

ILLINOIS EPA RCRA CORRECTIVE ACTION CERTIFICATION

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

1.0 FACILITY IDENTIFICATION

Name: WRB Refining LLC - Wood River Refinery County: Madison
Street Address: 900 South Central Ave. Site No. (IEPA): 1191150002
City: Roxana, IL 62084 Site No. (USEPA): ILD 080 012 305

2.0 OWNER INFORMATION

Name: Not Applicable

Mailing Address: _____

Contact Name: _____

Contact Title: _____

Phone No.: _____

3.0 OPERATOR INFORMATION

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

17 Junction Drive, PMB #399

Glen Carbon, IL 62034

Kevin Dyer

Principal Program Manager

618-288-7237

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

- ☐ RFI Phase I Workplan/Report
☐ RFI Phase II Workplan/Report
☐ CMP Report; Phase _____
☒ Other (describe):

Groundwater Sampling Report – 4th Quarter 2010
Date of Submittal January 14, 2011

IEPA Permit Log No. _____

Date of Last IEPA Letter
on Project 8/5/10

Log No. of Last IEPA _____

Letter on Project B-43-CA-16, BA-43-CA-18

Does this submittal include groundwater information: ☒ Yes ☐ No

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

Groundwater sampling report for the 4th quarter 2010 sampling event in the project area in the Village of Roxana.

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

Cover letter, RCRA Corrective Action Certification and Groundwater Sampling Report – 4th Quarter 2010, dated
January 14, 2011

7.0 CERTIFICATION STATEMENT - (This statement is part of the overall certification being provided by the owner/operator, professional and laboratory in Items 7.1, 7.2 and 7.3 below). The activities described in the subject submittals have been carried out in accordance with procedures approved by Illinois EPA. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

IEPA RCRA Corrective Action Certification

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

Date of Submission: _____

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

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

A person is a duly authorized representative only if:

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

Owner Signature: _____

(Date)

Title: _____

Operator Signature: [Signature]

1/12/11
(Date)

Title: Principal Program Manager

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

Professional's Signature: [Signature]

1/13/11

Professional's Name: Robert B. Billman

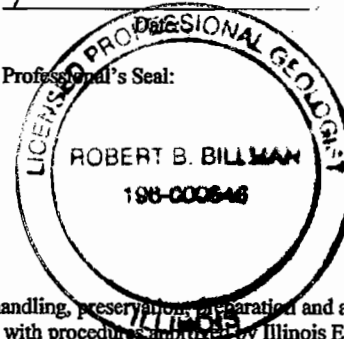
Professional's Seal:

Professional's Address: URS Corporation

1001 Highlands Plaza Drive West

St. Louis, MO 63110

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



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

Name of Laboratory Xenco Laboratories

[Signature]
Signature of Laboratory
Responsible Officer

01/13/2011
Date

Mailing Address of Laboratory:

4143 Greenbriar Dr.
Stafford, Tx 77477

Carlos A. Castro, Lab. Director
Name and Title of Laboratory Responsible Officer



January 14, 2011

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

**Subject: Groundwater Monitoring Report – 4th Quarter 2010
Roxana, Illinois
119115002 – Madison County
Equilon Enterprises LLC d/b/a Shell Oil Products US
Log No. B-43-CA-16 and 18**

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 project manager, at kevin.dyer@shell.com (618/288-7237), or me at bob_billman@urscorp.com (314/743-4108).

Sincerely,

A handwritten signature in blue ink, reading "Robert B. Billman".

Robert B. Billman
Senior Project Manager

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

Cc: Kevin Dyer, SOPUS
Marty Reynolds, Village of Roxana
Eric Petersen, ConocoPhillips

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

R E P O R T

GROUNDWATER SAMPLING – 4TH QUARTER 2010

Roxana, Illinois

Prepared for:

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

January 2011



URS Corporation
1001 Highlands Plaza Drive West, Suite 300
St. Louis, MO 63110
(314) 429-0100
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Shell Oil Products US (SOPUS) has been conducting a subsurface investigation in the Village of Roxana in the area generally bounded by Illinois Route 111 and the west property boundary (aka west fenceline) of the WRB Refining LLC Wood River Refinery (WRR) (**Figure 1**). In addition, some limited investigation has been conducted inside the WRR; this work was conducted in cooperation with ConocoPhillips Company (COP). The combined area is collectively referred to as the “Investigation Area” in this report.

SOPUS started investigating and delineating groundwater in the Investigation Area with groundwater profiling, as well as the installation, development, and sampling of six groundwater monitoring wells (MW-1 through MW-6) in 2006. The results of this and other investigation activities were documented in the *Subsurface Investigation Report for Route 111/Rand Avenue Vicinity*, dated August 2008. Additional groundwater profiling along with two additional monitoring wells (MW-7 and MW-8) were installed in 2009. The results of this and other investigation activities were documented in the *Dissolved Phase Groundwater Investigation and P-60 Free Phase Product Delineation Report*, dated February 18, 2010. This submittal was reviewed by Illinois Environmental Protection Agency (IEPA) and a letter containing comments and recommendations was issued by IEPA to SOPUS on August 5, 2010. Subsequent to the report, additional groundwater profiling was performed at locations along Rand Avenue that were inaccessible during the 2009 investigation. The results of this were reported in the *Addendum to February 2010 Report – Supplemental Investigation Activities*, dated September 2010.

In a letter from IEPA to Shell dated 8/05/10, the Agency requested various site characterization and monitoring activities. Based on this, additional groundwater profiling, piezometer installation, groundwater monitoring well installation and groundwater sampling activities were performed in the Fall of 2010. Details pertinent to groundwater profiling, piezometer installation and sampling, and well installation and development activities are discussed in **Section 2** of this report. The well gauging and sampling procedures and results from the 4th quarter groundwater sampling event are discussed in **Sections 3** and **4**, respectively, of this report. Future quarterly reports will be limited to quarterly groundwater sampling from the interim monitoring well network and will not include the interim investigations activities.

URS conducted quarterly sampling of the interim monitoring well network as requested in Comment 7 and the results of the 2010 4th quarter sampling event are presented here. In addition, this report presents results of the interim investigations associated with other comments. The groundwater monitoring wells, shallow piezometers, and groundwater profiling locations are shown on **Figure 2**. Specifically, the following work was conducted in response to comments in the Agency's August 5, 2010 letter:

- *Comment 10.* Three shallow piezometers were installed in the vicinity of ROST-5, ROST-10, and ROST-21 to investigate the potential of a shallow groundwater zone associated with silty/sandy clay layers. Only one of these piezometers contained water and was able to be sampled. Boring GP-13 was also drilled as a step-out for ROST-21-PZ; the silty clay layer was not observed during drilling so no shallow piezometer was installed at this location.
- *Comment 6.a.(1).* Groundwater profiling (GWP-22) was performed adjacent to existing well MW-6 (now MW-6A) to determine the vertical and horizontal edge of impact. Based on the results, three new monitoring wells were installed at various depths in order to continue to monitor the vertical and horizontal edge of impact. Groundwater profiling was also performed at the western end of the alley between 1st Street and 2nd Street, and the alley between 5th Street and 6th Street (GWP-25 and GWP-26, respectively).
- *Comment 6.a.(2).* Additional groundwater data will be collected northwest of location COP B-1 once an access agreement with Atlantic Richfield Company is obtained for the BP former Wood River Refinery property (an access agreement has been forwarded to BP and it is our understanding that the agreement is under review by BP legal). This data was requested to provide groundwater data north of the benzene release. Additional groundwater data were collected to the south of COP B-3, P-66, and P-75 at locations GWP-22, GWP-23, and GWP-24, respectively; to provide groundwater data along the southern boundary.
- *Comment 6.a.(3).* Groundwater samples collected from location GP-3 and GP-5 (in June 2010) on Rand Avenue exhibited exceedances of the Class I GQSs, therefore groundwater profiling activities were performed at GWP-27 (WRR West Property) to further delineate the plume to the southwest.
- *Comment 7.* The interim monitoring well network to be sampled and reported on a quarterly basis was defined and implemented starting with the 4th quarter 2010 event. Existing monitoring wells MW-1 through MW-8, P-54, and nested wells P-93A through

P-93D were sampled. Four new monitoring wells were installed and sampled per the approved September 16, 2008 memorandum submittal (MW-9 through MW-12). An additional monitoring well was installed (MW-13) per the approved November 19, 2010 memorandum submittal. MW-13 was installed later in the quarter and was not sampled during 4th quarter, but will be included in the quarterly sampling program going forward. Quarterly monitoring and reporting of this interim monitoring well network will continue to be performed according to the schedule outlined in this comment.

This work was performed during the Fall of 2010. This section summarizes activities and findings associated with these interim field activities performed.

2.1 SHALLOW GROUNDWATER PIEZOMETER INSTALLATION, SAMPLING AND RESULTS

Shallow piezometers were installed at ROST-5, ROST-10 and ROST-21 during the Fall 2010 investigation in response to *Comment 10(a)* in the Agency's August 5, 2010 letter. The installation depth and screening of the shallow piezometers was based on the presence of a shallower silty clay layer and the potential presence of shallow groundwater. The exact placement of the piezometer screens was determined using previously collected rapid optical screening tool (ROST) and cone penetrometer technology (CPT) data, historical groundwater data and lithology observed during drilling.

Borehole Clearance

Prior to the start of work, investigation locations were marked in the field (e.g., spray paint, stakes). A utility locate was arranged using Illinois' Joint Utility Locating Information for Excavators (JULIE) service. In addition, the Roxana Public Works Department reviewed the locations and provided relevant information concerning their utilities in the area.

Combinations of an air-vac system (air vacuum excavation) and/or hand augering were used to clear borehole locations (e.g., air-knife) with respect to underground utility lines or other obstructions. The specific target depths of the air-knife holes were determined based upon a review of the subsurface utilities in the area with input from Roxana, as appropriate, and ranged from 5 feet to 10 feet below ground surface (bgs). Cleared locations were backfilled with clean sand and covered with a metal plate. The field Air Knifing Forms used to document this work are included in **Appendix A**.

Piezometer Installation

According to the ROST and CPT data obtained during the 2009 investigations, a shallow silty clay layer is present at about 20 feet bgs in the vicinity of ROST -10 and ROST-21. Therefore, the Geoprobe was used to drill and confirm a silty clay layer from 19 feet bgs to 21 feet bgs at both of these locations. The piezometers were installed above the shallow silty clay layer and were screened from 10 feet to 20 feet bgs.

According to ROST and CPT data obtained during the 2009 investigation, a silty clay layer was present at ROST- 5 at about 23 feet bgs. The Geoprobe was used to drill and soil was observed from 20 feet bgs to 24 feet bgs at this location. The silty clay layer was encountered at 23.2 feet bgs at the location. This piezometer was screened above the shallow silty clay layer and was screened from 13.2 feet to 23.2 feet bgs.

The three piezometers were constructed using a 1-inch diameter Schedule 40 PVC casing, with a 10-foot section of 0.010-inch slotted PVC well screen. The sand pack consisted of a combination of placed and/or native sand in the annular space, and extended to approximately 2 feet above the top of the piezometer screen. A minimum 3-foot thick bentonite seal was placed above the sand pack. The borehole annulus was then grouted to the surface with cement-bentonite grout. Surface completions, including a locking expandable cap and flush-mount protector, were added. **Table 1** contains a summary of piezometer completion data.

URS planned to install a fourth piezometer at location GP-13 (step-out location) based on groundwater results from ROST-21-PZ. This location was logged during drilling; however, no shallow silty clay layer was encountered between 10 feet bgs and 30 feet bgs. Therefore, no piezometer was installed at the location. The borehole was backfilled with granular bentonite and the ground surface returned to its original condition.

Refer to **Appendix B** for the soil boring log for location GP-13.

Piezometer Sampling

The shallow piezometers were gauged periodically during field efforts. ROST-5-PZ and ROST-10-PZ were consistently found to be dry and therefore were not sampled. ROST-21-PZ was sampled as a grab sample using a disposable polyethylene bailer and analyzed by a laboratory for volatile organic compounds (VOCs) in response to *Comment 10(a)* of the Agency's August 5, 2010 letter. At the time of sampling, about 1.42 feet of water was present in piezometer ROST-21-PZ.

Health & Safety, Decontamination, and Investigation Derived Waste (IDW)

The piezometer installation and sampling activities were performed in general accordance with the investigation area HASP. URS field personnel primarily wore Level D personal protective equipment (PPE). A PID with a 10.6 electron volt (eV) probe and a combustible gas indicator (CGI) were used during the field activities to monitor air quality of the work zone for health and safety purposes. Field instruments were calibrated prior to each day's use in accordance with the manufacturer's specifications. Health and safety related information was primarily recorded in the field logbooks. Prior to beginning work at the Investigation Area 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.

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 between sampling locations. Drilling equipment was decontaminated prior to its use at subsequent sampling locations with a high pressure hot water wash at a temporary decontamination pad at the Roxana Public Works Yard.

IDW, including soil cuttings, water generated during decontamination, PPE, and expendable materials were collected and disposed of properly. Expendable materials (e.g., disposable sampling equipment such as gloves and bailers) having a low probability of impact were collected in trash bags and disposed of as municipal waste. Soil cuttings were collected and placed directly in labeled and secured roll-offs for disposal. Roll-offs were staged at the Roxana Public Works yard. Decontamination fluids were collected and staged at the Village of Roxana Public Works yard in a 6,900-gallon double-wall polyethylene tank prior to disposal.

Based on analytical results, the soil cuttings and decontamination water have been classified as non-hazardous waste and will be disposed under existing profiles at Milam Landfill in East St. Louis, Illinois. Prior to landfilling, the water will be stabilized.

Sample Handling & Laboratory Testing

Samples were collected in laboratory-supplied containers, labeled in the field and information was recorded on the chains of custody (COC) forms at the time of sampling. The COCs can be found with the analytical reports in **Appendix C**. After collection, the samples were placed on ice, packaged to prevent damage during shipment, and cooled to 4°C. The samples were then delivered, under the proper COC documentation, to the laboratory for analysis. Samples collected were analyzed by Teklab, Inc. in Collinsville, Illinois on an expedited turn-around basis for VOCs using USEPA Method 8260B.

Data Quality Review and Data Management

Data quality review was not performed by URS for the grab sample from ROST-21-PZ.

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

The following documentation was completed and supplements the COC records:

- Field logbooks and data
- Field documentation sheets
- Safety documentation

Sampling Results

The laboratory analytical detections for the groundwater grab sample collected at ROST-21-PZ during this investigation are presented in **Table 2**.

The following petroleum hydrocarbons were reported at concentrations above the laboratory detection limit in groundwater grab samples collected from this piezometer.

Benzene	1,2,4-Trimethylbenzene
Ethylbenzene	1,3,5-Trimethylbenzene
Toluene	o-Xylene
1,2,3-Trimethylbenzene	m,p-Xylene

The analytical detections were compared with the Tiered Approach for Corrective Action Objections (TACO) Class I Groundwater Quality Standards (GQSs). This comparison is also presented in **Table 2**. Screening values were not available for the following five detected analytes: n-hexane, n-propylbenzene, 1,2,3-trimethylbenzene, and 1,2,4-trimethylbenzene.

The analytical results generally met the Class I GQSs, except for exceedances of benzene,. In addition, the estimated below detection limit (BDL) data for methylene chloride and naphthalene also exceeded screening criteria.

The analytical results and exceedances of this grab sample are summarized on **Figure 3**.

Based on soil observations during shallow piezometer installation and other drilling activities throughout the Investigation Area, the shallow clay layer, and therefore shallow groundwater, is not continuous across the Investigation Area. The lithology observed during these recent drilling activities serves to reinforce that depicted on cross sections included in the *Dissolved Phase*

Groundwater Investigation and P-60 Free Phase Product Delineation Report dated February 2010. These cross sections and lithology observed during current drilling activities show that the shallow clay layer occasionally observed occurs sporadically under the Investigation Area. Periodic gauging events from the piezometers confirms that shallow groundwater is limited and discontinuous under the Investigation Area (refer to **Table 3** for gauging results). While there was exceedances of screening criteria from the shallow groundwater collected at ROST-21-PZ, the primary pathway from groundwater is vapor intrusion, which is being covered under a separate scope of work.

2.2 GROUNDWATER PROFILING AND RESULTS

Groundwater profiling was conducted at six locations (GWP-22 through GWP-27), locations based in part of Agency comments, to delineate the lateral and vertical extent of impacted groundwater in the investigation area. Groundwater samples were collected from two or three depths at each of the profiling locations. Refer to **Figure 2** for profiling locations. Data obtained from groundwater profiling samples was used to help determine the locations for installing permanent groundwater monitoring wells.

Borehole Clearance

Borehole clearance and air knifing activities were performed at all the groundwater profiling locations. Details pertinent to borehole clearance procedures are described in **Section 2.1** under the subtitle “Borehole Clearance.” In addition, the WRR reviewed the locations on the refinery and provided relevant information concerning their utilities in the area. This information was also used in determining the target depths of the air knife holes.

Groundwater Profile Sample Collection

Groundwater profiling equipment was advanced through the air-knifed boreholes. Profiling activities were performed using a 5-foot long, mill-slotted sampler advanced by the hydraulic push system of a Geoprobe rig, unless otherwise noted below. Once the sampler was advanced to the predetermined depth, the water level was measured using an electronic interface probe and recorded on a groundwater sampling form. LNAPL was not observed during groundwater profiling activities. Dedicated polyethylene tubing equipped with a ball and check valve system was then placed down into the slotted portion of the mill-slotted sampler and set at approximately the middle of the screened interval (2.5 feet from the bottom of the screen). The tubing was then connected through a Waterra pump to a flow-through cell. The purged groundwater was then monitored for pH, temperature, conductivity, turbidity, dissolved oxygen (DO), and oxygen-reduction potential (ORP) using a TROLL[®] 9500 low flow water quality

system. Parameter readings were collected and recorded after each flow-through cell volume, and purging continued until water-quality parameters stabilized over 3 flow-through cell volumes or for 1 hour, whichever occurred first. Once stabilization was achieved, the groundwater flow was diverted from the flow-through cell and the groundwater was sampled. The groundwater sampling field forms are included in **Appendix D**.

Sand within the boreholes at some locations caused persistent issues during groundwater profiling activities. Therefore, temporary piezometers were installed to collect samples at GWP-25 (at 68 feet bgs, 81 feet bgs, and 106 feet bgs), GWP-26 (at 68 feet bgs and 81 feet bgs), Groundwater sampling (profiling) via these piezometers was performed in the same manner described above for groundwater profiling through the drilling rods.

Upon completion of each groundwater profiling probe, the borehole was filled with grout from the bottom up using the geoprobe rods as a tremmie pipe, and the surface was returned to its original condition. In addition, the shallow piezometer (68 feet bgs) at GWP-25 was removed to facilitate monitoring well installation activities (MW-9) at this location.

The four remaining temporary piezometers were retained to be used for future groundwater gauging purposes; therefore, surface completions were performed at these piezometers and given the nomenclature (PZ-1(85), PZ-1(101), PZ-2(70.5), and PZ-2(84)). These piezometers are planned to be used in the future for acquiring groundwater gauging data. No groundwater samples are planned to be collected from these piezometers in the future; therefore, they were not developed after surface completions were installed.

Health & Safety, Decontamination, and IDW

Details pertinent to the health and safety activities are discussed in **Section 2.1** above. Work performed within the WRR was completed while wearing flame retardant clothing (FRCs). For work conducted on the WRR, COP personnel inspected the work area and monitored the ambient air, as necessary, prior to the issuance of the daily work permits (in areas where COP required).

Details pertinent to decontamination of equipment and personnel are discussed in **Section 2.1** under subtitle “Health & Safety, Decontamination, and Investigation Derived Waste (IDW).” Non-disposable/reusable sampling equipment (e.g., drilling equipment, groundwater pumps) was decontaminated prior to the collection of each analytical sample, between sample locations, and prior to leaving the Investigation Area by washing with LiquiNox and a distilled water rinse. Personnel and small equipment decontamination was performed at the sample locations. Equipment used during field activities performed inside the WRR was also decontaminated at the decontamination pad set up inside the Roxana Public Works yard. Decontamination fluids

generated were temporarily stored in separate 55-gallon drums.

IDW such as soil cuttings, purge water and decontamination water generated during groundwater profiling activities were collected, stored and disposed properly. Details pertinent to the management and disposal of IDW collected outside the WRR are discussed in **Section 2.1** under the subtitle “Health & Safety, Decontamination, and Investigation Derived Waste (IDW).” Decontamination fluids and purge water related to or generated from work within the WRR were disposed, per a COP permit, through the WRR’s National Pollutant Discharge Elimination System (NPDES)-permitted Wastewater Treatment Plant (WWTP).

Sample Handling and Laboratory Testing

Details pertinent to sample collection protocols are discussed in **Section 2.1** under the subtitle “Sample Preparation and Handling.” An appropriate number of field duplicates, matrix spike, matrix spike duplicates (MS/MSDs), equipment rinsate blanks, and trip blanks were collected to fulfill the QA/QC requirements.

A total of 22 groundwater samples (15 investigative samples, 2 field duplicates, 3 MS/MSDs, and 2 equipment rinsate blanks) were prepared and analyzed for VOCs and semivolatile organic compounds (SVOCs) during the groundwater profiling event. A trip blank (each consisting of a set of two 40-mL vials) was included in every cooler that contained samples for VOC analysis. A total of 8 sets of trip blanks were analyzed for the entire sampling groundwater profiling event.

Samples collected were analyzed by Xenco Laboratories in Stafford, Texas for VOCs via USEPA Method 8260B and SVOCs via USEPA Method 8270C.

Data Quality Review and Data Management

Laboratory data were provided in electronic form. Analytical data were independently reviewed and qualified by URS. A Level III validation was performed on the analytical data from groundwater profile sampling. Evaluation of the groundwater analytical 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 (e.g., dilutions). Data qualifiers were also added by URS, as appropriate, and are included on the data tables (**Table 4** and **Appendix C**) and the laboratory result pages (**Appendix C**).

Details pertinent to management of field data and documentation collected as part of this scope are discussed in **Section 2.1** under subtitle “Data Management.”

Groundwater Profiling Results

The laboratory analytical results for the groundwater profile samples collected during this investigation are presented in **Table 4**.

The following petroleum hydrocarbons were reported at concentrations above the laboratory detection limit in the groundwater profile samples.

Acetone	n-Propylbenzene
Benzene	m,p-Xylene
n-Butylbenzene	1,2,4-Trimethylbenzene
Isopropylbenzene	

These are hydrocarbon constituents, except for acetone, which is a common laboratory artifact.

The analytical detections were compared with the TACO Class I GQSs. This comparison is also presented in **Table 4**. Screening values were not available for the following seven detected analytes: n-butylbenzene, sec-butylbenzene, isopropylbenzene, p-isopropyltoluene, 2-methylnaphthalene, n-propylbenzene, and 1,2,4-trimethylbenzene.

The analytical results for hydrocarbons generally meet the groundwater screening criteria except for concentrations of benzene observed in samples collected at GWP-24. In addition, the estimated BDL data for naphthalene exceeded the screening criterion.

These analytical results and exceedances of these profiling samples are summarized on **Figure 3**.

The analytical results at locations GWP-22, GWP-23, GWP-25, GWP-26, and GWP-27 did not exceed the screening criteria. Groundwater in the vicinity of GWP-24 is controlled by the WRR pumping centers. Groundwater profiling has completed delineation of the groundwater plumes except for the area north to northwest of the benzene release. For this location, Shell is awaiting a response from BP for access. It is Shell's understanding that the agreement is under review by BP legal. Data collections points for the groundwater management zone will be assessed once IEPA gives concurrence that delineation is complete.

2.3 MONITORING WELL INSTALLATION AND DEVELOPMENT

A total of eight monitoring wells were installed at the Investigation Area during the 2010 investigation (**Figure 2**). The existing monitoring well MW-6, located on the Frontage Road, was assigned a new identification (MW-6A) and three additional wells (MW-6B, MW-6C, and MW-6 D) were installed at varying depths adjacent to MW-6A. Four other monitoring wells

(MW-9 through MW-12) were installed in the Village of Roxana. Monitoring well MW-13 was installed in the northeast portion of the West Property of the WRR. These permanent monitoring well locations were selected based on groundwater profiling results and proposed to the IEPA, whose approval was received prior to installation. The objective of installing these wells was to complete the interim well network to monitor the horizontal and vertical extent of contamination.

Borehole Clearance

Borehole clearance and air knifing activities were performed at all the groundwater monitoring well locations. Details pertinent to borehole screening procedures are described in **Section 2.1** under the subtitle “Borehole Clearance.”

Monitoring Well Installation

Monitoring wells were installed using 4.25-inch inside diameter hollow stem augers that were advanced through the cleared air-knife locations. The subsurface stratigraphy was continuously logged by a qualified field scientist in accordance with applicable ASTM standards and the Unified Soil Classification System (USCS). The field scientist noted soil attributes such as color, particle size, consistency, moisture content, structure, plasticity, odor (if obvious), and organic content (if visible). Soil samples were also screened in the field using a photoionization detector (PID) and observations were noted on the soil boring logs (**Appendix B**). Selected samples were collected and sent to TerraSense, LLC in Totowa, New Jersey for soil classification in accordance with ASTM-D-2487. The results of these soil classification samples are presented in **Appendix E** and were used to confirm field classifications on the boring logs in **Appendix B**.

The monitoring wells were constructed using a 2-inch diameter Schedule 40 PVC casing, with 5-foot or 10-foot section of 0.010-inch slotted PVC well screen. The monitoring well screens were set at varying depths within the water column. The sand pack consisted of a combination of placed and/or native sand in the annular space, and extended to approximately 2 feet above the top of the monitoring well screen. A minimum 3-foot thick bentonite seal was placed above the sand pack. The borehole annulus was then grouted to the surface with cement-bentonite grout. Surface completions, including a locking expandable cap and flush-mount protector, were added. **Table 1** contains a summary of the monitoring well completion information, and well construction diagrams for the monitoring wells installed are provided in **Appendix F**.

Monitoring Well Development

Once the monitoring well installations were complete, the monitoring wells were developed in order to remove fines from the screen and sand pack. The monitoring wells were developed by surging and pumping throughout the screened zone with a Proactive high-flow submersible

development pump. Five times the amount of any water introduced during drilling throughout the screened zone to about 15 feet above the screen was purged at the time of development. Five well volumes of water was also removed during well development, during which water quality parameters, including pH, temperature and conductivity, were measured and recorded on field sheets after each well volume was removed. Development continued until pH, temperature, and conductivity had stabilized over two consecutive monitoring well volumes and the water was visually sediment-free. Monitoring well development sheets containing data pertinent to water quality parameters and volume of water purged are provided in **Appendix D**.

Health & Safety, Decontamination, and IDW

Details pertinent to health and safety activities are discussed in **Section 2.2** under subtitle “Health & Safety, Decontamination, and IDW.”

Details pertinent to decontamination of the equipment and personnel are discussed in **Section 2.2** under subtitle “Health & Safety, Decontamination, and IDW.”

IDW such as soil cuttings, purge water and decontamination water generated during groundwater profiling activities were collected, stored and disposed properly. Details pertinent to the management and disposal of IDW are discussed in **Section 2.2** under the subtitle “Health & Safety, Decontamination, and IDW.” Soil cuttings generated from the location inside the WRR were staged in 2 cubic yard boxes at the work location and managed by current Investigation Area owner representatives on behalf of SOPUS. Decontamination fluids and purge water generated inside of the WRR were disposed, per a COP permit, through the WRR’s NPDES-permitted WWTP.

Data Management

Details pertinent to management of field data and documentation collected as part of this scope are discussed in **Section 2.1** under subtitle “Data Management.”

The monitoring well gauging and sampling activities discussed in this section are part of the quarterly groundwater program for the interim monitoring well network.

