.3	0.86	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.3	0.58	ug/l	
110-86-1	Pyridine	ND	11	0.55	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	46%		15-110%
4165-62-2	Phenol-d5	20%		15-110%
118-79-6	2,4,6-Tribromophenol	96%		15-110%
4165-60-0	Nitrobenzene-d5	77%		30-130%
321-60-8	2-Fluorobiphenyl	93%		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:	P114-ROX-071813-DUP		
Lab Sample ID:	MC22834-5	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W14196.D	1	07/29/13	WK	07/24/13	OP34112	MSW642
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	0.13	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	0.052	0.053	0.013	ug/l	J
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	86%		30-130%
321-60-8	2-Fluorobiphenyl	85%		30-130%
1718-51-0	Terphenyl-d14	88%		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-071813-DUP		
Lab Sample ID:	MC22834-5	Date Sampled:	07/18/13
Matrix:	AQ - Ground Water	Date Received:	07/19/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK27146.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
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	0.0043	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0092	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	91%		36-173%
460-00-4	Bromofluorobenzene (S)	56%		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-ROX-071813-HCL		
Lab Sample ID:	MC22834-6	Date Sampled:	07/18/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/19/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K72598.D	1	07/30/13	GK	n/a	n/a	MSK2364
Run #2	L76146.D	1	07/30/13	KR	n/a	n/a	MSL3537

	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	10	2.8	ug/l	
107-02-8	Acrolein	ND [a]	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ng/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotolnene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-071813-HCL		
Lab Sample ID:	MC22834-6	Date Sampled:	07/18/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/19/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	TB-ROX-071813-HCL		
Lab Sample ID:	MC22834-6	Date Sampled:	07/18/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/19/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%	86%	70-130%
2037-26-5	Toluene-D8	96%	91%	70-130%
460-00-4	4-Bromofluorobenzene	93%	107%	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 componnd

Report of Analysis

Client Sample ID:	TB-ROX-071813-ST		
Lab Sample ID:	MC22834-7	Date Sampled:	07/18/13
Matrix:	AQ - Trip Blank Water	Date Received:	07/19/13
Method:	SW846 8011 SW846 8011	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Bateh	Analytical Bateh
Run #1	BK27145.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
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	0.0044	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.014	0.0093	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	Bromofluorobenzene (S)	74%		36-173%
460-00-4	Bromofluorobenzene (S)	65%		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

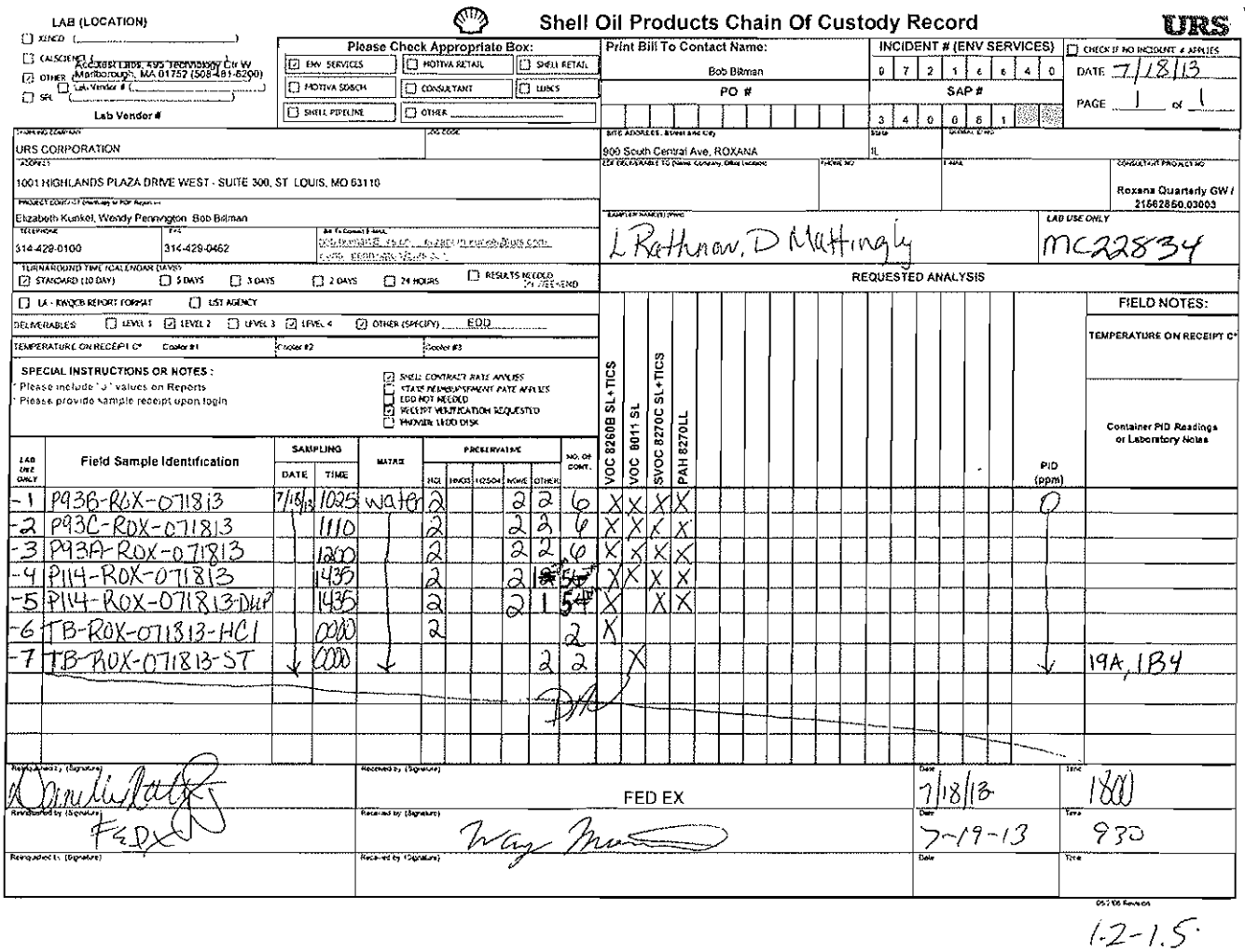
New England ACCUTEST LABORATORIES

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 #

Shell Oil Products Chain Of Custody Record

URS

Please Check Appropriate Box:
☑ ENV SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SOSCH ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Bob Bilman
PO #
INCIDENT # (ENV SERVICES): 0 7 2 1 6 4 0
SAP #: 3 4 0 0 6 1
☐ CHECK IF NO INCIDENT # APPLIES
DATE 7/18/13
PAGE 1 of 1

SHIPPING COMPANY: URS CORPORATION
JOB CODE:
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST LOUIS, MO 63110
SITE ADDRESS, STREET AND CITY: 900 South Central Ave, ROXANA
STATE: IL
GLOBAL ID NO.:
CSR (DELIVERABLE TO) (Name, Company, Office Location):
PHONE NO:
FAX:
CONSULTANT PROJECT NO: Roxana Quarterly GW / 21562850.03003
PROJECT CONTACT (Hardcopy or PDF Report to): Elizabeth Kunkel, Wendy Pennington, Bob Bilman
TELEPHONE: 314-429-0100
FAX: 314-429-0462
SAMPLER NAME(S) (Print): L Rathnow, D Mattingly
LAB USE ONLY: MC22834
TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (10 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☐ EDT 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: VOC 8260B SL+TICS; VOC 8011 SL; SVOC 8270C SL+TICS; PAH 8270LL

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	P93B-ROX-071813	7/18/13	1025	water	2			2	2	6	X	X	X	X	0	
-2	P93C-ROX-071813		1110		2			2	2	6	X	X	X	X		
-3	P93A-ROX-071813		1200		2			2	2	6	X	X	X	X		
-4	P114-ROX-071813		1435		2			2	1	5	X	X	X	X		
-5	P114-ROX-071813-DUP		1435		2			2	1	5	X		X	X		
-6	TB-ROX-071813-HCl		0000		2				2	2	X					
-7	TB-ROX-071813-ST		0000						2	2		X				19A, 1B4

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

Relinquished by (Signature)	Received by (Signature)	Date	Time
[signature]	FED EX	7/18/13	1800
FedEx	[signature]	7-19-13	930

05/06 Revision

1.2-1.5

5.1

MC22834: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC22834 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 7/19/2013 **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 Preservation	Y or N	N/A
1. Trip Blank present / cooler:	☑ ☐	☐
2. Trip Blank listed on COC:	☑ ☐	☐
3. Samples preserved properly:	☑ ☐	
4. VOCs headspace free:	☑ ☐	☐

Sample Integrity - Documentation	Y or N
1. Sample labels present on bottles:	☑ ☐
2. Container labeling complete:	☑ ☐
3. Sample container label / COC agree:	☑ ☐

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

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

Comments

5.1

MC22834: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC22834

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC22834-1 Collected: 18-JUL-13 10:25 By: LRDM Received: 19-JUL-13 By: P93B-ROX-071813						
MC22834-1	SW846 8011	25-JUL-13 15:15	NK	23-JUL-13	BJ	V8011SL
MC22834-1	SW846 8270C BY SIM	29-JUL-13 11:11	WK	24-JUL-13	FC	B8270SIMSL
MC22834-1	SW846 8260B	30-JUL-13 16:19	KR			V8260SL+
MC22834-1	SW846 8260B	30-JUL-13 16:53	GK			V8260SL+
MC22834-1	SW846 8270C	31-JUL-13 13:34	KR	24-JUL-13	FC	AB8270SL+
MC22834-2 Collected: 18-JUL-13 11:10 By: LRDM Received: 19-JUL-13 By: P93C-ROX-071813						
MC22834-2	SW846 8011	25-JUL-13 15:39	NK	23-JUL-13	BJ	V8011SL
MC22834-2	SW846 8270C BY SIM	29-JUL-13 11:33	WK	24-JUL-13	FC	B8270SIMSL
MC22834-2	SW846 8260B	30-JUL-13 16:47	KR			V8260SL+
MC22834-2	SW846 8260B	30-JUL-13 17:21	GK			V8260SL+
MC22834-2	SW846 8270C	31-JUL-13 13:57	KR	24-JUL-13	FC	AB8270SL+
MC22834-3 Collected: 18-JUL-13 12:00 By: LRDM Received: 19-JUL-13 By: P93A-ROX-071813						
MC22834-3	SW846 8011	25-JUL-13 16:04	NK	23-JUL-13	BJ	V8011SL
MC22834-3	SW846 8270C BY SIM	29-JUL-13 11:54	WK	24-JUL-13	FC	B8270SIMSL
MC22834-3	SW846 8260B	30-JUL-13 17:16	KR			V8260SL+
MC22834-3	SW846 8260B	30-JUL-13 17:49	GK			V8260SL+
MC22834-3	SW846 8270C	31-JUL-13 14:20	KR	24-JUL-13	FC	AB8270SL+
MC22834-4 Collected: 18-JUL-13 14:35 By: LRDM Received: 19-JUL-13 By: P114-ROX-071813						
MC22834-4	SW846 8011	25-JUL-13 16:28	NK	23-JUL-13	BJ	V8011SL
MC22834-4	SW846 8270C BY SIM	29-JUL-13 12:15	WK	24-JUL-13	FC	B8270SIMSL
MC22834-4	SW846 8260B	30-JUL-13 12:56	KR			V8260SL+
MC22834-4	SW846 8260B	30-JUL-13 18:17	GK			V8260SL+
MC22834-4	SW846 8270C	31-JUL-13 14:43	KR	24-JUL-13	FC	AB8270SL+
MC22834-5 Collected: 18-JUL-13 14:35 By: LRDM Received: 19-JUL-13 By: P114-ROX-071813-DUP						
MC22834-5	SW846 8011	25-JUL-13 17:16	NK	23-JUL-13	BJ	V8011SL

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC22834

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC22834-5	SW846 8270C BY SIM	29-JUL-13 12:37	WK	24-JUL-13	FC	B8270SIMSL
MC22834-5	SW846 8260B	30-JUL-13 13:26	KR			V8260SL+
MC22834-5	SW846 8260B	30-JUL-13 18:44	GK			V8260SL+
MC22834-5	SW846 8270C	31-JUL-13 15:52	KR	24-JUL-13	FC	AB8270SL+
MC22834-6	Collected: 18-JUL-13 00:00 By: LRDM Received: 19-JUL-13 By: TB-ROX-071813-HCL					
MC22834-6	SW846 8260B	30-JUL-13 11:01	KR			V8260SL+
MC22834-6	SW846 8260B	30-JUL-13 11:52	GK			V8260SL+
MC22834-7	Collected: 18-JUL-13 00:00 By: LRDM Received: 19-JUL-13 By: TB-ROX-071813-ST					
MC22834-7	SW846 8011	25-JUL-13 16:52	NK	23-JUL-13	BJ	V8011SL

Accutest Internal Chain of Custody

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/19/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22834-1.1	Walk In Ref #22	Bijan Jafari	07/24/13 11:21	Retrieve from Storage
MC22834-1.1	Bijan Jafari		07/26/13 08:35	Depleted
MC22834-1.3	VOC Ref #1	Kerry Ryan	07/30/13 09:39	Retrieve from Storage
MC22834-1.3	Kerry Ryan	GCMSL	07/30/13 09:39	Load on Instrument
MC22834-1.3	GCMSL	Kerry Ryan	07/31/13 09:24	Unload from Instrument
MC22834-1.3	Kerry Ryan	VOC Ref #1	07/31/13 09:24	Return to Storage
MC22834-1.4	VOC Ref #1	Gary Krasinski	07/30/13 11:04	Retrieve from Storage
MC22834-1.4	Gary Krasinski	GCMSK	07/30/13 11:04	Load on Instrument
MC22834-1.4	GCMSK	Gary Krasinski	07/31/13 09:37	Unload from Instrument
MC22834-1.4	Gary Krasinski	VOC Ref #1	07/31/13 09:37	Return to Storage
MC22834-1.5	VOC Ref #1	Bijan Jafari	07/23/13 10:48	Retrieve from Storage
MC22834-1.5	Bijan Jafari		07/23/13 18:13	Depleted
MC22834-2.1	Walk In Ref #22	Bijan Jafari	07/24/13 11:21	Retrieve from Storage
MC22834-2.1	Bijan Jafari		07/26/13 08:35	Depleted
MC22834-2.3	VOC Ref #1	Gary Krasinski	07/30/13 11:04	Retrieve from Storage
MC22834-2.3	Gary Krasinski	GCMSK	07/30/13 11:04	Load on Instrument
MC22834-2.3	GCMSK	Gary Krasinski	07/31/13 09:37	Unload from Instrument
MC22834-2.3	Gary Krasinski	VOC Ref #1	07/31/13 09:37	Return to Storage
MC22834-2.4	VOC Ref #1	Kerry Ryan	07/30/13 09:39	Retrieve from Storage
MC22834-2.4	Kerry Ryan	GCMSL	07/30/13 09:39	Load on Instrument
MC22834-2.4	GCMSL	Kerry Ryan	07/31/13 09:24	Unload from Instrument
MC22834-2.4	Kerry Ryan	VOC Ref #1	07/31/13 09:24	Return to Storage
MC22834-2.6	VOC Ref #1	Bijan Jafari	07/23/13 10:48	Retrieve from Storage
MC22834-2.6	Bijan Jafari		07/23/13 18:13	Depleted
MC22834-3.1	Walk In Ref #22	Bijan Jafari	07/24/13 11:21	Retrieve from Storage
MC22834-3.1	Bijan Jafari		07/26/13 08:35	Depleted
MC22834-3.3	VOC Ref #1	Kerry Ryan	07/30/13 09:39	Retrieve from Storage
MC22834-3.3	Kerry Ryan	GCMSL	07/30/13 09:39	Load on Instrnment
MC22834-3.3	GCMSL	Kerry Ryan	07/31/13 09:24	Unload from Instrument
MC22834-3.3	Kerry Ryau	VOC Ref #1	07/31/13 09:24	Return to Storage
MC22834-3.4	VOC Ref #1	Gary Krasinski	07/30/13 11:04	Retrieve from Storage
MC22834-3.4	Gary Krasinski	GCMSK	07/30/13 11:04	Load on Instrument
MC22834-3.4	GCMSK	Gary Krasinski	07/31/13 09:37	Unload from Instrnment
MC22834-3.4	Gary Krasinski	VOC Ref #1	07/31/13 09:37	Return to Storage

5.3

Accutest Internal Chain of Custody

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenne, Roxana, IL
Received: 07/19/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22834-3.6	VOC Ref #1	Bijan Jafari	07/23/13 10:48	Retrieve from Storage
MC22834-3.6	Bijan Jafari		07/23/13 18:13	Depleted
MC22834-4.1	Walk In Ref #22	Bijan Jafari	07/24/13 11:21	Retrieve from Storage
MC22834-4.1	Bijan Jafari		07/26/13 08:35	Depleted
MC22834-4.3	VOC Ref #1	Gary Krasinski	07/30/13 11:04	Retrieve from Storage
MC22834-4.3	Gary Krasinski	GCMSK	07/30/13 11:04	Load on Instrument
MC22834-4.3	GCMSK	Gary Krasinski	07/31/13 09:37	Unload from Instrument
MC22834-4.3	Gary Krasinski	VOC Ref #1	07/31/13 09:37	Retnrn to Storage
MC22834-4.4	VOC Ref #1	Kerry Ryan	07/30/13 09:39	Retrieve from Storage
MC22834-4.4	Kerry Ryan	GCMSL	07/30/13 09:39	Load on Instrnment
MC22834-4.4	GCMSL	Kerry Ryan	07/31/13 09:24	Unload from Instrument
MC22834-4.4	Kerry Ryan	VOC Ref #1	07/31/13 09:24	Return to Storage
MC22834-4.5	VOC Ref #1	Bijan Jafari	07/23/13 10:48	Retrieve from Storage
MC22834-4.5	Bijan Jafari		07/23/13 18:13	Depleted
MC22834-5.1	Walk In Ref #22	Bijan Jafari	07/24/13 11:21	Retrieve from Storage
MC22834-5.1	Bijan Jafari		07/26/13 08:35	Depleted
MC22834-5.3	VOC Ref #1	Kerry Ryan	07/30/13 09:39	Retrieve from Storage
MC22834-5.3	Kerry Ryan	GCMSL	07/30/13 09:39	Load on Instrument
MC22834-5.3	GCMSL	Kerry Ryan	07/31/13 09:24	Unload from Instrument
MC22834-5.3	Kerry Ryan	VOC Ref #1	07/31/13 09:24	Return to Storage
MC22834-5.4	VOC Ref #1	Gary Krasinski	07/30/13 11:04	Retrieve from Storage
MC22834-5.4	Gary Krasinski	GCMSK	07/30/13 11:04	Load on Instrument
MC22834-5.4	GCMSK	Gary Krasinski	07/31/13 09:37	Unload from Instrument
MC22834-5.4	Gary Krasinski	VOC Ref #1	07/31/13 09:37	Return to Storage
MC22834-6.I	VOC Ref #1	Gary Krasinski	07/30/13 11:04	Retrieve from Storage
MC22834-6.1	Gary Krasinski	GCMSK	07/30/13 11:04	Load on Instrument
MC22834-6.1	GCMSK	Gary Krasinski	07/31/13 09:37	Unload from Instrument
MC22834-6.1	Gary Krasinski	VOC Ref #1	07/31/13 09:37	Return to Storage
MC22834-6.2	VOC Ref #1	Kerry Ryan	07/30/13 09:42	Retrieve from Storage
MC22834-6.2	Kerry Ryan	GCMSL	07/30/13 09:42	Load on Instrument
MC22834-6.2	GCMSL	Kerry Ryan	07/31/13 09:24	Unload from Instrument
MC22834-6.2	Kerry Ryan	VOC Ref #1	07/31/13 09:24	Return to Storage
MC22834-7.2	VOC Ref #1	Bijan Jafari	07/23/13 10:48	Retrieve from Storage

5.3
5

Accutest Internal Chain of Custody

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 07/19/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC22834-7.2	Bijan Jafari		07/23/13 18:13	Depleted

5.3

New England ACCUTEST LABORATORIES

GC/MS Volatiles

6

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: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL3537-MB	L76145.D	1	07/30/13	KR	n/a	n/a	MSL3537

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.29	ug/l	

Method Blank Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL3537-MB	L76145.D	1	07/30/13	KR	n/a	n/a	MSL3537

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-6

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxaue	ND	50	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethaue	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylhenzene	ND	1.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	ug/l	

Method Blank Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Bateh	Analytical Batch
MSL3537-MB	L76145.D	1	07/30/13	KR	n/a	n/a	MSL3537

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-6

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

6.1.1

6

Method Blank Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2364-MB	K72596.D	1	07/30/13	GK	n/a	n/a	MSK2364

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.8	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ng/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	

Method Blank Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2364-MB	K72596.D	1	07/30/13	GK	n/a	n/a	MSK2364

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-6

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltolueue	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	u-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorohenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xyleue	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	ug/l	

6.1.2

Method Blank Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2364-MB	K72596.D	1	07/30/13	GK	n/a	n/a	MSK2364

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-6

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	112%	70-130%
2037-26-5	Toluene-D8	96%	70-130%
460-00-4	4-Bromofluorobenzene	94%	70-130%

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

Blank Spike Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL3537-BS	L76142.D	1	07/30/13	KR	n/a	n/a	MSL3537

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	42.2	84	70-130
107-02-8	Acrolein	250	321	128	70-130
107-13-1	Acrylonitrile	50	44.2	88	70-130
108-86-1	Bromobenzene	50	50.4	101	70-130
74-97-5	Bromochloromethane	50	44.4	89	70-130
75-27-4	Bromodichloromethane	50	47.1	94	70-130
75-25-2	Bromoform	50	43.4	87	70-130
74-83-9	Bromomethane	50	49.0	98	70-130
78-93-3	2-Butanone (MEK)	50	37.1	74	70-130
104-51-8	n-Butylbenzene	50	55.7	111	70-130
135-98-8	sec-Butylbenzene	50	58.0	116	70-130
98-06-6	tert-Butylbenzene	50	55.9	112	70-130
75-15-0	Carbon disulfide	50	42.1	84	70-130
56-23-5	Carbon tetrachloride	50	48.4	97	70-130
108-90-7	Chlorobenzene	50	52.8	106	70-130
75-00-3	Chloroethane	50	43.8	88	70-130
67-66-3	Chloroform	50	44.6	89	70-130
74-87-3	Chloromethane	50	42.5	85	70-130
95-49-8	o-Chlorotolnene	50	51.3	103	70-130
106-43-4	p-Chlorotoluene	50	54.7	109	70-130
124-48-1	Dibromochloromethane	50	50.4	101	70-130
95-50-1	1,2-Dichlorobenzene	50	54.5	109	70-130
541-73-1	1,3-Dichlorobenzene	50	52.7	105	70-130
106-46-7	1,4-Dichlorobenzene	50	48.6	97	70-130
75-71-8	Dichlorodifluoromethane	50	46.3	93	70-130
75-34-3	1,1-Dichloroethane	50	46.4	93	70-130
107-06-2	1,2-Dichloroethane	50	45.9	92	70-130
75-35-4	1,1-Dichloroethene	50	48.1	96	70-130
156-59-2	cis-1,2-Dichloroethene	50	44.2	88	70-130
156-60-5	trans-1,2-Dichloroethene	50	44.2	88	70-130
78-87-5	1,2-Dichloropropane	50	44.7	89	70-130
142-28-9	1,3-Dichloropropane	50	50.2	100	70-130
594-20-7	2,2-Dichloropropane	50	50.9	102	70-130
563-58-6	1,1-Dichloropropene	50	49.9	100	70-130
10061-01-5	cis-1,3-Dichloropropene	50	39.7	79	70-130
10061-02-6	trans-1,3-Dichloropropene	50	43.4	87	70-130

* = Outside of Control Limits.

6.2.1

Blank Spike Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL3537-BS	L76142.D	1	07/30/13	KR	n/a	n/a	MSL3537

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
123-91-1	1,4-Dioxane	250	179	72	70-130
97-63-2	Ethyl methacrylate	50	44.0	88	77-137
100-41-4	Ethylbenzene	50	50.0	100	70-130
87-68-3	Hexachlorobutadiene	50	52.5	105	70-130
591-78-6	2-Hexanone	50	45.6	91	70-130
98-82-8	Isopropylbenzene	50	54.4	109	70-130
99-87-6	p-Isopropyltoluene	50	54.8	110	70-130
1634-04-4	Methyl Tert Butyl Ether	50	37.6	75	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	39.8	80	70-130
74-95-3	Methylene bromide	50	46.3	93	70-130
75-09-2	Methylene chloride	50	45.5	91	70-130
91-20-3	Naphthalene	50	43.3	87	70-130
103-65-1	n-Propylbenzene	50	53.9	108	70-130
100-42-5	Styrene	50	50.9	102	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	50.9	102	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	47.4	95	70-130
127-18-4	Tetrachloroethene	50	56.4	113	70-130
108-88-3	Toluene	50	42.5	85	70-130
87-61-6	1,2,3-Trichlorobenzene	50	45.6	91	70-130
120-82-1	1,2,4-Trichlorobenzene	50	47.2	94	70-130
71-55-6	1,1,1-Trichloroethane	50	52.5	105	70-130
79-00-5	1,1,2-Trichloroethane	50	45.7	91	70-130
79-01-6	Trichloroethene	50	42.3	85	70-130
75-69-4	Trichlorofluoromethane	50	46.7	93	70-130
96-18-4	1,2,3-Trichloropropane	50	49.8	100	70-130
95-63-6	1,2,4-Trimethylbenzene	50	48.4	97	70-130
108-67-8	1,3,5-Trimethylbenzene	50	47.8	96	70-130
108-05-4	Vinyl Acetate	50	28.4	57* a	70-130
75-01-4	Vinyl chloride	50	36.5	73	70-130
	m,p-Xylene	100	103	103	70-130
95-47-6	o-Xylene	50	54.7	109	70-130
1330-20-7	Xylene (total)	150	157	105	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSL3537-BS	L76142.D	1	07/30/13	KR	n/a	n/a	MSL3537

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-6

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	85%	70-130%
2037-26-5	Toluene-D8	90%	70-130%
460-00-4	4-Bromofluorobenzene	101%	70-130%

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

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2364-BS	K72593.D	1	07/30/13	GK	n/a	n/a	MSK2364

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	64.7	129	70-130
107-13-1	Acrylonitrile	50	49.8	100	70-130
71-43-2	Benzene	50	52.2	104	70-130
108-86-1	Bromobenzene	50	49.4	99	70-130
74-97-5	Bromochloromethane	50	53.3	107	70-130
75-27-4	Bromodichloromethane	50	50.4	101	70-130
75-25-2	Bromoform	50	51.6	103	70-130
74-83-9	Bromomethane	50	60.2	120	70-130
78-93-3	2-Butanone (MEK)	50	66.5	133* a	70-130
104-51-8	n-Butylbenzene	50	48.8	98	70-130
135-98-8	sec-Butylbenzene	50	51.7	103	70-130
98-06-6	tert-Butylbenzene	50	50.1	100	70-130
75-15-0	Carbon disulfide	50	50.8	102	70-130
56-23-5	Carbon tetrachloride	50	52.9	106	70-130
108-90-7	Chlorobenzene	50	59.3	119	70-130
75-00-3	Chloroethane	50	54.7	109	70-130
110-75-8	2-Chloroethyl vinyl ether	50	33.2	66* a	70-130
67-66-3	Chloroform	50	55.0	110	70-130
74-87-3	Chloromethane	50	57.3	115	70-130
95-49-8	o-Chlorotoluene	50	49.0	98	70-130
106-43-4	p-Chlorotoluene	50	51.9	104	70-130
124-48-1	Dibromochloromethane	50	54.2	108	70-130
95-50-1	1,2-Dichlorobenzene	50	53.7	107	70-130
541-73-1	1,3-Dichlorobenzene	50	53.4	107	70-130
106-46-7	1,4-Dichlorobenzene	50	49.4	99	70-130
75-71-8	Dichlorodifluoromethane	50	55.1	110	70-130
75-34-3	1,1-Dichloroethane	50	54.2	108	70-130
107-06-2	1,2-Dichloroethane	50	48.6	97	70-130
75-35-4	1,1-Dichloroethene	50	51.5	103	70-130
156-59-2	cis-1,2-Dichloroethene	50	53.5	107	70-130
156-60-5	trans-1,2-Dichloroethene	50	54.5	109	70-130
78-87-5	1,2-Dichloropropane	50	47.0	94	70-130
142-28-9	1,3-Dichloropropane	50	51.7	103	70-130
594-20-7	2,2-Dichloropropane	50	58.3	117	70-130
563-58-6	1,1-Dichloropropene	50	48.9	98	70-130
10061-01-5	cis-1,3-Dichloropropene	50	47.0	94	70-130

* = Outside of Control Limits.

6.2.2

6

Blank Spike Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2364-BS	K72593.D	1	07/30/13	GK	n/a	n/a	MSK2364

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	50.3	101	70-130
123-91-1	1,4-Dioxane	250	227	91	70-130
97-63-2	Ethyl methacrylate	50	48.5	97	77-137
100-41-4	Ethylbenzene	50	50.9	102	70-130
87-68-3	Hexachlorobutadiene	50	48.5	97	70-130
591-78-6	2-Hexauone	50	58.5	117	70-130
98-82-8	Isopropylbenzene	50	51.3	103	70-130
99-87-6	p-Isopropyltoluene	50	50.7	101	70-130
1634-04-4	Methyl Tert Butyl Ether	50	49.7	99	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	43.5	87	70-130
74-95-3	Methylene bromide	50	50.2	100	70-130
75-09-2	Methylene chloride	50	55.1	110	70-130
91-20-3	Naphthalene	50	58.0	116	70-130
103-65-1	n-Propylbenzene	50	50.6	101	70-130
100-42-5	Styrene	50	54.2	108	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	55.7	111	70-130
79-34-5	1,1,2,2-Tetrachloroetbane	50	48.6	97	70-130
127-18-4	Tetrachloroethene	50	57.7	115	70-130
108-88-3	Toluene	50	50.0	100	70-130
87-61-6	1,2,3-Trichlorobenzene	50	62.9	126	70-130
120-82-1	1,2,4-Trichlorobenzene	50	54.8	110	70-130
71-55-6	1,1,1-Trichloroethane	50	52.4	105	70-130
79-00-5	1,1,2-Trichloroethane	50	48.5	97	70-130
79-01-6	Trichloroethene	50	48.8	98	70-130
75-69-4	Trichlorofluoromethane	50	50.0	100	70-130
96-18-4	1,2,3-Trichloropropane	50	42.1	84	70-130
95-63-6	1,2,4-Trimethylbenzene	50	47.9	96	70-130
108-67-8	1,3,5-Trimethylbenzene	50	46.8	94	70-130
108-05-4	Vinyl Acetate	50	34.5	69* a	70-130
75-01-4	Vinyl chloride	50	41.2	82	70-130
	m,p-Xylene	100	106	106	70-130
95-47-6	o-Xylene	50	54.5	109	70-130
1330-20-7	Xylene (total)	150	160	107	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2364-BS	K72593.D	1	07/30/13	GK	n/a	n/a	MSK2364

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-6

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	70-130%
2037-26-5	Toluene-D8	100%	70-130%
460-00-4	4-Bromofluorobenzene	94%	70-130%

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

6.2.2

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC23063-7MS	K72601.D	5	07/30/13	GK	n/a	n/a	MSK2364
MC23063-7MSD	K72602.D	5	07/30/13	GK	n/a	n/a	MSK2364
MC23063-7	K72600.D	1	07/30/13	GK	n/a	n/a	MSK2364

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-6

CAS No.	Compound	MC23063-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	7.6		250	165	63* [a]	167	64* [a]	1	70-130/30
107-13-1	Acrylonitrile	ND		250	232	93	225	90	3	70-130/30
71-43-2	Benzene	ND		250	244	98	237	95	3	70-130/30
108-86-1	Bromobenzene	ND		250	223	89	228	91	2	70-130/30
74-97-5	Bromochloromethane	ND		250	243	97	238	95	2	70-130/30
75-27-4	Bromodichloromethane	ND		250	232	93	227	91	2	70-130/30
75-25-2	Bromoform	ND		250	234	94	234	94	0	70-130/30
74-83-9	Bromomethane	ND		250	249	100	239	96	4	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	219	88	216	86	1	70-130/30
104-51-8	n-Butylbenzene	ND		250	233	93	234	94	0	70-130/30
135-98-8	sec-Butylbenzene	ND		250	231	92	231	92	0	70-130/30
98-06-6	tert-Butylbenzene	ND		250	225	90	225	90	0	70-130/30
75-15-0	Carbon disulfide	ND		250	217	87	207	83	5	70-130/30
56-23-5	Carbon tetrachloride	ND		250	253	101	244	98	4	70-130/30
108-90-7	Chlorobenzene	ND		250	254	102	252	101	1	70-130/30
75-00-3	Chloroethane	ND		250	240	96	230	92	4	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	211	84	205	82	3	70-130/30
67-66-3	Chloroform	ND		250	260	104	253	101	3	70-130/30
74-87-3	Chloromethane	ND		250	207	83	201	80	3	70-130/30
95-49-8	o-Chlorotoluene	ND		250	217	87	217	87	0	70-130/30
106-43-4	p-Chlorotoluene	ND		250	219	88	220	88	0	70-130/30
124-48-1	Dibromochloromethane	ND		250	245	98	245	98	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	231	92	234	94	1	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	231	92	231	92	0	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	226	90	228	91	1	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	222	89	208	83	7	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	249	100	241	96	3	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	223	89	218	87	2	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	236	94	223	89	6	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	256	102	249	100	3	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	254	102	246	98	3	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	219	88	215	86	2	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	243	97	240	96	1	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	265	106	253	101	5	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	229	92	223	89	3	70-130/30
10061-01-5	cis-1,3-Dichloropropene	ND		250	218	87	217	87	0	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC23063-7MS	K72601.D	5	07/30/13	GK	n/a	n/a	MSK2364
MC23063-7MSD	K72602.D	5	07/30/13	GK	n/a	n/a	MSK2364
MC23063-7	K72600.D	1	07/30/13	GK	n/a	n/a	MSK2364