3.1 GROUNDWATER SAMPLING

After development of the newly installed monitoring wells, sufficient time was allowed for the new monitoring wells to equilibrate with the groundwater prior to gauging and sampling. A comprehensive round of gauging was completed on November 12, 2010 to evaluate groundwater flow direction at the Investigation Area. **Table 3** presents information from the gauging event for those monitoring wells gauged. **Figure 4** shows the groundwater potentiometric surface for the Investigation Area, indicating an eastward groundwater flow, toward the WRR pumping centers.

Light non-aqueous phase liquid (LNAPL) was not observed in any of the wells that make up the interim monitoring well network. Water levels were above the top of the screens in several of the wells gauged for this event.

Monitoring well MW-13 was not sampled during the quarterly event as it was installed and developed late in the quarter, after the sampling for this event was completed. This well will be incorporated in the first quarter 2011 sampling event.

Low Flow Purging and Sampling

Low-flow purging and sampling procedures were followed for most wells during the sampling event. Prior to sampling, the initial water level was measured and recorded on the field sheets.

Monitoring wells MW-1 through MW-12 and P-54, located in the Village of Roxana, were purged and sampled using a stainless steel submersible bladder pump and bonded designated polyethylene tubing. The submersible bladder pump was powered by the Geotech Geocontrol Pro. A new bladder was used at each monitoring well. The submersible bladder pump with the proper length of designated polyethylene tubing was slowly lowered into the monitoring well to be sampled and set with the pump intake at the midpoint of monitoring well screen. The tubing from the pump was connected to a flow-through cell, which discharged into a 5-gallon plastic bucket. Pumping was performed at a low flow rate (≤ 500 mL/minute) so as to not create drawdown of the water level within the monitoring well. During groundwater purging, water quality parameters (pH, temperature, conductivity, turbidity, DO and ORP) were measured and recorded on the field sheets after every flow-through cell volume (**Table 5**). Purging continued until a minimum of three flow-through cell volumes of water were removed and the water quality parameters stabilized. Once stabilization was achieved, the groundwater flow was

diverted from the flow-through cell and groundwater samples were collected for VOC and SVOC analysis.

Well Wizard Purging and Sampling

Monitoring wells P-93A, P-93B, P-93C, and P-93D in the WRR North Property were purged and sampled using a dedicated stainless steel QED Well Wizard groundwater sampling pump. The Well Wizard pump and associated tubing is dedicated to each well and remains in place between sampling events. The pump intake is positioned near the midpoint of the well screen. Pumping was performed via a QED MicroPurge Engine/Compressor with a QED Control Box. The depth to water measurement at each well is used to calculate well volume of each well. Well P-93D also has an inflatable packer located above the well screen, the purpose of which is to seal off a fixed water column height, thereby creating a smaller well volume and resulting in less water to be purged. Purging of each of these wells continued until a minimum of three well volumes of water was removed from the well. Water quality parameters (i.e., pH, temperature, conductivity and turbidity) were then measured and groundwater samples were collected for VOC and SVOC analysis.

3.2 HEALTH & SAFETY, DECONTAMINATION, AND IDW

Details pertinent to health and safety activities are discussed in **Section 2**.

Details pertinent to decontamination of the equipment and personnel are discussed in **Section 2**. Water generated from activities at locations inside the WRR were stored and handled separately.

IDW such as purge water and decontamination water generated during monitoring well sampling activities were collected, stored and disposed properly. Details pertinent to the management and disposal of IDW are discussed in **Section 2**. Decontamination fluids and purge water generated in the Village of Roxana were collected and staged at the Village of Roxana Public Works Yard in a 6,900-gallon double-wall polyethylene tank prior to disposal.

3.3 SAMPLE HANDLING AND LABORATORY TESTING

Sample preparation and handling was done in accordance with procedures described in **Section 2**. A total of 25 groundwater samples (20 investigative samples, 2 field duplicates, 2 equipment blanks, and 1 MS/MSD) were prepared and analyzed for VOCs and SVOCs. A trip blank (each consisting of a set of two 40-mL vials) was included in every cooler for shipment that contained samples for VOC analysis. A total of 2 trip blanks were analyzed for VOCs for the entire groundwater sampling event.

SECTION THREE

Samples collected were analyzed by Xenco Laboratories in Stafford, Texas for VOCs via USEPA Method 8260B and SVOCs via USEPA Method 8270C. Details pertinent to samples collection protocols are discussed in **Section 2**.

3.4 DATA QUALITY REVIEW AND DATA MANAGEMENT

Analytical data from the interim monitoring well network sampling were independently reviewed and qualified by URS. A Level III validation was performed on the analytical data. Details pertinent to data quality review are discussed in **Section 2**.

Laboratory data reports along with data validation review sheets are included in with the analytical data reports in **Appendix C**.

Details pertinent to management of field data and documentation collected as part of this scope are discussed in **Section 2**.

The laboratory analytical results for the quarterly groundwater samples collected during this investigation are presented in **Table 6**.¹

The following petroleum hydrocarbons were reported at concentrations above the laboratory detection limit in groundwater samples:

Benzene	Phenol
2,4-Dimethylphenol	n-Propylbenzene
Ethylbenzene	Toluene
2-Methylnaphthalene	1,2,4-Trimethylbenzene
3 & 4-Methylphenol (m & p-Cresol)	1,3,5-Trimethylbenzene
Methyl tert-Butyl Ether (MTBE)	o-Xylenes
Naphthalene	m,p-Xylene

The analytical detections were compared with the TACO Class 1 GQSs, this comparison is also presented in **Table 6**. Screening values were not available for the following four detected analytes: sec-butylbenzene, 2-methylnaphthalene, n-propylbenzene, and 1,2,4-trimethylbenzene.

The analytical results for hydrocarbons generally met the groundwater screening criteria at 13 of the 20 monitoring wells that were sampled during the 4th quarter 2010. The analytical results for benzene, phenol, and toluene exceeded the groundwater screening criteria at monitoring wells MW-2, MW-4, MW-7, MW-8, P-93A, P-93B, and P-93D located in the vicinity of the Village of Roxana Public Works Yard and the WRR west fenceline.

The analytical results from these groundwater samples are shown on **Figure 5** of this report.

¹ The P-93 nested wells are required to be sampled as part of both the WRR and the Roxana/Route 111 groundwater monitoring programs. These programs currently require different laboratory analyses and therefore two different samples were collected. These samples are collected at the same time and using the same protocols. The analytical results between the two groundwater monitoring programs may vary slightly.

As per the comments and recommendations made by IEPA in their letter dated August 5, 2010, URS has conducted an interim investigation and quarterly groundwater sampling on behalf of SOPUS in the Village of Roxana and a limited portion of the WRR. The following conclusions are based on the data and information collected as part of this program.

- Based on soil observations during shallow piezometer installation and other drilling activities throughout the Investigation Area, the shallow clay layer, and therefore shallow groundwater, is not continuous across the Investigation Area. The lithology observed during these recent drilling activities serves to reinforce that depicted on cross sections included in the *Dissolved Phase Groundwater Investigation and P-60 Free Phase Product Delineation Report* dated February 2010. No further investigation of shallow groundwater in the Investigation Area is necessary.
- The groundwater profiling data was used to further delineate the extent of impact. These data were also used to select locations for permanent wells of the interim monitoring well network.
- The monitoring wells that make up the interim monitoring well network are adequate except for the area to the northwest of the Rand Avenue and Route 111 intersection. Additional work is planned in this area pending an access agreement with Atlantic Richfield Company for the BP Former Wood River Refinery Property. An access agreement has been forwarded to BP and it is Shell's understanding that the agreement is under review by BP legal.
- The cumulative analytical information confirms the presence of two groundwater plumes, a dissolved benzene plume located primarily beneath the Public Works yard and a dissolved phase hydrocarbon plume located in the WRR and extending west into the Village a short distance.
- Groundwater pumping from the WRR has had a significant impact on the flow/containment of impacted groundwater at the Investigation Area. Groundwater pumping by the WRR is part of their refinery water production process, as well as a Part B permit requirement of SOPUS. Since the Village of Roxana has enacted a groundwater ordinance acceptable to IEPA that prohibits the installation and use of private potable water supply wells, potential exposure to impacted groundwater is further minimized.

The monitoring wells sampled during the 4th quarter will continue to be gauged and sampled quarterly.

- 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.
- Shell Oil Products US (SOPUS), 2009 (SOPUS, 2009a); *Subsurface Investigation – Route 111/Rand Avenue Vicinity Investigation – Roxana, Illinois*; Prepared by URS Corporation (URS); dated January 21, 2009.
- Shell Oil Products US (SOPUS), 2010; (SOPUS, 2010a); *Dissolved Phase Groundwater Investigation and P-60 Free Phase Product Delineation Report - Roxana, Illinois*; Prepared by URS Corporation (URS); dated February 2010.
- Shell Oil Products US (SOPUS), 2010; (SOPUS, 2010b); *Addendum to February 2010 Report - Supplemental Investigation Activities - Roxana, Illinois*; Prepared by URS Corporation (URS); dated September 20, 2010.
- URS Corporation (URS), 2010 (URS, 2010a); *Route 111/Rand Avenue Vicinity Investigation Health and Safety Plan – Roxana, Illinois*; dated August 2010.
- URS Corporation (URS), 2010 (URS, 2010b); *ConocoPhillips Environmental and Geotechnical Work 2010 Health and Safety Plan – WRB Refining LLC Wood River Refinery*; dated March 2010.
- US Environmental Protection Agency (USEPA), 2008; *Contract Laboratory Program National Functional Guidelines for Organic Methods Data Review*

**TABLE 1
PIEZOMETER AND MONITORING WELL COMPLETION SUMMARY**

Piezometer Identification	Location	Surface Completion	Casing Diameter (in)	Top of Casing Elevation (ft MSL)	Ground Surface Elevation (ft MSL)	Height Above Ground Surface (ft)	Total Well Depth (ft btoc)	Bottom of Well Elevation (ft MSL)	Installed Screened Interval (ft btoc)	Screened Interval Elevation (ft MSL)	Screen Length (ft)
VILLAGE OF ROXANA											
MW-1	Village of Roxana	FM	1	442.86	443.24	-0.38	58.41	384.45	43.41	58.41	15.00
MW-2	Village of Roxana	FM	1	443.93	444.21	-0.28	62.19	381.74	47.19	62.19	15.00
MW-3	Village of Roxana	FM	1	430.36	430.69	-0.33	45.98	384.38	30.98	45.98	15.00
MW-4	Village of Roxana	FM	1	441.58	441.86	-0.28	57.63	383.95	42.63	57.63	15.00
MW-5	Village of Roxana	FM	1	429.73	429.98	-0.25	46.13	383.60	31.13	46.13	15.00
MW-6A	Frontage Road	FM	1	432.42	432.75	-0.33	46.98	385.44	31.98	46.98	15.00
MW-6B	Frontage Road	FM	2	432.29	432.79	-0.50	69.38	362.91	64.05	69.05	5.00
MW-6C	Frontage Road	FM	2	432.11	432.79	-0.68	90.28	341.83	84.95	89.95	5.00
MW-6D	Frontage Road	FM	2	431.99	432.54	-0.55	110.05	321.94	104.72	109.72	5.00
MW-7	Roxana Public Works	FM	2	443.10	443.46	-0.36	52.92	390.18	42.92	52.92	10.00
MW-8	Roxana Public Works	FM	2	434.11	434.40	-0.29	43.60	390.51	33.60	43.60	10.00
MW-9	Village of Roxana	FM	2	445.20	445.02	0.18	56.78	388.42	46.45	56.45	10.00
MW-10	Village of Roxana	FM	2	445.03	445.57	-0.54	54.76	390.27	44.43	54.43	10.00
MW-11	Village of Roxana	FM	2	442.33	442.74	-0.41	51.99	390.34	41.66	51.66	10.00
MW-12	Village of Roxana	FM	2	442.60	443.11	-0.51	52.25	390.35	41.92	51.92	10.00
P-54	Village of Roxana	FM	2	442.18	442.41	-0.23	63.00	379.18	38.00	63.00	25.00
PZ-1(85)	Village of Roxana	FM	0.75	445.50	445.62	-0.12	85.80	359.70	75.80	85.80	10.00
PZ-1(101)	Village of Roxana	FM	0.75	445.52	445.65	-0.13	101.00	344.52	91.00	101.00	10.00
PZ-2(70.5)	Village of Roxana	FM	0.75	443.15	443.28	-0.13	70.50	372.65	60.50	70.50	10.00
PZ-2(84)	Village of Roxana	FM	0.75	443.12	443.22	-0.10	84.00	359.12	72.00	84.00	12.00
ROST-3-PZ	Village of Roxana	FM	1	442.29	442.62	-0.33	50.00	392.29	40.00	50.00	10.00
ROST-4-PZ	Village of Roxana	FM	1	442.27	442.48	-0.21	48.00	394.27	38.00	48.00	10.00
ROST-5-PZ	Village of Roxana	FM	1	442.22	442.49	-0.27	23.20	419.02	13.20	23.20	10.00
ROST-7-PZ	Village of Roxana	FM	1	442.19	442.53	-0.34	30.00	412.19	20.00	30.00	10.00
ROST-10-PZ	Village of Roxana	FM	1	444.51	444.66	-0.15	20.00	424.51	10.00	20.00	10.00
ROST-21-PZ	Village of Roxana	FM	1	443.72	443.97	-0.25	20.00	423.72	10.00	20.00	10.00
WOOD RIVER REFINERY											
GP-9-PZ	WRR - North Property	FM	1.5	442.41	442.71	-0.30	47.60	394.81	37.60	47.60	10.00
P-60	WRR - North Property	SU	4	446.57	443.61	2.97	67.96	378.61	47.96	67.96	20.00
P-60-11 ³	WRR - North Property	FM	0.75	443.39	443.70	-0.31	65.31	378.08	50.31	65.31	15.00
P-60-11	WRR - North Property	SU	4	446.18	443.53	2.65	62.65	383.53	32.65	62.65	30.00
P-60-12S	WRR - North Property	FM	0.75	443.33	443.80	-0.47	23.84	419.49	13.84	23.84	10.00
P-60-12	WRR - North Property	FM	0.75	443.31	443.76	-0.45	70.00	373.31	60.00	70.00	10.00
P-60-13S	WRR - North Property	FM	0.75	442.39	442.83	-0.44	20.00	422.39	10.00	20.00	10.00
P-60-13	WRR - North Property	FM	0.75	442.43	442.83	-0.40	60.00	382.43	40.00	60.00	20.00
P-93A	WRR - North Property	SU	2	446.58	444.41	2.17	63.17	383.41	48.17	63.17	15.00
P-93B	WRR - North Property	SU	2	446.46	444.44	2.03	76.03	370.44	74.03	76.03	2.00
P-93C	WRR - North Property	SU	2	446.51	444.26	2.26	96.26	350.26	94.26	96.26	2.00
P-93D	WRR - North Property	SU	2	446.36	444.42	1.94	127.44	318.92	125.44	127.44	2.00

NOTES:

1) Elevations are relative to the 1988 USGS datum.

2) FM = Flush Mounted Surface Completion; SU = Stick Up Surface Completion

3) On 6/3/10, piezometer P-60-11 was removed and replaced with a 4-inch diameter well with the same identification number.

TABLE 2
SUMMARY OF GROUNDWATER PIEZOMETER SAMPLING ANALYTICAL DETECTIONS AND EXCEEDANCES

Analytes			Acetone		Benzene		Ethylbenzene		n-Hexane		Isopropylbenzene	
TACO Class I Screening Criteria (mg/L)			6.3		0.005		0.7		Not Available		0.7	
Location	Sample ID	Sample Date	Result (mg/L)	Lab Quals	Result (mg/L)	Lab Quals	Result (mg/L)	Lab Quals	Result (mg/L)	Lab Quals	Result (mg/L)	Lab Quals
ROST-21-PZ	ROST21PZ092110	9/21/2010	0.13	J	0.217		0.166		0.054	J	0.019	J

Analytes			Methylene Chloride		Naphthalene		n-Propylbenzene		Toluene		1,2,3-Trimethylbenzene	
TACO Class I Screening Criteria			0.005		0.14		Not Available		1		Not Available	
Location	Sample ID	Sample Date	Result (mg/L)	Lab Quals	Result (mg/L)	Lab Quals	Result (mg/L)	Lab Quals	Result (mg/L)	Lab Quals	Result (mg/L)	Lab Quals
ROST-21-PZ	ROST21PZ092110	9/21/2010	0.012	J	0.038	J	0.02	J	0.102		0.0522	

Analytes			1,2,4-Trimethylbenzene		1,3,5-Trimethylbenzene		m,p-Xylene		o-Xylene	
TACO Class I Screening Criteria			Not Available		0.35*		10		10	
Location	Sample ID	Sample Date	Result (mg/L)	Lab Quals	Result (mg/L)	Lab Quals	Result (mg/L)	Lab Quals	Result (mg/L)	Lab Quals
ROST-21-PZ	ROST21PZ092110	9/21/2010	0.0945		0.036		0.24		0.0628	

NOTES:

- 1) Screening criteria taken from Illinois Tiered Approach to Corrective Action Objectives (TACO), 35 IAC Part 742.
- 2) * Screening criteria taken from IEPA; TACO; Groundwater Remediation Objectives for Chemicals not listed in TACO; January 6, 2009.

 Exceedance of the Groundwater Class I Screening Criteria

LABORATORY QUALIFIERS:

J = The target analyte was detected below the reporting limit and the result is estimated.

TABLE 3
GROUNDWATER GAUGING RESULTS

WELL ID / QUARTER	TOP OF CASING (ft MSL)	DATE GAUGED	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (Static)	WATER- PRODUCT INTERFACE (ft MSL)	PRODUCT ELEV. (ft MSL)	PRODUCT THICKNESS (ft)	CORRECTED W.L. ELEVATION (ft MSL)	COMMENTS
MW-1 Screened Interval Elevation: 399.45 - 384.45									
4Q10	442.86	11/12/2010	NE	36.91	NA	NA	NA	405.95	*
MW-2 Screened Interval Elevation: 396.74 - 381.74									
4Q10	443.93	11/12/2010	NE	38.12	NA	NA	NA	405.81	*
MW-3 Screened Interval Elevation: 399.38 - 384.38									
4Q10	430.36	11/12/2010	NE	24.05	NA	NA	NA	406.31	*
MW-4 Screened Interval Elevation: 398.95 - 383.95									
4Q10	441.58	11/12/2010	NE	35.38	NA	NA	NA	406.20	*
MW-5 Screened Interval Elevation: 398.60 - 383.60									
4Q10	429.73	11/12/2010	NE	23.32	NA	NA	NA	406.41	*
MW-6A Screened Interval Elevation: 400.11 - 385.44									
4Q10	432.42	11/12/2010	NE	25.62	NA	NA	NA	406.80	*
MW-6B Screened Interval Elevation: 368.24 - 363.24									
4Q10	432.29	11/12/2010	NE	25.47	NA	NA	NA	406.82	*
MW-6C Screened Interval Elevation: 347.16 - 342.16									
4Q10	432.11	11/12/2010	NE	25.25	NA	NA	NA	406.86	*
MW-6D Screened Interval Elevation: 327.27 - 322.27									
4Q10	431.99	11/12/2010	NE	25.13	NA	NA	NA	406.86	*
MW-7 Screened Interval Elevation: 400.18 - 390.18									
4Q10	443.10	11/12/2010	NE	36.93	NA	NA	NA	406.17	*
MW-8 Screened Interval Elevation: 400.51 - 390.51									
4Q10	434.11	11/12/2010	NE	27.84	NA	NA	NA	406.27	*
MW-9 Screened Interval Elevation: 398.75 - 388.75									
4Q10	445.20	11/12/2010	NE	39.00	NA	NA	NA	406.2	*
MW-10 Screened Interval Elevation: 400.60 - 390.60									
4Q10	445.03	11/12/2010	NE	38.97	NA	NA	NA	406.06	*
MW-11 Screened Interval Elevation: 400.67 - 390.67									
4Q10	442.33	11/12/2010	NE	36.39	NA	NA	NA	405.94	*
MW-12 Screened Interval Elevation: 400.68 - 390.68									
4Q10	442.60	11/12/2010	NE	36.63	NA	NA	NA	405.97	*
P-54 Screened Interval Elevation: 404.18 - 397.18									
4Q10	442.18	11/12/2010	NE	36.43	405.75	NA	NA	405.75	*
P-60 Screened Interval Elevation: 398.61 - 378.61									
4Q10	446.57	11/11/2010	41.40	41.44	405.13	405.17	0.04	405.16	*
P-60-11 Screened Interval Elevation: 413.53 - 383.53									
4Q10	446.18	11/11/2010	NE	40.91	NA	NA	NA	405.27	
P-93A Screened Interval Elevation: 398.41 - 383.41									
4Q10	446.58	11/11/2010	NE	40.75	NA	NA	NA	405.83	*
P-93B Screened Interval Elevation: 372.44 - 370.44									
4Q10	446.46	11/11/2010	NE	40.73	NA	NA	NA	405.73	*
P-93C Screened Interval Elevation: 352.26 - 350.26									
4Q10	446.51	11/11/2010	NE	40.69	NA	NA	NA	405.82	*
P-93D Screened Interval Elevation: 320.92 - 318.92									
4Q10	446.36	11/11/2010	NE	40.59	NA	NA	NA	405.77	*

TABLE 3
GROUNDWATER GAUGING RESULTS

WELL ID / QUARTER	TOP OF CASING (ft MSL)	DATE GAUGED	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (Static)	WATER- PRODUCT INTERFACE (ft MSL)	PRODUCT ELEV. (ft MSL)	PRODUCT THICKNESS (ft)	CORRECTED W.L. ELEVATION (ft MSL)	COMMENTS
GP-9-PZ Screened Interval Elevation: 404.81 - 394.81									
4Q10	442.41	11/11/2010	NE	37.38	NA	NA	NA	405.03	*
P-60-12S Screened Interval Elevation: 429.49 - 419.49									
4Q10	443.33	11/11/2010	NE	23.36	NA	NA	NA	419.97	
P-60-12 Screened Interval Elevation: 383.31 - 373.31									
4Q10	443.31	11/11/2010	NE	38.19	NA	NA	NA	405.12	*
P-60-13S Screened Interval Elevation: 432.39 - 422.39									
4Q10	442.39	11/11/2010	NE	13.36	NA	NA	NA	429.03	
P-60-13 Screened Interval Elevation: 402.43 - 382.43									
4Q10	442.43	11/11/2010	37.50	37.87	404.56	404.93	0.37	404.83	*
ROST-3-PZ Screened Interval Elevation: 402.29 - 392.29									
4Q10	442.29	11/12/2010	NE	36.60	NA	NA	NA	405.69	*
ROST-4-PZ Screened Interval Elevation: 404.27 - 394.27									
4Q10	442.27	11/12/2010	NE	36.48	NA	NA	NA	405.79	*
ROST-5-PZ Screened Interval Elevation: 429.02 - 419.02									
4Q10	442.22	9/29/2011	NE	NE	NA	NA	NA	NA	
4Q10	442.22	10/6/2011	NE	NE	NA	NA	NA	NA	
4Q10	442.22	11/12/2010	NE	NE	NA	NA	NA	NA	
ROST-7-PZ Screened Interval Elevation: 422.19 - 412.19									
4Q10	442.19	11/12/2010	NE	22.93	NA	NA	NA	419.26	
ROST-10-PZ Screened Interval Elevation: 434.51 - 424.51									
4Q10	444.51	9/29/2011	NE	NE	NA	NA	NA	NA	
4Q10	444.51	10/6/2011	NE	NE	NA	NA	NA	NA	
4Q10	444.51	11/12/2010	NE	NE	NA	NA	NA	NA	
ROST-21-PZ Screened Interval Elevation: 433.72 - 423.72									
4Q10	443.72	9/29/2011	NE	18.54	NA	NA	NA	425.18	
4Q10	443.72	10/6/2011	NE	18.78	NA	NA	NA	424.94	
4Q10	443.72	11/12/2010	NE	19.30	NA	NA	NA	424.42	

NOTES:

- 1) The Corrected W.L. Elevations presented in this table were corrected by a specific gravity of 0.74 for the wells in which product was identified.
- 2) Elevations presented in this table are relative to the 1988 USGS datum.
- 3) **NA** = Not Applicable; **NE** = Not Encountered; **NM** = Not Measured
- 4) * Indicates that the product and/or water level is above the top of the screened zone of the well.

TABLE 4
SUMMARY OF GROUNDWATER PROFILING ANALYTICAL DETECTIONS AND EXCEEDANCES

Analytes				Acetone			Benzene			n-Butylbenzene			sec-Butylbenzene			Ethylbenzene			Fluorene			Isopropylbenzene			p-Isopropyltoluene		
TACO Class I Screening Criteria				6.3			0.005			Not Available			Not Available			0.7			0.28			0.7			Not Available		
Location	Sample ID	Depth	Sample Date	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals
GWP-22	GWP-22-112	112 ft	9/29/2010	< 0.1	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.009	U		< 0.005	U		< 0.005	U	
GWP-22	GWP-22-81	81 ft	9/29/2010	< 0.1	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U	
GWP-22	GWP-22-61	61 ft	9/30/2010	< 0.0313	J	U	< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U	
GWP-23	GWP-23-37.5-Dup	37.5 ft	9/30/2010	< 0.0986	J	U	< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U	
GWP-23	GWP-23-37.5	37.5 ft	9/30/2010	< 0.102		U	< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.011	U		< 0.005	U		< 0.005	U	
GWP-23	GWP-23-45.5	45.5 ft	10/1/2010	0.0278	J		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U	
GWP-24	GWP-24-44	44 ft	10/4/2010	2.66			1.99	D		0.0521			0.0399	J		< 0.05	U		< 0.833	U		0.0629			0.025	J	
GWP-24	GWP-24-52	52 ft	10/4/2010	1.82			2	D		0.0604			0.039	J		0.0486	J		0.109	J	J	0.0764			0.0304	J	
GWP-25	GWP-25-81	81 ft	10/28/2010	< 0.1	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U	
GWP-25	GWP-25-103.85	103.85 ft	10/28/2010	< 0.1	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U	
GWP-25	GWP-25-68	68 ft	10/28/2010	< 0.1	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U	
GWP-25	GWP-25-68-Dup	68 ft	10/28/2010	< 0.1	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.009	U		< 0.005	U		< 0.005	U	
GWP-26	GWP-26-106.3	106.3 ft	10/15/2010	< 0.1	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.011	U		< 0.005	U		< 0.005	U	
GWP-26	GWP-26-68	68 ft	10/26/2010	< 0.1	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U	
GWP-26	GWP-26-81	81 ft	10/26/2010	< 0.1	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U	
GWP-27	GWP-27-28.5	28.5 ft	10/29/2010	< 0.256		U	< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.011	U		< 0.005	U		< 0.005	U	
GWP-27	GWP-27-36.5	36.5 ft	10/29/2010	< 0.0371	J	U	< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U	

Analytes				2-Methylnaphthalene			Methyl tert-Butyl Ether (MTBE)			Naphthalene			n-Propylbenzene			Toluene			1,2,4-Trimethylbenzene			m,p-Xylene		
TACO Class I Screening Criteria				Not Available			0.07			0.14			Not Available			1.0			Not Available			10.0		
Location	Sample ID	Depth	Sample Date	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals
GWP-22	GWP-22-112	112 ft	9/29/2010	< 0.009	U		0.00152	J		< 0.009	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U	
GWP-22	GWP-22-81	81 ft	9/29/2010	< 0.01	U		0.00109	J		0.004	J		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U	
GWP-22	GWP-22-61	61 ft	9/30/2010	< 0.01	U		0.00338	J		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U	
GWP-23	GWP-23-37.5-Dup	37.5 ft	9/30/2010	< 0.01	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U	
GWP-23	GWP-23-37.5	37.5 ft	9/30/2010	< 0.011	U		< 0.005	U		0.003	J		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U	
GWP-23	GWP-23-45.5	45.5 ft	10/1/2010	< 0.01	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U	
GWP-24	GWP-24-44	44 ft	10/4/2010	0.687	J		0.0102	J		< 0.833	U		0.131			< 0.05	U		0.333			< 0.1	U	
GWP-24	GWP-24-52	52 ft	10/4/2010	2.49		J	< 0.05	U		0.621	J	J	0.145			< 0.05	U		0.732			0.142		
GWP-25	GWP-25-81	81 ft	10/28/2010	< 0.01	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U	
GWP-25	GWP-25-103.85	103.85 ft	10/28/2010	< 0.01	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U	
GWP-25	GWP-25-68	68 ft	10/28/2010	< 0.01	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U	
GWP-25	GWP-25-68-Dup	68 ft	10/28/2010	< 0.009	U		< 0.005	U		< 0.009	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U	
GWP-26	GWP-26-106.3	106.3 ft	10/15/2010	< 0.011	U		< 0.005	U		< 0.011	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U	
GWP-26	GWP-26-68	68 ft	10/26/2010	< 0.01	U		0.00266	J		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U	
GWP-26	GWP-26-81	81 ft	10/26/2010	< 0.01	U		0.00356	J		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U	
GWP-27	GWP-27-28.5	28.5 ft	10/29/2010	< 0.011	U		0.00392	J		< 0.011	U		< 0.005	U		0.00105	J		< 0.005	U		< 0.01	U	
GWP-27	GWP-27-36.5	36.5 ft	10/29/2010	< 0.01	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U	

NOTES:

1) Screening criteria taken from Illinois Tiered Approach to Corrective Action Objectives (TACO), 35 IAC Part 742.