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-6

CAS No.	Compound	MC23063-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		250	219	88	216	86	1	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1080	86	1130	90	5	70-130/30
97-63-2	Ethyl methacrylate	ND		250	222	89	218	87	2	72-139/30
100-41-4	Ethylbenzene	ND		250	238	95	236	94	1	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	234	94	235	94	0	70-130/30
591-78-6	2-Hexanone	ND		250	177	71	174	70	2	70-130/30
98-82-8	Isopropylbenzene	ND		250	225	90	226	90	0	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	231	92	233	93	1	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		250	236	94	230	92	3	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	191	76	188	75	2	70-130/30
74-95-3	Methylene bromide	ND		250	232	93	228	91	2	70-130/30
75-09-2	Methylene chloride	ND		250	256	102	247	99	4	70-130/30
91-20-3	Naphthalene	1.3		250	264	105	269	107	2	70-130/30
103-65-1	n-Propylbenzene	ND		250	224	90	223	89	0	70-130/30
100-42-5	Styrene	ND		250	253	101	254	102	0	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	258	103	258	103	0	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	224	90	225	90	0	70-130/30
127-18-4	Tetrachloroethene	ND		250	263	105	264	106	0	70-130/30
108-88-3	Toluene	0.50		250	231	92	226	90	2	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	279	112	291	116	4	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	247	99	253	101	2	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	250	100	240	96	4	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	227	91	219	88	4	70-130/30
79-01-6	Trichloroethene	ND		250	229	92	225	90	2	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	258	103	244	98	6	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	193	77	190	76	2	70-130/30
95-63-6	1,2,4-Trimethylbenzene	1.3		250	231	92	231	92	0	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	226	90	229	92	1	70-130/30
108-05-4	Vinyl Acetate	ND		250	214	86	209	84	2	70-130/30
75-01-4	Vinyl chloride	ND		250	226	90	217	87	4	70-130/30
	m,p-Xylene	ND		500	474	95	476	95	0	70-130/30
95-47-6	o-Xylene	ND		250	235	94	236	94	0	70-130/30
1330-20-7	Xylene (total)	0.80		750	709	94	712	95	0	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC23063-7MS	K72601.D	5	07/30/13	GK	n/a	n/a	MSK2364
MC23063-7MSD	K72602.D	5	07/30/13	GK	n/a	n/a	MSK2364
MC23063-7	K72600.D	1	07/30/13	GK	n/a	n/a	MSK2364

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-6

CAS No.	Surrogate Recoveries	MS	MSD	MC23063-7	Limits
1868-53-7	Dibromofluoromethane	105%	104%	113%	70-130%
2037-26-5	Toluene-D8	100%	99%	97%	70-130%
460-00-4	4-Bromoflnorobenzene	93%	95%	93%	70-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22841-37MS	L76163.D	5	07/30/13	KR	n/a	n/a	MSL3537
MC22841-37MSD	L76164.D	5	07/30/13	KR	n/a	n/a	MSL3537
MC22841-37	L76149.D	1	07/30/13	KR	n/a	n/a	MSL3537

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-6

CAS No.	Compound	MC22841-37 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	11.1		250	119	43* [a]	130	48* [a]	9	70-130/30
107-02-8	Acrolein	ND		1250	1190	95	1280	102	7	70-130/30
107-13-1	Acrylonitrile	ND		250	157	63* [a]	168	67* [a]	7	70-130/30
108-86-1	Bromobenzene	ND		250	258	103	261	104	1	70-130/30
74-97-5	Bromochloromethane	ND		250	218	87	216	86	1	70-130/30
75-27-4	Bromodichloromethane	ND		250	227	91	228	91	0	70-130/30
75-25-2	Bromoform	ND		250	221	88	230	92	4	70-130/30
74-83-9	Bromomethane	ND		250	223	89	246	98	10	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	145	58* [a]	160	64* [a]	10	70-130/30
104-51-8	n-Butylbenzene	ND		250	261	104	271	108	4	70-130/30
135-98-8	sec-Bntylbenzeue	ND		250	285	114	291	116	2	70-130/30
98-06-6	tert-Butylbenzene	ND		250	283	113	281	112	1	70-130/30
75-15-0	Carbon disulfide	ND		250	196	78	194	78	1	70-130/30
56-23-5	Carbon tetrachloride	ND		250	228	91	237	95	4	70-130/30
108-90-7	Chlorohenzene	ND		250	272	109	267	107	2	70-130/30
75-00-3	Chloroethane	ND		250	218	87	211	84	3	70-130/30
67-66-3	Chloroform	ND		250	208	83	209	84	0	70-130/30
74-87-3	Chloromethane	ND		250	166	66* [a]	162	65* [a]	2	70-130/30
95-49-8	o-Chlorotoluene	ND		250	258	103	257	103	0	70-130/30
106-43-4	p-Chlorotoluene	ND		250	268	107	270	108	1	70-130/30
124-48-1	Dibromochloromethane	ND		250	252	101	253	101	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	273	109	278	111	2	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	265	106	268	107	1	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	241	96	247	99	2	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	213	85	212	85	0	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	205	82	202	81	1	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	207	83	210	84	1	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	242	97	239	96	1	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	212	85	211	84	0	70-130/30
156-60-5	trans-1,2-Dichloroethene	ND		250	214	86	209	84	2	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	210	84	206	82	2	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	251	100	249	100	1	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	212	85	210	84	1	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	242	97	239	96	1	70-130/30
10061-01-5	cis-1,3-Dichloropropene	ND		250	190	76	194	78	2	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	207	83	212	85	2	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22841-37MS	L76163.D	5	07/30/13	KR	n/a	n/a	MSL3537
MC22841-37MSD	L76164.D	5	07/30/13	KR	n/a	n/a	MSL3537
MC22841-37	L76149.D	1	07/30/13	KR	n/a	n/a	MSL3537

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-6

CAS No.	Compound	MC22841-37 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
123-91-1	1,4-Dioxane	ND		1250	950	76	1010	81	6	70-130/30
97-63-2	Ethyl methacrylate	ND		250	225	90	234	94	4	72-139/30
100-41-4	Ethylbenzene	ND		250	335	134* [a]	275	110	20	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	252	101	269	108	7	70-130/30
591-78-6	2-Hexanone	ND		250	178	71	186	74	4	70-130/30
98-82-8	Isopropylbenzene	ND		250	274	110	274	110	0	70-130/30
99-87-6	p-Isopropyltolnene	ND		250	270	108	275	110	2	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		250	181	72	183	73	1	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	164	66* [a]	175	70	6	70-130/30
74-95-3	Methylene bromide	ND		250	225	90	229	92	2	70-130/30
75-09-2	Methylene chloride	ND		250	190	76	208	83	9	70-130/30
91-20-3	Naphthalene	ND		250	248	99	237	95	5	70-130/30
103-65-1	n-Propylbenzene	ND		250	271	108	271	108	0	70-130/30
100-42-5	Styrene	ND		250	256	102	253	101	1	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	257	103	251	100	2	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	227	91	241	96	6	70-130/30
127-18-4	Tetrachloroethene	ND		250	290	116	285	114	2	70-130/30
108-88-3	Toluene	ND		250	237	95	224	90	6	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	221	88	236	94	7	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	224	90	237	95	6	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	246	98	244	98	1	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	223	89	230	92	3	70-130/30
79-01-6	Trichloroethene	ND		250	206	82	210	84	2	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	214	86	215	86	0	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	235	94	248	99	5	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	283	113	256	102	10	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	247	99	243	97	2	70-130/30
108-05-4	Vinyl Acetate	ND		250	112	45* [a]	120	48* [a]	7	70-130/30
75-01-4	Vinyl chloride	ND		250	169	68* [a]	168	67* [a]	1	70-130/30
	m,p-Xylene	ND		500	616	123	569	114	8	70-130/30
95-47-6	o-Xylene	ND		250	304	122	287	115	6	70-130/30
1330-20-7	Xylene (total)	ND		750	920	123	855	114	7	70-130/30

* = Outside of Control Limits.

6.3.2

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Projeet: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC22841-37MS	L76163.D	5	07/30/13	KR	n/a	n/a	MSL3537
MC22841-37MSD	L76164.D	5	07/30/13	KR	n/a	n/a	MSL3537
MC22841-37	L76149.D	1	07/30/13	KR	n/a	n/a	MSL3537

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-6

CAS No.	Surrogate Recoveries	MS	MSD	MC22841-37	Limits
1868-53-7	Dibromofluoromethane	78%	77%	86%	70-130%
2037-26-5	Toluene-D8	89%	90%	91%	70-130%
460-00-4	4-Bromofluorobenzene	99%	99%	110%	70-130%

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

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSK2364-CC2349	Injection Date:	07/30/13
Lab File ID:	K72592.D	Injection Time:	09:08
Instrument ID:	GCMSK	Method:	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	320544	8.84	489795	9.69	219173	12.94	243128	15.50	60132	6.42
Upper Limit [a]	641088	9.34	979590	10.19	438346	13.44	486256	16.00	120264	6.92
Lower Limit [b]	160272	8.34	244898	9.19	109587	12.44	121564	15.00	30066	5.92

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSK2364-BS	329119	8.84	495483	9.69	221013	12.94	245955	15.50	61791	6.42
MSK2364-MB	326556	8.84	499615	9.69	207915	12.95	229665	15.50	62604	6.42
ZZZZZZ	318533	8.84	495077	9.69	207202	12.94	223099	15.50	53397	6.42
MC22834-6	320700	8.84	497824	9.69	209451	12.95	227612	15.50	54784	6.42
ZZZZZZ	318185	8.84	495775	9.69	209475	12.95	227266	15.50	57473	6.42
MC23063-7	315918	8.84	490255	9.69	207127	12.95	227071	15.50	54974	6.42
MC23063-7MS	320430	8.84	487202	9.69	219534	12.94	244640	15.50	58048	6.42
MC23063-7MSD	333458	8.84	503292	9.69	222584	12.94	248245	15.50	58675	6.42
ZZZZZZ	345938	8.84	526637	9.69	220526	12.94	246576	15.50	61922	6.42
ZZZZZZ	351026	8.84	520496	9.69	224354	12.95	245895	15.50	61640	6.42
ZZZZZZ	330184	8.84	500727	9.69	220475	12.94	244985	15.50	61439	6.42
ZZZZZZ	332970	8.84	508447	9.69	219135	12.95	245836	15.50	59067	6.42
ZZZZZZ	328972	8.84	496261	9.69	214671	12.95	235203	15.50	57585	6.42
ZZZZZZ	330012	8.84	506267	9.69	210703	12.95	228576	15.50	60120	6.42
MC22834-1	314407	8.84	472708	9.69	203934	12.95	223361	15.50	56194	6.42
MC22834-2	319137	8.84	488448	9.69	204600	12.95	226441	15.50	59090	6.42
MC22834-3	322075	8.84	490581	9.69	207458	12.94	225171	15.50	57134	6.42
MC22834-4	320148	8.84	496157	9.69	210782	12.95	233189	15.50	66713	6.42
MC22834-5	312325	8.84	479212	9.69	204466	12.95	222858	15.50	62442	6.43
ZZZZZZ	314999	8.84	485504	9.69	205334	12.94	224129	15.50	49710	6.42
ZZZZZZ	315661	8.84	492867	9.69	207420	12.95	223862	15.50	48795	6.42
ZZZZZZ	308741	8.84	477769	9.69	203653	12.94	221439	15.50	52240	6.42
ZZZZZZ	298703	8.84	463327	9.69	198679	12.94	215736	15.50	52037	6.42
ZZZZZZ	295815	8.84	461445	9.69	198982	12.95	216406	15.50	52646	6.42

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

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

6.4.1

Volatile Internal Standard Area Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSL3537-CC3534	Injection Date:	07/30/13
Lab File ID:	L76141.D	Injection Time:	08:33
Instrument ID:	GCMSL	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	99478	8.06	132962	8.90	69228	12.13	71450	14.68	27078	5.75
Upper Limit [a]	198956	8.56	265924	9.40	138456	12.63	142900	15.18	54156	6.25
Lower Limit [b]	49739	7.56	66481	8.40	34614	11.63	35725	14.18	13539	5.25
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSL3537-BS	105109	8.06	140042	8.89	72455	12.13	74271	14.68	32829	5.75
MSL3537-MB	104362	8.07	139769	8.90	70706	12.13	67181	14.69	36489	5.79
MC22834-6	106821	8.06	142227	8.90	71838	12.13	70133	14.69	31405	5.79
ZZZZZZ	105001	8.06	143376	8.90	70875	12.13	68210	14.69	34256	5.79
ZZZZZZ	104929	8.06	138084	8.90	70282	12.13	67733	14.68	30817	5.79
MC22841-37	103547	8.06	140464	8.90	70497	12.13	66221	14.69	35115	5.79
MC22834-4	102249	8.06	136745	8.90	68886	12.13	65926	14.68	30179	5.79
MC22834-5	102778	8.06	135832	8.90	69093	12.13	66855	14.68	34368	5.79
ZZZZZZ	100661	8.06	128582	8.89	67366	12.13	69471	14.68	34083	5.78
ZZZZZZ	107511	8.21	92715	9.00	73523	12.14	81280	14.68	31596	5.75
ZZZZZZ	111049	8.12	112101	8.94	75584	12.13	81338	14.68	33046	5.74
ZZZZZZ	115175	8.12	116245	8.94	77796	12.13	82840	14.68	30211	5.73
ZZZZZZ	112803	8.06	142810	8.89	73110	12.13	72785	14.68	35753	5.78
MC22834-1	118405	8.11	126277	8.93	79927	12.13	86679	14.68	34473	5.75
MC22834-2	121680	8.07	146112	8.90	77682	12.13	81351	14.68	32423	5.78
MC22834-3	121449	8.07	147670	8.90	78778	12.13	82083	14.68	33107	5.78
ZZZZZZ	120042	8.08	138091	8.92	79280	12.13	85721	14.68	35628	5.73
ZZZZZZ	114085	8.06	150171	8.89	76708	12.13	85592	14.68	54138	5.70
ZZZZZZ	114350	8.06	147597	8.89	73655	12.13	79674	14.68	42291	5.76
MC22841-37MS	114003	8.06	146262	8.89	73467	12.13	78233	14.68	34748	5.75
MC22841-37MSD	113198	8.06	144863	8.89	74017	12.13	77378	14.68	37539	5.76

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

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

6.4.2

6

Volatile Surrogate Recovery Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22834-1	K72609.D	111.0	100.0	94.0
MC22834-1	L76157.D	80.0	113.0	100.0
MC22834-2	L76158.D	77.0	97.0	104.0
MC22834-2	K72610.D	112.0	98.0	93.0
MC22834-3	L76159.D	77.0	96.0	102.0
MC22834-3	K72611.D	111.0	98.0	95.0
MC22834-4	K72612.D	112.0	97.0	138.0* [a]
MC22834-4	L76150.D	86.0	91.0	147.0* [a]
MC22834-5	K72613.D	112.0	98.0	138.0* [a]
MC22834-5	L76151.D	85.0	92.0	148.0* [a]
MC22834-6	K72598.D	112.0	96.0	93.0
MC22834-6	L76146.D	86.0	91.0	107.0
MC22841-37MS	L76163.D	78.0	89.0	99.0
MC22841-37MSD	L76164.D	77.0	90.0	99.0
MC23063-7MS	K72601.D	105.0	100.0	93.0
MC23063-7MSD	K72602.D	104.0	99.0	95.0
MSK2364-BS	K72593.D	103.0	100.0	94.0
MSK2364-MB	K72596.D	112.0	96.0	94.0
MSL3537-BS	L76142.D	85.0	90.0	101.0
MSL3537-MB	L76145.D	85.0	90.0	108.0

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.

6.5.1

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: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34111-MB	R32490.D	1	07/30/13	KR	07/24/13	OP34111	MSR1184

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5

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	0.38	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	0.49	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	0.33	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	1.1	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	2.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	1.2	ug/l	
95-48-7	2-Methylphenol	ND	10	1.3	ug/l	
	3&4-Methylphenol	ND	10	2.0	ug/l	
88-75-5	2-Nitrophenol	ND	10	0.50	ug/l	
100-02-7	4-Nitrophenol	ND	20	0.58	ug/l	
87-86-5	Pentachlorophenol	ND	10	1.3	ug/l	
108-95-2	Phenol	ND	5.0	0.51	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	0.57	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	0.32	ug/l	
62-53-3	Aniline	ND	10	0.64	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	0.20	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	0.85	ug/l	
100-51-6	Benzyl Alcohol	ND	10	0.57	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.92	ug/l	
106-47-8	4-Chloroaniline	ND	10	0.25	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	0.21	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	0.23	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	0.13	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	0.20	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	0.65	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	0.68	ug/l	
606-20-2	2,6-Dinitrotolnene	ND	10	0.64	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.50	ug/l	
132-64-9	Dibenzofuran	ND	2.0	0.16	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	0.39	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	0.43	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	0.50	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	0.50	ug/l	
117-81-7	bis(2-Ethylhexyl)pbthalate	ND	2.0	0.49	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	0.30	ug/l	

Method Blank Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34111-MB	R32490.D	1	07/30/13	KR	07/24/13	OP34111	MSR1184

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5

CAS No.	Compound	Result	RL	MDL	Units	Q
77-47-4	Hexachlorocyclopentadiene	ND	10	2.5	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.44	ug/l	
78-59-1	Isophorone	ND	5.0	0.20	ug/l	
88-74-4	2-Nitroaniline	ND	10	0.28	ug/l	
99-09-2	3-Nitroaniline	ND	10	0.50	ug/l	
100-01-6	4-Nitroaniline	ND	10	4.3	ug/l	
98-95-3	Nitrobenzene	ND	5.0	0.25	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	0.50	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	0.81	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.54	ug/l	
110-86-1	Pyridine	ND	10	0.52	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	49%	15-110%
4165-62-2	Phenol-d5	20%	15-110%
118-79-6	2,4,6-Tribromophenol	96%	15-110%
4165-60-0	Nitrobenzene-d5	80%	30-130%
321-60-8	2-Fluorobiphenyl	95%	30-130%
1718-51-0	Terphenyl-d14	92%	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: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34112-MB	W14187.D	1	07/29/13	WK	07/24/13	OP34112	MSW642

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	0.016	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	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	50%	15-110%
4165-62-2	Phenol-d5	20%	15-110%
118-79-6	2,4,6-Tribromophenol	98%	15-110%
4165-60-0	Nitrobenzene-d5	89%	30-130%
321-60-8	2-Fluorobiphenyl	87%	30-130%
1718-51-0	Terphenyl-d14	96%	30-130%

Blank Spike Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34111-BS	R32491.D	1	07/30/13	KR	07/24/13	OP34111	MSR1184

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	50	10.3	21* a	30-130
95-57-8	2-Chlorophenol	50	36.0	72	30-130
59-50-7	4-Chloro-3-methyl phenol	50	39.8	80	30-130
120-83-2	2,4-Dichlorophenol	50	39.0	78	30-130
105-67-9	2,4-Dimethylphenol	50	33.8	68	30-130
51-28-5	2,4-Dinitrophenol	50	34.6	69	30-130
534-52-1	4,6-Dinitro-o-cresol	50	44.8	90	30-130
95-48-7	2-Methylphenol	50	35.5	71	30-130
	3&4-Methylphenol	100	58.4	58	30-130
88-75-5	2-Nitrophenol	50	40.8	82	30-130
100-02-7	4-Nitrophenol	50	17.5	35	30-130
87-86-5	Pentachlorophenol	50	43.5	87	30-130
108-95-2	Phenol	50	18.6	37	30-130
95-95-4	2,4,5-Trichlorophenol	50	46.7	93	30-130
88-06-2	2,4,6-Trichlorophenol	50	44.0	88	30-130
62-53-3	Aniline	50	29.7	59	40-140
101-55-3	4-Bromophenyl phenyl ether	50	44.3	89	40-140
85-68-7	Butyl benzyl phthalate	50	43.4	87	40-140
100-51-6	Benzyl Alcohol	50	24.9	50	40-140
91-58-7	2-Chloronaphthalene	50	38.4	77	40-140
106-47-8	4-Chloroaniline	50	34.1	68	40-140
111-91-1	bis(2-Chloroethoxy)methane	50	32.9	66	40-140
111-44-4	bis(2-Chloroethyl)ether	50	32.5	65	40-140
108-60-1	bis(2-Chloroisopropyl)ether	50	33.0	66	40-140
7005-72-3	4-Chlorophenyl phenyl ether	50	45.3	91	40-140
122-66-7	1,2-Diphenylhydrazine	50	37.0	74	40-140
121-14-2	2,4-Dinitrotoluene	50	45.6	91	40-140
606-20-2	2,6-Dinitrotoluene	50	43.2	86	40-140
91-94-1	3,3'-Dichlorobenzidine	50	44.0	88	40-140
132-64-9	Dibenzofuran	50	41.3	83	40-140
84-74-2	Di-n-butyl phthalate	50	43.5	87	40-140
117-84-0	Di-n-octyl phthalate	50	47.1	94	40-140
84-66-2	Diethyl phthalate	50	43.3	87	40-140
131-11-3	Dimethyl phthalate	50	39.0	78	40-140
117-81-7	bis(2-Etbylhexyl)phthalate	50	42.9	86	40-140
118-74-1	Hexachlorobenzene	50	42.1	84	40-140

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34111-BS	R32491.D	1	07/30/13	KR	07/24/13	OP34111	MSR1184

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
77-47-4	Hexachlorocyclopeutadiene	50	13.2	26* a	40-140
67-72-1	Hexachloroethane	50	30.1	60	40-140
78-59-1	Isophorone	50	33.3	67	40-140
88-74-4	2-Nitroaniline	50	46.9	94	40-140
99-09-2	3-Nitroaniline	50	44.0	88	40-140
100-01-6	4-Nitroaniline	50	46.5	93	40-140
98-95-3	Nitrobenzene	50	30.2	60	40-140
62-75-9	n-Nitrosodimethylamine	50	22.1	44	40-140
621-64-7	N-Nitroso-di-n-propylamine	50	34.9	70	40-140
86-30-6	N-Nitrosodiphenylamine	50	41.7	83	40-140
110-86-1	Pyridine	50	21.0	42	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	48%	15-110%
4165-62-2	Phenol-d5	19%	15-110%
118-79-6	2,4,6-Tribromophenol	103%	15-110%
4165-60-0	Nitrobenzene-d5	76%	30-130%
321-60-8	2-Fluorobiphenyl	91%	30-130%
1718-51-0	Terphenyl-d14	94%	30-130%

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

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34112-BS	W14188.D	1	07/29/13	WK	07/24/13	OP34112	MSW642

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5

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	31.6	63	40-140
120-12-7	Anthracene	50	40.1	80	40-140
56-55-3	Benzo(a)anthracene	50	44.4	89	40-140
50-32-8	Benzo(a)pyrene	50	42.0	84	40-140
205-99-2	Benzo(b)fluoranthene	50	45.7	91	40-140
191-24-2	Benzo(g,h,i)perylene	50	46.1	92	40-140
207-08-9	Benzo(k)fluoranthene	50	44.0	88	40-140
218-01-9	Chrysene	50	41.3	83	40-140
53-70-3	Dibenzo(a,h)anthracene	50	46.5	93	40-140
206-44-0	Fluoranthene	50	43.2	86	40-140
86-73-7	Fluorene	50	41.1	82	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	45.1	90	40-140
90-12-0	1-Methylnaphthalene	50	35.3	71	40-140
91-57-6	2-Methylnaphthalene	50	33.7	67	40-140
85-01-8	Phenanthrene	50	40.8	82	40-140
129-00-0	Pyrene	50	41.2	82	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	48%	15-110%
4165-62-2	Phenol-d5	19%	15-110%
118-79-6	2,4,6-Tribromophenol	103%	15-110%
4165-60-0	Nitrobenzene-d5	85%	30-130%
321-60-8	2-Fluorobiphenyl	85%	30-130%
1718-51-0	Terphenyl-d14	96%	30-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenne, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34111-MS	R32485.D	1	07/30/13	KR	07/24/13	OP34111	MSR1184
OP34111-MSD	R32486.D	1	07/30/13	KR	07/24/13	OP34111	MSR1184
MC22900-14	R32487.D	1	07/30/13	KR	07/24/13	OP34111	MSR1184

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5

7.3.1

7

CAS No.	Compound	MC22900-14 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		500	129	26* [a]	132	26* [a]	2	30-130/20
95-57-8	2-Chlorophenol	ND		500	426	85	393	79	8	30-130/20
59-50-7	4-Chloro-3-methyl phenol	ND		500	438	88	417	83	5	30-130/20
120-83-2	2,4-Dichlorophenol	ND		500	465	93	425	85	9	30-130/20
105-67-9	2,4-Dimethylphenol	ND		500	387	77	369	74	5	30-130/20
51-28-5	2,4-Dinitrophenol	ND		500	390	78	378	76	3	30-130/20
534-52-1	4,6-Dinitro-o-cresol	ND		500	490	98	477	95	3	30-130/20
95-48-7	2-Methylphenol	ND		500	389	78	388	78	0	30-130/20
	3&4-Methylphenol	ND		1000	685	69	640	64	7	30-130/20
88-75-5	2-Nitrophenol	ND		500	486	97	460	92	5	30-130/20
100-02-7	4-Nitrophenol	ND		500	179	36	178	36	1	30-130/20
87-86-5	Pentachlorophenol	ND		500	439	88	435	87	1	30-130/20
108-95-2	Phenol	ND		500	220	44	205	41	7	30-130/20
95-95-4	2,4,5-Trichlorophenol	ND		500	534	107	506	101	5	30-130/20
88-06-2	2,4,6-Trichlorophenol	ND		500	479	96	447	89	7	30-130/20
62-53-3	Aniline	ND		500	357	71	344	69	4	40-140/20
101-55-3	4-Bromophenyl phenyl ether	ND		500	466	93	458	92	2	40-140/20
85-68-7	Butyl henzyl phthalate	ND		500	450	90	444	89	1	40-140/20
100-51-6	Benzyl Alcohol	ND		500	288	58	258	52	11	40-140/20
91-58-7	2-Chloronaphthalene	ND		500	450	90	421	84	7	40-140/20
106-47-8	4-Chloroaniline	ND		500	402	80	385	77	4	40-140/20
111-91-1	bis(2-Chloroethoxy)methane	ND		500	402	80	378	76	6	40-140/20
111-44-4	bis(2-Chloroethyl)ether	ND		500	389	78	365	73	6	40-140/20
108-60-1	bis(2-Chloroisopropyl)ether	ND		500	398	80	376	75	6	40-140/20
7005-72-3	4-Chlorophenyl phenyl ether	ND		500	495	99	470	94	5	40-140/20
122-66-7	1,2-Diphenylhydrazine	ND		500	385	77	383	77	1	40-140/20
121-14-2	2,4-Dinitrotoluene	ND		500	489	98	481	96	2	40-140/20
606-20-2	2,6-Dinitrotoluene	ND		500	459	92	453	91	1	40-140/20
91-94-1	3,3'-Dichlorobenzidine	ND		500	464	93	461	92	1	40-140/20
132-64-9	Dibenzofuran	ND		500	460	92	442	88	4	40-140/20
84-74-2	Di-n-butyl phthalate	ND		500	456	91	452	90	1	40-140/20
117-84-0	Di-n-octyl phthalate	ND		500	498	100	481	96	3	40-140/20
84-66-2	Diethyl phthalate	ND		500	471	94	460	92	2	40-140/20
131-11-3	Dimethyl phthalate	ND		500	428	86	414	83	3	40-140/20
117-81-7	bis(2-Ethylhexyl)phthalate	ND		500	452	90	440	88	3	40-140/20
118-74-1	Hexachlorobenzene	ND		500	446	89	440	88	1	40-140/20

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34111-MS	R32485.D	1	07/30/13	KR	07/24/13	OP34111	MSR1184
OP34111-MSD	R32486.D	1	07/30/13	KR	07/24/13	OP34111	MSR1184
MC22900-14	R32487.D	1	07/30/13	KR	07/24/13	OP34111	MSR1184

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5

7.3.1

7

CAS No.	Compound	MC22900-14 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
77-47-4	Hexachlorocyclopentadiene	ND		500	164	33* [a]	150	30* [a]	9	40-140/20
67-72-1	Hexachloroethane	ND		500	373	75	335	67	11	40-140/20
78-59-1	Isophorone	ND		500	392	78	370	74	6	40-140/20
88-74-4	2-Nitroaniline	ND		500	513	103	491	98	4	40-140/20
99-09-2	3-Nitroaniline	ND		500	474	95	467	93	1	40-140/20
100-01-6	4-Nitroaniline	ND		500	493	99	482	96	2	40-140/20
98-95-3	Nitrobenzene	ND		500	364	73	340	68	7	40-140/20
62-75-9	n-Nitrosodimethylamine	ND		500	261	52	240	48	8	40-140/20
621-64-7	N-Nitroso-di-n-propylamine	ND		500	401	80	377	75	6	40-140/20
86-30-6	N-Nitrosodiphenylamine	ND		500	429	86	427	85	0	40-140/20
110-86-1	Pyridine	ND		500	238	48	217	43	9	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC22900-14	Limits
367-12-4	2-Fluorophenol	56%	50%	41%	15-110%
4165-62-2	Phenol-d5	22%	19%	15%	15-110%
118-79-6	2,4,6-Tribromophenol	108%	106%	79%	15-110%
4165-60-0	Nitrobenzene-d5	92%	85%	65%	30-130%
321-60-8	2-Fluorohiphenyl	105%	100%	79%	30-130%
1718-51-0	Terphenyl-d14	97%	94%	87%	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: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34112-MS	W14189.D	1	07/29/13	WK	07/24/13	OP34112	MSW642
OP34112-MSD	W14190.D	1	07/29/13	WK	07/24/13	OP34112	MSW642
MC22900-15	W14191.D	1	07/29/13	WK	07/24/13	OP34112	MSW642

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5

CAS No.	Compound	MC22900-15 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		50	42.2	84	40.9	82	3	40-140/20
208-96-8	Acenaphthylene	ND		50	35.0	70	33.8	68	3	40-140/20
120-12-7	Anthracene	ND		50	42.3	85	41.1	82	3	40-140/20
56-55-3	Benzo(a)anthracene	ND		50	46.0	92	44.9	90	2	40-140/20
50-32-8	Benzo(a)pyrene	ND		50	44.1	88	43.1	86	2	40-140/20
205-99-2	Benzo(b)fluoranthene	ND		50	46.3	93	47.3	95	2	40-140/20
191-24-2	Benzo(g,h,i)perylene	ND		50	48.0	96	47.1	94	2	40-140/20
207-08-9	Benzo(k)fluoranthene	ND		50	47.7	95	44.8	90	6	40-140/20
218-01-9	Chrysene	ND		50	43.2	86	42.0	84	3	40-140/20
53-70-3	Dibenzo(a,h)anthracene	ND		50	48.5	97	47.8	96	1	40-140/20
206-44-0	Fluoranthene	ND		50	45.3	91	44.2	88	2	40-140/20
86-73-7	Fluorene	ND		50	43.5	87	42.8	86	2	40-140/20
193-39-5	Indeno(1,2,3-cd)pyrene	ND		50	47.3	95	46.6	93	1	40-140/20
90-12-0	1-Methylnaphthalene	ND		50	40.9	82	39.6	79	3	40-140/20
91-57-6	2-Methylnaphthalene	ND		50	39.2	78	37.3	75	5	40-140/20
85-01-8	Phenanthrene	ND		50	42.3	85	41.4	83	2	40-140/20
129-00-0	Pyrene	ND		50	43.0	86	41.8	84	3	40-140/20

CAS No.	Surrogate Recoveries	MS	MSD	MC22900-15	Limits
367-12-4	2-Fluorophenol	57%	51%		15-110%
4165-62-2	Phenol-d5	22%	20%		15-110%
118-79-6	2,4,6-Tribromophenol	109%	105%		15-110%
4165-60-0	Nitrobenzene-d5	100%	96%	74%	30-130%
321-60-8	2-Fluorobiphenyl	97%	94%	73%	30-130%
1718-51-0	Terphenyl-d14	101%	97%	89%	30-130%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSR1184-CC1159	Injection Date:	07/30/13
Lab File ID:	R32474.D	Injection Time:	08:33
Instrument ID:	GCMSR	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	107117	4.30	392530	5.36	236450	6.90	438074	8.31	500908	11.30	475379	12.89
Upper Limit [a]	214234	4.80	785060	5.86	472900	7.40	876148	8.81	1001816	11.80	950758	13.39
Lower Limit [b]	53559	3.80	196265	4.86	118225	6.40	219037	7.81	250454	10.80	237690	12.39
Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	1S 3 AREA	RT	IS 4 AREA	RT	1S 5 AREA	RT	IS 6 AREA	RT
OP34128-MB	121123	4.30	441943	5.36	263537	6.90	485268	8.31	541623	11.29	507352	12.88
OP34128-BS	105833	4.30	387150	5.36	234154	6.90	419578	8.31	465868	11.30	433458	12.88
OP34128-MS	104399	4.31	381170	5.36	229470	6.90	407915	8.31	457627	11.30	435629	12.88
OP34128-MSD	114525	4.31	415002	5.36	251371	6.90	446073	8.31	497363	11.30	464681	12.88
MC22932-1	102812	4.31	357596	5.37	235117	6.90	413845	8.31	462325	11.29	426106	12.88
ZZZZZZ	94413	4.30	349533	5.36	206721	6.90	380145	8.31	415761	11.29	383149	12.88
ZZZZZZ	101917	4.30	380246	5.36	224120	6.90	417577	8.31	455311	11.29	421719	12.88
ZZZZZZ	104283	4.30	385602	5.36	228449	6.90	413698	8.31	449195	11.29	412270	12.88
ZZZZZZ	117582	4.30	430298	5.36	258291	6.90	463967	8.31	509267	11.30	471122	12.88
ZZZZZZ	106309	4.30	394170	5.36	237676	6.90	433578	8.31	471070	11.29	428039	12.88
OP34111-MS	121649	4.30	462446	5.36	276360	6.90	513596	8.31	581056	11.30	533528	12.89
OP34111-MSD	122613	4.30	466797	5.36	279772	6.90	514222	8.31	584813	11.29	542895	12.89
MC22900-14	115555	4.30	435497	5.36	263940	6.90	480784	8.31	552100	11.29	517531	12.88
ZZZZZZ	114395	4.30	429723	5.36	261344	6.90	476324	8.31	544575	11.29	517450	12.88
ZZZZZZ	109476	4.30	420112	5.36	254828	6.90	454970	8.31	500166	11.29	458436	12.88
OP34111-MB	111051	4.30	427012	5.36	256695	6.90	474482	8.31	547154	11.29	511909	12.88
OP34111-BS	118175	4.30	452290	5.36	272973	6.90	493467	8.31	560012	11.30	521769	12.89