Exceedance of the Groundwater Class I Screening Criteria

LABORATORY QUALIFIERS:

D = The result is from a diluted sample.

J = The target analyte was detected below the reporting limit and the result is estimated.

U = Not detected.

URS QUALIFIERS:

J = The results is estimated.

U = The analyte was not detected below the reporting limit.

TABLE 5
SUMMARY OF QUARTERLY GROUNDWATER FIELD PARAMETERS

Well ID	Depth to Water (ft btoc)	pH	Temp (F)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (Mv)	General Notes
MW-1								
4Q10	36.98	8.04	20.53	1.449	3.9	8.99	93	
MW-2								
4Q10	38.27	7.24	18.38	1.066	41.0	8.90	-113	
MW-3								
4Q10	24.11	6.88	21.59	1.157	6.5	0.32	-146.0	
MW-4								
4Q10	65.41	6.76	19.51	0.854	7.7	4.88	-59.0	
MW-5								
4Q10	23.32	6.77	19.39	0.801	2.9	0.17	-112.0	
MW-6A								
4Q10	25.57	6.74	21.87	1.535	5.4	0.01	-127.0	
MW-6B								
4Q10	25.37	6.80	17.14	1.113	17.5	0.14	-77.0	
MW-6C								
4Q10	25.12	6.86	17.87	1.132	5.5	0.16	-104.0	
MW-6D								
4Q10	25.06	6.94	17.42	1.342	5.90	0.05	-112	
MW-7								
4Q10	37.12	6.48	17.80	1.097	59.9	0.05	-32	
MW-8								
4Q10	28.04	6.41	17.17	1.13	61.5	0.04	-54	
MW-9								
4Q10	39.05	6.72	16.98	0.919	48.3	1.72	-45	
MW-10								
4Q10	39.01	6.72	18.75	1.284	35.0	0.64	-78	
MW-11								
4Q10	36.75	6.59	15.28	1.023	25.5	0.01	-76.0	
MW-12								
4Q10	36.76	6.72	14.87	1.328	62.4	0.45	212.0	
P-54								
4Q10	36.66	6.71	14.70	0.870	68.6	1.74	140.0	
P-93A								
4Q10	40.48	6.81	17.70	1.259	23.0	NM	NM	
P-93B								
4Q10	40.53	7.10	18.10	1.150	0.0	NM	NM	
P-93C								
4Q10	40.42	7.28	17.50	1.057	0.0	NM	NM	
P-93D								
4Q10	40.34	7.13	18.50	1.211	0.0	NM	NM	

NOTES:

- 1) Field parameters were collected using the Troll 9500 except at P-93(A-D) where the Oakton pH/Con10 and LaMotte Turbidimeter were used.
- 2) NM = Not Measured

TABLE 6
SUMMARY OF QUARTERLY GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES

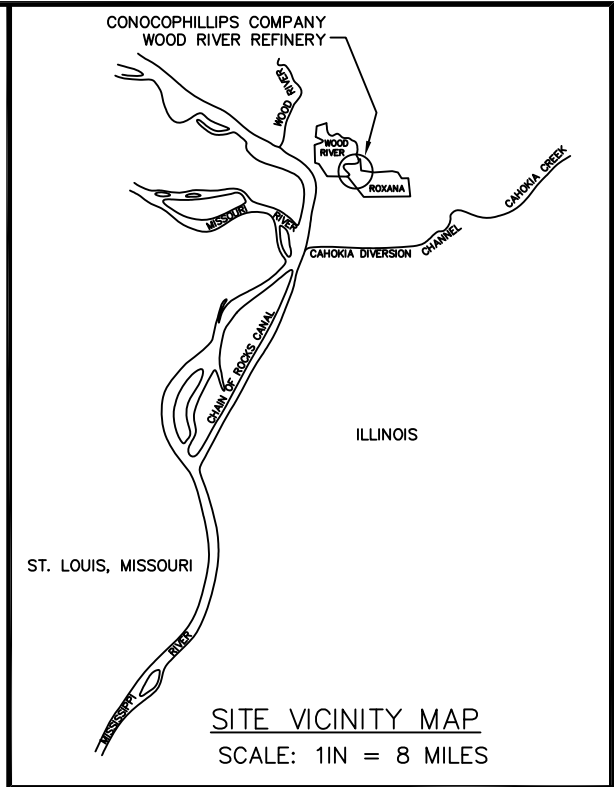
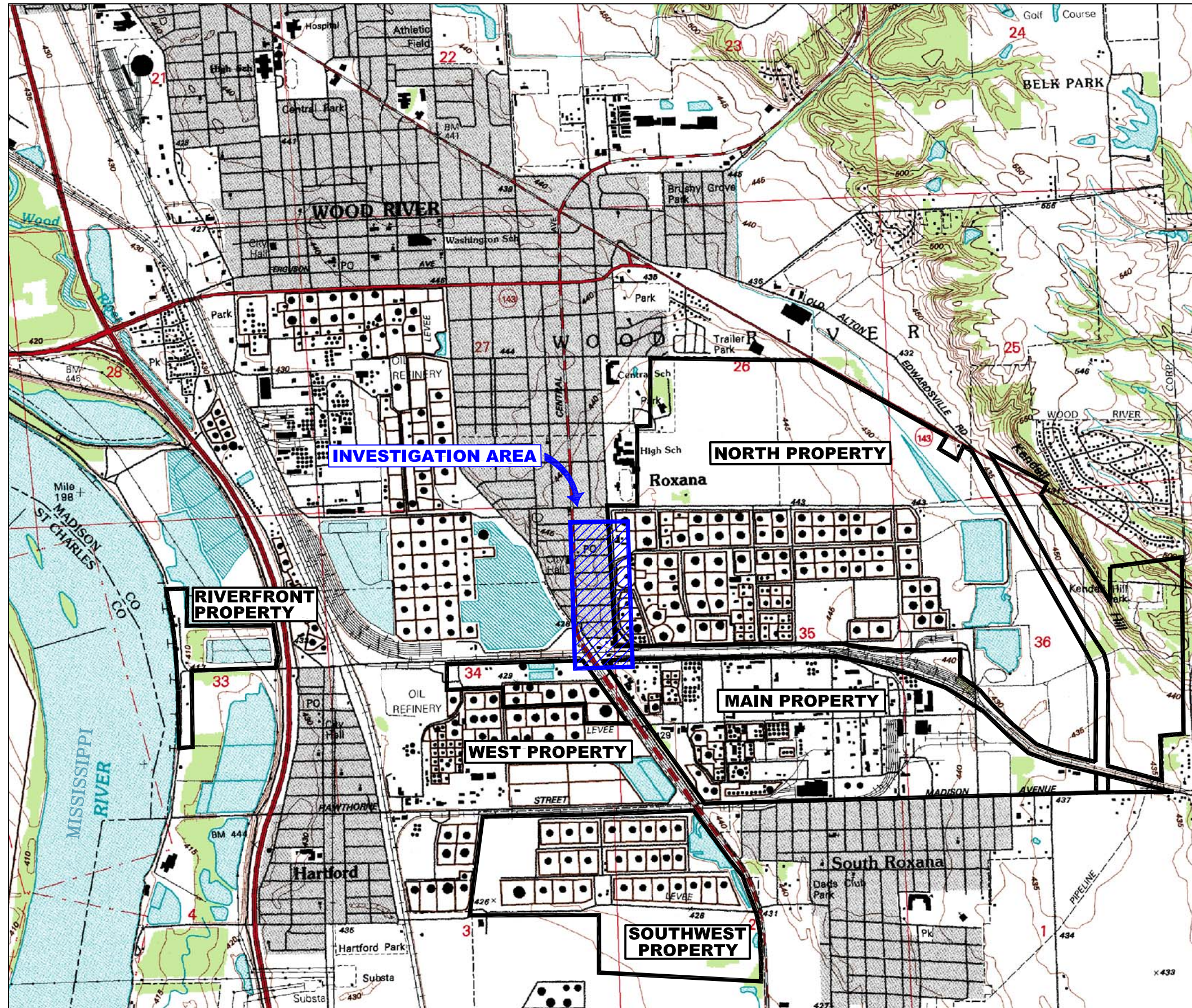
Analytes			Benzene			sec-Butylbenzene			Chloroform			2,4-Dimethylphenol			Ethylbenzene			Isopropylbenzene			2-Methylnaphthalene			3 & 4-Methylphenol (m & p-Cresol)			Methyl tert-Butyl Ether (MTBE)		
TACO Class I Screening Criteria			0.005			Not Available			0.0002			0.14			0.7			0.7			Not Available			0.35 & 0.035 *			0.07		
Location	Sample ID	Sample Date	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals
MW-01	MW-1-111110	11/11/2010	< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.01	U		< 0.005	U	
MW-01	MW-1-111110-Dup	11/11/2010	< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.01	U		< 0.005	U	
MW-02	MW-2-111010	11/11/2010	0.401			< 0.025	U		< 0.025	U		< 0.01	U		0.641			0.0236	J		0.014			0.007	J		< 0.025	U	
MW-03	MW-3-111210	11/12/2010	< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		0.0016	J		< 0.01	U		< 0.01	U		< 0.005	U	
MW-04	MW-4-111210	11/12/2010	0.0752			0.001	J		< 0.005	U		< 0.009	U		< 0.005	U		0.00271	J		< 0.009	U		< 0.009	U		0.00508		
MW-05	MW-5-111210	11/12/2010	< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.01	U		0.00556		
MW-06A	MW-6A-110910	11/9/2010	< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.01	U		0.0203		
MW-06B	MW-6B-111610	11/16/2010	< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.01	U		0.00204	J	
MW-06C	MW-6C-111610	11/16/2010	< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.01	U		< 0.005	U	
MW-06D	MW-6D-111610	11/16/2010	< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.01	U		< 0.005	U	
MW-07	MW-7-111710	11/17/2010	928	D		< 1.25	U		< 1.25	U		< 0.01	U		< 1.25	U		< 1.25	U		< 0.01	U		< 0.01	U		< 1.25	U	
MW-07	MW-7-111710-Dup	11/17/2010	876	D		< 1.25	U		< 1.25	U		< 0.01	U		< 1.25	U		< 1.25	U		< 0.01	U		< 0.01	U		< 1.25	U	
MW-08	MW-8-111710	11/17/2010	965	D		< 1.25	U		< 1.25	U		0.018			< 1.25	U		< 1.25	U		0.005	J		0.023			< 1.25	U	
MW-09	MW-9-111510	11/15/2010	< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.01	U		< 0.005	U	
MW-10	MW-10-111010	11/10/2010	< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.01	U		< 0.005	U	
MW-11	MW-11-111710	11/17/2010	< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.01	U		< 0.005	U	
MW-12	MW-12-111510	11/15/2010	< 0.005	U		< 0.005	U		0.00161	J		< 0.01	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.01	U		< 0.005	U	
P-54	P-54-111710	11/17/2010	< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.01	U		< 0.005	U	
P-93A	P93A-102610	10/26/2010	422	D		< 1.25	U		< 1.25	U		< 0.009	U		0.32	J		< 1.25	U		0.023			< 0.009	U		< 1.25	U	
P-93B	P93B-102610	10/26/2010	189	D		< 0.5	U		< 0.5	U		< 0.009	U		< 0.5	U		< 0.5	U		< 0.009	U		< 0.009	U		< 0.5	U	
P-93C	P93C-102610	10/26/2010	< 0.005	U		< 0.005	U		< 0.005	U		< 0.009	U		< 0.005	U		< 0.005	U		< 0.009	U		< 0.009	U		0.00136	J	
P-93D	P93D-102610	10/26/2010	0.0429			< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.01	U		0.0122		

Analytes			Naphthalene			Phenol			n-Propylbenzene			Toluene			1,2,4-Trimethylbenzene			1,3,5-Trimethylbenzene			m,p-Xylene			o-Xylenes		
TACO Class I Screening Criteria			0.14			0.1			Not Available			1.0			Not Available			0.35*			10.0			10.0		
Location	Sample ID	Sample Date	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals
MW-01	MW-1-111110	11/11/2010	< 0.01	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U	
MW-01	MW-1-111110-Dup	11/11/2010	< 0.01	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U	
MW-02	MW-2-111010	11/11/2010	0.077			0.006	J		0.0354			1.22	D		0.273			0.0618			1.14			0.318		
MW-03	MW-3-111210	11/12/2010	< 0.01	U		< 0.01	U		0.00622			0.00257	J		< 0.005	U		< 0.005	U		0.00653	J		< 0.005	U	
MW-04	MW-4-111210	11/12/2010	< 0.009	U		< 0.009	U		0.00395	J		0.0157			< 0.005	U		< 0.005	U		0.00699	J		0.00139	J	
MW-05	MW-5-111210	11/12/2010	< 0.01	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		0.00277	J		< 0.005	U	
MW-06A	MW-6A-110910	11/9/2010	< 0.01	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U	
MW-06B	MW-6B-111610	11/16/2010	< 0.01	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U	
MW-06C	MW-6C-111610	11/16/2010	< 0.01	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U	
MW-06D	MW-6D-111610	11/16/2010	< 0.01	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U	
MW-07	MW-7-111710	11/17/2010	0.004	J		0.034			< 1.25	U		< 1.25	U		< 1.25	U		< 1.25	U		< 2.5	U		< 1.25	U	
MW-07	MW-7-111710-Dup	11/17/2010	0.005	J		0.032			< 1.25	U		< 1.25	U		< 1.25	U		< 1.25	U		< 2.5	U		< 1.25	U	
MW-08	MW-8-111710	11/17/2010	0.023			0.053			< 1.25	U		0.328	J		< 1.25	U		< 1.25	U		< 2.5	U		< 1.25	U	
MW-09	MW-9-111510	11/15/2010	< 0.01	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U	
MW-10	MW-10-111010	11/10/2010	< 0.01	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U	
MW-11	MW-11-111710	11/17/2010	< 0.01	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U	
MW-12	MW-12-111510	11/15/2010	< 0.01	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U	
P-54	P-54-111710	11/17/2010	< 0.01	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U	
P-93A	P93A-102610	10/26/2010	0.095	D		0.31	D	J	< 1.25	U		< 1.25	U		< 1.25	U		< 1.25	U		0.543	J		< 1.25	U	
P-93B	P93B-102610	10/26/2010	< 0.009	U		0.094			< 0.5	U		< 0.5	U		< 0.5	U		< 0.5	U		< 1	U		< 0.5	U	
P-93C	P93C-102610	10/26/2010	< 0.009	U		< 0.009	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U	
P-93D	P93D-102610	10/26/2010	< 0.01	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U	

NOTES:

- 1) Screening criteria taken from Illinois Tiered Approach to Corrective Action Objectives (TACO), 35 IAC Part 742.
2) * Screening criteria taken from IEPA; TACO; Groundwater Remediation Objectives for Chemicals not listed in TACO; January 6, 2009.

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\B-ROXANA-ROUTE 111\2156XXX-ROXANA INVESTIGATION & ASSESSMENT\QUARTERLY GW 4010\FIGURES\FIGURE 1 SITE LOCATION MAP.DWG Last edited: 01/05/11 @ 4:04 p.m. © WCC-ST. LOUIS



LEGEND

- WOOD RIVER REFINERY PROPERTY BOUNDARY
- INVESTIGATION AREA

SOURCE: MAP TAKEN FROM ELECTRONIC USGS DIGITAL RASTER GRAPHIC 7.5 MINUTE TOPOGRAPHIC MAP OF WOOD RIVER, ILL-MO REVISED 1994.

CONTOUR INTERVAL = 5 FT

0 2000

SCALE FEET

SHELL OIL PRODUCTS US
ROXANA, ILLINOIS

PROJECT NO.
21562593

URS

DRN. BY: djd 12/15/10
DSGN. BY: djd
CHKD. BY: wmp

Investigation Area Location Map

FIG. NO.
1

LEGEND

- GROUNDWATER PROFILING LOCATION (2010 INVESTIGATION)
- PIEZOMETER SAMPLED (2010 INVESTIGATION)
- MONITORING WELL LOCATION

- NOTES:
- SCREENING CRITERIA TAKEN FROM ILLINOIS TIERED APPROACH TO CORRECTIVE ACTION OBJECTIVES (TACO), 35 IAC PART 742.
INDICATES AN EXCEEDANCE OF THE GROUNDWATER CLASS I SCREENING CRITERIA.
 - LABORATORY QUALIFIERS:
D = THE RESULTS IS FROM A DILUTED SAMPLE.
J = THE TARGET ANALYTE WAS DETECTED BELOW THE REPORTING LIMIT AND THE RESULT IS ESTIMATED.
U = NOT DETECTED.
 - URS QUALIFIERS:
↓ = THE RESULTS IS ESTIMATED.
 - ANALYTICAL RESULTS AT LOCATION GWP-25 HAD NO DETECTIONS FOR VOC OR SVOC CONSTITUENTS AT ANY OF THE SAMPLE DEPTHS. RESULTS ARE NOT SHOWN FOR THIS LOCATION.

Analytes	TACO Class I Screening Criteria (mg/L)
Benzene	0.005
Ethylbenzene	0.7
Toluene	1.0
m,p-Xylene	10.0
o-Xylenes	10.0
Acetone	6.3
Fluorene	0.28
Methyl tert-Butyl Ether (MTBE)	0.07
Naphthalene	0.14

Sample Location	ROST-21-PZ
Sampled 9/21/10	Result (mg/L)
1,2,3-Trimethylbenzene	0.0522
1,2,4-Trimethylbenzene	0.0945
1,3,5-Trimethylbenzene	0.036
Acetone	0.13 J
Benzene	0.217
Ethylbenzene	0.166
Isopropylbenzene	0.019 J
m,p-Xylene	0.24
Methylene Chloride	0.012 J
Naphthalene	0.038 J
n-Hexane	0.054 J
n-Propylbenzene	0.02 J
o-Xylene	0.0628
Toluene	0.102

Location	GWP-26		
Depth	106.3 ft	68 ft	81 ft
Sampled	Result (mg/L)		
MTBE	< 0.005	0.00266 J	0.00356 J

Location	GWP-24	
Depth	44 ft	52 ft
Sampled 10/4/10	Result (mg/L)	
Benzene	1.99 D	2 D
Ethylbenzene	< 0.05	0.0486 D
m,p-Xylene	< 0.1	0.1420
n-Butylbenzene	0.0521	0.0604
sec-Butylbenzene	0.0399 J	0.039 J
1,2,4-Trimethylbenzene	0.333	0.7320
2-Methylnaphthalene	0.687 J	2.49 J
Acetone	2.66	1.820
p-Isopropyltoluene	0.025 J	0.0304 J
Fluorene	< 0.833	0.109 J
Isopropylbenzene	0.0629	0.0764
MTBE	0.0102 J	< 0.05
Naphthalene	< 0.833	0.621 J
n-Propylbenzene	0.1310	0.1450

Location	GWP-27	
Depth	28.5 ft	36.5 ft
Sampled	Result (mg/L)	
Toluene	0.00105 J	< 0.005

Location	GWP-22		
Depth	112 ft	81 ft	61 ft
Sampled	Result (mg/L)		
MTBE	0.00152 J	0.00109 J	0.00338 J
Naphthalene	< 0.009	0.004 J	< 0.01

Location	GWP-23	
Depth	37.5 ft	45.5 ft
Sample Date	9/30/2010	
Acetone	< 0.0986 J	0.0278 J
Naphthalene	< 0.01/0.003 J	< 0.01

SHELL OIL PRODUCTS US
ROXANA, ILLINOIS

PROJECT NO.
21562593

URS

DRN. BY:djd 12/16/10
DSGN. BY:djd
CHKD. BY:tja

Groundwater Profiling and
Piezometer Analytical
Results Summary

FIG. NO.
3

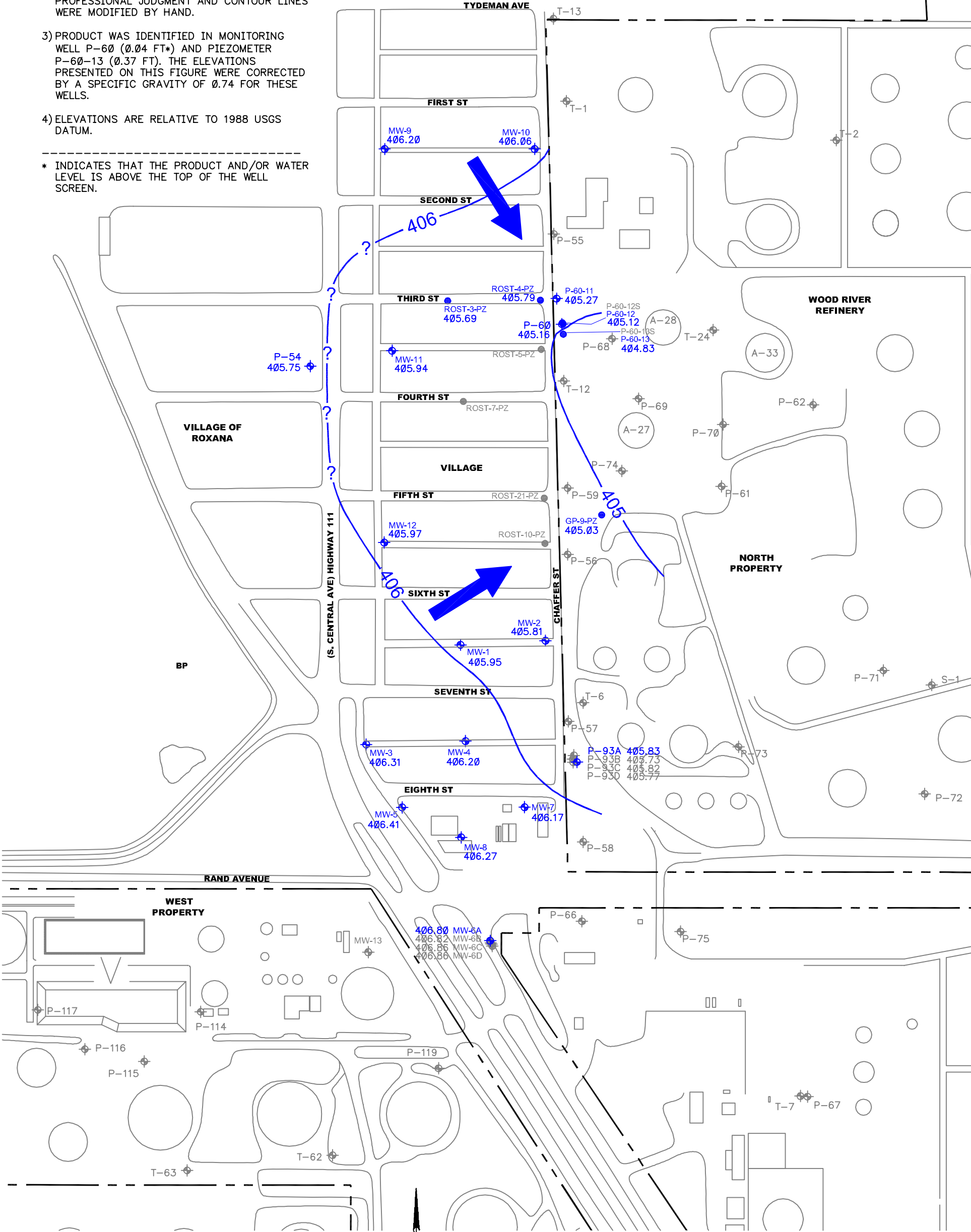
NOTES:

- 1) WATER LEVELS WERE OBTAINED DURING THE FOURTH QUARTER 2010 GAUGING EVENT ON NOVEMBER 11-12, 2010.
- 2) 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.
- 3) PRODUCT WAS IDENTIFIED IN MONITORING WELL P-60 (0.04 FT*) AND PIEZOMETER P-60-13 (0.37 FT). THE ELEVATIONS PRESENTED ON THIS FIGURE WERE CORRECTED BY A SPECIFIC GRAVITY OF 0.74 FOR THESE WELLS.
- 4) ELEVATIONS ARE RELATIVE TO 1988 USGS DATUM.