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

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

Semivolatile Internal Standard Area Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSR1186-CC1159	Injection Date:	07/31/13
Lab File ID:	R32530.D	Injection Time:	08:10
Instrument ID:	GCMSR	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	104562	4.28	383178	5.34	230793	6.87	425391	8.29	476355	11.27	440549	12.86
Upper Limit [a]	209124	4.78	766356	5.84	461586	7.37	850782	8.79	952710	11.77	881098	13.36
Lower Limit [b]	52281	3.78	191589	4.84	115397	6.37	212696	7.79	238178	10.77	220275	12.36
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
OP34178-MB	93209	4.28	342326	5.34	212839	6.87	388323	8.28	434900	11.27	408631	12.86
OP34178-BS	98042	4.28	366141	5.34	224849	6.87	410090	8.28	461692	11.27	432502	12.86
ZZZZZZ	95201	4.28	349488	5.34	211609	6.87	388545	8.28	434838	11.27	404518	12.85
ZZZZZZ	90556	4.28	339634	5.34	204820	6.87	375556	8.28	416808	11.27	388683	12.85
ZZZZZZ	95292	4.28	355196	5.34	215726	6.87	393160	8.28	438223	11.27	401697	12.85
ZZZZZZ	91048	4.28	328095	5.34	197213	6.87	364446	8.28	402804	11.27	369150	12.85
ZZZZZZ	92823	4.29	370360	5.35	310616	6.89	603006	8.29	633299	11.29	645518	12.89
ZZZZZZ	115896	4.28	433038	5.34	263014	6.87	479839	8.28	530873	11.27	494511	12.86
ZZZZZZ	125818	4.29	465987	5.35	277248	6.88	501175	8.29	543053	11.27	507677	12.87
ZZZZZZ	108009	4.28	399889	5.34	241960	6.87	452109	8.28	494746	11.27	460221	12.86
ZZZZZZ	108347	4.28	398128	5.34	242862	6.87	449453	8.28	492986	11.27	459258	12.86
ZZZZZZ	115584	4.28	423870	5.34	255513	6.87	471569	8.28	530053	11.27	482404	12.86
ZZZZZZ	108368	4.28	397336	5.34	243841	6.87	443685	8.28	486313	11.27	455471	12.86
MC22834-1	134821	4.28	505459	5.34	306846	6.87	554363	8.28	607975	11.27	565837	12.86
MC22834-2	137492	4.28	516374	5.34	307472	6.87	565701	8.28	620830	11.27	563315	12.86
MC22834-3	152575	4.28	574901	5.34	344601	6.87	628034	8.28	687167	11.27	623147	12.86
MC22834-4	131571	4.28	505676	5.34	301519	6.87	559524	8.28	620510	11.27	564160	12.86
ZZZZZZ	133936	4.28	497940	5.34	296350	6.87	513730	8.28	522924	11.27	467871	12.86
ZZZZZZ	132700	4.28	487120	5.34	291473	6.87	513907	8.28	511318	11.27	461321	12.85
MC22834-5	143347	4.28	545832	5.34	326185	6.87	605138	8.28	669875	11.27	630530	12.87
ZZZZZZ	136804	4.28	521222	5.34	320969	6.87	590704	8.28	662384	11.27	602980	12.86
ZZZZZZ	142223	4.28	545744	5.34	323588	6.87	589940	8.28	629987	11.27	580979	12.86
ZZZZZZ	143455	4.28	539842	5.34	320303	6.87	577981	8.28	631612	11.27	570970	12.86
ZZZZZZ	145096	4.28	546997	5.34	330173	6.87	598919	8.28	645910	11.27	589729	12.86
ZZZZZZ	151573	4.28	563084	5.34	341577	6.87	623717	8.28	681205	11.27	615538	12.86
OP34178-MS	125639	4.28	467834	5.34	282517	6.87	505064	8.28	536961	11.28	496962	12.88
OP34178-MSD	122510	4.28	463408	5.34	277668	6.87	491361	8.29	526941	11.28	487475	12.88
MC22839-1	119001	4.28	451162	5.34	272656	6.87	487891	8.29	530815	11.28	486471	12.88

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: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSR1186-CC1159	Injection Date:	07/31/13
Lab File ID:	R32530.D	Injection Time:	08:10
Instrument ID:	GCMSR	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.

Semivolatile Internal Standard Area Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSW642-CC633	Injection Date:	07/29/13
Lab File ID:	WI4186.D	Injection Time:	09:03
Instrument ID:	GCMSW	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	221067	3.60	593849	4.58	296109	6.01	480124	7.28	327425	10.06	771998	11.49
Upper Limit [a]	442134	4.10	1187698	5.08	592218	6.51	960248	7.78	654850	10.56	1543996	11.99
Lower Limit [b]	110534	3.10	296925	4.08	148055	5.51	240062	6.78	163713	9.56	385999	10.99
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
OP34112-MB	207968	3.60	562459	4.58	279520	6.01	449721	7.28	301922	10.06	713579	11.48
OP34112-BS	201503	3.60	541478	4.58	267075	6.01	434210	7.28	287068	10.06	677409	11.48
OP34112-MS	203060	3.60	550010	4.58	269796	6.01	436873	7.28	288549	10.06	680733	11.49
OP34112-MSD	186726	3.60	496789	4.58	244444	6.01	397160	7.28	263470	10.06	619327	11.49
MC22900-15	172258	3.60	463653	4.58	227572	6.01	366633	7.28	244900	10.05	580137	11.48
MC22834-1	167833	3.60	447768	4.58	220055	6.01	354147	7.28	237740	10.05	564197	11.48
MC22834-2	166992	3.60	449572	4.58	220847	6.01	352765	7.28	237425	10.05	561353	11.48
MC22834-3	193184	3.60	511351	4.58	253763	6.01	400424	7.28	269526	10.06	643741	11.48
MC22834-4	177466	3.60	470663	4.58	232509	6.01	368792	7.28	250533	10.06	600012	11.48
MC22834-5	197935	3.60	530722	4.58	261600	6.01	414693	7.28	278979	10.06	668013	11.49
ZZZZZZ	175951	3.60	470739	4.58	232571	6.01	374541	7.28	250419	10.05	596960	11.48
ZZZZZZ	174176	3.60	465674	4.58	230541	6.01	368615	7.28	246967	10.05	588907	11.48
ZZZZZZ	171200	3.60	457784	4.58	226027	6.01	361852	7.28	244001	10.05	577348	11.48
ZZZZZZ	163201	3.60	434690	4.58	216227	6.01	342048	7.28	233671	10.05	556171	11.48
ZZZZZZ	162376	3.60	428726	4.58	214669	6.01	344535	7.28	237762	10.05	562704	11.48
ZZZZZZ	160377	3.60	426587	4.58	211813	6.01	337162	7.28	228267	10.05	549286	11.48
ZZZZZZ	168678	3.60	437955	4.58	218073	6.01	350327	7.28	238123	10.05	574776	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.

Semivolatile Surrogate Recovery Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22834-1	R32544.D	54.0	23.0	99.0	87.0	103.0	95.0
MC22834-2	R32545.D	40.0	18.0	89.0	79.0	93.0	85.0
MC22834-3	R32546.D	50.0	23.0	96.0	78.0	93.0	82.0
MC22834-4	R32547.D	43.0	17.0	87.0	72.0	84.0	79.0
MC22834-5	R32550.D	46.0	20.0	96.0	77.0	93.0	86.0
OP34111-BS	R32491.D	48.0	19.0	103.0	76.0	91.0	94.0
OP34111-MB	R32490.D	49.0	20.0	96.0	80.0	95.0	92.0
OP34111-MS	R32485.D	56.0	22.0	108.0	92.0	105.0	97.0
OP34111-MSD	R32486.D	50.0	19.0	106.0	85.0	100.0	94.0

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-Flnorobiphenyl	30-130%
S6 = Terphenyl-d14	30-130%

Semivolatile Surrogate Recovery Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC22834-1	W14192.D	97.0	97.0	95.0
MC22834-2	W14193.D	88.0	87.0	86.0
MC22834-3	W14194.D	86.0	84.0	83.0
MC22834-4	W14195.D	80.0	80.0	81.0
MC22834-5	W14196.D	86.0	85.0	88.0
OP34112-BS	W14188.D	85.0	85.0	96.0
OP34112-MB	W14187.D	89.0	87.0	96.0
OP34112-MS	W14189.D	100.0	97.0	101.0
OP34112-MSD	W14190.D	96.0	94.0	97.0

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

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: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34095-MB	BK27122.D	1	07/25/13	NK	07/23/13	OP34095	GBK930

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-7

CAS No.	Compound	Result	RL	MDL	Units	Q
96-12-8	1,2-Dibromo-3-chloropropane	ND	0.015	0.0045	ug/l	
106-93-4	1,2-Dibromoethane	ND	0.015	0.0097	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	Bromofluorobenzene (S)	138%	36-173%
460-00-4	Bromofluorobenzene (S)	123%	36-173%

8.1.1

8

Blank Spike Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34095-BS	BK27123.D	1	07/25/13	NK	07/23/13	OP34095	GBK930

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
96-12-8	1,2-Dibromo-3-chloropropane	0.071	0.085	120	60-140
106-93-4	1,2-Dibromoethane	0.071	0.077	108	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	Bromofluorobenzene (S)	125%	36-173%
460-00-4	Bromofluorobenzene (S)	107%	36-173%

8.2.1

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP34095-MS	BK27124.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
OP34095-MSD	BK27125.D	1	07/25/13	NK	07/23/13	OP34095	GBK930
MC22692-3	BK27129.D	1	07/25/13	NK	07/23/13	OP34095	GBK930

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

MC22834-1, MC22834-2, MC22834-3, MC22834-4, MC22834-5, MC22834-7

CAS No.	Compound	MC22692-3 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		0.0677	0.060	89	0.057	84	5	64-141/29
106-93-4	1,2-Dibromoethane	ND		0.0677	0.071	105	0.073	108	3	63-163/27

CAS No.	Surrogate Recoveries	MS	MSD	MC22692-3	Limits
460-00-4	Bromofluorobenzene (S)	89%	87%	123%	36-173%
460-00-4	Bromofluorobenzene (S)	76%	64%	91%	36-173%

* = Outside of Control Limits.

8.3.1

Volatile Surrogate Recovery Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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]
MC22834-1	BK27141.D	108.0	110.0
MC22834-2	BK27142.D	120.0	93.0
MC22834-3	BK27143.D	133.0	118.0
MC22834-4	BK27144.D	88.0	58.0
MC22834-5	BK27146.D	91.0	56.0
MC22834-7	BK27145.D	74.0	65.0
OP34095-BS	BK27123.D	125.0	107.0
OP34095-MB	BK27122.D	138.0	123.0
OP34095-MS	BK27124.D	89.0	76.0
OP34095-MSD	BK27125.D	87.0	64.0

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

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

GC Surrogate Retention Time Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	GBK930-CC929	Injection Date:	07/25/13
Lab File ID:	BK27116A.D	Injection Time:	05:10
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.58	4.94

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK27117.D	07/25/13	05:36	4.58	4.94
ZZZZZZ	BK27118.D	07/25/13	06:00	4.58	4.94
ZZZZZZ	BK27119.D	07/25/13	06:24	4.58	4.94
ZZZZZZ	BK27120.D	07/25/13	06:48	4.58	4.94
ZZZZZZ	BK27121.D	07/25/13	07:12	4.58	4.94
OP34095-MB	BK27122.D	07/25/13	07:35	4.58	4.94
OP34095-BS	BK27123.D	07/25/13	07:59	4.58	4.94
OP34095-MS	BK27124.D	07/25/13	08:23	4.58	4.94
OP34095-MSD	BK27125.D	07/25/13	08:47	4.58	4.94
ZZZZZZ	BK27126.D	07/25/13	09:11	4.58	4.94

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

GC Surrogate Retention Time Summary

Job Number: MC22834
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	GBK930-CC929	Injection Date:	07/25/13
Lab File ID:	BK27138.D	Injection Time:	14:02
Instrument ID:	GCBK	Method:	SW846 8011

	S1 [a] RT	S1 [b] RT
Check Std	4.58	4.94

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
ZZZZZZ	BK27139.D	07/25/13	14:26	4.58	4.94
ZZZZZZ	BK27140.D	07/25/13	14:51	4.58	4.94
MC22834-1	BK27141.D	07/25/13	15:15	4.58	4.94
MC22834-2	BK27142.D	07/25/13	15:39	4.58	4.94
MC22834-3	BK27143.D	07/25/13	16:04	4.58	4.94
MC22834-4	BK27144.D	07/25/13	16:28	4.58	4.94
MC22834-7	BK27145.D	07/25/13	16:52	4.58	4.94
MC22834-5	BK27146.D	07/25/13	17:16	4.58	4.94
GBK930-ECC929	BK27147.D	07/25/13	17:41	4.58	4.94

Surrogate Compounds

S1 = Bromofluorobenzene (S)

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

8.5.2

Roxana Groundwater Quarterly – 3rd Quarter 2013 Data Review

Laboratory SDG: MC23430

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 8/19/2013

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

Sample Identification	Sample Identification
P93C-ROX-080813	TB-ROX-080813-HCL

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. Samples P93C-ROX-080813 was diluted due to high levels of VOC target analytes. Additionally, the initial calibration verification for acrolein exceeded 50 percent difference (%D). These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated the cooler was received by the laboratory at a temperature of 0.8ºC, 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
MSV845-BS	VOCs	Acrolein	**178**	NA	70-130
MSV845-BS	VOCs	2-Chloroethyl vinyl ether	**67**	NA	70-130
MSV846-BS/BSD	VOCs	Acrolein	**187/192**	3	70-130/25

LCS/ LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD /RPD Criteria
MSV846-BS/BSD	VOCs	2-Chloroethyl vinyl ether	**58/60**	4	70-130/25
MSV846-BS/BSD	VOCs	2,2-Dichloropropane	**135**/130	4	30-130/25

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 MSV845-BS was associated with the trip blank. Trip blanks are quality control samples and are not qualified.

Sample ID	Parameter	Analyte	Qualification
P93C-ROX-080813	VOCs	2-Chloroethyl vinyl ether	**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
P114-ROX-071813	P114-ROX-071813-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.

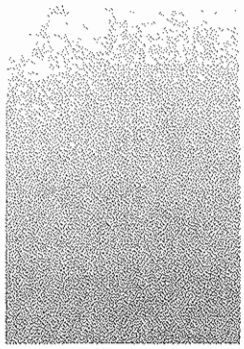
12.0 Additional Qualifications

Were additional qualifications applied?

No, however the initial calibration verification for acrolein exceeded 50 percent difference (%D). The associated sample was a quality control sample and is not qualified; no qualification of data was required.