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

LEGEND

- MONITORING WELL LOCATION GAUGED (USED FOR CONTOURING)
- PIEZOMETER LOCATION GAUGED (USED FOR CONTOURING)
- PIEZOMETER LOCATION GAUGED (NOT USED FOR CONTOURING)
- MONITORING WELL LOCATION NOT GAUGED FOR THIS EVENT



SHELL OIL PRODUCTS US
FOURTH QUARTER 2010 GROUNDWATER EVENT
ROXANA, ILLINOIS

PROJECT NO.
21562593

URS

DRN. BY:wmp 12/20/10
DSGN. BY:wmp
CHKD. BY:tja & b3

Groundwater Contours
Fourth Quarter 2010

FIG. NO.
4

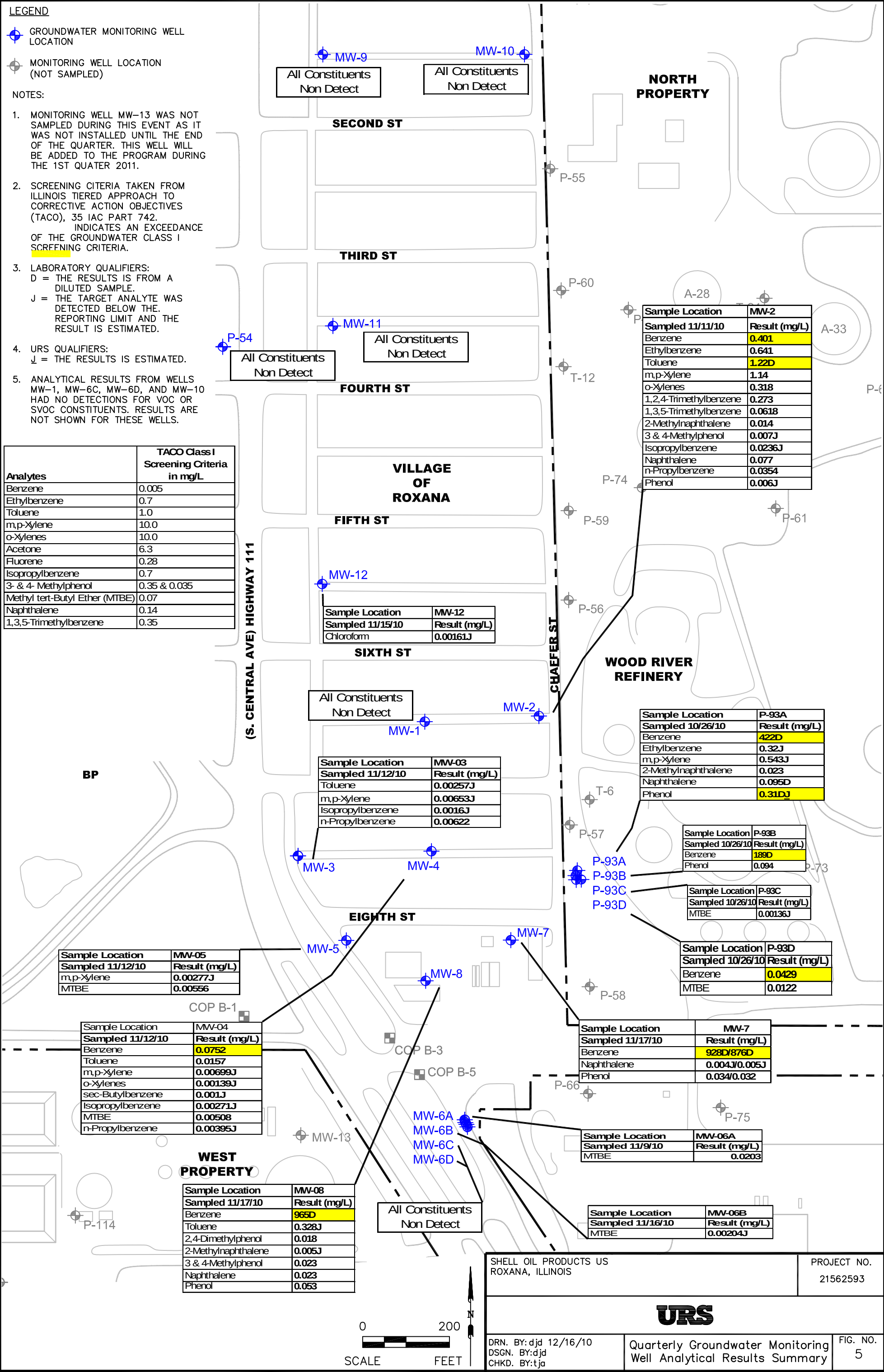
LEGEND

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

NOTES:

- MONITORING WELL MW-13 WAS NOT SAMPLED DURING THIS EVENT AS IT WAS NOT INSTALLED UNTIL THE END OF THE QUARTER. THIS WELL WILL BE ADDED TO THE PROGRAM DURING THE 1ST QUATER 2011.
- SCREENING CITERIA TAKEN FROM ILLINOIS TIERED APPROACH TO CORRECTIVE ACTION OBJECTIVES (TACO), 35 IAC PART 742.
INDICATES AN EXCEEDANCE OF THE GROUNDWATER CLASS I SCREENING CRITERIA.
- LABORATORY QUALIFIERS:
D = THE RESULTS IS FROM A DILUTED SAMPLE.
J = THE TARGET ANALYTE WAS DETECTED BELOW THE REPORTING LIMIT AND THE RESULT IS ESTIMATED.
- URS QUALIFIERS:
J = THE RESULTS IS ESTIMATED.
- ANALYTICAL RESULTS FROM WELLS MW-1, MW-6C, MW-6D, AND MW-10 HAD NO DETECTIONS FOR VOC OR SVOC CONSTITUENTS. RESULTS ARE NOT SHOWN FOR THESE WELLS.

Analytes	TACO Class I Screening Criteria in mg/L
Benzene	0.005
Ethylbenzene	0.7
Toluene	1.0
m,p-Xylene	10.0
o-Xylenes	10.0
Acetone	6.3
Fluorene	0.28
Isopropylbenzene	0.7
3- & 4- Methylphenol	0.35 & 0.035
Methyl tert-Butyl Ether (MTBE)	0.07
Naphthalene	0.14
1,3,5-Trimethylbenzene	0.35



Air Knife Forms

ROST-5-PZ

ROST-10-PZ

ROST-21-PZ

GP-13

GWP-22

GWP-23

GWP-24

GWP-25

GWP-26

GWP-27

MW-6B

MW-6C

MW-6D

MW-9

MW-10

MW-11

MW-12

MW-13

URS

Hand Auging AIR-KNIFING FORM

SHEET 1 of 1

AIR-KNIFING EXCAVATION ARRANGEMENT: Hand Augers	JOB NUMBER:	OBSERVED BY:
	2156229	N. Salano
	DATE STARTED:	DATE COMPLETED:
	9/21/10	9/21/10
BORING LOCATION:		
ROST - S - P2		
SUBCONTRACTOR:		
REDI Pat Szymon and Matt Burke		

REASON FOR AIR KNIFING AT THIS LOCATION:

Setting up pergonmeter ROST - S - P2

2" Asphalt

2" - 6" - Dark Black - brown gravel and sand (Fill)

@ 0.5 - 3.0 ppm

Description/Location/Observations:

0.5' - 1' - Dark Brown (moist, dense) Silty Clay; trace angular gravel

PID @ 1' - 7 ppm

Description/Location/Observations:

1' - 2' - Dark Brown (moist, dense) Silty Clay

PID @ 2' - 10.5 ppm

Description/Location/Observations:

2' - 3' Same as above

PID @ 3' - 5.2 ppm

Description/Location/Observations:

3' - 4' - Same as above

4' - 5' - Same as above color turn Tan - Brown

PID @ 4' - 3.5 ppm

PID @ 5'

Borehole depth - 5', width - 0.5', No utilities, Backfilled using 3 bags of sand



Hang Auger AIR-KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT:	JOB NAME & NUMBER: Dissolved Phase & P-60 21562175	OBSERVED BY: N. Salams
	DATE STARTED: 9/20/10	DATE COMPLETED: 9/20/10
	BORING LOCATION: R05T-10-P2	
	SUBCONTRACTOR: Roberts Environmental Drilling, Inc.	

REASON FOR AIR KNIFING AT THIS LOCATION: Setting up piezometer

AIR KNIFE 1

Description/Location/Observations: 2" Asphalt 0.7 ppm
5'-25' Gravel and fill
0-25'-1' Brown (moist dense) Silty Sand, some clay, trace gravel (0.1 ppm)

Description/Location/Observations:
1'-2' Brown (moist, dense) Silty Sand, some clay, trace gravel (0.5 ppm)

Description/Location/Observations:
1'-3' Same as above (0.5 ppm)

Description/Location/Observations:
3'-4' Tan (moist, dense) well sorted fine sand 0.9 ppm

4'-5' - Same as above 0.9 ppm
Borehole depth - 5'
width - 0.5' No utilities encountered
Backfilled using 3 bags of sand



AIR KNIFING FORM

SHEET of

AIR KNIFING EXCAVATION ARRANGEMENT:	JOB NAME & NUMBER: Dissolved Phase & P-60 21562175	OBSERVED BY: M. Sater
	DATE STARTED: 9/20/10	DATE COMPLETED: 9/20/10
	BORING LOCATION: R05T-21-P2	
	SUBCONTRACTOR: Roberts Environmental Drilling, Inc.	

REASON FOR AIR KNIFING AT THIS LOCATION:

Install Perimeter

AIR KNIFE 1

Description/Location/Observations:

2" - 8" ~ 2" Asphalt
Gravel and Sand (Fill) (loose) 0-2

Description/Location/Observations:

3" - 1.5" Brown - Black Clayey Silt, trace gravel (dense) 0-1

Description/Location/Observations:

1.5" - 2'	Tan - Brown Clayey Silt (dense, moist)	0-0
2' - 3'	Same	0-0
3' - 4'	Same	0-1

Description/Location/Observations:

4' - 4.5'	Same	0-0
4.5' - 5'	Tan - Gray moist, (dense) silt, trace clay	0-1

Backhole depth - 5', width - 5', No utilities, Backfilled using 3 bags of clean sand



AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT: Hand Augering	JOB NAME & NUMBER: Dissolved Phase & P-60 21562475 21562291	OBSERVED BY: N. Salain
	DATE STARTED: 10/4/10	DATE COMPLETED: 10/4/10
	BORING LOCATION: GP-13 East of intersection of 5th Street & Route 111	
	SUBCONTRACTOR: Roberts Environmental Drilling, Inc.	
REASON FOR AIR KNIFING AT THIS LOCATION: Installation of Piezometer at East of the intersection of 5th Street and Route 111.		
AIR KNIFE 1 Description/Location/Observations: 0-0'-0.2' Asphalt 0.2'-1.5' Dark brown (moist, dense) silty clay, trace coarse sand 0.0ppm 1.5'-5' Tan brown (moist) silty clay trace fine sand from 3.5' to 5'		
Description/Location/Observations: : P10 Readings 1' - 0.0ppm 2' - 0.0ppm 3' - 0.0ppm 4' - 0.0ppm		
Description/Location/Observations: Comments: Airknife to 5' Borehole width - ~10' NO filters Backfilled with clean sand		
Description/Location/Observations:		

URS

AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT: Airknifing with Vackeester 4000 systems for groundwater profiling location clearance	JOB NUMBER: 2154 229	OBSERVED BY: K. Hurst
	DATE STARTED: 9/21/10	DATE COMPLETED: 9/21/10
	BORING LOCATION: GWP-22	
	SUBCONTRACTOR: REDI - Parsons & MATT	

REASON FOR AIR KNIFING AT THIS LOCATION:

Setting up water profile

AIR KNIFE 1

Description/Location/Observations:

3" - 4" Gravel
4" - 7' - ~~stiff~~ medium stiff, dry, dark gray clayey silt w/ some sand
7' - 10' - stiff (loose), dry, black, clayey silt w/ some sand

Description/Location/Observations:

Comment - Borehole depth - 10'
Borehole width - 0.5'
No utilities encountered
Backfilled using 5 bags of clean sand

Description/Location/Observations:

Description/Location/Observations:

URS

AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT: Airknifing with VaetMaster 4000 systems for groundwater profiling location clearance	JOB NUMBER: 2156229	OBSERVED BY: N. Salem
	DATE STARTED: 9/21/10	DATE COMPLETED: 9/21/10
	BORING LOCATION: GWP-23 South of VMP-16 - adjacent to ground street	
	SUBCONTRACTOR: REDI - Pat Seymour & Matt Luko	

REASON FOR AIR KNIFING AT THIS LOCATION:

Borehole clearance for Ht groundwater profiling

AIR KNIFE 1
Description/Location/Observations: ① - 4" Asphalt 4" - 2.5' Gray (dry, loose) Gravel and Sand (fill) 2.5' - 10.5' Gray - Black (dry, loose) medium fine - medium Sand, (trace angular gravel from 2.5' - 3.0')
Description/Location/Observations: Comment: - Borehole depth - 10.5' Borehole width - 0.5' No utilities encountered Backfilled using 6 bags of sand
Description/Location/Observations:
Description/Location/Observations:

URS

AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT: for groundwater profiling using Vacmaster system 4000	JOB NUMBER: 2156229	OBSERVED BY: N. Sakam
	DATE STARTED: 9/21/10	DATE COMPLETED: 9/21/10
	BORING LOCATION: GWP-24 South of P-75 adjacent to Square manhole type structure	
	SUBCONTRACTOR: REGI, Chet Seymour & Matt Luke	

REASON FOR AIR KNIFING AT THIS LOCATION:

AIR KNIFE 1

Description/Location/Observations:

0-1' - Gray Gravel and sand (fill)

1'-1.0' Black-brown ^(moist/dense) Silty Clay, some angular gravel
in the top 1'

1.0-5.0' Same as above no angular gravel present

5.0'-10.0' Tan-brown - fine - coarse sand (moist, medium)
tends dry @ ~ 8'

Description/Location/Observations:

Comments - Borehole depth - 10'
Borehole Width - 0.5'
No utilities encountered
Backfilled using 6 bags of sand

Description/Location/Observations:



AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT:	JOB NUMBER: 21562291	OBSERVED BY: N. Salameh
	DATE STARTED: 10/12/10	DATE COMPLETED: 10/12/10
	BORING LOCATION: GWP-25	
	SUBCONTRACTOR: REDI	
REASON FOR AIR KNIFING AT THIS LOCATION: Borehole clearance using air knife upto 5 ft. location will be utilized for groundwater profiling		
AIR KNIFE 1		
Description/Location/Observations: 0-0.2' Asphalt and gravel (fill) 0.2' - 4.0' Tan-Brown - (dry, loose) Silty Silt, some coarse sand 4.0' - 10' Dark brown - (moist, loose) Silty Clay		
Description/Location/Observations: Comment - Borehole depth - 10' Borehole width - 8" 0.5' No utilities encountered Backfilled using 5 bags Clean Sand		
Description/Location/Observations:		
Description/Location/Observations:		



AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT:

JOB NUMBER:

21562291

OBSERVED BY:

N. Salas

DATE STARTED:

10/12/10

DATE COMPLETED:

10/12/10

BORING LOCATION:

At GWP-26

SUBCONTRACTOR:

REDI

REASON FOR AIR KNIFING AT THIS LOCATION:

Borehole clearance upto 5' using airknife
for groundwater profiling

AIR KNIFE 1

Description/Location/Observations:

0-0' - 0.2' Asphalt and fill
0-2' - 2.0' Tan Brown (moist, medium) Silty clay
trace subangular gravel
2.0' - 5.0' Tan Brown (moist, dense) Silty clay

Description/Location/Observations:

Comments - Borehole depth - 5'
Borehole width - 8 inches
No utilities encountered
Backfilled using 3 bags of sand

Description/Location/Observations:

Description/Location/Observations:



AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT:	JOB NAME & NUMBER: Dissolved Phase & P-60 21562175	OBSERVED BY: N. Salas
	DATE STARTED: 10/18/10	DATE COMPLETED: 10/18/10
	BORING LOCATION: GWP-26 - 68'	
	SUBCONTRACTOR: Roberts Environmental Drilling, Inc.	

REASON FOR AIR KNIFING AT THIS LOCATION:

Perzomelin installation upto 73'
GWP-26-68' Sample collection of groundwater
Borehole cleanup upto 51' using hand auger

AIR KNIFE 1

Description/Location/Observations:

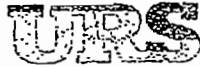
0 - 0.2' Asphalt and fill
0.2' - 2.0' Tan brown (moist, m. dense)
Silty Clay trace sub angular gravel
2.0' - 5.0' Brown (moist, dense) Silty Clay.

Description/Location/Observations:

Comments - Borehole depth 5'
Borehole width - 8 inches
No utilities encountered

Description/Location/Observations:

Description/Location/Observations:



AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT:	JOB NAME & NUMBER: Disposal Phase EP-80 21562475 21562291	OBSERVED BY: N. Salem
	DATE STARTED: 10/29/10	DATE COMPLETED: 10/29/10
	BORING LOCATION: GWP-26 GWP-27	
	SUBCONTRACTOR: Roberts Environmental Drilling, Inc.	

REASON FOR AIR KNIFING AT THIS LOCATION: Airknifing upto 10' using Vacmaster 4000 system

AIR KNIFE 1	0-1' - Black gravel and sand (fill)
Description/Location/Observations:	1'-2.5' Black-gray angular gravel and sand
	2.5'-10' Same as above

Description/Location/Observations:	Comments - Borehole depth - 10'
1	Borehole width - 0.5'
	No utilities encountered
	Backfilled using 5 bags of sand

Description/Location/Observations:	

Description/Location/Observations:	



AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT:	JOB NAME & NUMBER: Dissolved Phase 3-P-60 21562476 2291	OBSERVED BY: N. Salam
	DATE STARTED: 10/11/10	DATE COMPLETED: 10/11/10
	BORING LOCATION: MW-6B	
	SUBCONTRACTOR: Roberts Environmental Drilling, Inc.	

REASON FOR AIR KNIFING AT THIS LOCATION: Borehole cleanout upto 10' using Kirkcaldy
to install monitoring well MW-6-B

AIR KNIFE 1

Description/Location/Observations:

0-0 - 0.1' Fill (Gray Angular Gravel and coarse sand)
0.1' - 2.5' Brown moist, medium dense silty clay
2.5' - 10' sub rounded gravel
Dark brown - black silty clay (moist, dense)

comment:

Description/Location/Observations:

Borehole depth - 10'
Borehole width - 12"
No utilities encountered
Backfill borehole utilized clean
sand (16 bags)

Description/Location/Observations:

Description/Location/Observations:



AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT:	JOB NAME & NUMBER: Dissolved Phase 8-P-60 21562475 21562491	OBSERVED BY: N. Salan
	DATE STARTED: 10/11/10	DATE COMPLETED: 10/11/10
	BORING LOCATION: MW-6 C ~ 12 ft S of MW-6	
	SUBCONTRACTOR: Roberts Environmental Drilling, Inc.	

REASON FOR AIR KNIFING AT THIS LOCATION:

Air knifing upto 10' to obtain borehole clearance for installing monitoring well MW-6 C

AIR KNIFE 1

Description/Location/Observations:

0.0' - 0.1' - Gray (dry, loose) angular gravel and sand (near natural fill)
0.1' - 2.7' - Brown moist, m. dense silty clay, base subrounded gravel

Description/Location/Observations:

2.7' - 10.0' Dark brown - black (moist, dense) silty clay

Description/Location/Observations:

Comments - Borehole depth - 10'
Borehole Width - 12"
No utilities encountered
Backfilled borehole using
clean sand (16 bags)

Description/Location/Observations:



AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT:	JOB NAME & NUMBER: Discolored Phase 3 P.S.D 24562475	OBSERVED BY: N. Satam
	DATE STARTED: 10/11/10	DATE COMPLETED: 10/11/10
	BORING LOCATION: MW-6D ~ 18 ft S of MW-6A	
	SUBCONTRACTOR: Roberts Environmental Drilling, Inc.	

REASON FOR AIR KNIFING AT THIS LOCATION:

10' - Clear borehole clearance prior to installing monitoring well MW-6D

AIR KNIFE 1

Description/Location/Observations:

0.0 - 0.1' Gray (dry, loose) angular gravel and Sand (non netted fill)

0.1 - 2.5' Brown (moist, m. dense) Silty Clay, trace subrounded gravel

Description/Location/Observations:

2.5' - 10' Dark brown - black (moist, dense) Silty Clay

Description/Location/Observations:

Comments - Air Knifed to a depth of 10'
Bore Hole Width ~ 14'

No utilities encountered
Backfilled borehole with dry clean sand (17 bags)

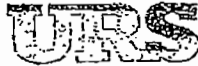
Description/Location/Observations:



AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT:	JOB NUMBER: 21562291	OBSERVED BY: N. Satam
	DATE STARTED: 10/11/10	DATE COMPLETED: 10/11/10
	BORING LOCATION: MW-9 / GWP-25 w	
	SUBCONTRACTOR:	
REASON FOR AIR KNIFING AT THIS LOCATION: Borehole clearance using Air knife upto 5' for installation of MW-9 and GWP-25		
AIR KNIFE 1		
Description/Location/Observations: 0' - 0.2' Asphalt and fill 0.2' - 2.5' Tan Brown (dry loose) Silty clay, trace subangular gravel 2.0' - 5.0' Tan Brown (moist, ^{medium} ~~loose~~) silty clay		
Description/Location/Observations: Comments : Borehole depth - 5' Borehole width - 12" No utilities encountered Backfilled borehole with (5 bags) clean sand		
Description/Location/Observations:		
Description/Location/Observations:		



AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT:	JOB NAME & NUMBER: Dissolved Phase 2 P-60 2156 21562475 2291	OBSERVED BY: N. Satam
	DATE STARTED: 10/12/10	DATE COMPLETED: 10/12/10
	BORING LOCATION: MW-10	
	SUBCONTRACTOR: Roberts Environmental Drilling, Inc.	
REASON FOR AIR KNIFING AT THIS LOCATION: Borehole Cleanout upto 5' using Airknife A monitoring well will be installed at the location		
AIR KNIFE 1	Description/Location/Observations: 0-0.3' - Asphalt and Gravel (fill) 0.3'-5.0' - Brown (moist, loose) coarse Silty Sand	
Description/Location/Observations:	Comments : Borehole depth - 5.5' Borehole diameter - 0.75' No utilities encountered Backfilled with using 4 bags Clean Sand	
Description/Location/Observations:		
Description/Location/Observations:		



AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT:	JOB NAME & NUMBER: Dissolved Phase & P-60 2156 21562175 2291	OBSERVED BY: N. Salas
	DATE STARTED: 10/12/10	DATE COMPLETED: 10/12/10
	BORING LOCATION: MW-11	
	SUBCONTRACTOR: Roberts Environmental Drilling, Inc.	

REASON FOR AIR KNIFING AT THIS LOCATION: Borehole cleaned upto 10' using air knife to install monitoring well

AIR KNIFE 1

Description/Location/Observations:

0.0' - 0.2' Asphalt and Gravel (fill)
0.2' - 1.0' Tan Brown (moist, loose) Silty Sand trace gravel
1.0' - 4.0' Tan Brown (moist, loose) Silty Sand
4.0' - 6.0' Tan Brown (moist, m-dense) Silty Sand
6.0' - 8.0' Tan Brown (moist, m-dense) Silty Sand
8.0' - 10.0' Same

Description/Location/Observations:

Comments : Borehole depth - 10.0'
Borehole diameter - 1.0'
Backfilled using 8 bags of clean sand

Description/Location/Observations:

Description/Location/Observations:



AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT:	JOB NAME & NUMBER: Dissolved Phase & P-60 21562175	OBSERVED BY: N. Salam
	DATE STARTED: 10/12/10	DATE COMPLETED: 10/12/10
	BORING LOCATION: MW-12	
	SUBCONTRACTOR: Roberts Environmental Drilling, Inc.	

REASON FOR AIR KNIFING AT THIS LOCATION:

Borhole cleanup to install monitoring well. Air knifed to 5' bgs

AIR KNIFE 1

Description/Location/Observations:

0 - 0.2' Asphalt and Gravel (fill)
0.2 - 2.0' Tan brown (moist, medium dense) Silty Clay
trace subrounded gravel
2.0' - 5.0' Tan brown (moist, ~~medium~~ dense) Silty Clay

Description/Location/Observations:

Comments - Borhole depth - 5'
Borhole diameter - 1'
No utilities encountered
Backfilled with - 5 bags of
Clean Sand

Description/Location/Observations:

Description/Location/Observations:



AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT: 	JOB NAME & NUMBER: <u>Box 2 Landfill</u> Dissolved Phase & P-60 21562470 2291		OBSERVED BY: <u>E. Fritsch</u>
	DATE STARTED: <u>11/30/10</u>		DATE COMPLETED: <u>12/1/10</u>
	BORING LOCATION: <u>MW-13 (West Property)</u>		
	SUBCONTRACTOR: <u>Roberts Environmental Drilling, Inc.</u>		

REASON FOR AIR KNIFING AT THIS LOCATION:

Utility Clearance prior to HST drilling

AIR KNIFE 1 Description/Location/Observations:	1st try 6" - 0-6" white chunked limestone gravel dk gray silty clay w/ gravel, cinders, brick, rags Refusal at 4' bgs
AIR KNIFE 2 Description/Location/Observations:	2nd try and 3rd try 6" - Same refusal @ 4' bgs
AIR KNIFE 3 Description/Location/Observations:	4th try 6" - Same 2" diameter pipe @ 4' bgs Call Eric Peterson
AIR KNIFE 4 Description/Location/Observations:	5th try 12/1/10 6"-8" Same 8' dk gray silty clay (CL) 10' Bottom of hole. Few tree roots @ 8' bgs Hole Clear for Drilling

Soil Boring Logs

GP-13
MW-6D
MW-9
MW-10
MW-11
MW-12
MW-13

LOG OF BORING GP-13

Starting Date: 10/14/10
Completion Date: 10/14/10
Casing Elevation: Not Installed
Ground Elevation: 443.55 (approximate)

Quadrangle Sec: 34.00
T: 15N
R: R9W
UTM (or State Plane) Coord
N: (X): 792979.52
E: (Y): 2321713.77

DESCRIPTION

NOTES

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
5							ASPHALT	ASPHALT	Borehole advanced to depth of 5' via hand auger to clear utilities. Soil cuttings from hand auger were used to log the upper portion of the borehole.
							FILL	Angular gravel and coarse sand	
							CL	Dense, moist, brown, Silty CLAY (CL), trace coarse sand	
								Trace fine sand	
10	60	35	NA	0.0			ML	Stiff, medium dense, moist, Clayey SILT (ML), trace fine sand	
				0.0					
15	60	39	NA	0.0				Medium dense, moist, fine grained SAND (SP)	
20	60	48	NA	0.0			SP	Becomes dry	
25	60	43	NA	0.0					

Completion Depth: 30.00 Ft bgs
 Project No.: 21562291
 Project Name: Route 111/Rand Avenue Vicinity
 Drilling Contractor: Roberts Environmental Drilling, Inc.
 Driller Name: Pat Seymour
 Drilling Method: Direct Push
 Drill Rig Type: Geoprobe 66DT
 Logged by: N. Satam
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD080012305

Water Depth: NE ft., After ATD hrs.
 Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling
☒ Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

☒ Geoprobe Macro Sampler
☐ Air Knife/Hand Auger Sampler
☐ Air Rotary
☒ 3" Clear Acetate Liner
☐ Splitspoon Sampler
☐ Hollow Stem Auger-
 Soil samples not collected

URS

USC based on field visual observations

LOG OF BORING GP-13

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	LOG OF BORING GP-13	
								Starting Date: 10/14/10 Completion Date: 10/14/10 Casing Elevation: Not Installed Ground Elevation: 443.55 (approximate)	Quadrangle Sec: 34.00 T: T5N R: R9W UTM (or State Plane) Coord N: (X): 792979.52 E: (Y): 2321713.77
								DESCRIPTION	NOTES
30	60	46	NA	0.0			SP	Same: Medium dense, dry, fine grained SAND (SP)	Borehole backfilled with granular bentonite and topped with asphalt.
35								Bottom of boring at 30' bgs	
40									
45									

Completion Depth: 30.00 Ft bgs
 Project No.: 21562291
 Project Name: Route 111/Rand Avenue Vicinity
 Drilling Contractor: Roberts Environmental Drilling, Inc.
 Driller Name: Pat Seymour
 Drilling Method: Direct Push
 Drill Rig Type: Geoprobe 66DT
 Logged by: N. Satam
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD080012305

Water Depth: NE ft., After ATD hrs.
 Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling
☒ Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

☒ Geoprobe Macro Sampler
☐ Air Knife/Hand Auger Sampler
☐ Air Rotary
☒ 3" Clear Acetate Liner
☐ Splitspoon Sampler
☐ Hollow Stem Auger-
 Soil samples not collected

URS

USC based on field visual observations

LOG OF BORING MW-6D

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	LOG OF BORING MW-6D	
								Starting Date: 10/21/10 Completion Date: 10/26/10 Casing Elevation: 431.99 Ground Elevation: 432.54	Quadrangle Sec: 34.00 T: 15N R: R9W UTM (or State Plane) Coord N: (X): 791594.14 E: (Y): 2322091.25
								DESCRIPTION	NOTES
5								Refer to log of boring B-6 in the Subsurface Investigation Report (dated January 21, 2009) for the lithology of the top 50'.	Borehole advanced to depth of 10' via air knife to clear utilities.
10									
15									
20									

Completion Depth: 114.00 Ft bgs
 Project No.: 21562291
 Project Name: Route 111/Rand Avenue Vicinity
 Drilling Contractor: Roberts Environmental Drilling, Inc.
 Driller Name: Pat Seymour
 Drilling Method: HSA 4.25" ID
 Drill Rig Type: CME 75
 Logged by: N. Satam
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD080012305

Water Depth: _____ ft., After _____ hrs.

Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling

☒ Water level after drilling

ATD - At time of drilling

NE - None Encountered

NA - Not Applicable

☒ Geoprobe Macro Sampler

☐ Air Knife/Hand Auger

☐ Sampler

☐ Air Rotary

☒ 3" Clear Acetate Liner

☐ Splitspoon Sampler

☐ Hollow Stem Auger-

Soil samples not collected

URS

USC based on field visual observations

LOG OF BORING MW-6D									
Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	Starting Date: 10/21/10 Completion Date: 10/26/10 Casing Elevation: 431.99 Ground Elevation: 432.54	Quadrangle Sec:34.00 T:T5N R:R9W UTM (or State Plane) Coord N: (X):791594.14 E: (Y):2322091.25
DESCRIPTION								NOTES	
								Refer to log of boring B-6 in the Subsurface Investigation Report (dated January 21, 2009) for the lithology of the top 50'.	

Water Depth: _____ ft., After _____ hrs.
 Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling	☒ Geoprobe Macro Sampler
☒ Water level after drilling	☐ Air Knife/Hand Auger Sampler
ATD - At time of drilling	☐ Air Rotary
NE - None Encountered	☒ 3" Clear Acetate Liner
NA - Not Applicable	☐ Splitspoon Sampler
	☐ Hollow Stem Auger- Soil samples not collected



USC based on field visual observations

LOG OF BORING MW-6D

Starting Date: 10/21/10
Completion Date: 10/26/10
Casing Elevation: 431.99
Ground Elevation: 432.54

Quadrangle Sec: 34.00
T: T5N
R: R9W
UTM (or State Plane) Coord
N: (X): 791594.14
E: (Y): 2322091.25

DESCRIPTION

NOTES

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
55	24	24	1 3 3 6	0.1 0.0				Loose to medium dense, wet, brown, fine to medium grained SAND (SP)	
	24	24	2 3 4 5	0.5 0.7					
	24	24	1 3 5 7	0.8 2.2					
	24	8	3 11 19 21	0.3 0.4					
60	24	5	4 10 22 21	0.5 0.4			SP	Becomes dense, trace black gravel	
	24	8	9 14 23 27	0.3 0.3					
	21	21	13 14 18 28	0.7					
	24	23	8 14 22 28	0.5 0.6					
65	24	16	8 13 27 32	0.8 1.8				Becomes fine to coarse grained Trace gravel	
	24	6	7 19 48 34						
	24	0	13 19 36 19						
	24	22	2 9 19 33						
70	24	23	4 9	0.3					

Completion Depth: 114.00 Ft bgs
 Project No.: 21562291
 Project Name: Route 111/Rand Avenue Vicinity
 Drilling Contractor: Roberts Environmental Drilling, Inc.
 Driller Name: Pat Seymour
 Drilling Method: HSA 4.25" ID
 Drill Rig Type: CME 75
 Logged by: N. Satam
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD080012305

Water Depth: _____ ft., After _____ hrs.
 Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling
☒ Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

☒ Geoprobe Macro Sampler
☐ Air Knife/Hand Auger Sampler
☐ Air Rotary
☒ 3" Clear Acetate Liner
☐ Splitspoon Sampler
☐ Hollow Stem Auger-
 Soil samples not collected

URS

USC based on field visual observations

LOG OF BORING MW-6D

Starting Date: 10/21/10
Completion Date: 10/26/10
Casing Elevation: 431.99
Ground Elevation: 432.54

Quadrangle Sec: 34.00
T: T5N
R: R9W
UTM (or State Plane) Coord
N: (X): 791594.14
E: (Y): 2322091.25

DESCRIPTION

NOTES

					DESCRIPTION		NOTES	
80			16 26	0.4		SP	Same: Dense, wet, brown, fine to coarse grained SAND (SP), trace gravel	
	24	1	10 16 16 24	0.2				
	24	0	9 15 21 36	0.2			Gravel grades out	
	24	0	8 12 17 31					
	24	0	5 6 10 12					
85	24	22	14 11 15 16	0.0 0.1 0.0			2" sandy silt seam Becomes medium dense, fine to medium grained	
							Becomes medium to coarse grained	
	24	24	9 9 12 24	0.1 0.4 0.9			Becomes loose Becomes fine to medium grained Becomes medium dense, medium to coarse grained	
	24	0	37 23 18 21					
	24	0	3 9 12 14					
90							Becomes fine to medium grained	
	24	22	14 12 21 24	0.9 1.3			Becomes fine to coarse grained	
	24	24	15 16 15 12	1.1 1.1			Becomes medium to coarse grained	
	24	24	8 15 26 25	1.4 1.3				
	24	24	31 19 18 23	1.4 1.3				

Completion Depth: 114.00 Ft bgs
 Project No.: 21562291
 Project Name: Route 111/Rand Avenue Vicinity
 Drilling Contractor: Roberts Environmental Drilling, Inc.
 Driller Name: Pat Seymour
 Drilling Method: HSA 4.25" ID
 Drill Rig Type: CME 75
 Logged by: N. Satam
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD080012305

Water Depth: _____ ft., After _____ hrs.
 Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling
☒ Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

☒ Geoprobe Macro Sampler
☐ Air Knife/Hand Auger Sampler
☐ Air Rotary
☒ 3" Clear Acetate Liner
☐ Splitspoon Sampler
☐ Hollow Stem Auger-
 Soil samples not collected

URS

USC based on field visual observations

LOG OF BORING MW-6D

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	Starting Date: 10/21/10 Completion Date: 10/26/10 Casing Elevation: 431.99 Ground Elevation: 432.54	Quadrangle Sec: 34.00 T: 15N R: R9W UTM (or State Plane) Coord N: (X): 791594.14 E: (Y): 2322091.25
								DESCRIPTION	NOTES
105	24	0	10 13 17 15					Same: Medium dense, wet, brown, medium to coarse grained SAND (SP) Becomes fine to coarse grained Becomes dense, medium to coarse grained Becomes fine to medium grained, trace coarse sand	
	24	18	5 8 8 9						
	24	0	8 13 13 29				SP		
	24	24	12 9 12 19	1.1 1.3					
	24	18	5 7 14 17	1.8 1.8					
110	24	24	7 13 21 27	2.8 4.2			CL	Stiff, moist, dark gray, medium plastic CLAY, with trace medium to coarse sand	
	24	2	21 22 30 48						
115								Bottom of boring at 114' bgs This boring log also used for installation of adjacent wells MW-6B and MW-6C with screen intervals based on the ground surface at the time of drilling of 65' to 70' bgs and 80' to 85' bgs, respectively. Survey data of the existing ground surface shows the screen intervals from 64.05' to 69.05' bgs and 84.95' to 89.95' bgs, respectively.	Monitoring well installed. Screened interval based on the ground surface at the time of installation was 105' to 110' bgs. Survey data of the existing ground surface shows the screen interval from 104.72' to 109.72' bgs
120									

Completion Depth: 114.00 Ft bgs
 Project No.: 21562291
 Project Name: Route 111/Rand Avenue Vicinity
 Drilling Contractor: Roberts Environmental Drilling, Inc.
 Driller Name: Pat Seymour
 Drilling Method: HSA 4.25" ID
 Drill Rig Type: CME 75
 Logged by: N. Satam
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD080012305

Water Depth: _____ ft., After _____ hrs.
 Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling
☒ Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

☒ Geoprobe Macro Sampler
☐ Air Knife/Hand Auger Sampler
☐ Air Rotary
☒ 3" Clear Acetate Liner
☐ Splitspoon Sampler
☐ Hollow Stem Auger-
 Soil samples not collected

URS

USC based on field visual observations

LOG OF BORING

MW-9

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	Starting Date: 10/28/10 Completion Date: 11/1/10 Casing Elevation: 445.20 Ground Elevation: 445.62	Quadrangle Sec: 34.00 T: T5N R: R9W UTM (or State Plane) Coord N: (X): 794065.90 E: (Y): 2321747.70
								DESCRIPTION	NOTES
5							ASPHALT	Asphalt	Borehole advanced to depth of 10' via air knife to clear utilities. Soil cuttings from air knife were used to log the upper portion of the borehole.
							FILL	Brown, sandy clay with gravel (FILL)	
10									
15	24	14	NA	0.0			SM	Dense, dry, brown, Silty SAND (SM)	
				0.2					
20	48	32	NA	0.8					
				0.5					
	48	34	NA	0.3			SP-SM	Dense, dry, brown, fine grained Silty SAND (SP-SM) Becomes medium dense	
	48	32	NA				SP	Dense, moist, brown, fine grained SAND (SP)	

Completion Depth: 56.00 Ft bgs
 Project No.: 21562291
 Project Name: Route 111/Rand Avenue Vicinity
 Drilling Contractor: Roberts Environmental Drilling, Inc.
 Driller Name: Pat Seymour
 Drilling Method: Macro Core TM Sampler
 Drill Rig Type: VTR 9700
 Logged by: N. Satam
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD080012305

Water Depth: 40 ft., After ATD hrs.

Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling

☒ Water level after drilling

ATD - At time of drilling

NE - None Encountered

NA - Not Applicable

☒ Geoprobe Macro Sampler

☐ Air Knife/Hand Auger

☐ Sampler

☐ Air Rotary

☒ 3" Clear Acetate Liner

☐ Splitspoon Sampler

☐ Hollow Stem Auger-
Soil samples not collected

URS

USC based on field visual observations

LOG OF BORING

MW-9

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	Starting Date: 10/28/10 Completion Date: 11/1/10 Casing Elevation: 445.20 Ground Elevation: 445.62	Quadrangle Sec: 34.00 T: 15N R: R9W UTM (or State Plane) Coord N: (X): 794065.90 E: (Y): 2321747.70
								DESCRIPTION	NOTES
30	48	32	NA	0.6			SP	Same: Dense, moist, brown, fine grained SAND (SP)	
				1.2					
				0.7				2" Silt seam	
				1.1				Becomes fine to medium grained	
35	48	32	NA	0.4			CL	Soft, wet, low plastic CLAY (CL), some silt	
				2.0				Loose, moist, brown, medium grained SAND (SP)	
				1.9					
				2.0					
40	48	32	NA	2.2			SP	Becomes wet	
				0.9				Becomes medium to coarse grained	
				1.8					
				1.2					
45	48	48	NA	1.7			CL	Soft, moist, medium plastic CLAY (CL)	
								Becomes medium stiff, wet, silty	

Completion Depth: 56.00 Ft bgsProject No.: 21562291Project Name: Route 111/Rand Avenue VicinityDrilling Contractor: Roberts Environmental Drilling, Inc.Driller Name: Pat SeymourDrilling Method: Macro Core TM SamplerDrill Rig Type: VTR 9700Logged by: N. SatamCounty: MadisonSite ID No.: 1191150002Federal ID No.: ILD080012305Water Depth: 40 ft., After ATD hrs.

Water Depth: _____ ft., After _____ hrs.

Water level at time of drilling

Water level after drilling

ATD - At time of drilling

NE - None Encountered

NA - Not Applicable

☒ Geoprobe Macro Sampler☐ Air Knife/Hand Auger☐ Sampler☐ Air Rotary☐ 3" Clear Acetate Liner☐ Splitspoon Sampler☐ Hollow Stem Auger-
Soil samples not collected**URS**

USC based on field visual observations

LOG OF BORING

MW-9

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	LOG OF BORING MW-9	
								Starting Date: 10/28/10 Completion Date: 11/1/10 Casing Elevation: 445.20 Ground Elevation: 445.62	Quadrangle Sec: 34.00 T: T5N R: R9W UTM (or State Plane) Coord N: (X): 794065.90 E: (Y): 2321747.70
DESCRIPTION								NOTES	
55	48	NA		1.8			SP	Medium dense, wet, brown, fine grained SAND (SP), trace silt 1" silt seam Becomes fine to medium grained	Monitoring well installed. Screened interval based on the ground surface at the time of installation was 46.5' to 56.5' bgs. Survey data of the existing ground surface shows the screen interval from 46.45' to 56.45' bgs
60				1.5				Bottom of boring at 56' bgs	
65									
70									

Completion Depth: 56.00 Ft bgs
 Project No.: 21562291
 Project Name: Route 111/Rand Avenue Vicinity
 Drilling Contractor: Roberts Environmental Drilling, Inc.
 Driller Name: Pat Seymour
 Drilling Method: Macro Core TM Sampler
 Drill Rig Type: VTR 9700
 Logged by: N. Satam
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD080012305

Water Depth: 40 ft., After ATD hrs.
 Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling
☒ Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

☒ Geoprobe Macro Sampler
☐ Air Knife/Hand Auger Sampler
☐ Air Rotary
☒ 3" Clear Acetate Liner
☐ Splitspoon Sampler
☐ Hollow Stem Auger-
 Soil samples not collected

URS

USC based on field visual observations

LOG OF BORING MW-10

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	Starting Date: 10/20/10 Completion Date: 10/20/10 Casing Elevation: 445.03 Ground Elevation: 445.57	Quadrangle Sec: 34.00 T: 15N R: 9W UTM (or State Plane) Coord N: (X): 794066.09 E: (Y): 2322212.72
								DESCRIPTION	NOTES
5							ASPHALT	Asphalt	Borehole advanced to depth of 5.5' via air knife to clear utilities. Soil cuttings from air knife were used to log the upper portion of the borehole.
							FILL	Loose, brown, silty sand (FILL)	
	48	32	NA	0.0			ML	Dense, moist, brown, SILT (ML) Becomes trace fine SAND 3" loose, coarse sand seam	
10				4.0			SM	Medium dense, dry, brown, silty SAND (SM)	
				3.8					
15				4.2					
				3.8					
20				5.5				Becomes moist	
				23.0				Becomes olive brown	
				11					
				11					
	48	38	NA	17.0			SP	Medium dense, dry, brown, fine to medium grained SAND (SP) Becomes trace silt Becomes fine grained, silt grades out	
				8					

Completion Depth: 56.00 Ft bgs
 Project No.: 21562291
 Project Name: Route 111/Rand Avenue Vicinity
 Drilling Contractor: Roberts Environmental Drilling, Inc.
 Driller Name: Pat Seymour
 Drilling Method: Macro Core TM Sampler
 Drill Rig Type: VTR 9700
 Logged by: N. Satam
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD080012305

Water Depth: 41 ft., After ATD hrs.
 Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling
☒ Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

☒ Geoprobe Macro Sampler
☐ Air Knife/Hand Auger Sampler
☐ Air Rotary
☒ 3" Clear Acetate Liner
☐ Splitspoon Sampler
☐ Hollow Stem Auger-
 Soil samples not collected

URS

USC based on field visual observations

Starting Date: 10/20/10 Completion Date: 10/20/10 Casing Elevation: 445.03 Ground Elevation: 445.57	Quadrangle Sec: 34.00 T: 15N R: R9W UTM (or State Plane) Coord N: (X): 794066.09 E: (Y): 2322212.72

					DESCRIPTION	NOTES
	48	36	NA	2.5	Same: Medium dense, dry, brown, fine to medium grained SAND (SP) Becomes medium grained Becomes loose 	

Completion Depth: 56.00 Ft bgs
Project No.: 21562291
Project Name: Route 111/Rand Avenue Vicinity
Drilling Contractor: Roberts Environmental Drilling, Inc.
Driller Name: Pat Seymour
Drilling Method: Macro Core TM Sampler
Drill Rig Type: VTR 9700
Logged by: N. Satam
County: Madison
Site ID No.: 1191150002
Federal ID No.: ILD080012305

Water Depth: 41 ft., After ATD hrs.
Water Depth: _____ ft., After _____ hrs.

▽ Water level at time of drilling
 ▼ Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

- ☒ Geoprobe Macro Sampler
- ☐ Air Knife/Hand Auger Sampler
- ☐ Air Rotary
- ☐ 3" Clear Acetate Liner
- ☐ Splitspoon Sampler
- ☐ Hollow Stem Auger-
Soil samples not collected

URS

USC based on field visual observations

LOG OF BORING MW-10

Starting
Date: 10/20/10
Completion
Date: 10/20/10
Casing Elevation: 445.03
Ground Elevation: 445.57

Quadrangle
Sec: 34.00
T: T5N
R: R9W
UTM (or State Plane) Coord
N: (X): 794066.09
E: (Y): 2322212.72

DESCRIPTION

NOTES

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
55	48	0	NA	8.5 6.5			SP	Same: Loose, wet, brown, medium grained, SAND (SP)	Unable to recovery any soil within sample liner.
60								Bottom of boring at 56' bgs	Monitoring well installed. Screened interval based on the ground surface at the time of installation was 44.5' to 54.5' bgs. Survey data of the existing ground surface shows the screen interval from 44.43' to 54.43' bgs.
65									
70									

Completion Depth: 56.00 Ft bgs
 Project No.: 21562291
 Project Name: Route 111/Rand Avenue Vicinity
 Drilling Contractor: Roberts Environmental Drilling, Inc.
 Driller Name: Pat Seymour
 Drilling Method: Macro Core TM Sampler
 Drill Rig Type: VTR 9700
 Logged by: N. Satam
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD080012305

Water Depth: 41 ft., After ATD hrs.
 Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling
☒ Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

☒ Geoprobe Macro Sampler
☐ Air Knife/Hand Auger Sampler
☐ Air Rotary
☒ 3" Clear Acetate Liner
☐ Splitspoon Sampler
☐ Hollow Stem Auger-
 Soil samples not collected

URS

USC based on field visual observations

LOG OF BORING MW-11

Starting
Date: 10/14/10
Completion
Date: 10/14/10
Casing Elevation: 442.33
Ground Elevation: 442.74

Quadrangle
Sec: 34.00
T: 15N
R: R9W
UTM (or State Plane) Coord
N: (X): 793440.27
E: (Y): 2321771.09

DESCRIPTION

NOTES

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
5							ASPHALT	Asphalt	Borehole advanced to depth of 10' via air knife to clear utilities. Soil cuttings from air knife were used to log the upper portion of the borehole.
							FILL	Loose, moist, brown, silty sand (FILL), trace gravel	
							ML	Medium dense, moist, brown, sandy SILT (ML)	
10							SP	Loose to medium dense, moist, tan, fine grained SAND (SP)	
							SP	Becomes very dense	
							SP	Becomes loose	
15	24	16	2 2 4 11	7.2			SP		
	24	18	15 35 47 51	6.1			SP		
	24	22	2 4 5 7	7.5			SP		
	24	24	3 5 5 4	10.4			SP	Becomes wet	
20	24	24	3 3 4 21	9.1			SM	Soft, wet, brown, silty SAND (SM)	
							ML	Grading to soft, wet, brown, sandy SILT (ML)	
	24	22	3 4 4 6	8.3			CL	Soft, wet, dark brown, sandy CLAY (CL)	
				6.4			SP	Medium dense, dry, brown, fine grained SAND (SP)	
	24	24	4 5 7 8	26.8			SP	Becomes gray	
	24	22	5 7	7.9			SP		

Completion Depth: 52.00 Ft bgsProject No.: 21562291Project Name: Route 111/Rand Avenue VicinityDrilling Contractor: Roberts Environmental Drilling, Inc.Driller Name: Joe CoxDrilling Method: HSA 4.25" IDDrill Rig Type: CME 75Logged by: M. MillerCounty: MadisonSite ID No.: 1191150002Federal ID No.: ILD080012305Water Depth: 36 ft., After ATD hrs.

Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling☒ Water level after drilling

ATD - At time of drilling

NE - None Encountered

NA - Not Applicable

☒ Geoprobe Macro Sampler☐ Air Knife/Hand Auger☐ Sampler☐ Air Rotary☒ 3" Clear Acetate Liner☐ Splitspoon Sampler☐ Hollow Stem Auger-
Soil samples not collected

URS

USC based on field visual observations

LOG OF BORING MW-11

Starting Date: 10/14/10
Completion Date: 10/14/10
Casing Elevation: 442.33
Ground Elevation: 442.74

Quadrangle Sec: 34.00
T: T5N
R: R9W
UTM (or State Plane) Coord
N: (X): 793440.27
E: (Y): 2321771.09

DESCRIPTION

NOTES

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
			9 10					Same: Medium dense, dry, gray, fine grained SAND (SP)	
	24	24	3 5 7 7	24.2				Becomes moist	
30	24	24	4 5 9 10	39.8					
	24	24	4 8 10 12	17.8					
	24	24	4 7 7 10	58.5				Becomes fine to medium grained	
35	24	24	3 7 9 12	53.6					
	24	24	5 8 12 17	36.9			SP	Becomes wet	▽
40	24	24	2 8 15 14	130					
	24	24	5 9 11 13	47.1					
	24	24	2 8 11 15	42					
45	24	24	4 8 12 16	13.8					
	24	16	5 10 16 14	15.2				Becomes dense, medium to coarse grained	
	24	24	8 20 37 41					Becomes very dense	

Completion Depth: 52.00 Ft bgs
 Project No.: 21562291
 Project Name: Route 111/Rand Avenue Vicinity
 Drilling Contractor: Roberts Environmental Drilling, Inc.
 Driller Name: Joe Cox
 Drilling Method: HSA 4.25" ID
 Drill Rig Type: CME 75
 Logged by: M. Miller
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD080012305

Water Depth: 36 ft., After ATD hrs.
 Water Depth: _____ ft., After _____ hrs.

▽ Water level at time of drilling
 ▼ Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

☒ Geoprobe Macro Sampler
☐ Air Knife/Hand Auger Sampler
☐ Air Rotary
☒ 3" Clear Acetate Liner
☐ Splitspoon Sampler
☐ Hollow Stem Auger-
 Soil samples not collected

URS

USC based on field visual observations

LOG OF BORING MW-11

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	Starting Date: 10/14/10 Completion Date: 10/14/10 Casing Elevation: 442.33 Ground Elevation: 442.74		Quadrangle Sec: 34.00 T: T5N R: R9W UTM (or State Plane) Coord N: (X): 793440.27 E: (Y): 2321771.09
								DESCRIPTION	NOTES	
	24	24	4 15 21 32	10.1			SP	Same: Very dense, wet, gray, medium to coarse grained SAND (SP)		
55								Bottom of boring at 52' bgs	Monitoring well installed. Screened interval based on the ground surface at the time of installation was 41' to 51' bgs. Survey data of the existing ground surface shows the screen interval from 41.66' to 51.66' bgs.	
60										
65										
70										

Completion Depth: 52.00 Ft bgs
 Project No.: 21562291
 Project Name: Route 111/Rand Avenue Vicinity
 Drilling Contractor: Roberts Environmental Drilling, Inc.
 Driller Name: Joe Cox
 Drilling Method: HSA 4.25" ID
 Drill Rig Type: CME 75
 Logged by: M. Miller
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD080012305

Water Depth: 36 ft., After ATD hrs.
 Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling
☒ Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

☒ Geoprobe Macro Sampler
☐ Air Knife/Hand Auger Sampler
☐ Air Rotary
☒ 3" Clear Acetate Liner
☐ Splitspoon Sampler
☐ Hollow Stem Auger-
 Soil samples not collected

URS

USC based on field visual observations

LOG OF BORING MW-12

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	Starting Date: 10/18/10 Completion Date: 10/18/10 Casing Elevation: 442.60 Ground Elevation: 443.11	Quadrangle Sec: 34.00 T: 15N R: R9W UTM (or State Plane) Coord N: (X): 792845.49 E: (Y): 2321746.32
								DESCRIPTION	NOTES
5							ASPHALT	Asphalt	Borehole advanced to depth of 5' via air knife to clear utilities. Soil cuttings from air knife were used to log the upper portion of the borehole.
							FILL	Brown, silty clay (FILL), with gravel	
							CL	Dense, moist, brown, silty CLAY (CL)	
10	48	26	NA	.01 0.1				Becomes soft	
								Becomes trace fine sand	
								Loose, moist to dry, fine to medium grained SAND (SP)	
15	48	26	NA	0.0					
20	48	33	NA	0.0					
	48	32	NA	0.0					
	48	33	NA	0.1 0.0					
				0.1					

Completion Depth: 52.00 Ft bgs
 Project No.: 21562291
 Project Name: Route 111/Rand Avenue Vicinity
 Drilling Contractor: Roberts Environmental Drilling, Inc.
 Driller Name: Pat Seymour
 Drilling Method: Macro Core TM Sampler
 Drill Rig Type: VTR 9700
 Logged by: N. Satam
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD080012305

Water Depth: 44.5 ft., After ATD hrs.

Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling

☒ Water level after drilling

ATD - At time of drilling

NE - None Encountered

NA - Not Applicable

☒ Geoprobe Macro Sampler

☐ Air Knife/Hand Auger

☐ Sampler

☐ Air Rotary

☐ 3" Clear Acetate Liner

☐ Splitspoon Sampler

☐ Hollow Stem Auger-
Soil samples not collected

URS

USC based on field visual observations

LOG OF BORING MW-12

Starting
Date: 10/18/10
Completion
Date: 10/18/10
Casing Elevation: 442.60
Ground Elevation: 443.11

Quadrangle
Sec: 34.00
T: 15N
R: R9W
UTM (or State Plane) Coord
N: (X): 792845.49
E: (Y): 2321746.32

DESCRIPTION

NOTES

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
30	48	32	NA	0.5			SP	Same: Loose, moist to dry, fine to medium grained SAND (SP)	
				0.3				Becomes light brown	
				0.2					
	48	32	NA	0.1					
35				0.4					
	48	32	NA	0.1				Becomes dry	
				0.1					
	48	34	NA	0.1					
40				0.1				Becomes moist, trace gravel	
	48	38	NA	0.6				Becomes moist to wet	
				0.2				Becomes wet	
	48	48	NA	0.1				3" fine grained sand seam	
45				0.0				Becomes dense, medium to coarse grained	
	48	48	NA						

Completion Depth: 52.00 Ft bgsProject No.: 21562291Project Name: Route 111/Rand Avenue VicinityDrilling Contractor: Roberts Environmental Drilling, Inc.Driller Name: Pat SeymourDrilling Method: Macro Core TM SamplerDrill Rig Type: VTR 9700Logged by: N. SatamCounty: MadisonSite ID No.: 1191150002Federal ID No.: ILD080012305Water Depth: 44.5 ft., After ATD hrs.

Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling☒ Water level after drilling

ATD - At time of drilling

NE - None Encountered

NA - Not Applicable

☒ Geoprobe Macro Sampler☐ Air Knife/Hand Auger☐ Sampler☐ Air Rotary☐ 3" Clear Acetate Liner☐ Splitspoon Sampler☐ Hollow Stem Auger-
Soil samples not collected

URS

USC based on field visual observations

LOG OF BORING MW-12

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	LOG OF BORING MW-12	
								Starting Date: 10/18/10 Completion Date: 10/18/10 Casing Elevation: 442.60 Ground Elevation: 443.11	Quadrangle Sec: 34.00 T: T5N R: R9W UTM (or State Plane) Coord N: (X): 792845.49 E: (Y): 2321746.32
								DESCRIPTION	NOTES
							SP	Same: Dense, wet, light brown, medium to coarse grained SAND (SP)	Monitoring well installed. Screened interval based on the ground surface at the time of installation was 42' to 52' bgs. Survey data of the existing ground surface shows the screen interval from 41.92' to 51.92' bgs
55								Bottom of boring at 52' bgs	
60									
65									
70									

Completion Depth: 52.00 Ft bgs
 Project No.: 21562291
 Project Name: Route 111/Rand Avenue Vicinity
 Drilling Contractor: Roberts Environmental Drilling, Inc.
 Driller Name: Pat Seymour
 Drilling Method: Macro Core TM Sampler
 Drill Rig Type: VTR 9700
 Logged by: N. Satam
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD080012305

Water Depth: 44.5 ft., After ATD hrs.
 Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling
☒ Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

☒ Geoprobe Macro Sampler
☐ Air Knife/Hand Auger Sampler
☐ Air Rotary
☒ 3" Clear Acetate Liner
☐ Splitspoon Sampler
☐ Hollow Stem Auger-
 Soil samples not collected

URS

USC based on field visual observations

LOG OF BORING MW-13

Starting
Date: 12/1/10
Completion
Date: 12/3/10
Casing Elevation: 430.27
Ground Elevation: 430.79

Quadrangle
Sec: 34.00
T: 15N
R: R9W
UTM (or State Plane) Coord
N: (X): 791574.95
E: (Y): 2321696.95

DESCRIPTION

NOTES

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
5							FILL	White crushed limestone gravel	Borehole advanced to depth of 10' via air knife to clear utilities. Soil cuttings from air knife were used to log the upper portion of the borehole.
							FILL	Soft, moist, dark gray, medium plastic, Silty CLAY (CL), with gravel With cinders, bricks, rocks	
10							CL	Soft, moist, dark gray, Silty CLAY (CL),	Petroleum-like odor
	24	15	0 1 2 3	11.9			CL	Becomes medium stiff, with olive gray mottling	
	24	15	1 3 4 4	20.6			CL	Increasing silt	
15							SC/SM	Medium dense, moist, dark gray, Clayey SAND (SC), to Silty SAND (SM)	
	24	10	3 5 7 9	0.7			SP	Loose to medium dense, moist, dark gray, poorly graded SAND (SP)	
20							SM	Medium dense, moist, brownish yellow, Silty SAND (SM)	
	24	12	5 6 8 7	258			ML	Very soft, moist, dark gray, Clayey SILT (ML)	
	24	20	0 0 1 4	5.1			SP	Medium dense, wet, dark gray, poorly graded, medium grained SAND (SP)	

Completion Depth: 36.00 Ft bgs
 Project No.: 21562291
 Project Name: Route 111/Rand Avenue Vicinity
 Drilling Contractor: Roberts Environmental Drilling, Inc.
 Driller Name: Brian Schilling
 Drilling Method: HSA 4.25" ID
 Drill Rig Type: CME 55
 Logged by: E. Fritsch
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD080012305

Water Depth: 24 ft., After ATD hrs.
 Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling
☒ Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

☒ Geoprobe Macro Sampler
☐ Air Knife/Hand Auger Sampler
☐ Air Rotary
☒ 3" Clear Acetate Liner
☐ Splitspoon Sampler
☐ Hollow Stem Auger-
 Soil samples not collected

URS

USC based on field visual observations

LOG OF BORING MW-13

Starting Date: 12/1/10
Completion Date: 12/3/10
Casing Elevation: 430.27
Ground Elevation: 430.79

Quadrangle Sec: 34.00
T: T5N
R: R9W
UTM (or State Plane) Coord
N: (X): 791574.95
E: (Y): 2321696.95

DESCRIPTION

NOTES

Depth In feet	Inches Driven	Inches Recovered	Blow Counts	PID (ppm)	Sampler Graphic	Symbol	USCS	DESCRIPTION	NOTES
30	24	16	6 8	6.9				Same: Medium dense, wet, dark gray, poorly graded, medium grained SAND (SP)	
	24	18	8 10 11 13	2.6					
	24	18	1 5 15 18	10.1					
	24	16	3 6 7 18	10.8			SP		
	24	12	6 11 15 30	2.7				Trace fine gravel	
35	12	12	20 50 > 50	0.1				Becomes dense to very dense, gravel grades out	
40								Bottom of boring at 36' bgs	Monitoring well installed. Screened interval based on the ground surface at the time of installation was 25' to 35' bgs. Survey data of the existing ground surface shows the screen interval from 25.57' to 35.57' bgs
45									

Completion Depth: 36.00 Ft bgs
 Project No.: 21562291
 Project Name: Route 111/Rand Avenue Vicinity
 Drilling Contractor: Roberts Environmental Drilling, Inc.
 Driller Name: Brian Schilling
 Drilling Method: HSA 4.25" ID
 Drill Rig Type: CME 55
 Logged by: E. Fritsch
 County: Madison
 Site ID No.: 1191150002
 Federal ID No.: ILD080012305

Water Depth: 24 ft., After ATD hrs.
 Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling
☒ Water level after drilling
 ATD - At time of drilling
 NE - None Encountered
 NA - Not Applicable

☒ Geoprobe Macro Sampler
☐ Air Knife/Hand Auger Sampler
☐ Air Rotary
☒ 3" Clear Acetate Liner
☐ Splitspoon Sampler
☐ Hollow Stem Auger-
 Soil samples not collected

URS

USC based on field visual observations

Piezometer Sampling Analytical Data

SDG 10090812

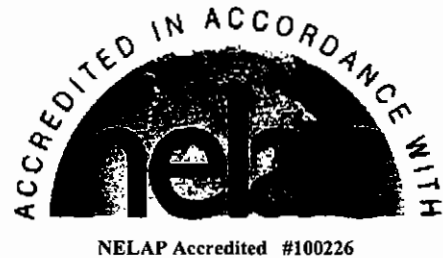
ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

September 22, 2010

Wendy Pennington
URS Corporation
1001 Highlands Plaza Drive West
Suite 300
St. Louis, MO 63110
TEL: (314) 452-8929
FAX: (314) 429-0462



RE: 21562291.00006

WorkOrder: 10090812

Dear Wendy Pennington:

TEKLAB, INC received 1 sample on 9/21/2010 4:36:00 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. IL ELAP and NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column.

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,

A handwritten signature in cursive script that reads "Shelly A. Hennessy".

Shelly A. Hennessy
Project Manager
(618)344-1004 ex 36

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

Client: URS Corporation
Project: 21562291.00006
LabOrder: 10090812
Report Date: 22-Sep-10

CASE NARRATIVE

Cooler Receipt Temp: 12.6 °C

State accreditations:

KS: NELAP #E-10347 | KY: UST #0073 | MO: DNR #00930 | AR: ADEQ #70-028-0

Qualifiers

DF - Dilution Factor	B - Analyte detected in the associated Method Blank	C - Client requested RL below PQL
RL - Reporting Limit	J - Analyte detected below reporting limits	D - Diluted out of sample
ND - Not Detected at the Reporting Limit	R - RPD outside accepted recovery limits	E - Value above quantitation range
Surr - Surrogate Standard added by lab	S - Spike Recovery outside accepted recovery limits	H - Holding time exceeded
TNTC - Too numerous to count (> 200 CFU)	X - Value exceeds Maximum Contaminant Level	MI - Matrix interference
Q - QC criteria failed or noncompliant CCV	# - Unknown hydrocarbon	DNI - Did not ignite
NELAP - IL ELAP and NELAP Accredited Field of Testing	IDPH - IL Dept. of Public Health	

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: URS Corporation
WorkOrder: 10090812
Lab ID: 10090812-001
Report Date: 22-Sep-10

Client Project: 21562291.00006
Client Sample ID: ROST21PZ092110
Collection Date: 9/21/2010 11:30:00 AM
Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
1,1,1,2-Tetrachloroethane	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,1,1-Trichloroethane	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,1,2,2-Tetrachloroethane	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,1,2-Trichloro-1,2,2-trifluoroethane		200		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,1,2-Trichloroethane	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,1-Dichloro-2-propanone		500		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,1-Dichloroethane	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,1-Dichloroethene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,1-Dichloropropene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,2,3-Trichlorobenzene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,2,3-Trichloropropane	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,2,3-Trimethylbenzene		50.0		52.2	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,2,4-Trichlorobenzene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,2,4-Trimethylbenzene	NELAP	50.0		94.5	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,2-Dibromo-3-chloropropane	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,2-Dibromoethane	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,2-Dichlorobenzene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,2-Dichloroethane	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,2-Dichloropropane	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,3,5-Trimethylbenzene	NELAP	50.0	J	36	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,3-Dichlorobenzene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,3-Dichloropropane	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1,4-Dichlorobenzene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
1-Chlorobutane	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
2,2-Dichloropropane	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
2-Butanone	NELAP	250		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
2-Chloroethyl vinyl ether	NELAP	200		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
2-Chlorotoluene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
2-Hexanone	NELAP	250		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
2-Nitropropane	NELAP	500		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
4-Chlorotoluene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
4-Methyl-2-pentanone	NELAP	250		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Acetone	NELAP	250	J	130	µg/L	10	9/21/2010 10:50:00 PM	CCF
Acetonitrile	NELAP	500		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Acrolein	NELAP	1000		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Acrylonitrile	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Allyl chloride	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Benzene	NELAP	20.0		217	µg/L	10	9/21/2010 10:50:00 PM	CCF

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: URS Corporation

Client Project: 21562291.00006

WorkOrder: 10090812

Client Sample ID: ROST21PZ092110

Lab ID: 10090812-001

Collection Date: 9/21/2010 11:30:00 AM

Report Date: 22-Sep-10

Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Bromobenzene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Bromochloromethane	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Bromodichloromethane	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Bromoform	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Bromomethane	NELAP	100		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Butyl acetate		250		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Carbon disulfide	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Carbon tetrachloride	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Chlorobenzene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Chloroethane	NELAP	100		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Chloroform	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Chloromethane	NELAP	100		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Chloroprene	NELAP	200		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
cis-1,2-Dichloroethene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
cis-1,3-Dichloropropene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
cis-1,4-Dichloro-2-butene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Cyclohexanone		500		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Dibromochloromethane	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Dibromomethane	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Dichlorodifluoromethane	NELAP	100		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Ethyl acetate	NELAP	100		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Ethyl ether	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Ethyl methacrylate	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Ethylbenzene	NELAP	50.0		166	µg/L	10	9/21/2010 10:50:00 PM	CCF
Heptane		200		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Hexachlorobutadiene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Hexachloroethane	NELAP	100		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Iodomethane	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Isopropylbenzene	NELAP	50.0	J	19	µg/L	10	9/21/2010 10:50:00 PM	CCF
m,p-Xylenes	NELAP	50.0		240	µg/L	10	9/21/2010 10:50:00 PM	CCF
Methacrylonitrile	NELAP	100		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Methyl Methacrylate	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Methyl tert-butyl ether	NELAP	20.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Methylacrylate		100		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Methylene chloride	NELAP	50.0	J	12	µg/L	10	9/21/2010 10:50:00 PM	CCF
Naphthalene	NELAP	100	J	38	µg/L	10	9/21/2010 10:50:00 PM	CCF
n-Butylbenzene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
n-Hexane		200	J	54	µg/L	10	9/21/2010 10:50:00 PM	CCF

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

LABORATORY RESULTS

Client: URS Corporation

WorkOrder: 10090812

Lab ID: 10090812-001

Report Date: 22-Sep-10

Client Project: 21562291.00006

Client Sample ID: ROST21PZ092110

Collection Date: 9/21/2010 11:30:00 AM

Matrix: AQUEOUS

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Analyst
SW-846 5030, 8260B, VOLATILE ORGANIC COMPOUNDS BY GC/MS								
Nitrobenzene	NELAP	500		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
n-Propylbenzene	NELAP	50.0	J	20	µg/L	10	9/21/2010 10:50:00 PM	CCF
o-Xylene	NELAP	50.0		62.8	µg/L	10	9/21/2010 10:50:00 PM	CCF
Pentachloroethane	NELAP	200		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
p-Isopropyltoluene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Propionitrile	NELAP	500		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
sec-Butylbenzene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Styrene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
tert-Butylbenzene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Tetrachloroethene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Tetrahydrofuran	NELAP	200		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Toluene	NELAP	50.0		102	µg/L	10	9/21/2010 10:50:00 PM	CCF
trans-1,2-Dichloroethene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
trans-1,3-Dichloropropene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
trans-1,4-Dichloro-2-butene	NELAP	100		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Trichloroethene	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Trichlorofluoromethane	NELAP	50.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Vinyl acetate	NELAP	100		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Vinyl chloride	NELAP	20.0		ND	µg/L	10	9/21/2010 10:50:00 PM	CCF
Surr: 1,2-Dichloroethane-d4		74.7-129		104.8	%REC	10	9/21/2010 10:50:00 PM	CCF
Surr: 4-Bromofluorobenzene		86-119		100	%REC	10	9/21/2010 10:50:00 PM	CCF
Surr: Dibromofluoromethane		81.7-123		107.2	%REC	10	9/21/2010 10:50:00 PM	CCF
Surr: Toluene-d8		84.3-114		92.5	%REC	10	9/21/2010 10:50:00 PM	CCF

Sample Narrative

SW-846 5030, 8260B, Volatile Organic Compounds by GC/MS

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

ANALYTICAL QC SUMMARY REPORT

Key QC concepts:

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.

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. (NELAC)

ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.

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. (NELAC) The acceptable recovery range is listed in this report.

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 this report.

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 this report.

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 this report.

MDL Method detection limit or limit of detection (LOD) 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.

MB/LCB Method blank or lab control 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 are present at concentrations that impact the analytical results for sample analyses. (NELAC)

PQL Practical quantitation limit or limit of quantitation (LOQ) 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 this report.

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 this report.

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. (NELAC)

Surr Surrogates are an organic compound which is similar to the analytes of interest in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples.

		Qualifiers			
DF - Dilution Factor	B - Analyte detected in the associated Method Blank	C - Client requested RL below PQL	MI - Matrix interference		
RL - Reporting Limit	J - Analyte detected below reporting limits	D - Diluted out of sample	DNI - Did not ignite		
ND - Not Detected at the Reporting Limit	R - RPD outside accepted recovery limits	IDPH - IL Dept. of Public Health	E - Value above quantitation range		
Surr - Surrogate Standard added by lab	S - Spike Recovery outside accepted recovery limits	Q - QC criteria failed	H - Holding time exceeded		
TNTC - Too numerous to count (> 200 CFU)	X - Value exceeds Maximum Contaminant Level	# - Unknown hydrocarbon	NELAP - IL ELAP and NELAP Accredited		

Client: URS Corporation
Project: 21562291.00006
Lab Order: 10090812

Report Date: 22-Sep-10

ANALYTICAL QC SUMMARY REPORT

TestCode: V_8260S_W

Sample ID: LCS-R100921-1		SampType: LCS		Units: µg/L		Prep Date: 9/21/2010		RunNo: 140398			
Client ID: ZZZZZZ		Batch ID: 63199		SW5030		Analysis Date: 9/21/2010		SeqNo: 2737953			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	44.8	5.0	50.00	0	89.6	0	200				
1,1,1-Trichloroethane	48.9	5.0	50.00	0	97.8	82.5	119				
1,1,2,2-Tetrachloroethane	48.4	5.0	50.00	0	96.8	0	200				
1,1,2-Trichloro-1,2,2-trifluoroethane	57.8	20.0	50.00	0	115.6	0	200				
1,1,2-Trichloroethane	48.5	5.0	50.00	0	96.9	0	200				
1,1-Dichloro-2-propanone	86.1	50.0	125.0	0	68.9	0	200				
1,1-Dichloroethane	53.9	5.0	50.00	0	107.9	0	200				
1,1-Dichloroethene	56.7	5.0	50.00	0	113.4	76.5	122				
1,1-Dichloropropene	50.6	5.0	50.00	0	101.3	0	200				
1,2,3-Trichlorobenzene	44.3	5.0	50.00	0	88.7	0	200				
1,2,3-Trichloropropane	46.6	5.0	50.00	0	93.2	0	200				
1,2,3-Trimethylbenzene	43.5	5.0	50.00	0	86.9	0	200				
1,2,4-Trichlorobenzene	44.3	5.0	50.00	0	88.6	0	200				
1,2,4-Trimethylbenzene	44.3	5.0	50.00	0	88.6	0	200				
1,2-Dibromo-3-chloropropane	44.4	5.0	50.00	0	88.7	0	200				
1,2-Dibromoethane	47.6	5.0	50.00	0	95.3	85	115				
1,2-Dichlorobenzene	44.6	5.0	50.00	0	89.1	86.4	116				
1,2-Dichloroethane	50.9	5.0	50.00	0	101.7	82	121				
1,2-Dichloropropane	53.7	5.0	50.00	0	107.5	0	200				
1,3,5-Trimethylbenzene	43.6	5.0	50.00	0	87.3	0	200				
1,3-Dichlorobenzene	45.1	5.0	50.00	0	90.1	85.2	116				
1,3-Dichloropropane	49.1	5.0	50.00	0	98.1	0	200				
1,4-Dichlorobenzene	44.9	5.0	50.00	0	89.9	83.6	117				
1-Chlorobutane	45.8	5.0	50.00	0	91.5	0	200				
2,2-Dichloropropane	49.6	5.0	50.00	0	99.3	0	200				
2-Butanone	128	25.0	125.0	0	102.8	65	124				
2-Chloroethyl vinyl ether	51.4	20.0	50.00	0	102.9	0	200				
2-Chlorotoluene	44.5	5.0	50.00	0	89.0	0	200				
2-Hexanone	116	25.0	125.0	0	92.9	0	200				
2-Nitropropane	33	50.0	50.00	0	65.7	0	200				J
4-Chlorotoluene	43.4	5.0	50.00	0	86.8	0	200				

Client: URS Corporation
Project: 21562291.00006
Lab Order: 10090812

ANALYTICAL QC SUMMARY REPORT

TestCode: V_8260S_W

Report Date: 22-Sep-10

Sample ID: LCS-R100921-1	SampleType: LCS	Units: µg/L	Prep Date: 9/21/2010	RunNo: 140398							
Client ID: ZZZZZZ	Batch ID: 63199	SW5030	Analysis Date: 9/21/2010	SeqNo: 2737953							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Methyl-2-pentanone	131	25.0	125.0	0	104.4	0	200				
Acetone	141	25.0	125.0	0	113.2	0	200				
Acetonitrile	45	50.0	50.00	0	90.6	0	200				
Acrylonitrile	57.6	5.0	50.00	0	115.2	0	200				
Allyl chloride	46.2	5.0	50.00	0	92.4	0	200				
Benzene	50.4	2.0	50.00	0	100.8	82.7	117				
Bromobenzene	46.8	5.0	50.00	0	93.7	0	200				
Bromochloromethane	53.8	5.0	50.00	0	107.6	0	200				
Bromodichloromethane	50.1	5.0	50.00	0	100.2	87.4	117				
Bromoform	47.3	5.0	50.00	0	94.5	0	200				
Bromomethane	55.5	10	50.00	0	111.0	0	200				
Butyl acetate	46.8	25.0	50.00	0	93.5	0	200				
Carbon disulfide	52.0	5.0	50.00	0	104.1	0	200				
Carbon tetrachloride	45.2	5.0	50.00	0	90.5	78.8	130				
Chlorobenzene	46.4	5.0	50.00	0	92.8	84.5	114				
Chloroethane	54.0	10	50.00	0	108.0	0	200				
Chloroform	51.2	5.0	50.00	0	102.5	79	113				
Chloromethane	47.4	10	50.00	0	94.9	0	200				
Chloroprene	50.7	20.0	50.00	0	101.4	0	200				
cis-1,2-Dichloroethene	54.5	5.0	50.00	0	108.9	0	200				
cis-1,3-Dichloropropene	50.9	5.0	50.00	0	101.8	0	200				
cis-1,4-Dichloro-2-butene	44.0	5.0	50.00	0	87.9	0	200				
Cyclohexanone	213	50.0	250.0	0	85.2	0	200				
Dibromochloromethane	47.5	5.0	50.00	0	94.9	84	119				
Dibromomethane	55.1	5.0	50.00	0	110.1	0	200				
Dichlorodifluoromethane	31.8	10	50.00	0	63.5	0	200				
Ethyl acetate	51.2	10	50.00	0	102.4	0	200				
Ethyl ether	57.1	5.0	50.00	0	114.2	0	200				
Ethyl methacrylate	45.2	5.0	50.00	0	90.5	0	200				
Ethylbenzene	44.6	5.0	50.00	0	89.3	83	113				
Heptane	48.2	20.0	50.00	0	96.3	0	200				

Client: URS Corporation
Project: 21562291.00006
Lab Order: 10090812

Report Date: 22-Sep-10

ANALYTICAL QC SUMMARY REPORT

TestCode: V_8260S_W

Sample ID: LCS-R100921-1		SampType: LCS		Units: µg/L		Prep Date: 9/21/2010		RunNo: 140398			
Client ID: ZZZZZZ		Batch ID: 63199		SW5030		Analysis Date: 9/21/2010		SeqNo: 2737953			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachlorobutadiene	42.1	5.0	50.00	0	84.2	0	200				
Hexachloroethane	35.5	10	50.00	0	71.1	0	200				
Iodomethane	65.3	5.0	50.00	0	130.5	0	200				
Isopropylbenzene	43.6	5.0	50.00	0	87.3	0	200				
m,p-Xylenes	88.5	5.0	100.0	0	88.5	80.3	116				
Methacrylonitrile	53.7	10	50.00	0	107.4	0	200				
Methyl Methacrylate	49.6	5.0	50.00	0	99.3	0	200				
Methyl tert-butyl ether	52.2	2.0	50.00	0	104.4	69.1	121				
Methylacrylate	43.6	10	50.00	0	87.3	0	200				
Methylene chloride	48.3	5.0	50.00	0	96.6	79.1	122				
Naphthalene	46.1	10	50.00	0	92.2	60.4	129				
n-Butylbenzene	43.0	5.0	50.00	0	86.1	0	200				
n-Hexane	48.1	20.0	50.00	0	96.2	0	200				
Nitrobenzene	33	50.0	50.00	0	66.2	0	200				
n-Propylbenzene	45.1	5.0	50.00	0	90.2	0	200				
o-Xylene	44.1	5.0	50.00	0	88.2	83.2	120				
Pentachloroethane	46.1	20.0	50.00	0	92.3	0	200				
p-Isopropyltoluene	43.5	5.0	50.00	0	86.9	0	200				
Propionitrile	58.7	50.0	50.00	0	117.4	0	200				
sec-Butylbenzene	43.8	5.0	50.00	0	87.5	0	200				
Styrene	45.0	5.0	50.00	0	90.0	0	200				
tert-Butylbenzene	42.3	5.0	50.00	0	84.7	0	200				
Tetrachloroethene	43.1	5.0	50.00	0	86.2	68.7	113				
Tetrahydrofuran	52.0	20.0	50.00	0	104.0	0	200				
Toluene	45.6	5.0	50.00	0	91.3	79.6	116				
trans-1,2-Dichloroethene	52.5	5.0	50.00	0	104.9	0	200				
trans-1,3-Dichloropropene	46.2	5.0	50.00	0	92.5	0	200				
trans-1,4-Dichloro-2-butene	43.5	10	50.00	0	87.0	0	200				
Trichloroethene	49.4	5.0	50.00	0	98.7	79.4	111				
Trichlorofluoromethane	48.0	5.0	50.00	0	95.9	0	200				
Vinyl acetate	53.7	10	50.00	0	107.4	0	200				
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Client: URS Corporation
 Project: 21562291.00006
 Lab Order: 10090812

ANALYTICAL QC SUMMARY REPORT

TestCode: V_8260S_W

Report Date: 22-Sep-10

Sample ID: LCS-R100921-1	SampleType: LCS	Units: µg/L	Prep Date: 9/21/2010	RunNo: 140398							
Client ID: ZZZZZZ	Batch ID: 63199	SW5030	Analysis Date: 9/21/2010	SeqNo: 2737953							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Vinyl chloride	51.9	2.0	50.00	0	103.8	0	200				
Surr: 1,2-Dichloroethane-d4	50.3		50.00		100.6	74.7	129				
Surr: 4-Bromofluorobenzene	50.1		50.00		100.2	86	119				
Surr: Dibromofluoromethane	53.2		50.00		106.4	81.7	123				
Surr: Toluene-d8	46.4		50.00		92.8	84.3	114				

Sample ID: LCSD-R100921-1	SampleType: LCSD	Units: µg/L				Prep Date: 9/21/2010		RunNo: 140398			
Client ID: ZZZZZZ	Batch ID: 63199	SW5030				Analysis Date: 9/21/2010		SeqNo: 2737954			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	45.7	5.0	50.00	0	91.4	0	200	44.78	2.01	20	
1,1,1-Trichloroethane	51.6	5.0	50.00	0	103.2	82.5	119	48.92	5.33	20	
1,1,2,2-Tetrachloroethane	49.4	5.0	50.00	0	98.7	0	200	48.40	1.98	20	
1,1,2-Trichloro-1,2,2-Trifluoroethane	63.1	20.0	50.00	0	126.1	0	200	57.80	8.70	20	
1,1,2-Trichloroethane	48.7	5.0	50.00	0	97.3	0	200	48.46	0.412	20	
1,1-Dichloro-2-propanone	91.8	50.0	125.0	0	73.4	0	200	86.14	6.37	20	
1,1-Dichloroethane	56.1	5.0	50.00	0	112.2	0	200	53.93	3.93	20	
1,1-Dichloropropene	60.1	5.0	50.00	0	120.1	76.5	122	56.70	5.77	20	
1,2,3-Trichlorobenzene	54.4	5.0	50.00	0	108.7	0	200	50.64	7.07	20	
1,2,3-Trichloropropane	45.6	5.0	50.00	0	91.3	0	200	44.33	2.93	20	
1,2,3-Trimethylbenzene	47.5	5.0	50.00	0	94.9	0	200	46.59	1.85	20	
1,2,4-Trichlorobenzene	44.6	5.0	50.00	0	89.1	0	200	43.46	2.52	20	
1,2,4-Trichloropropane	45.9	5.0	50.00	0	91.8	0	200	44.32	3.55	20	
1,2,4-Trimethylbenzene	46.4	5.0	50.00	0	92.8	0	200	44.32	4.61	20	
1,2-Dibromo-3-chloropropane	46.9	5.0	50.00	0	93.9	0	200	44.36	5.65	20	
1,2-Dibromoethane	48.5	5.0	50.00	0	96.9	85	115	47.65	1.71	20	
1,2-Dichlorobenzene	46.0	5.0	50.00	0	92.0	86.4	116	44.56	3.22	20	
1,2-Dichloroethane	52.0	5.0	50.00	0	104.1	82	121	50.87	2.27	20	
1,2-Dichloropropane	55.3	5.0	50.00	0	110.6	0	200	53.73	2.86	20	
1,3,5-Trimethylbenzene	45.2	5.0	50.00	0	90.4	0	200	43.65	3.49	20	
1,3-Dichlorobenzene	46.6	5.0	50.00	0	93.2	85.2	116	45.06	3.38	20	