New England ACCUTEST LABORATORIES

08/19/13



Technical Report for

Shell Oil

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana,

Accutest Job Number: MC23430

Sampling Date: 08/08/13

Report to:

URS Corporation

Melissa.mansker@urs.com

ATTN: Melissa Mansker

Total number of pages in report: **39**

Reviewed on 8/19/13

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: Matthew Morrell 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)

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Summary of Hits **5**
Section 4: Sample Results **6**
4.1: MC23430-1: P93C-ROX-080813 7
4.2: MC23430-2: TB-ROX-080813-HCL 10
Section 5: Misc. Forms **13**
5.1: Chain of Custody 14
5.2: Sample Tracking Chronicle 16
5.3: Internal Chain of Custody 17
Section 6: GC/MS Volatiles - QC Data Summaries **18**
6.1: Method Blank Summary 19
6.2: Blank Spike Summary 25
6.3: Blank Spike/Blank Spike Duplicate Summary 28
6.4: Matrix Spike/Matrix Spike Duplicate Summary 31
6.5: Internal Standard Area Summaries 37
6.6: Surrogate Recovery Summaries 39

Sample Summary

Shell Oil

Job No: MC23430

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC23430-1	08/08/13	11:05	EADC	08/09/13	AQ	Ground Water	P93C-ROX-080813
MC23430-2	08/08/13	00:00	EADC	08/09/13	AQ	Ground Water	TB-ROX-080813-HCL

ACCUTEST LABORATORIES

2

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Shell Oil	Job No	MC23430
Site:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central	Report Date	8/15/2013 2:47:26 PM

2 Sample(s) were collected on 08/08/2013 and were received at Accutest on 08/09/2013 properly preserved, at 0.8 Deg. C and intact. These Samples received an Accutest job number of MC23430. 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: MSV845

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC23378-2MS, MC23378-2MSD were used as the QC samples indicated.
- Initial calibration verification stdanardMSV832-ICV832 for acrolein exceeded 50% Difference (response biased high). Associated samples are non-detect for these compounds.
- MSV845-BS Recovery(s) for 2-Chloroethyl vinyl ether are outside control limits. Blank Spike meets program technical requirements.
- MC23378-2MS Recovery(s) for 2,2-Dichloropropane, 2-Chloroethyl vinyl ether, Bromodichloromethane, Bromomethane, Carbon tetrachloride, Chloroethane, Methylene bromide, Styrene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC23378-2MSD Recovery(s) for 2,2-Dichloropropane, 2-Butanone (MEK), Acetone, Bromomethane, Chloroethane, 2-Chloroethyl vinyl ether are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC23378-2MS/MSD Recovery(s) for cis-1,2-Dichloroethene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for MSD for 2-Chloroethyl vinyl ether are outside control limits for sample MC23378-2MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- MSV845-BS, MC23378-2MS, MC23378-2MSD for Acrolein: Outside control limits. Associated samples are non-detect for this compound.

Matrix AQ	Batch ID: MSV846

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC23458-4MS, MC23458-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MSV846-BS Recovery(s) for 2,2-Dichloropropane, 2-Chloroethyl vinyl ether are outside control limits. Blank Spike meets program technical requirements.
- MC23458-4MS/MSD Recovery(s) for 2-Chloroethyl vinyl ether are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MSV846-BS, MSV846-BSD, MC23458-4MS, MC23458-4MSD for Acrolein: Outside control limits. Associated samples are non-detect for this compound.
- MSV846-BSD Recovery(s) for 2-Chloroethyl vinyl ether are outside control limits. Blank Spike meets program technical requirements.

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(MC23430).

Summary of Hits

Job Number: MC23430
Account: Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Collected: 08/08/13

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC23430-1	P93C-ROX-080813					
Benzene		19100	25	23	ug/l	SW846 8260B
MC23430-2	TB-ROX-080813-HCL					

No hits reported in this sample.

New England ACCUTEST LABORATORIES

4

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	P93C-ROX-080813		
Lab Sample ID:	MC23430-1	Date Sampled:	08/08/13
Matrix:	AQ - Ground Water	Date Received:	08/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V21902.D	50	08/14/13	AMY	n/a	n/a	MSV846
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	140	ug/l	
107-02-8	Acrolein	ND	1300	310	ug/l	
107-13-1	Acrylonitrile	ND	250	180	ug/l	
71-43-2	Benzene	19100	25	23	ug/l	
108-86-1	Bromobenzene	ND	250	22	ug/l	
74-97-5	Bromochloromethane	ND	250	32	ug/l	
75-27-4	Bromodichloromethane	ND	50	17	ug/l	
75-25-2	Bromoform	ND	50	21	ug/l	
74-83-9	Bromomethane	ND	100	76	ug/l	
78-93-3	2-Butanone (MEK)	ND	250	80	ng/l	
104-51-8	n-Butylbenzene	ND	250	27	ug/l	
135-98-8	sec-Butylbenzene	ND	250	29	ug/l	
98-06-6	tert-Butylbenzene	ND	250	44	ug/l	
75-15-0	Carbon disulfide	ND	250	30	ug/l	
56-23-5	Carbon tetrachloride	ND	50	31	ug/l	
108-90-7	Chlorobenzene	ND	50	24	ug/l	
75-00-3	Chloroethane	ND	100	42	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	250	56	ug/l	UJ
67-66-3	Chloroform	ND	50	25	ug/l	
74-87-3	Chloromethane	ND	100	72	ug/l	
95-49-8	o-Chlorotoluene	ND	250	27	ug/l	
106-43-4	p-Chlorotoluene	ND	250	24	ng/l	
124-48-1	Dibromochloromethane	ND	50	16	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	50	17	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	50	15	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	50	13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	100	60	ug/l	
75-34-3	1,1-Dichloroethane	ND	50	19	ug/l	
107-06-2	1,2-Dichloroethane	ND	50	18	ug/l	
75-35-4	1,1-Dichloroethene	ND	50	33	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	50	27	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	50	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 presnmptive evidence of a compound

Report of Analysis

Client Sample ID:	P93C-ROX-080813		
Lab Sample ID:	MC23430-1	Date Sampled:	08/08/13
Matrix:	AQ - Ground Water	Date Received:	08/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
78-87-5	1,2-Dichloropropane	ND	100	23	ug/l	
142-28-9	1,3-Dichloropropane	ND	250	48	ug/l	
594-20-7	2,2-Dichloropropane	ND	250	63	ug/l	
563-58-6	1,1-Dichloropropene	ND	250	32	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	25	11	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	25	14	ug/l	
123-91-1	1,4-Dioxane	ND	1300	780	ug/l	
97-63-2	Ethyl methacrylate	ND	250	40	ug/l	
100-41-4	Ethylbenzene	ND	50	19	ug/l	
87-68-3	Hexachlorobutadiene	ND	250	63	ug/l	
591-78-6	2-Hexanone	ND	250	110	ug/l	
98-82-8	Isopropylbenzene	ND	250	32	ug/l	
99-87-6	p-Isopropyltoluene	ND	250	27	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	50	22	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	64	ug/l	
74-95-3	Methylene bromide	ND	250	21	ug/l	
75-09-2	Methylene chloride	ND	100	20	ug/l	
91-20-3	Naphthalene	ND	250	39	ug/l	
103-65-1	n-Propylbenzene	ND	250	29	ug/l	
100-42-5	Styrene	ND	250	24	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	50	23	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	25	21	ug/l	
127-18-4	Tetrachloroethene	ND	50	31	ug/l	
108-88-3	Toluene	ND	50	23	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	250	38	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	250	23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	50	47	ug/l	
79-00-5	1,1,2-Trichloroethaue	ND	50	25	ug/l	
79-01-6	Trichloroethene	ND	50	22	ug/l	
75-69-4	Trichlorofluoromethane	ND	50	31	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	250	35	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	250	23	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	250	54	ug/l	
108-05-4	Vinyl Acetate	ND	250	66	ug/l	
75-01-4	Vinyl chloride	ND	50	30	ug/l	
	m,p-Xylene	ND	50	35	ug/l	
95-47-6	o-Xylene	ND	50	20	ug/l	
1330-20-7	Xylene (total)	ND	50	20	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates 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-080813		
Lab Sample ID:	MC23430-1	Date Sampled:	08/08/13
Matrix:	AQ - Ground Water	Date Received:	08/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

VOA Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		70-130%
2037-26-5	Toluene-D8	100%		70-130%
460-00-4	4-Bromofluorobenzene	94%		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-ROX-080813-HCL		
Lab Sample ID:	MC23430-2	Date Sampled:	08/08/13
Matrix:	AQ - Ground Water	Date Reeeived:	08/09/13
Method:	SW846 8260B	Pereent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Bateh	Analytical Bateh
Run #1	V21880.D	1	08/13/13	AMY	n/a	n/a	MSV845
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	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylhenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calihration range
J = Indicates 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-080813-HCL		
Lab Sample ID:	MC23430-2	Date Sampled:	08/08/13
Matrix:	AQ - Ground Water	Date Received:	08/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	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:	TB-ROX-080813-HCL		
Lab Sample ID:	MC23430-2	Date Sampled:	08/08/13
Matrix:	AQ - Ground Water	Date Received:	08/09/13
Method:	SW846 8260B	Percent Solids:	n/a
Project:	URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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	93%		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	

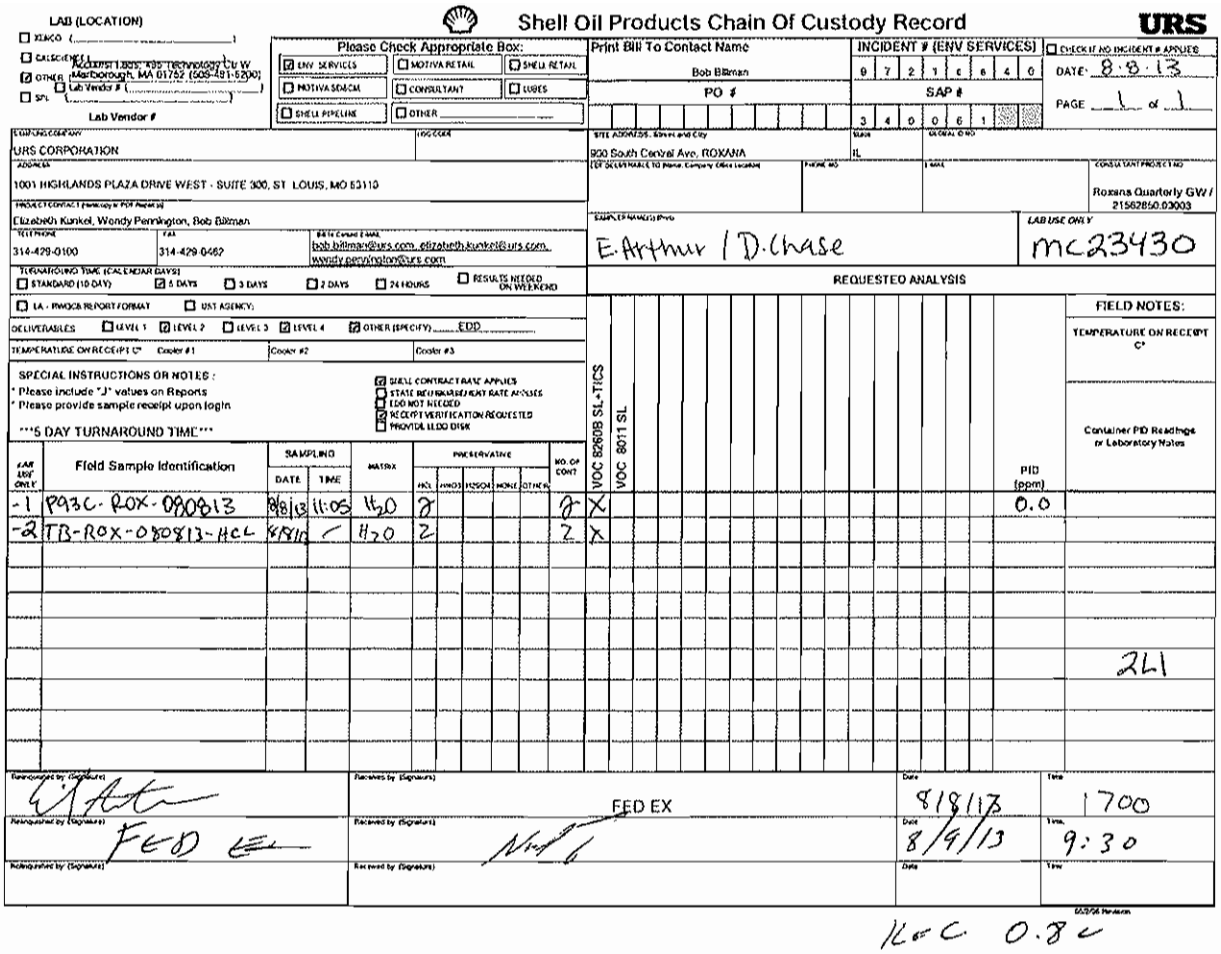
ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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 SOAC/M ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER _____

Print Bill To Contact Name: Bob Billman
PO #:
INCIDENT # (ENV SERVICES): 0 7 2 1 6 4 0
☐ CHECK IF NO INCIDENT # APPLIES
DATE: 8-8-13
SAP #: 3 4 0 0 6 1
PAGE: 1 of 1

COMPANY NAME: 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
LOT DELIVERABLE TO (Name, Company, Office Location):
PHONE NO:
E-MAIL:
CONSULTANT PROJECT NO: Roxana Quarterly GW / 21562850.03003
PROJECT CONTACT (Person(s) to PO Report to): Elizabeth Kunkel, Wendy Pennington, Bob Billman
TELEPHONE: 314-429-0100
FAX: 314-429-0462
BILL to Contact E-MAIL: bob.billman@urs.com, elizabeth.kunkel@urs.com, wendy.pennington@urs.com
SAMPLER NAME(S) Print: E. Arthur / D. Chase
LAB USE ONLY: MC23430

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
5 DAY TURNAROUND TIME

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSED RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE EDD DISK

REQUESTED ANALYSIS

FAR 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	PID (ppm)	FIELD NOTES: Container PID Readings or Laboratory Notes
-1	P93C-ROX-080813	8/8/13	11:05	H2O	2					2	X		0.0	
-2	TB-ROX-080813-HCL	8/8/13	~	H2O	2					2	X			
														241

FIELD NOTES: TEMPERATURE ON RECEIPT C°

Relinquished by (Signature)	Received by (Signature)	Date	Time
[signature]	FED EX	8/8/13	1700
FED EX	[signature]	8/9/13	9:30

03/04 Revision

KOC 0.8C

5.1

MC23430: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC23430 **Client:** URS **Immediate Client Services Action Required:** No

Date / Time Received: 8/9/2013 **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 Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐
3. Samples preserved properly:	☑		☐	
4 VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

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

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

Comments

5.1

MC23430: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Shell Oil

Job No: MC23430

URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC23430-1 Collected: 08-AUG-13 11:05 By: EADC Received: 09-AUG-13 By: P93C-ROX-080813						
MC23430-1	SW846 8260B	14-AUG-13 14:33	AMY			V8260SL+
MC23430-2 Collected: 08-AUG-13 00:00 By: EADC Received: 09-AUG-13 By: TB-ROX-080813-HCL						
MC23430-2	SW846 8260B	13-AUG-13 16:06	AMY			V8260SL+

Accutest Internal Chain of Custody

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL
Received: 08/09/13

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC23430-1.1	VOC Ref #2	Amy Min Yang	08/13/13 14:44	Retrieve from Storage
MC23430-1.1	Amy Min Yang	GCMSV	08/13/13 14:44	Load on Instrument
MC23430-1.1	GCMSV	Amy Min Yang	08/15/13 11:38	Unload from Instrument
MC23430-1.1	Amy Min Yang	VOC Ref #2	08/15/13 11:38	Return to Storage
MC23430-2.1	VOC Ref #2	Amy Min Yang	08/13/13 14:44	Retrieve from Storage
MC23430-2.1	Amy Min Yang	GCMSV	08/13/13 14:44	Load on Instrument
MC23430-2.1	GCMSV	Amy Min Yang	08/15/13 11:38	Unload from Instrument
MC23430-2.1	Amy Min Yang	VOC Ref #2	08/15/13 11:38	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: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV845-MB	V21871.D	1	08/13/13	AMY	n/a	n/a	MSV845

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

MC23430-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ng/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	

Method Blank Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV845-MB	V21871.D	1	08/13/13	AMY	n/a	n/a	MSV845

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

MC23430-2

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ng/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ng/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	ug/l	

6.1.1

6

Method Blank Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV845-MB	V21871.D	1	08/13/13	AMY	n/a	n/a	MSV845

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

MC23430-2

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	95%	70-130%
2037-26-5	Toluene-D8	102%	70-130%
460-00-4	4-Bromofluorobenzene	95%	70-130%

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

6.1.1

Method Blank Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV846-MB	V21893.D	1	08/14/13	AMY	n/a	n/a	MSV846

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

MC23430-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.8	ug/l	
107-02-8	Acrolein	ND	25	6.3	ug/l	
107-13-1	Acrylonitrile	ND	5.0	3.5	ug/l	
71-43-2	Benzene	ND	0.50	0.45	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.44	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.64	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.33	ug/l	
75-25-2	Bromoform	ND	1.0	0.42	ug/l	
74-83-9	Bromomethane	ND	2.0	1.5	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.6	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.54	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.58	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.87	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.59	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.62	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.48	ug/l	
75-00-3	Chloroethane	ND	2.0	0.84	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.1	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	2.0	1.4	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.55	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.48	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.35	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.35	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.67	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.45	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.97	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.3	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.63	ug/l	

Method Blank Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV846-MB	V21893.D	1	08/14/13	AMY	n/a	n/a	MSV846

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

MC23430-1

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.22	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.29	ug/l	
123-91-1	1,4-Dioxane	ND	25	16	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	0.81	ng/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.3	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.64	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.43	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.3	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.43	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.41	ug/l	
91-20-3	Naphthalene	ND	5.0	0.79	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.59	ug/l	
100-42-5	Styrene	ND	5.0	0.49	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.46	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.42	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.61	ug/l	
108-88-3	Toluene	ND	1.0	0.46	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.76	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.45	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.94	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.49	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.45	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.61	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.70	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.47	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	1.1	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.3	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.61	ug/l	
	m,p-Xylene	ND	1.0	0.70	ug/l	
95-47-6	o-Xylene	ND	1.0	0.41	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.41	ug/l	

Method Blank Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV846-MB	V21893.D	1	08/14/13	AMY	n/a	n/a	MSV846

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

MC23430-1

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	100%	70-130%
2037-26-5	Toluene-D8	102%	70-130%
460-00-4	4-Bromofluorobenzene	94%	70-130%

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

6.1.2

Blank Spike Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV845-BS	V21868.D	1	08/13/13	AMY	n/a	n/a	MSV845

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

MC23430-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	49.3	99	70-130
107-02-8	Acrolein	250	444	178* a	70-130
107-13-1	Acrylonitrile	50	53.5	107	70-130
71-43-2	Benzene	50	46.3	93	70-130
108-86-1	Bromobenzene	50	51.0	102	70-130
74-97-5	Bromochloromethane	50	59.8	120	70-130
75-27-4	Bromodichloromethane	50	51.8	104	70-130
75-25-2	Bromoform	50	47.7	95	70-130
74-83-9	Bromomethane	50	61.2	122	70-130
78-93-3	2-Butanone (MEK)	50	50.1	100	70-130
104-51-8	n-Butylbenzene	50	51.1	102	70-130
135-98-8	sec-Butylbenzene	50	53.4	107	70-130
98-06-6	tert-Butylbenzene	50	50.7	101	70-130
75-15-0	Carbon disulfide	50	57.5	115	70-130
56-23-5	Carbon tetrachloride	50	47.7	95	70-130
108-90-7	Chlorobenzene	50	47.0	94	70-130
75-00-3	Chloroethane	50	61.5	123	70-130
110-75-8	2-Chloroethyl vinyl ether	50	33.3	67* b	70-130
67-66-3	Chloroform	50	53.6	107	70-130
74-87-3	Chloromethane	50	54.3	109	70-130
95-49-8	o-Chlorotoluene	50	46.9	94	70-130
106-43-4	p-Chlorotoluene	50	47.7	95	70-130
124-48-1	Dibromochloromethane	50	47.2	94	70-130
95-50-1	1,2-Dichlorobenzene	50	43.9	88	70-130
541-73-1	1,3-Dichlorobenzene	50	45.9	92	70-130
106-46-7	1,4-Dichlorobenzene	50	44.8	90	70-130
75-71-8	Dichlorodifluoromethane	50	43.5	87	70-130
75-34-3	1,1-Dichloroethane	50	57.4	115	70-130
107-06-2	1,2-Dichloroethane	50	40.6	81	70-130
75-35-4	1,1-Dichloroethene	50	59.0	118	70-130
156-59-2	cis-1,2-Dichloroethene	50	53.8	108	70-130
156-60-5	trans-1,2-Dichloroethene	50	53.5	107	70-130
78-87-5	1,2-Dichloropropane	50	54.4	109	70-130
142-28-9	1,3-Dichloropropane	50	49.8	100	70-130
594-20-7	2,2-Dichloropropane	50	64.0	128	70-130
563-58-6	1,1-Dichloropropene	50	42.4	85	70-130

* = Outside of Control Limits.

6.2.1

Blank Spike Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV845-BS	V21868.D	1	08/13/13	AMY	n/a	n/a	MSV845

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

MC23430-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-01-5	cis-1,3-Dichloropropene	50	47.6	95	70-130
10061-02-6	trans-1,3-Dichloropropene	50	48.5	97	70-130
123-91-1	1,4-Dioxane	250	260	104	70-130
97-63-2	Ethyl methacrylate	50	50.7	101	77-137
100-41-4	Ethylbenzene	50	50.1	100	70-130
87-68-3	Hexachlorobutadiene	50	47.9	96	70-130
591-78-6	2-Hexanone	50	51.8	104	70-130
98-82-8	Isopropylbenzene	50	52.9	106	70-130
99-87-6	p-Isopropyltoluene	50	54.8	110	70-130
1634-04-4	Methyl Tert Butyl Ether	50	52.1	104	70-130
108-10-1	4-Methyl-2-pentanone (MIBK)	50	54.2	108	70-130
74-95-3	Methylene bromide	50	55.7	111	70-130
75-09-2	Methylene chloride	50	53.7	107	70-130
91-20-3	Naphthalene	50	45.5	91	70-130
103-65-1	n-Propylbenzene	50	52.2	104	70-130
100-42-5	Styrene	50	55.5	111	70-130
630-20-6	1,1,1,2-Tetrachloroethane	50	50.5	101	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	51.6	103	70-130
127-18-4	Tetrachloroethene	50	55.8	112	70-130
108-88-3	Toluene	50	53.4	107	70-130
87-61-6	1,2,3-Trichlorobenzene	50	47.8	96	70-130
120-82-1	1,2,4-Trichlorobenzene	50	48.1	96	70-130
71-55-6	1,1,1-Trichloroethane	50	59.0	118	70-130
79-00-5	1,1,2-Trichloroethane	50	52.1	104	70-130
79-01-6	Trichloroethene	50	49.3	99	70-130
75-69-4	Trichlorofluoromethane	50	55.0	110	70-130
96-18-4	1,2,3-Trichloropropane	50	50.8	102	70-130
95-63-6	1,2,4-Trimethylbenzene	50	50.3	101	70-130
108-67-8	1,3,5-Trimethylbenzene	50	51.0	102	70-130
108-05-4	Vinyl Acetate	50	46.4	93	70-130
75-01-4	Vinyl chloride	50	43.3	87	70-130
	m,p-Xylene	100	99.3	99	70-130
95-47-6	o-Xylene	50	50.9	102	70-130
1330-20-7	Xylene (total)	150	150	100	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV845-BS	V21868.D	1	08/13/13	AMY	n/a	n/a	MSV845

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

MC23430-2

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	94%	70-130%
2037-26-5	Toluene-D8	102%	70-130%
460-00-4	4-Bromofluorobenzene	98%	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

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV846-BS	V21889.D	1	08/14/13	AMY	n/a	n/a	MSV846
MSV846-BSD	V21890.D	1	08/14/13	AMY	n/a	n/a	MSV846

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

MC23430-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	65.1	130	64.3	129	1	70-130/25
107-02-8	Acrolein	250	467	187* a	479	192* a	3	70-130/25
107-13-1	Acrylonitrile	50	55.0	110	56.5	113	3	70-130/25
71-43-2	Benzene	50	51.2	102	50.9	102	1	70-130/25
108-86-1	Bromobenzene	50	48.1	96	47.8	96	1	70-130/25
74-97-5	Bromochloromethane	50	58.5	117	58.3	117	0	70-130/25
75-27-4	Bromodichloromethane	50	52.1	104	51.6	103	1	70-130/25
75-25-2	Bromoform	50	47.1	94	47.7	95	1	70-130/25
74-83-9	Bromomethane	50	50.6	101	48.5	97	4	70-130/25
78-93-3	2-Butanone (MEK)	50	56.0	112	57.6	115	3	70-130/25
104-51-8	n-Butylbenzene	50	53.9	108	53.1	106	1	70-130/25
135-98-8	sec-Butylbenzene	50	51.2	102	50.7	101	1	70-130/25
98-06-6	tert-Butylbenzene	50	48.0	96	47.5	95	1	70-130/25
75-15-0	Carbon disulfide	50	59.4	119	57.4	115	3	70-130/25
56-23-5	Carbon tetrachloride	50	57.1	114	55.4	111	3	70-130/25
108-90-7	Chlorobenzene	50	45.7	91	45.0	90	2	70-130/25
75-00-3	Chloroethane	50	50.4	101	48.7	97	3	70-130/25
110-75-8	2-Chloroethyl vinyl ether	50	29.1	58* b	30.2	60* b	4	70-130/25
67-66-3	Chloroform	50	53.5	107	52.2	104	2	70-130/25
74-87-3	Chloromethane	50	52.4	105	51.1	102	3	70-130/25
95-49-8	o-Chlorotoluene	50	45.5	91	45.1	90	1	70-130/25
106-43-4	p-Chlorotoluene	50	47.7	95	47.3	95	1	70-130/25
124-48-1	Dibromochloromethane	50	46.2	92	46.2	92	0	70-130/25
95-50-1	1,2-Dichlorobenzene	50	44.8	90	45.1	90	1	70-130/25
541-73-1	1,3-Dichlorobenzene	50	45.4	91	45.2	90	0	70-130/25
106-46-7	1,4-Dichlorobenzene	50	45.2	90	45.6	91	1	70-130/25
75-71-8	Dichlorodifluoromethane	50	39.8	80	39.8	80	0	70-130/25
75-34-3	1,1-Dichloroethane	50	58.9	118	58.2	116	1	70-130/25
107-06-2	1,2-Dichloroethane	50	45.7	91	45.3	91	1	70-130/25
75-35-4	1,1-Dichloroethene	50	60.2	120	58.1	116	4	70-130/25
156-59-2	cis-1,2-Dichloroethene	50	54.2	108	53.7	107	1	70-130/25
156-60-5	trans-1,2-Dichloroethene	50	54.0	108	53.1	106	2	70-130/25
78-87-5	1,2-Dichloropropane	50	53.7	107	54.0	108	1	70-130/25
142-28-9	1,3-Dichloropropane	50	47.8	96	48.3	97	1	70-130/25
594-20-7	2,2-Dichloropropane	50	67.3	135* b	64.8	130	4	70-130/25
563-58-6	1,1-Dichloropropene	50	51.7	103	50.7	101	2	70-130/25

* = Outside of Control Limits.

6.3.1

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Projeet: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Bateh
MSV846-BS	V21889.D	1	08/14/13	AMY	n/a	n/a	MSV846
MSV846-BSD	V21890.D	1	08/14/13	AMY	n/a	n/a	MSV846

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

MC23430-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-01-5	cis-1,3-Dichloropropene	50	47.7	95	47.4	95	1	70-130/25
10061-02-6	trans-1,3-Dichloropropene	50	48.7	97	48.6	97	0	70-130/25
123-91-1	1,4-Dioxane	250	247	99	261	104	6	70-130/25
97-63-2	Ethyl methacrylate	50	48.0	96	49.9	100	4	77-137/25
100-41-4	Ethylbenzene	50	49.5	99	48.7	97	2	70-130/25
87-68-3	Hexachlorobutadiene	50	48.9	98	47.7	95	2	70-130/25
591-78-6	2-Hexanone	50	55.7	111	57.0	114	2	70-130/25
98-82-8	Isopropylbenzene	50	49.1	98	49.0	98	0	70-130/25
99-87-6	p-Isopropyltoluene	50	55.2	110	54.6	109	1	70-130/25
1634-04-4	Methyl Tert Butyl Ether	50	49.1	98	50.4	101	3	70-130/25
108-10-1	4-Methyl-2-pentauone (MIBK)	50	52.5	105	55.1	110	5	70-130/25
74-95-3	Methyleue bromide	50	55.2	110	55.5	111	1	70-130/25
75-09-2	Methylene chloride	50	54.7	109	54.6	109	0	70-130/25
91-20-3	Naphthalene	50	46.7	93	49.1	98	5	70-130/25
103-65-1	n-Propylbenzene	50	50.3	101	50.2	100	0	70-130/25
100-42-5	Styrene	50	54.5	109	54.3	109	0	70-130/25
630-20-6	1,1,1,2-Tetrachloroethane	50	49.6	99	49.3	99	1	70-130/25
79-34-5	1,1,2,2-Tetrachloroethane	50	48.3	97	50.3	101	4	70-130/25
127-18-4	Tetrachloroethene	50	54.6	109	53.5	107	2	70-130/25
108-88-3	Toluene	50	53.2	106	52.5	105	1	70-130/25
87-61-6	1,2,3-Trichlorobenzene	50	49.0	98	51.0	102	4	70-130/25
120-82-1	1,2,4-Trichlorobenzene	50	48.8	98	50.0	100	2	70-130/25
71-55-6	1,1,1-Trichloroethane	50	58.4	117	56.9	114	3	70-130/25
79-00-5	1,1,2-Trichloroethane	50	51.1	102	52.1	104	2	70-130/25
79-01-6	Trichloroethene	50	48.6	97	48.0	96	1	70-130/25
75-69-4	Trichlorofluoromethane	50	48.1	96	45.9	92	5	70-130/25
96-18-4	1,2,3-Trichloropropane	50	49.6	99	51.7	103	4	70-130/25
95-63-6	1,2,4-Trimethylbenzene	50	47.8	96	47.2	94	1	70-130/25
108-67-8	1,3,5-Triuethylhenzene	50	49.4	99	48.7	97	1	70-130/25
108-05-4	Vinyl Acetate	50	46.7	93	47.2	94	1	70-130/25
75-01-4	Vinyl chloride	50	38.7	77	37.2	74	4	70-130/25
	m,p-Xylene	100	97.9	98	96.2	96	2	70-130/25
95-47-6	o-Xyleue	50	50.2	100	49.4	99	2	70-130/25
1330-20-7	Xylene (total)	150	148	99	146	97	1	70-130/25

* = Outside of Control Limits.

6.3.1

6

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV846-BS	V21889.D	1	08/14/13	AMY	n/a	n/a	MSV846
MSV846-BSD	V21890.D	1	08/14/13	AMY	n/a	n/a	MSV846

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

MC23430-1

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	96%	95%	70-130%
2037-26-5	Toluene-D8	102%	102%	70-130%
460-00-4	4-Bromofluorobenzene	95%	96%	70-130%

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

6.3.1

6

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenne, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC23378-2MS	V21883.D	10	08/13/13	AMY	n/a	n/a	MSV845
MC23378-2MSD	V21884.D	10	08/13/13	AMY	n/a	n/a	MSV845
MC23378-2	V21881.D	1	08/13/13	AMY	n/a	n/a	MSV845

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

MC23430-2

CAS No.	Compound	MC23378-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		500	352	70	341	68* [a]	3	70-130/30
107-02-8	Acrolein	ND		2500	4410	176* [b]	4650	186* [b]	5	70-130/30
107-13-1	Acrylonitrile	ND		500	519	104	548	110	5	70-130/30
71-43-2	Benzene	1.6		500	516	103	614	122	17	70-130/30
108-86-1	Bromobenzene	ND		500	492	98	498	100	1	70-130/30
74-97-5	Bromochloromethane	ND		500	578	116	628	126	8	70-130/30
75-27-4	Bromodichloromethane	ND		500	681	136* [a]	547	109	22	70-130/30
75-25-2	Bromoform	ND		500	529	106	484	97	9	70-130/30
74-83-9	Bromomethane	ND		500	676	135* [a]	694	139* [a]	3	70-130/30
78-93-3	2-Butanone (MEK)	ND		500	650	130	670	134* [a]	3	70-130/30
104-51-8	n-Butylbenzene	ND		500	587	117	556	111	5	70-130/30
135-98-8	sec-Butylbenzene	ND		500	555	111	534	107	4	70-130/30
98-06-6	tert-Butylbenzene	ND		500	506	101	500	100	1	70-130/30
75-15-0	Carbon disulfide	ND		500	561	112	571	114	2	70-130/30
56-23-5	Carbon tetrachloride	ND		500	665	133* [a]	580	116	14	70-130/30
108-90-7	Chlorobenzene	ND		500	459	92	472	94	3	70-130/30
75-00-3	Chloroethane	ND		500	675	135* [a]	692	138* [a]	2	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		500	231	46* [a]	97.7	20* [a]	81* [c]	70-130/30
67-66-3	Chloroform	ND		500	559	112	571	114	2	70-130/30
74-87-3	Chloromethane	ND		500	624	125	625	125	0	70-130/30
95-49-8	o-Chlorotoluene	ND		500	442	88	477	95	8	70-130/30
106-43-4	p-Chlorotoluene	ND		500	525	105	496	99	6	70-130/30
124-48-1	Dibromochloromethane	ND		500	471	94	474	95	1	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		500	524	105	470	94	11	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		500	488	98	475	95	3	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		500	466	93	473	95	1	70-130/30
75-71-8	Dichlorodiflnoromethane	ND		500	453	91	481	96	6	70-130/30
75-34-3	1,1-Dichloroethane	ND		500	586	117	595	119	2	70-130/30
107-06-2	1,2-Dichloroethane	ND		500	532	106	530	106	0	70-130/30
75-35-4	1,1-Dichloroethene	2.5		500	584	116	588	117	1	70-130/30
156-59-2	cis-1,2-Dichloroethene	2280	E	500	2470	38* [d]	2520	48* [d]	2	70-130/30
156-60-5	trans-1,2-Dichloroethene	19.4		500	545	105	557	108	2	70-130/30
78-87-5	1,2-Dichloropropane	ND		500	639	128	552	110	15	70-130/30
142-28-9	1,3-Dichloropropane	ND		500	523	105	499	100	5	70-130/30
594-20-7	2,2-Dichloropropane	ND		500	707	141* [a]	719	144* [a]	2	70-130/30
563-58-6	1,1-Dichloropropene	ND		500	556	111	484	97	14	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC23378-2MS	V21883.D	10	08/13/13	AMY	n/a	n/a	MSV845
MC23378-2MSD	V21884.D	10	08/13/13	AMY	n/a	n/a	MSV845
MC23378-2	V21881.D	1	08/13/13	AMY	n/a	n/a	MSV845

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

MC23430-2

CAS No.	Compound	MC23378-2 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		500	596	119	510	102	16	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		500	587	117	592	118	1	70-130/30
123-91-1	1,4-Dioxane	ND		2500	2690	108	2450	98	9	70-130/30
97-63-2	Ethyl methacrylate	ND		500	560	112	606	121	8	72-139/30
100-41-4	Ethylbenzene	ND		500	518	104	511	102	1	70-130/30
87-68-3	Hexachlorobutadiene	ND		500	457	91	489	98	7	70-130/30
591-78-6	2-Hexanone	ND		500	460	92	498	100	8	70-130/30
98-82-8	Isopropylbenzene	ND		500	518	104	519	104	0	70-130/30
99-87-6	p-Isopropyltoluene	ND		500	571	114	575	115	1	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		500	501	100	526	105	5	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		500	646	129	560	112	14	70-130/30
74-95-3	Methylene bromide	ND		500	723	145* [a]	567	113	24	70-130/30
75-09-2	Methylene chloride	ND		500	526	105	545	109	4	70-130/30
91-20-3	Naphthalene	ND		500	379	76	473	95	22	70-130/30
103-65-1	n-Propylbenzene	ND		500	488	98	531	106	8	70-130/30
100-42-5	Styrene	ND		500	661	132* [a]	570	114	15	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		500	539	108	519	104	4	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		500	491	98	519	104	6	70-130/30
127-18-4	Tetrachloroethene	0.81	J	500	576	115	559	112	3	70-130/30
108-88-3	Toluene	ND		500	621	124	559	112	11	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		500	398	80	469	94	16	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		500	436	87	507	101	15	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		500	631	126	636	127	1	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		500	649	130	636	127	2	70-130/30
79-01-6	Trichloroethene	1230	E	500	1680	90	1840	122	9	70-130/30
75-69-4	Trichlorofluoromethane	ND		500	645	129	645	129	0	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		500	501	100	523	105	4	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		500	465	93	494	99	6	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		500	565	113	517	103	9	70-130/30
108-05-4	Vinyl Acetate	ND		500	461	92	476	95	3	70-130/30
75-01-4	Vinyl chloride	157		500	611	91	630	95	3	70-130/30
	m,p-Xylene	ND		1000	965	97	1010	101	5	70-130/30
95-47-6	o-Xylene	ND		500	607	121	520	104	15	70-130/30
1330-20-7	Xylene (total)	ND		1500	1570	105	1530	102	3	70-130/30

* = Outside of Control Limits.