Client: URS Corporation
Project: 21562291.00006
Lab Order: 10090812

Report Date: 22-Sep-10

ANALYTICAL QC SUMMARY REPORT

TestCode: V_8260S_W

Sample ID: LCSD-R100921-1	SampType: LCSD	Units: µg/L	Prep Date: 9/21/2010	RunNo: 140398							
Client ID: ZZZZZZ	Batch ID: 63199	SW5030	Analysis Date: 9/21/2010	SeqNo: 2737954							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichloropropane	49.7	5.0	50.00	0	99.4	0	200	49.07	1.28	20	
1,4-Dichlorobenzene	46.3	5.0	50.00	0	92.6	83.6	117	44.94	2.96	20	
1-Chlorobutane	48.0	5.0	50.00	0	96.0	0	200	45.76	4.78	20	
2,2-Dichloropropane	51.5	5.0	50.00	0	103.0	0	200	49.63	3.68	20	
2-Butanone	132	25.0	125.0	0	105.7	65	124	128.5	2.81	20	
2-Chloroethyl vinyl ether	52.4	20.0	50.00	0	104.8	0	200	51.44	1.81	20	
2-Chlorotoluene	45.8	5.0	50.00	0	91.6	0	200	44.49	2.86	20	
2-Hexanone	119	25.0	125.0	0	95.2	0	200	116.2	2.36	20	
2-Nitropropane	32	50.0	50.00	0	63.8	0	200	32.85	0	20	J
4-Chlorotoluene	45.5	5.0	50.00	0	91.0	0	200	43.42	4.70	20	
4-Methyl-2-pentanone	133	25.0	125.0	0	106.1	0	200	130.5	1.60	20	
Acetone	143	25.0	125.0	0	114.4	0	200	141.5	1.03	20	
Acetonitrile	47	50.0	50.00	0	94.9	0	200	45.29	0	20	J
Acrylonitrile	58.2	5.0	50.00	0	116.5	0	200	57.59	1.14	20	
Allyl chloride	47.4	5.0	50.00	0	94.8	0	200	46.18	2.65	20	
Benzene	52.6	2.0	50.00	0	105.2	82.7	117	50.41	4.27	20	
Bromobenzene	47.6	5.0	50.00	0	95.2	0	200	46.83	1.61	20	
Bromochloromethane	55.5	5.0	50.00	0	110.9	0	200	53.79	3.06	20	
Bromodichloromethane	51.2	5.0	50.00	0	102.4	87.4	117	50.10	2.15	20	
Bromoform	47.5	5.0	50.00	0	95.0	0	200	47.26	0.528	20	
Bromomethane	58.5	10	50.00	0	116.9	0	200	55.51	5.19	20	
Butyl acetate	47.0	25.0	50.00	0	94.1	0	200	46.77	0.597	20	
Carbon disulfide	55.4	5.0	50.00	0	110.8	0	200	52.04	6.27	20	
Carbon tetrachloride	48.9	5.0	50.00	0	97.8	78.8	130	45.24	7.82	20	
Chlorobenzene	47.7	5.0	50.00	0	95.4	84.5	114	46.40	2.74	20	
Chloroethane	57.0	10	50.00	0	114.1	0	200	53.99	5.49	20	
Chloroform	53.1	5.0	50.00	0	106.2	79	113	51.25	3.51	20	
Chloromethane	49.5	10	50.00	0	99.0	0	200	47.45	4.27	20	
Chloroprene	53.5	20.0	50.00	0	107.0	0	200	50.70	5.41	20	
cis-1,2-Dichloroethene	56.2	5.0	50.00	0	112.5	0	200	54.46	3.20	20	
cis-1,3-Dichloropropene	52.2	5.0	50.00	0	104.5	0	200	50.88	2.62	20	

Client: URS Corporation
Project: 21562291.00006
Lab Order: 10090812

Report Date: 22-Sep-10

ANALYTICAL QC SUMMARY REPORT

TestCode: V_8260S_W

Sample ID: LCSD-R100921-1	SampleType: LCSD	Units: µg/L	Prep Date: 9/21/2010	RunNo: 140398							
Client ID: ZZZZZZ	Batch ID: 63199	SW5030	Analysis Date: 9/21/2010	SeqNo: 2737954							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,4-Dichloro-2-butene	44.0	5.0	50.00	0	88.1	0	200	43.96	0.159	20	
Cyclohexanone	217	50.0	250.0	0	86.9	0	200	213.1	1.93	20	
Dibromochloromethane	47.9	5.0	50.00	0	95.8	84	119	47.47	0.923	20	
Dibromomethane	55.4	5.0	50.00	0	110.8	0	200	55.06	0.598	20	
Dichlorodifluoromethane	34.6	10	50.00	0	69.3	0	200	31.77	8.67	20	
Ethyl acetate	51.9	10	50.00	0	103.8	0	200	51.22	1.30	20	
Ethyl ether	58.3	5.0	50.00	0	116.5	0	200	57.12	1.99	20	
Ethyl methacrylate	45.4	5.0	50.00	0	90.9	0	200	45.24	0.419	20	
Ethylbenzene	46.2	5.0	50.00	0	92.5	83	113	44.63	3.52	20	
Heptane	52.6	20.0	50.00	0	105.2	0	200	48.16	8.85	20	
Hexachlorobutadiene	46.7	5.0	50.00	0	93.5	0	200	42.09	10.5	20	
Hexachloroethane	37.6	10	50.00	0	75.3	0	200	35.53	5.77	20	
Iodomethane	68.3	5.0	50.00	0	136.5	0	200	65.26	4.51	20	
Isopropylbenzene	45.3	5.0	50.00	0	90.6	0	200	43.63	3.80	20	
m,p-Xylenes	92.0	5.0	100.0	0	92.0	80.3	116	88.46	3.97	20	
Methacrylonitrile	55.3	10	50.00	0	110.6	0	200	53.69	2.99	20	
Methyl Methacrylate	50.3	5.0	50.00	0	100.6	0	200	49.64	1.34	20	
Methyl tert-butyl ether	53.1	2.0	50.00	0	106.2	69.1	121	52.20	1.69	20	
Methylacrylate	44.2	10	50.00	0	88.4	0	200	43.63	1.32	20	
Methylene chloride	49.3	5.0	50.00	0	98.6	79.1	122	48.29	2.11	20	
Naphthalene	47.1	10	50.00	0	94.1	60.4	129	46.09	2.08	20	
n-Butylbenzene	45.4	5.0	50.00	0	90.7	0	200	43.04	5.27	20	
n-Hexane	52.9	20.0	50.00	0	105.9	0	200	48.11	9.54	20	
Nitrobenzene	25	50.0	50.00	0	49.5	0	200	33.12	0	20	J
n-Propylbenzene	47.3	5.0	50.00	0	94.6	0	200	45.10	4.76	20	
o-Xylene	45.5	5.0	50.00	0	90.9	83.2	120	44.10	3.06	20	
Pentachloroethane	46.6	20.0	50.00	0	93.1	0	200	46.14	0.928	20	
p-Isopropyltoluene	45.4	5.0	50.00	0	90.9	0	200	43.47	4.41	20	
Propionitrile	59.6	50.0	50.00	0	119.2	0	200	58.72	1.47	20	
sec-Butylbenzene	45.7	5.0	50.00	0	91.4	0	200	43.75	4.40	20	
Styrene	46.1	5.0	50.00	0	92.2	0	200	45.02	2.41	20	

Client: URS Corporation
Project: 21562291.00006
Lab Order: 10090812

Report Date: 22-Sep-10

ANALYTICAL QC SUMMARY REPORT

TestCode: V_8260S_W

Sample ID: LCSD-R100921-1	SampType: LCSD	Units: µg/L	Prep Date: 9/21/2010	RunNo: 140398
Client ID: ZZZZZZ	Batch ID: 63199	SW5030	Analysis Date: 9/21/2010	SeqNo: 2737954

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
tert-Butylbenzene	44.6	5.0	50.00	0	89.1	0	200	42.33	5.11	20	
Tetrachloroethene	45.9	5.0	50.00	0	91.7	68.7	113	43.11	6.18	20	
Tetrahydrofuran	51.9	20.0	50.00	0	103.7	0	200	52.01	0.270	20	
Toluene	47.1	5.0	50.00	0	94.2	79.6	116	45.63	3.19	20	
trans-1,2-Dichloroethene	55.7	5.0	50.00	0	111.5	0	200	52.46	6.06	20	
trans-1,3-Dichloropropene	47.2	5.0	50.00	0	94.4	0	200	46.23	2.12	20	
trans-1,4-Dichloro-2-butene	43.8	10	50.00	0	87.5	0	200	43.51	0.596	20	
Trichloroethene	51.8	5.0	50.00	0	103.5	79.4	111	49.35	4.77	20	
Trichlorofluoromethane	52.7	5.0	50.00	0	105.4	0	200	47.97	9.42	20	
Vinyl acetate	56.1	10	50.00	0	112.1	0	200	53.70	4.32	20	
Vinyl chloride	56.0	2.0	50.00	0	112.1	0	200	51.91	7.65	20	
Surr: 1,2-Dichloroethane-d4	50.7		50.00		101.4	74.7	129		0	0	
Surr: 4-Bromofluorobenzene	50.4		50.00		100.9	86	119		0	0	
Surr: Dibromofluoromethane	53.9		50.00		107.8	81.7	123		0	0	
Surr: Toluene-d8	46.2		50.00		92.5	84.3	114		0	0	

Sample ID: MBLK-R100921-1	SampType: MBLK	Units: µg/L	Prep Date: 9/21/2010	RunNo: 140398
Client ID: ZZZZZZ	Batch ID: 63199	SW5030	Analysis Date: 9/21/2010	SeqNo: 2737955

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0									
1,1,1-Trichloroethane	ND	5.0									
1,1,2,2-Tetrachloroethane	ND	5.0									
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	20.0									
1,1,2-Trichloroethane	ND	5.0									
1,1-Dichloro-2-propanone	ND	50.0									
1,1-Dichloroethane	ND	5.0									
1,1-Dichloroethene	ND	5.0									
1,1-Dichloropropene	ND	5.0									
1,2,3-Trichlorobenzene	ND	5.0									
1,2,3-Trichloropropane	ND	5.0									

Client: URS Corporation
 Project: 21562291.00006
 Lab Order: 10090812

Report Date: 22-Sep-10

ANALYTICAL QC SUMMARY REPORT

TestCode: V_8260S_W

Sample ID: MBLK-R100921-1	Sample Type: MBLK	Units: µg/L	Prep Date: 9/21/2010	RunNo: 140398							
Client ID: ZZZZZZ	Batch ID: 63199	SW5030	Analysis Date: 9/21/2010	SeqNo: 2737955							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,3-Trimethylbenzene	ND	5.0									
1,2,4-Trichlorobenzene	ND	5.0									
1,2,4-Trimethylbenzene	ND	5.0									
1,2-Dibromo-3-chloropropane	ND	5.0									
1,2-Dibromoethane	ND	5.0									
1,2-Dichlorobenzene	ND	5.0									
1,2-Dichloroethane	ND	5.0									
1,2-Dichloropropane	ND	5.0									
1,3,5-Trimethylbenzene	ND	5.0									
1,3-Dichlorobenzene	ND	5.0									
1,3-Dichloropropane	ND	5.0									
1,4-Dichlorobenzene	ND	5.0									
1-Chlorobutane	ND	5.0									
2,2-Dichloropropane	ND	5.0									
2-Butanone	ND	25.0									
2-Chloroethyl vinyl ether	ND	20.0									
2-Chlorotoluene	ND	5.0									
2-Hexanone	ND	25.0									
2-Nitropropane	ND	50.0									
4-Chlorotoluene	ND	5.0									
4-Methyl-2-pentanone	ND	25.0									
Acetone	ND	25.0									
Acetonitrile	ND	50.0									
Acrolein	ND	100									
Acrylonitrile	ND	5.0									
Allyl chloride	ND	5.0									
Benzene	ND	2.0									
Bromobenzene	ND	5.0									
Bromochloromethane	ND	5.0									
Bromodichloromethane	ND	5.0									
Bromoform	ND	5.0									

Client: URS Corporation
Project: 21562291.00006
Lab Order: 10090812

Report Date: 22-Sep-10

ANALYTICAL QC SUMMARY REPORT

TestCode: V_8260S_W

Sample ID: MBLK-R100921-1	SampType: MBLK	Units: µg/L	Prep Date: 9/21/2010	RunNo: 140398							
Client ID: ZZZZZZ	Batch ID: 63199	SW5030	Analysis Date: 9/21/2010	SeqNo: 2737955							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromomethane	ND	10									
Butyl acetate	ND	25.0									
Carbon disulfide	ND	5.0									
Carbon tetrachloride	ND	5.0									
Chlorobenzene	ND	5.0									
Chloroethane	ND	10									
Chloroform	ND	5.0									
Chloromethane	ND	10									
Chloroprene	ND	20.0									
cis-1,2-Dichloroethene	ND	5.0									
cis-1,3-Dichloropropene	ND	5.0									
cis-1,4-Dichloro-2-butene	ND	5.0									
Cyclohexanone	ND	50.0									
Dibromochloromethane	ND	5.0									
Dibromomethane	ND	5.0									
Dichlorodifluoromethane	ND	10									
Ethyl acetate	ND	10									
Ethyl ether	ND	5.0									
Ethyl methacrylate	ND	5.0									
Ethylbenzene	ND	5.0									
Heptane	ND	20.0									
Hexachlorobutadiene	ND	5.0									
Hexachloroethane	ND	10									
Iodomethane	ND	5.0									
Isopropylbenzene	ND	5.0									
m,p-Xylenes	ND	5.0									
Methacrylonitrile	ND	10									
Methyl Methacrylate	ND	5.0									
Methyl tert-butyl ether	ND	2.0									
Methylacrylate	ND	10									
Methylene chloride	ND	5.0									

Client: URS Corporation
Project: 21562291.00006
Lab Order: 10090812

Report Date: 22-Sep-10

ANALYTICAL QC SUMMARY REPORT

TestCode: V_8260S_W

Sample ID: MBLK-R100921-1	SampType: MBLK	Units: µg/L		Prep Date: 9/21/2010		RunNo: 140398					
Client ID: ZZZZZZ	Batch ID: 63199	SW5030		Analysis Date: 9/21/2010		SeqNo: 2737955					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	10									
n-Butylbenzene	ND	5.0									
n-Hexane	ND	20.0									
Nitrobenzene	ND	50.0									
n-Propylbenzene	ND	5.0									
o-Xylene	ND	5.0									
Pentachloroethane	ND	20.0									
p-Isopropyltoluene	ND	5.0									
Propionitrile	ND	50.0									
sec-Butylbenzene	ND	5.0									
Styrene	ND	5.0									
tert-Butylbenzene	ND	5.0									
Tetrachloroethene	ND	5.0									
Tetrahydrofuran	ND	20.0									
Toluene	ND	5.0									
trans-1,2-Dichloroethene	ND	5.0									
trans-1,3-Dichloropropene	ND	5.0									
trans-1,4-Dichloro-2-butene	ND	10									
Trichloroethene	ND	5.0									
Trichlorofluoromethane	ND	5.0									
Vinyl acetate	ND	10									
Vinyl chloride	ND	2.0									
Surr: 1,2-Dichloroethane-d4	50.7		50.00		101.4	74.7	129				
Surr: 4-Bromofluorobenzene	50.3		50.00		100.6	86	119				
Surr: Dibromofluoromethane	52.6		50.00		105.2	81.7	123				
Surr: Toluene-d8	46.1		50.00		92.2	84.3	114				

ENVIRONMENTAL TESTING LABORATORY

TEL: 618-344-1004

FAX: 618-344-1005

Client: URS Corporation

Project: 21562291.00006

Lab Order: 10090812

Report Date: 22-Sep-10

RECEIVING CHECK LIST

Carrier: Employee

Received By: DB

Completed by:

On:

21-Sep-10

Dawn Brantley

Reviewed by:

On:

21-Sep-10

Elizabeth A. Hurley

Pages to follow: Chain of custody

Extra pages included

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐	Temp °C 12.6
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°C - 6.0°C, or when samples are received on ice the same day as collected.

Water - vials have 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 ☐	

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

pg. 1 of 1 Work Order # 10090812

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

Client: LYRS Corp
Address: 1001 Highlands Plaza Dr. W #300
City / State / Zip: St. Louis, MO 63110
Contact: W. Pennington / J. Adams Phone: 314 429 0100
weirich - pennington@wiscorp.com
E-Mail: thomas_adams@wiscorp.com Fax: 618 254 1512

Samples on: ☒ Ice ☐ Blue Ice ☐ No Ice 13.6 °C
Preserved in: ☐ Lab ☐ Field FOR LAB USE ONLY
Lab Notes: *heads pack*
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

[illegible]

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 & YELLOW – LAB PINK – SAMPLER'S COPY

Groundwater Profiling Analytical Data

SDG 391815

SDG 392010

SDG 392196

SDG 392392

SDG 393929

SDG 394946

SDG 395267

SDG 395411

Roxana Groundwater Profiling Data Review

Laboratory SDG: 391815

Reviewer: Elizabeth Kunkel

Date Reviewed: 10/12/2010

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

Sample Identification	Sample Identification
GWP-22-112	GWP-22-81
TB-092910	

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 the compounds methylene chloride and bis (2-ethylhexyl) phthalate were detected in the method blank. Methylene chloride was detected in the trip blank. SVOC LCS/LCSD recoveries were outside evaluation criteria. MS/MSD SVOC recoveries were outside evaluation criteria. One SVOC surrogate recovery was outside evaluation criteria in a quality control sample. These issues are addressed further in the appropriate sections below.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

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

Yes

Blank ID	Parameter	Analyte	Concentration
TB-092910	VOCs	Methylene chloride	4.21 µg/L
575018-1-BKS	VOCs	Methylene chloride	6.79 µg/L
574812-1-BKS	SVOCs	bis (2-ethylhexyl) phthalate	0.002 mg/L

Qualifications due to blank contamination are included in the table below. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
GWP-22-112	SVOCs	bis (2-ethylhexyl) phthalate	-	U
GWP-22-81	SVOCs	bis (2-ethylhexyl) phthalate	-	U
GWP-22-112	VOCs	Methylene chloride	-	U
GWP-22-81	VOCs	Methylene chloride	-	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
574812-1-BKS	SVOCs	Acenaphthylene	110/114	4	46-108/25
574812-1-BKS	SVOCs	Benzoic acid	35/27	28	30-115/40
574812-1-BKS	SVOCs	2,4-Dinitrophenol	144/150	4	65-135/25
574812-1-BKS	SVOCs	2,6-Dinitrotoluene	118/124	5	49-122/38
574812-1-BKS	SVOCs	Pentachlorophenol	126/126	0	17-117/50

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.

Sample ID	Parameter	Analyte	Qualification
GWP-22-112	SVOCs	Benzoic acid	UJ
GWP-22-81	SVOCs	Benzoic acid	UJ

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery	Criteria
GWP-22-112-MS	SVOCs	2,4,6-Tribromophenol	125	10-123

Sample GWP-22-112-MS is a quality control sample and does not require qualification. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

Yes, sample GWP-22-112 was spiked and analyzed for VOCs and SVOCs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD Criteria
GWP-22-112	SVOCs	Acenaphthene	110/112	2	46-108/25
GWP-22-112	SVOCs	2,4-Dinitrophenol	169/171	1	65-135/25
GWP-22-112	SVOCs	2,6-Dinitrotoluene	122/124	2	49-122/38
GWP-22-112	SVOCs	Di-n-octyl phthalate	135/143	6	43-134/50
GWP-22-112	SVOCs	Pentachlorophenol	143/145	1	17-117/50

USEPA National Functional Guidelines for Superfund Organic Methods Data Review indicates that organic data does not require qualification based on MS/MSD data alone; LCS/LCSD recoveries for di-n-octyl phthalate were within evaluation criteria. Analytical data reported as non-detect and associated with MS/MSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. No qualification of data was required.

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

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

Not applicable; samples analyzed were not diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

No

Analytical Report 391815

for

URS Corporation-St. Louis

Project Manager: Wendy Pennington

900 S. Central Avenue

Roxana-Route 111/21562291.00006

04-OCT-10



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Reviewed
on
10/6/2010

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)

Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)

New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)

Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)

Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

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North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



04-OCT-10

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

Reference: XENCO Report No: **391815**
900 S. Central Avenue
Project Address: Roxana, Illinois

Wendy Pennington:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 391815. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 391815 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Carlos Castro

Managing Director, Texas

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



Sample Cross Reference 391815



URS Corporation-St. Louis, St. Louis, MO
900 S. Central Avenue

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
GWP-22-112 ✓	W	Sep-29-10 11:50		391815-001
GWP-22-81 ✓	W	Sep-29-10 15:45		391815-002
TB-092910 ✓	W	Sep-29-10 00:00		391815-003



CASE NARRATIVE

Client Name: URS Corporation-St. Louis

Project Name: 900 S. Central Avenue



Project ID: Roxana-Route 111/215622

Report Date: 04-OCT-10

Work Order Number: 391815

Date Received: 09/30/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-825793 SVOAs by SW-846 8270C

Benzoic Acid recovered below QC limits in the Blank Spike Duplicate. 2,4-Dinitrophenol, Acenaphthylene, Pentachlorophenol recovered above QC limits in the Blank Spike and Blank Spike Duplicate. 2,6-Dinitrotoluene recovered above QC limits in the Blank Spike Duplicate. Samples affected are: 391815-002, -001.

bis(2-ethylhexyl) phthalate detected in the blank below the RL but above the MDL; possible laboratory contamination.

Samples affected are: 391815-002, -001.

Surrogate 2,4,6-Tribromophenol recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis

Samples affected are: 391815-001 S, 391815-001 SD.

2,4-Dinitrophenol, Acenaphthylene, Pentachlorophenol, di-n-Octyl Phthalate recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. 2,6-Dinitrotoluene recovered above QC limits in the Matrix Spike Duplicate.

Samples affected are: 391815-002, -001.

The Laboratory Control Sample for di-n-Octyl Phthalate, 2,6-Dinitrotoluene is within laboratory Control Limits

Benzoic Acid reported below QC limits for Blank Spike and Blank spike Duplicate. Batch passes in accordance to Marginal Exceedence (NELAP Quality Systems, Appendix D). Daily CCV and ICV are within QC Limits. Sample data reported are valid.

Batch: LBA-825829 VOAs by SW-846 8260B

Methylene chloride present in method blank above MDL, suspected laboratory contamination.

Certificate of Analysis Summary 391815

URS Corporation-St. Louis, St. Louis, MO
Project Name: 900 S. Central Avenue



Project Id: Roxana-Route 111/21562291.00006
Contact: Wendy Pennington
Project Location: Roxana, Illinois

Date Received in Lab: Thu Sep-30-10 09:00 am
Report Date: 04-OCT-10
Project Manager: Debbie Simmons

Analysis Requested		Lab Id: Field Id: Depth: Matrix: Sampled:	391815-001 GWP-22-112 WATER Sep-29-10 11:50	391815-002 GWP-22-81 WATER Sep-29-10 15:45	391815-003 TB-092910 WATER Sep-29-10 00:00		
SVOAs by SW-846 8270C		Extracted: Analyzed: Units/RL:	Sep-30-10 11:21 Oct-04-10 11:12 mg/L RL	Sep-30-10 11:30 Oct-04-10 11:35 mg/L RL			
Acenaphthene			U 0.009	U 0.010			
Acenaphthylene			U 0.009	U 0.010			
Aniline (Phenylamine, Aminobenzene)			U 0.019	U 0.020			
Anthracene			U 0.009	U 0.010			
Benzo(a)anthracene			U 0.009	U 0.010			
Benzo(a)pyrene			U 0.009	U 0.010			
Benzo(b)fluoranthene			U 0.009	U 0.010			
Benzo(k)fluoranthene			U 0.009	U 0.010			
Benzo(g,h,i)perylene			U 0.009	U 0.010			
Benzoic Acid			U 0.047	U 0.051			
Benzyl Butyl Phthalate			U 0.009	U 0.010			
bis(2-chloroethoxy) methane			U 0.009	U 0.010			
bis(2-chloroethyl) ether			U 0.009	U 0.010			
bis(2-chloroisopropyl) ether			U 0.009	U 0.010			
bis(2-ethylhexyl) phthalate			0.00718 U 0.009	0.00228 U 0.010			
4-Bromophenyl-phenylether			U 0.009	U 0.010			
4-chloro-3-methylphenol			U 0.009	U 0.010			
4-Chloroaniline			U 0.019	U 0.020			
2-Chloronaphthalene			U 0.009	U 0.010			
2-Chlorophenol			U 0.009	U 0.010			
4-Chlorophenyl Phenyl Ether			U 0.009	U 0.010			
Chrysene			U 0.009	U 0.010			
Dibenz(a,h)anthracene			U 0.009	U 0.010			
Dibenzofuran			U 0.009	U 0.010			
di-n-Butyl Phthalate			U 0.009	U 0.010			



Certificate of Analysis Summary 391815

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



Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, Illinois

Date Received in Lab: Thu Sep-30-10 09:00 am

Report Date: 04-OCT-10

Project Manager: Debbie Simmons

Analysis Requested		Lab Id:	391815-001	391815-002	391815-003	
		Field Id:	GWP-22-112	GWP-22-81	TB-092910	
		Depth:				
		Matrix:	WATER	WATER	WATER	
		Sampled:	Sep-29-10 11:50	Sep-29-10 15:45	Sep-29-10 00:00	
SVOAs by SW-846 8270C		Extracted:	Sep-30-10 11:21	Sep-30-10 11:30		
		Analyzed:	Oct-04-10 11:12	Oct-04-10 11:35		
		Units/RL:	mg/L RL	mg/L RL		
	3,3-Dichlorobenzidine		U 0.009	U 0.010		
	2,4-Dichlorophenol		U 0.009	U 0.010		
	Diethyl Phthalate		U 0.009	U 0.010		
	Dimethyl Phthalate		U 0.009	U 0.010		
	2,4-Dimethylphenol		U 0.009	U 0.010		
	4,6-dinitro-2-methyl phenol		U 0.009	U 0.010		
	2,4-Dinitrophenol		U 0.019	U 0.020		
	2,4-Dinitrotoluene		U 0.009	U 0.010		
	2,6-Dinitrotoluene		U 0.009	U 0.010		
	di-n-Octyl Phthalate		U 0.009	U 0.010		
	Fluoranthene		U 0.009	U 0.010		
	Fluorene		U 0.009	U 0.010		
	Hexachlorobenzene		U 0.009	U 0.010		
	Hexachlorocyclopentadiene		U 0.009	U 0.010		
	Hexachloroethane		U 0.009	U 0.010		
	Indeno(1,2,3-c,d)Pyrene		U 0.009	U 0.010		
	Isophorone		U 0.009	U 0.010		
	2-Methylnaphthalene		U 0.009	U 0.010		
	2-methylphenol		U 0.009	U 0.010		
	3&4-Methylphenol		U 0.009	U 0.010		
	Naphthalene		U 0.009	0.004 J 0.010		
	2-Nitroaniline		U 0.019	U 0.020		
	3-Nitroaniline		U 0.019	U 0.020		
	4-Nitroaniline		U 0.019	U 0.020		
	Nitrobenzene		U 0.009	U 0.010		

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

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 391815

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

Project Name: 900 S. Central Avenue

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, Illinois



Date Received in Lab: Thu Sep-30-10 09:00 am

Report Date: 04-OCT-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	391815-001	391815-002	391815-003	
	Field Id:	GWP-22-112	GWP-22-81	TB-092910	
	Depth:				
	Matrix:	WATER	WATER	WATER	
	Sampled:	Sep-29-10 11:50	Sep-29-10 15:45	Sep-29-10 00:00	
SVOAs by SW-846 8270C	Extracted:	Sep-30-10 11:21	Sep-30-10 11:30		
	Analyzed:	Oct-04-10 11:12	Oct-04-10 11:35		
	Units/RL:	mg/L RL	mg/L RL		
	2-Nitrophenol	U 0.009	U 0.010		
	4-Nitrophenol	U 0.009	U 0.010		
	N-Nitrosodi-n-Propylamine	U 0.009	U 0.010		
	N-Nitrosodiphenylamine	U 0.009	U 0.010		
	Pentachlorophenol	U 0.009	U 0.010		
	Phenanthrene	U 0.009	U 0.010		
	Phenol	U 0.009	U 0.010		
	Pyrene	U 0.009	U 0.010		
	Pyridine	U 0.019	U 0.020		
	2,4,5-Trichlorophenol	U 0.009	U 0.010		
	2,4,6-Trichlorophenol	U 0.009	U 0.010		

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Managing Director, Texas





Certificate of Analysis Summary 391815

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

Project Name: 900 S. Central Avenue

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, Illinois



Date Received in Lab: Thu Sep-30-10 09:00 am

Report Date: 04-OCT-10

Project Manager: Debbie Simmons

Analysis Requested		Lab Id: Field Id: Depth: Matrix: Sampled:	391815-001 GWP-22-112 WATER Sep-29-10 11:50	391815-002 GWP-22-81 WATER Sep-29-10 15:45	391815-003 TB-092910 WATER Sep-29-10 00:00	
VOAs by SW-846 8260B		Extracted: Analyzed: Units/RL:	Oct-04-10 10:32 Oct-04-10 12:50 ug/L RL	Oct-04-10 10:38 Oct-04-10 13:13 ug/L RL	Oct-04-10 10:30 Oct-04-10 12:28 ug/L RL	
1,3-Dichlorobenzene			U 5.00	U 5.00	U 5.00	
1,4-Dichlorobenzene			U 5.00	U 5.00	U 5.00	
Dichlorodifluoromethane			U 5.00	U 5.00	U 5.00	
1,1-Dichloroethane			U 5.00	U 5.00	U 5.00	
1,2-Dichloroethane			U 5.00	U 5.00	U 5.00	
cis-1,2-Dichloroethene			U 5.00	U 5.00	U 5.00	
trans-1,2-dichloroethene			U 5.00	U 5.00	U 5.00	
1,2-Dichloropropane			U 5.00	U 5.00	U 5.00	
1,3-Dichloropropane			U 5.00	U 5.00	U 5.00	
2,2-Dichloropropane			U 5.00	U 5.00	U 5.00	
1,1-Dichloropropene			U 5.00	U 5.00	U 5.00	
cis-1,3-Dichloropropene			U 5.00	U 5.00	U 5.00	
trans-1,3-dichloropropene			U 5.00	U 5.00	U 5.00	
Ethylbenzene			U 5.00	U 5.00	U 5.00	
Hexachlorobutadiene			U 5.00	U 5.00	U 5.00	
Isopropylbenzene			U 5.00	U 5.00	U 5.00	
Methylene Chloride			0.0 ND 4.06 ug/L	0.0 ND 3.74 ug/L	4.21 JB 5.00	
n-Propylbenzene			U 5.00	U 5.00	U 5.00	
Styrene			U 5.00	U 5.00	U 5.00	
1,1,1,2-Tetrachloroethane			U 5.00	U 5.00	U 5.00	
1,1,2,2-Tetrachloroethane			U 5.00	U 5.00	U 5.00	
Tetrachloroethylene			U 5.00	U 5.00	U 5.00	
Toluene			U 5.00	U 5.00	U 5.00	
1,2,3-Trichlorobenzene			U 5.00	U 5.00	U 5.00	

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 391815

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

Project Name: 900 S. Central Avenue

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, Illinois



Date Received in Lab: Thu Sep-30-10 09:00 am

Report Date: 04-OCT-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	391815-001	391815-002	391815-003	
	Field Id:	GWP-22-112	GWP-22-81	TB-092910	
	Depth:				
	Matrix:	WATER	WATER	WATER	
	Sampled:	Sep-29-10 11:50	Sep-29-10 15:45	Sep-29-10 00:00	
VOAs by SW-846 8260B	Extracted:	Oct-04-10 10:32	Oct-04-10 10:38	Oct-04-10 10:30	
	Analyzed:	Oct-04-10 12:50	Oct-04-10 13:13	Oct-04-10 12:28	
	Units/RL:	ug/L RL	ug/L RL	ug/L RL	
	1,2,4-Trichlorobenzene	U 5.00	U 5.00	U 5.00	
	1,1,1-Trichloroethane	U 5.00	U 5.00	U 5.00	
	1,1,2-Trichloroethane	U 5.00	U 5.00	U 5.00	
	Trichloroethene	U 5.00	U 5.00	U 5.00	
	Trichlorofluoromethane	U 5.00	U 5.00	U 5.00	
	1,2,3-Trichloropropane	U 5.00	U 5.00	U 5.00	
	1,2,4-Trimethylbenzene	U 5.00	U 5.00	U 5.00	
	1,3,5-Trimethylbenzene	U 5.00	U 5.00	U 5.00	
	o-Xylene	U 5.00	U 5.00	U 5.00	
	m,p-Xylenes	U 10.0	U 10.0	U 10.0	
	Vinyl Acetate	U 50.0	U 50.0	U 50.0	
	Vinyl Chloride	U 2.00	U 2.00	U 2.00	

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Carlos Castro
Managing Director, Texas



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : VOAs by SW-846 8260B

Client : URS Corporation-St. Louis

Work Order #: 391815

Project ID: Roxana-Route 111/21562291.