6.4.1

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC23378-2MS	V21883.D	10	08/13/13	AMY	n/a	n/a	MSV845
MC23378-2MSD	V21884.D	10	08/13/13	AMY	n/a	n/a	MSV845
MC23378-2	V21881.D	1	08/13/13	AMY	n/a	n/a	MSV845

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

MC23430-2

CAS No.	Surrogate Recoveries	MS	MSD	MC23378-2	Limits
1868-53-7	Dibromofluoromethane	96%	97%	102%	70-130%
2037-26-5	Toluene-D8	124%	112%	108%	70-130%
460-00-4	4-Bromofluorobenzene	92%	95%	93%	70-130%

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

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC23458-4MS	V21899.D	5	08/14/13	AMY	n/a	n/a	MSV846
MC23458-4MSD	V21900.D	5	08/14/13	AMY	n/a	n/a	MSV846
MC23458-4	V21894.D	1	08/14/13	AMY	n/a	n/a	MSV846

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

MC23430-1

CAS No.	Compound	MC23458-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		250	216	86	209	84	3	70-130/30
107-02-8	Acrolein	ND		1250	2150	172* [a]	2140	171* [a]	0	70-130/30
107-13-1	Acrylonitrile	ND		250	286	114	292	117	2	70-130/30
71-43-2	Benzene	ND		250	268	107	263	105	2	70-130/30
108-86-1	Bromobenzene	ND		250	248	99	245	98	1	70-130/30
74-97-5	Bromochloromethane	ND		250	309	124	300	120	3	70-130/30
75-27-4	Bromodichloromethane	ND		250	269	108	266	106	1	70-130/30
75-25-2	Bromoform	ND		250	246	98	248	99	1	70-130/30
74-83-9	Bromomethane	ND		250	253	101	244	98	4	70-130/30
78-93-3	2-Butanone (MEK)	ND		250	230	92	237	95	3	70-130/30
104-51-8	n-Butylbenzene	ND		250	262	105	258	103	2	70-130/30
135-98-8	sec-Butylbenzene	ND		250	261	104	257	103	2	70-130/30
98-06-6	tert-Butylbenzene	ND		250	249	100	243	97	2	70-130/30
75-15-0	Carbon disulfide	ND		250	311	124	299	120	4	70-130/30
56-23-5	Carbon tetrachloride	ND		250	301	120	291	116	3	70-130/30
108-90-7	Chlorobenzene	ND		250	240	96	234	94	3	70-130/30
75-00-3	Chloroethane	ND		250	258	103	247	99	4	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		250	ND	0* [b]	ND	0* [b]	nc	70-130/30
67-66-3	Chloroform	ND		250	279	112	269	108	4	70-130/30
74-87-3	Chloromethane	ND		250	265	106	251	100	5	70-130/30
95-49-8	o-Chlorotoluene	ND		250	237	95	232	93	2	70-130/30
106-43-4	p-Chlorotoluene	ND		250	246	98	240	96	2	70-130/30
124-48-1	Dibromochloromethane	ND		250	240	96	239	96	0	70-130/30
95-50-1	1,2-Dichlorobenzene	ND		250	231	92	232	93	0	70-130/30
541-73-1	1,3-Dichlorobenzene	ND		250	232	93	228	91	2	70-130/30
106-46-7	1,4-Dichlorobenzene	ND		250	230	92	227	91	1	70-130/30
75-71-8	Dichlorodifluoromethane	ND		250	206	82	189	76	9	70-130/30
75-34-3	1,1-Dichloroethane	ND		250	309	124	297	119	4	70-130/30
107-06-2	1,2-Dichloroethane	ND		250	240	96	236	94	2	70-130/30
75-35-4	1,1-Dichloroethene	ND		250	316	126	302	121	5	70-130/30
156-59-2	cis-1,2-Dichloroethene	ND		250	281	112	275	110	2	70-130/30
156-60-5	trans-1,2-Dichloroetheue	ND		250	283	113	272	109	4	70-130/30
78-87-5	1,2-Dichloropropane	ND		250	282	113	276	110	2	70-130/30
142-28-9	1,3-Dichloropropane	ND		250	252	101	252	101	0	70-130/30
594-20-7	2,2-Dichloropropane	ND		250	212	85	201	80	5	70-130/30
563-58-6	1,1-Dichloropropene	ND		250	269	108	262	105	3	70-130/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC23458-4MS	V21899.D	5	08/14/13	AMY	n/a	n/a	MSV846
MC23458-4MSD	V21900.D	5	08/14/13	AMY	n/a	n/a	MSV846
MC23458-4	V21894.D	1	08/14/13	AMY	n/a	n/a	MSV846

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

MC23430-1

CAS No.	Compound	MC23458-4 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	221	88	221	88	0	70-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		250	232	93	231	92	0	70-130/30
123-91-1	1,4-Dioxane	ND		1250	1240	99	1310	105	5	70-130/30
97-63-2	Ethyl methacrylate	ND		250	255	102	259	104	2	72-139/30
100-41-4	Ethylbenzene	ND		250	258	103	252	101	2	70-130/30
87-68-3	Hexachlorobutadiene	ND		250	227	91	230	92	1	70-130/30
591-78-6	2-Hexanone	ND		250	247	99	256	102	4	70-130/30
98-82-8	Isopropylbenzene	ND		250	256	102	252	101	2	70-130/30
99-87-6	p-Isopropyltoluene	ND		250	280	112	275	110	2	70-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		250	259	104	259	104	0	70-130/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		250	278	111	287	115	3	70-130/30
74-95-3	Methylene bromide	ND		250	291	116	290	116	0	70-130/30
75-09-2	Methylene chloride	ND		250	286	114	281	112	2	70-130/30
91-20-3	Naphthalene	ND		250	227	91	253	101	11	70-130/30
103-65-1	n-Propylbenzene	ND		250	258	103	253	101	2	70-130/30
100-42-5	Styrene	ND		250	284	114	279	112	2	70-130/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	260	104	255	102	2	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	254	102	260	104	2	70-130/30
127-18-4	Tetrachloroethene	ND		250	280	112	272	109	3	70-130/30
108-88-3	Toluene	ND		250	278	111	271	108	3	70-130/30
87-61-6	1,2,3-Trichlorobenzene	ND		250	221	88	253	101	14	70-130/30
120-82-1	1,2,4-Trichlorobenzene	ND		250	235	94	248	99	5	70-130/30
71-55-6	1,1,1-Trichloroethane	ND		250	305	122	294	118	4	70-130/30
79-00-5	1,1,2-Trichloroethane	ND		250	272	109	271	108	0	70-130/30
79-01-6	Trichloroethene	ND		250	254	102	248	99	2	70-130/30
75-69-4	Trichlorofluoromethane	ND		250	249	100	234	94	6	70-130/30
96-18-4	1,2,3-Trichloropropane	ND		250	250	100	252	101	1	70-130/30
95-63-6	1,2,4-Trimethylbenzene	ND		250	246	98	238	95	3	70-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		250	253	101	247	99	2	70-130/30
108-05-4	Vinyl Acetate	ND		250	236	94	232	93	2	70-130/30
75-01-4	Vinyl chloride	ND		250	199	80	189	76	5	70-130/30
	m,p-Xylene	ND		500	507	101	499	100	2	70-130/30
95-47-6	o-Xylene	ND		250	261	104	257	103	2	70-130/30
1330-20-7	Xylene (total)	ND		750	768	102	755	101	2	70-130/30

* = Outside of Control Limits.

6.4.2

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC23458-4MS	V21899.D	5	08/14/13	AMY	n/a	n/a	MSV846
MC23458-4MSD	V21900.D	5	08/14/13	AMY	n/a	n/a	MSV846
MC23458-4	V21894.D	1	08/14/13	AMY	n/a	n/a	MSV846

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

MC23430-1

CAS No.	Surrogate Recoveries	MS	MSD	MC23458-4	Limits
1868-53-7	Dibromofluoromethane	96%	95%	101%	70-130%
2037-26-5	Toluene-D8	103%	103%	102%	70-130%
460-00-4	4-Bromofluorobenzene	95%	95%	95%	70-130%

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

* = Outside of Control Limits.

Volatile Internal Standard Area Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSV845-CC832	Injection Date:	08/13/13
Lab File ID:	V21867.D	Injection Time:	10:16
Instrument 1D:	GCMSV	Method:	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	374056	6.58	648858	7.76	274720	11.09	337563	13.30	91071	3.52
Upper Limit [a]	748112	7.08	1297716	8.26	549440	11.59	675126	13.80	182142	4.02
Lower Limit [b]	187028	6.08	324429	7.26	137360	10.59	168782	12.80	45536	3.02
Lab Sample 1D	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSV845-BS	375460	6.58	649953	7.76	328410	11.09	351782	13.30	91207	3.51
MSV845-MB	372762	6.59	518226	7.77	264261	11.09	292057	13.30	87013	3.52
ZZZZZZ	338040	6.58	586670	7.76	298003	11.09	324441	13.30	82190	3.52
ZZZZZZ	381238	6.59	567068	7.77	293812	11.09	318495	13.30	100139	3.52
ZZZZZZ	365215	6.59	518595	7.77	271553	11.09	288461	13.30	88766	3.52
ZZZZZZ	351045	6.59	510902	7.77	274899	11.09	300309	13.30	81063	3.52
ZZZZZZ	330557	6.59	487435	7.77	256572	11.09	284749	13.30	78100	3.53
ZZZZZZ	325557	6.59	530032	7.77	265321	11.09	275939	13.30	73715	3.52
ZZZZZZ	320780	6.59	462179	7.77	255446	11.09	264831	13.30	75345	3.52
ZZZZZZ	298743	6.59	431987	7.77	254773	11.09	248307	13.30	71966	3.53
MC23430-2	349076	6.60	546135	7.77	260236	11.10	270276	13.30	70757	3.53
MC23378-2	296420	6.60	511757	7.77	255448	11.10	281675	13.31	70585	3.54
MC23378-2MS	326432	6.59	440536	7.77	260814	11.10	303064	13.31	72153	3.53
MC23378-2MSD	327008	6.59	509390	7.77	312892	11.10	351598	13.30	78956	3.52
ZZZZZZ	310154	6.60	446563	7.77	253784	11.10	344257	13.31	99529	3.53
ZZZZZZ	325663	6.59	469659	7.77	269108	11.10	256942	13.31	72035	3.52

IS 1 = Pentaflnorobenzene
IS 2 = 1,4-Difluorobenzene
1S 3 = Chlorobenzene-D5
IS 4 = 1,4-Dichlorobenzene-d4
IS 5 = Tert Bntyl Alcohol-D9

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

6.5.1

Volatile Internal Standard Area Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 900 South Central Avenue, Roxana, IL

Check Std:	MSV846-CC832	Injection Date:	08/14/13
Lab File ID:	V21888.D	Injection Time:	08:24
Instrument ID:	GCMSV	Method:	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	337380	6.59	525391	7.77	328524	11.10	381652	13.30	76412	3.53
Upper Limit [a]	674760	7.09	1050782	8.27	657048	11.60	763304	13.80	152824	4.03
Lower Limit [b]	168690	6.09	262696	7.27	164262	10.60	190826	12.80	38206	3.03

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSV846-BS	435992	6.58	623182	7.76	324109	11.09	370027	13.30	103265	3.51
MSV846-BSD	436419	6.59	620905	7.77	324333	11.09	366322	13.30	108724	3.52
MSV846-MB	388946	6.59	581990	7.77	306552	11.09	335196	13.30	106407	3.52
MC23458-4	375681	6.59	566349	7.77	299127	11.09	325663	13.30	102053	3.53
ZZZZZZ	376511	6.59	566153	7.77	299347	11.09	328693	13.30	99173	3.52
ZZZZZZ	424579	6.59	621987	7.77	327929	11.09	369984	13.30	89439	3.52
ZZZZZZ	364952	6.59	552454	7.77	294476	11.09	323127	13.30	87426	3.53
ZZZZZZ	396359	6.59	564658	7.77	298860	11.09	343305	13.30	93966	3.52
MC23458-4MS	423681	6.58	604661	7.76	315623	11.09	361116	13.30	100051	3.51
MC23458-4MSD	432098	6.59	611788	7.77	319552	11.09	365196	13.30	108240	3.52
ZZZZZZ	402863	6.59	591891	7.77	307536	11.09	341017	13.30	98356	3.52
MC23430-1	383743	6.59	583981	7.77	302852	11.09	329644	13.30	97536	3.53
ZZZZZZ	385492	6.59	562558	7.77	295053	11.09	322581	13.30	96452	3.52
ZZZZZZ	375086	6.59	548600	7.77	294254	11.09	330647	13.30	96115	3.54
ZZZZZZ	382574	6.59	552145	7.77	290215	11.09	325231	13.30	80523	3.52
ZZZZZZ	372541	6.58	540120	7.76	286416	11.09	318640	13.30	85864	3.52
ZZZZZZ	361999	6.59	542727	7.77	287744	11.09	317781	13.30	86240	3.52
ZZZZZZ	351756	6.58	527109	7.76	280341	11.09	304034	13.30	80178	3.52
ZZZZZZ	355509	6.59	526381	7.77	280852	11.09	307847	13.30	81822	3.52
ZZZZZZ	354045	6.59	522394	7.77	277744	11.09	302811	13.30	81903	3.52
ZZZZZZ	334811	6.58	507494	7.76	275257	11.09	299853	13.30	83620	3.52
ZZZZZZ	331030	6.58	505954	7.76	270356	11.09	294865	13.30	77552	3.51
ZZZZZZ	331789	6.59	505917	7.76	272629	11.09	301581	13.30	85752	3.52
ZZZZZZ	342744	6.58	515706	7.76	276125	11.09	307107	13.30	92226	3.52

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

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

Volatile Surrogate Recovery Summary

Job Number: MC23430
Account: SHELLWIC Shell Oil
Project: URSMOSTL:Roxana 3Q13 GW/ 21562850.03003 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
MC23430-1	V21902.D	100.0	100.0	94.0
MC23430-2	V21880.D	105.0	93.0	111.0
MC23378-2MS	V21883.D	96.0	124.0	92.0
MC23378-2MSD	V21884.D	97.0	112.0	95.0
MC23458-4MS	V21899.D	96.0	103.0	95.0
MC23458-4MSD	V21900.D	95.0	103.0	95.0
MSV845-BS	V21868.D	94.0	102.0	98.0
MSV845-MB	V21871.D	95.0	102.0	95.0
MSV846-BS	V21889.D	96.0	102.0	95.0
MSV846-BSD	V21890.D	95.0	102.0	96.0
MSV846-MB	V21893.D	100.0	102.0	94.0

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

6.6.1