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
TB-092910	Sep. 29, 2010	Sep. 30, 2010				Oct.4, 2010	14	5	P
GWP-22-81	Sep. 29, 2010	Sep. 30, 2010				Oct.4, 2010	14	5	P
GWP-22-112	Sep. 29, 2010	Sep. 30, 2010				Oct.4, 2010	14	5	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : SVOAs by SW-846 8270C

Client : URS Corporation-St. Louis

Work Order #: 391815

Project ID: Roxana-Route 111/21562291

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
GWP-22-81	Sep. 29, 2010	Sep. 30, 2010	Sep. 30, 2010	7	1	Oct.4, 2010	40	4	P
GWP-22-112	Sep. 29, 2010	Sep. 30, 2010	Sep. 30, 2010	7	1	Oct.4, 2010	40	4	P

F = These samples were analyzed outside the recommended holding time.

P = Samples analyzed within the recommended holding time.

Flagging Criteria

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

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Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 391815,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 825793

Sample: 574812-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 10:02

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.053	0.050	106	43-116	
2-Fluorophenol	0.031	0.050	62	21-100	
Nitrobenzene-d5	0.049	0.050	98	35-114	
Phenol-d6	0.020	0.050	40	10-94	
Terphenyl-D14	0.056	0.050	112	33-141	
2,4,6-Tribromophenol	0.057	0.050	114	10-123	

Lab Batch #: 825793

Sample: 574812-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 10:26

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.048	0.050	96	43-116	
2-Fluorophenol	0.030	0.050	60	21-100	
Nitrobenzene-d5	0.047	0.050	94	35-114	
Phenol-d6	0.020	0.050	40	10-94	
Terphenyl-D14	0.054	0.050	108	33-141	
2,4,6-Tribromophenol	0.060	0.050	120	10-123	

Lab Batch #: 825793

Sample: 574812-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 10:49

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.050	0.050	100	43-116	
2-Fluorophenol	0.031	0.050	62	21-100	
Nitrobenzene-d5	0.047	0.050	94	35-114	
Phenol-d6	0.021	0.050	42	10-94	
Terphenyl-D14	0.054	0.050	108	33-141	
2,4,6-Tribromophenol	0.060	0.050	120	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 391815, .

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 825793

Sample: 391815-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 11:12

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.047	0.047	100	43-116	
2-Fluorophenol	0.021	0.047	45	21-100	
Nitrobenzene-d5	0.044	0.047	94	35-114	
Phenol-d6	0.013	0.047	28	10-94	
Terphenyl-D14	0.050	0.047	106	33-141	
2,4,6-Tribromophenol	0.057	0.047	121	10-123	

Lab Batch #: 825793

Sample: 391815-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 11:35

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.049	0.051	96	43-116	
2-Fluorophenol	0.022	0.051	43	21-100	
Nitrobenzene-d5	0.046	0.051	90	35-114	
Phenol-d6	0.013	0.051	25	10-94	
Terphenyl-D14	0.053	0.051	104	33-141	
2,4,6-Tribromophenol	0.061	0.051	120	10-123	

Lab Batch #: 825793

Sample: 391815-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 11:59

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.049	0.051	96	43-116	
2-Fluorophenol	0.023	0.051	45	21-100	
Nitrobenzene-d5	0.047	0.051	92	35-114	
Phenol-d6	0.014	0.051	27	10-94	
Terphenyl-D14	0.055	0.051	108	33-141	
2,4,6-Tribromophenol	0.064	0.051	125	10-123	**

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \cdot A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 391815,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 825793

Sample: 391815-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 12:22

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.052	0.051	102	43-116	
2-Fluorophenol	0.025	0.051	49	21-100	
Nitrobenzene-d5	0.049	0.051	96	35-114	
Phenol-d6	0.015	0.051	29	10-94	
Terphenyl-D14	0.055	0.051	108	33-141	
2,4,6-Tribromophenol	0.067	0.051	131	10-123	**

Lab Batch #: 825829

Sample: 575018-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 11:05

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0495	0.0500	99	74-124	
Dibromofluoromethane	0.0508	0.0500	102	75-131	
1,2-Dichloroethane-D4	0.0529	0.0500	106	63-144	
Toluene-D8	0.0502	0.0500	100	80-117	

Lab Batch #: 825829

Sample: 575018-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 12:05

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0494	0.0500	99	74-124	
Dibromofluoromethane	0.0503	0.0500	101	75-131	
1,2-Dichloroethane-D4	0.0523	0.0500	105	63-144	
Toluene-D8	0.0507	0.0500	101	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 391815,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 825829

Sample: 391815-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 12:28

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0511	0.0500	102	74-124	
Dibromofluoromethane	0.0480	0.0500	96	75-131	
1,2-Dichloroethane-D4	0.0475	0.0500	95	63-144	
Toluene-D8	0.0497	0.0500	99	80-117	

Lab Batch #: 825829

Sample: 391815-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 12:50

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0489	0.0500	98	74-124	
Dibromofluoromethane	0.0496	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0474	0.0500	95	63-144	
Toluene-D8	0.0507	0.0500	101	80-117	

Lab Batch #: 825829

Sample: 391815-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 13:13

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0481	0.0500	96	74-124	
Dibromofluoromethane	0.0493	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0475	0.0500	95	63-144	
Toluene-D8	0.0498	0.0500	100	80-117	

Lab Batch #: 825829

Sample: 391815-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 13:36

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0506	0.0500	101	74-124	
Dibromofluoromethane	0.0504	0.0500	101	75-131	
1,2-Dichloroethane-D4	0.0480	0.0500	96	63-144	
Toluene-D8	0.0490	0.0500	98	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \cdot A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 391815,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 825829

Sample: 391815-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 13:58

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0504	0.0500	101	74-124	
Dibromofluoromethane	0.0512	0.0500	102	75-131	
1,2-Dichloroethane-D4	0.0478	0.0500	96	63-144	
Toluene-D8	0.0497	0.0500	99	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Project Name: 900 S. Central Avenue

Work Order #: 391815

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 825829

Sample: 575018-1-BKS

Matrix: Water

Date Analyzed: 10/04/2010

Date Prepared: 10/04/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK/BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Acetone	<20.0	100	128	128	60-140	
Benzene	<1.00	50.0	48.9	98	66-142	
Bromobenzene	<1.00	50.0	49.4	99	75-125	
Bromochloromethane	<1.00	50.0	52.5	105	73-125	
Bromodichloromethane	<1.00	50.0	52.5	105	75-125	
Bromoform	<1.00	50.0	57.5	115	75-125	
Bromomethane	<1.00	50.0	46.0	92	70-130	
2-Butanone	<10.0	100	125	125	60-140	
MTBE	<1.00	50.0	54.9	110	65-135	
n-Butylbenzene	<1.00	50.0	48.4	97	75-125	
Sec-Butylbenzene	<1.00	50.0	48.1	96	75-125	
tert-Butylbenzene	<1.00	50.0	49.1	98	75-125	
Carbon Disulfide	<10.0	50.0	51.1	102	60-140	
Carbon Tetrachloride	<1.00	50.0	50.5	101	62-125	
Chlorobenzene	<1.00	50.0	48.0	96	60-133	
Chloroethane	<2.00	50.0	50.1	100	70-130	
Chloroform	<1.00	50.0	51.6	103	74-125	
Chloromethane	<2.00	50.0	50.4	101	70-130	
2-Chlorotoluene	<1.00	50.0	48.3	97	73-125	
4-Chlorotoluene	<1.00	50.0	48.2	96	74-125	
p-Cymene (p-Isopropyltoluene)	<1.00	50.0	48.1	96	75-125	
Dibromochloromethane	<1.00	50.0	53.7	107	73-125	
1,2-Dibromo-3-Chloropropane	<1.00	50.0	56.8	114	59-125	
Dibromomethane	<1.00	50.0	55.1	110	69-127	
1,2-Dichlorobenzene	<1.00	50.0	50.2	100	75-125	
1,3-Dichlorobenzene	<1.00	50.0	47.9	96	75-125	
1,4-Dichlorobenzene	<1.00	50.0	47.5	95	75-125	
Dichlorodifluoromethane	<1.00	50.0	50.1	100	70-130	
1,1-Dichloroethane	<1.00	50.0	51.3	103	72-125	
1,2-Dichloroethane	<1.00	50.0	52.9	106	68-127	
1,1-Dichloroethene	<1.00	50.0	49.6	99	59-172	
cis-1,2-Dichloroethene	<1.00	50.0	51.9	104	75-125	
trans-1,2-dichloroethene	<1.00	50.0	51.6	103	75-125	

Blank Spike Recovery [D] = $100 \times [C]/[B]$

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 S. Central Avenue

Work Order #: 391815

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 825829

Sample: 575018-1-BKS

Matrix: Water

Date Analyzed: 10/04/2010

Date Prepared: 10/04/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,2-Dichloropropane	<1.00	50.0	52.0	104	74-125	
1,3-Dichloropropane	<1.00	50.0	51.5	103	75-125	
2,2-Dichloropropane	<1.00	50.0	49.4	99	75-125	
1,1-Dichloropropene	<1.00	50.0	49.7	99	75-125	
cis-1,3-Dichloropropene	<1.00	50.0	50.6	101	74-125	
trans-1,3-dichloropropene	<1.00	50.0	52.0	104	66-125	
Ethylbenzene	<1.00	50.0	47.0	94	75-125	
Hexachlorobutadiene	<1.00	50.0	44.6	89	75-125	
isopropylbenzene	<1.00	50.0	48.8	98	75-125	
Methylene Chloride	6.79	50.0	56.3	113	75-125	
n-Propylbenzene	<1.00	50.0	46.4	93	75-125	
Styrene	<1.00	50.0	50.4	101	75-125	
1,1,1,2-Tetrachloroethane	<1.00	50.0	54.4	109	72-125	
1,1,2,2-Tetrachloroethane	<1.00	50.0	56.5	113	74-125	
Tetrachloroethylene	<1.00	50.0	48.8	98	71-125	
Toluene	<1.00	50.0	52.0	104	59-139	
1,2,3-Trichlorobenzene	<1.00	50.0	45.3	91	75-137	
1,2,4-Trichlorobenzene	<1.00	50.0	46.6	93	75-135	
1,1,1-Trichloroethane	<1.00	50.0	50.9	102	75-125	
1,1,2-Trichloroethane	<1.00	50.0	53.2	106	75-127	
Trichloroethene	<1.00	50.0	49.3	99	62-137	
Trichlorofluoromethane	<1.00	50.0	49.5	99	67-125	
1,2,3-Trichloropropane	<1.00	50.0	53.5	107	75-125	
1,2,4-Trimethylbenzene	<1.00	50.0	48.3	97	75-125	
1,3,5-Trimethylbenzene	<1.00	50.0	48.6	97	70-125	
o-Xylene	<1.00	50.0	48.6	97	75-125	
m,p-Xylenes	<2.00	100	94.5	95	75-125	
Vinyl Acetate	<10.0	100	111	111	60-140	
Vinyl Chloride	<0.400	50.0	47.6	95	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 S. Central Avenue

Work Order #: 391815

Analyst: DAE

Lab Batch ID: 825793

Sample: 574812-1-BKS

Date Prepared: 09/30/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 10/04/2010

Matrix: Water

Units: mg/L

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
SVOAs by SW-846 8270C											
Acenaphthene	<0.001	0.050	0.054	108	0.05	0.057	114	5	27-132	31	
Acenaphthylene	<0.003	0.050	0.055	110	0.05	0.057	114	4	46-108	25	(H)
Aniline (Phenylamine, Aminobenzene)	<0.001	0.050	0.044	88	0.05	0.045	90	2	5-115	25	
Anthracene	<0.001	0.050	0.056	112	0.05	0.056	112	0	47-145	25	
Benzo(a)anthracene	<0.001	0.050	0.055	110	0.05	0.056	112	2	33-143	25	
Benzo(a)pyrene	<0.001	0.050	0.059	118	0.05	0.059	118	0	65-135	25	
Benzo(b)fluoranthene	<0.001	0.050	0.058	116	0.05	0.060	120	3	24-159	25	
Benzo(k)fluoranthene	<0.001	0.050	0.060	120	0.05	0.058	116	3	25-125	25	
Benzo(g,h,i)perylene	<0.001	0.050	0.057	114	0.05	0.057	114	0	65-135	25	
Benzoic Acid	<0.012	0.150	0.053	35	0.15	0.040	27	28	30-115	40	(L)
Benzyl Butyl Phthalate	<0.001	0.050	0.062	124	0.05	0.064	128	3	65-135	25	
bis(2-chloroethoxy) methane	<0.001	0.050	0.047	94	0.05	0.048	96	2	54-188	25	
bis(2-chloroethyl) ether	<0.001	0.050	0.048	96	0.05	0.048	96	0	65-135	25	
bis(2-chloroisopropyl) ether	<0.001	0.050	0.046	92	0.05	0.046	92	0	65-135	25	
bis(2-ethylhexyl) phthalate	<0.002	0.050	0.065	130	0.05	0.065	130	0	8-158	25	
4-Bromophenyl-phenylether	<0.001	0.050	0.054	108	0.05	0.053	106	2	65-135	25	
4-chloro-3-methylphenol	<0.001	0.050	0.050	100	0.05	0.051	102	2	16-129	33	
4-Chloroaniline	<0.004	0.050	0.053	106	0.05	0.054	108	2	9-128	25	
2-Chloronaphthalene	<0.003	0.050	0.054	108	0.05	0.057	114	5	65-135	25	
2-Chlorophenol	<0.002	0.050	0.050	100	0.05	0.052	104	4	16-116	40	

Relative Percent Difference RPD = $200 \times [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 \times (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 \times (F)/[E]$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 391815

Analyst: DAE

Lab Batch ID: 825793

Sample: 574812-1-BKS

Date Prepared: 09/30/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 10/04/2010

Matrix: Water

Units: mg/L

SVOAs by SW-846 8270C											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
4-Chlorophenyl Phenyl Ether	<0.001	0.050	0.051	102	0.05	0.052	104	2	65-135	25	
Chrysene	<0.001	0.050	0.055	110	0.05	0.055	110	0	65-135	25	
Dibenz(a,h)anthracene	<0.001	0.050	0.058	116	0.05	0.059	118	2	50-125	25	
Dibenzofuran	<0.003	0.050	0.053	106	0.05	0.056	112	6	52-125	25	
di-n-Butyl Phthalate	<0.001	0.050	0.059	118	0.05	0.061	122	3	49-135	50	
3,3-Dichlorobenzidine	<0.003	0.050	0.061	122	0.05	0.062	124	2	12-147	25	
2,4-Dichlorophenol	<0.001	0.050	0.051	102	0.05	0.052	104	2	65-135	25	
Diethyl Phthalate	<0.001	0.050	0.056	112	0.05	0.058	116	4	37-125	50	
Dimethyl Phthalate	<0.001	0.050	0.056	112	0.05	0.058	116	4	25-175	50	
2,4-Dimethylphenol	<0.003	0.050	0.050	100	0.05	0.051	102	2	32-119	25	
4,6-dinitro-2-methyl phenol	<0.003	0.050	0.075	150	0.05	0.076	152	1	2-181	25	
2,4-Dinitrophenol	<0.002	0.050	0.072	144	0.05	0.075	150	4	65-135	25	H
2,4-Dinitrotoluene	<0.003	0.050	0.064	128	0.05	0.066	132	3	22-135	38	
2,6-Dinitrotoluene	<0.001	0.050	0.059	118	0.05	0.062	124	5	49-122	38	H
di-n-Octyl Phthalate	<0.001	0.050	0.066	132	0.05	0.067	134	2	43-134	50	
Fluoranthene	<0.001	0.050	0.054	108	0.05	0.055	110	2	47-125	25	
Fluorene	<0.001	0.050	0.053	106	0.05	0.056	112	6	48-139	25	
Hexachlorobenzene	<0.001	0.050	0.056	112	0.05	0.057	114	2	46-133	25	
Hexachlorocyclopentadiene	<0.003	0.050	0.034	68	0.05	0.036	72	6	41-125	25	
Hexachloroethane	<0.003	0.050	0.049	98	0.05	0.051	102	4	25-153	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 391815

Analyst: DAE

Lab Batch ID: 825793

Sample: 574812-1-BKS

Units: mg/L

Date Prepared: 09/30/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 10/04/2010

Matrix: Water

SVOAs by SW-846 8270C											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Indeno(1,2,3-c,d)Pyrene	<0.001	0.050	0.057	114	0.05	0.058	116	2	27-160	25	
Isophorone	<0.001	0.050	0.048	96	0.05	0.048	96	0	26-175	25	
2-Methylnaphthalene	<0.003	0.050	0.051	102	0.05	0.052	104	2	25-175	25	
2-methylphenol	<0.003	0.050	0.046	92	0.05	0.047	94	2	14-176	25	
3&4-Methylphenol	<0.002	0.100	0.041	41	0.1	0.043	43	5	14-176	25	
Naphthalene	<0.002	0.050	0.052	104	0.05	0.054	108	4	26-175	25	
2-Nitroaniline	<0.001	0.050	0.055	110	0.05	0.057	114	4	65-135	25	
3-Nitroaniline	<0.006	0.050	0.061	122	0.05	0.063	126	3	65-135	25	
4-Nitroaniline	<0.004	0.050	0.061	122	0.05	0.063	126	3	65-135	25	
Nitrobenzene	<0.001	0.050	0.047	94	0.05	0.048	96	2	65-135	25	
2-Nitrophenol	<0.001	0.050	0.061	122	0.05	0.064	128	5	65-135	25	
4-Nitrophenol	<0.001	0.050	0.035	70	0.05	0.039	78	11	10-80	50	
N-Nitrosodi-n-Propylamine	<0.001	0.050	0.046	92	0.05	0.046	92	0	22-134	38	
N-Nitrosodiphenylamine	<0.003	0.050	0.057	114	0.05	0.059	118	3	2-196	25	
Pentachlorophenol	<0.003	0.050	0.063	126	0.05	0.063	126	0	17-117	50	H
Phenanthrene	<0.001	0.050	0.055	110	0.05	0.056	112	2	65-135	25	
Phenol	<0.001	0.050	0.024	48	0.05	0.025	50	4	12-110	25	
Pyrene	<0.001	0.050	0.056	112	0.05	0.057	114	2	23-152	31	
Pyridine	<0.006	0.050	0.031	62	0.05	0.032	64	3	16-86	28	
2,4,5-Trichlorophenol	<0.001	0.050	0.054	108	0.05	0.057	114	5	65-135	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$
All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: 900 S. Central Avenue

Work Order #: 391815

Analyst: DAE

Lab Batch ID: 825793

Sample: 574812-1-BKS

Units: mg/L

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 10/04/2010

Matrix: Water

Date Prepared: 09/30/2010

Batch #: 1

SVOAs by SW-846 8270C		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
2,4,6-Trichlorophenol		<0.002	0.050	0.054	108	0.05	0.057	114	5	65-135	25	

Relative Percent Difference RPD = $200 * [(C-F) / (C+F)]$
Blank Spike Recovery [D] = $100 * (C) / [B]$
Blank Spike Duplicate Recovery [G] = $100 * (F) / [E]$
All results are based on MDL and Validated for QC Purposes

Work Order #: 391815

Lab Batch ID: 825793

Date Analyzed: 10/04/2010

Reporting Units: mg/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 391815-001 S Batch #: 1 Matrix: Water

Date Prepared: 09/30/2010 Analyst: DAE

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
Reporting Units: mg/L	SVOAs by SW-846 8270C										
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Acenaphthene	<0.009	0.051	0.056	110	0.051	0.057	112	2	27-132	31	
Acenaphthylene	<0.009	0.051	0.056	110	0.051	0.057	112	2	46-108	25	X
Aniline (Phenylamine, Aminobenzene)	<0.019	0.051	0.039	76	0.051	0.042	82	7	5-115	25	
Anthracene	<0.009	0.051	0.056	110	0.051	0.057	112	2	47-145	25	
Benzo(a)anthracene	<0.009	0.051	0.056	110	0.051	0.057	112	2	33-143	25	
Benzo(a)pyrene	<0.009	0.051	0.058	114	0.051	0.060	118	3	65-135	25	
Benzo(b)fluoranthene	<0.009	0.051	0.058	114	0.051	0.060	118	3	24-159	25	
Benzo(k)fluoranthene	<0.009	0.051	0.057	112	0.051	0.060	118	5	25-125	25	
Benzo(g,h,i)perylene	<0.009	0.051	0.058	114	0.051	0.059	116	2	65-135	25	
Benzoic Acid	<0.047	0.153	0.052	34	0.152	0.056	37	7	30-115	40	
Benzyl Butyl Phthalate	<0.009	0.051	0.067	131	0.051	0.068	133	1	65-135	25	
bis(2-chloroethoxy) methane	<0.009	0.051	0.046	90	0.051	0.049	96	6	54-188	25	
bis(2-chloroethyl) ether	<0.009	0.051	0.046	90	0.051	0.050	98	8	65-135	25	
bis(2-chloroisopropyl) ether	<0.009	0.051	0.044	86	0.051	0.048	94	9	65-135	25	
bis(2-ethylhexyl) phthalate	0.002	0.051	0.069	131	0.051	0.071	135	3	8-158	25	
4-Bromophenyl-phenylether	<0.009	0.051	0.054	106	0.051	0.056	110	4	65-135	25	
4-chloro-3-methylphenol	<0.009	0.051	0.051	100	0.051	0.051	100	0	16-129	33	
4-Chloroaniline	<0.019	0.051	0.051	100	0.051	0.051	100	0	9-128	25	
2-Chloronaphthalene	<0.009	0.051	0.055	108	0.051	0.058	114	5	65-135	25	
2-Chlorophenol	<0.009	0.051	0.047	92	0.051	0.051	100	8	16-116	40	
4-Chlorophenyl Phenyl Ether	<0.009	0.051	0.054	106	0.051	0.054	106	0	65-135	25	
Chrysene	<0.009	0.051	0.057	112	0.051	0.057	112	0	65-135	25	
Dibenz(a,h)anthracene	<0.009	0.051	0.059	116	0.051	0.060	118	2	50-125	25	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times (C-F)/(C+F)$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Work Order #: 391815

Lab Batch ID: 825793

Date Analyzed: 10/04/2010

Reporting Units: mg/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 391815-001 S Batch #: 1 Matrix: Water

Date Prepared: 09/30/2010 Analyst: DAE

SVOAs by SW-846 8270C										
Analytes										
Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Dibenzofuran	<0.009	0.051	0.056	110	0.051	0.056	110	0	52-125	25
di-n-Butyl Phthalate	<0.009	0.051	0.062	122	0.051	0.063	124	2	49-135	50
3,3-Dichlorobenzidine	<0.009	0.051	0.039	76	0.051	0.045	88	14	12-147	25
2,4-Dichlorophenol	<0.009	0.051	0.051	100	0.051	0.054	106	6	65-135	25
Diethyl Phthalate	<0.009	0.051	0.060	118	0.051	0.061	120	2	37-125	50
Dimethyl Phthalate	<0.009	0.051	0.059	116	0.051	0.059	116	0	25-175	50
2,4-Dimethylphenol	<0.009	0.051	0.049	96	0.051	0.052	102	6	32-119	25
4,6-dinitro-2-methyl phenol	<0.009	0.051	0.086	169	0.051	0.085	167	1	2-181	25
2,4-Dinitrophenol	<0.019	0.051	0.086	169	0.051	0.087	171	1	65-135	25
2,4-Dinitrotoluene	<0.009	0.051	0.067	131	0.051	0.067	131	0	22-135	38
2,6-Dinitrotoluene	<0.009	0.051	0.062	122	0.051	0.063	124	2	49-122	38
di-n-Octyl Phthalate	<0.009	0.051	0.069	135	0.051	0.073	143	6	43-134	50
Fluoranthene	<0.009	0.051	0.054	106	0.051	0.055	108	2	47-125	25
Fluorene	<0.009	0.051	0.056	110	0.051	0.057	112	2	48-139	25
Hexachlorobenzene	<0.009	0.051	0.057	112	0.051	0.058	114	2	46-133	25
Hexachlorocyclopentadiene	<0.009	0.051	0.035	69	0.051	0.035	69	0	41-125	25
Hexachloroethane	<0.009	0.051	0.049	96	0.051	0.053	104	8	25-153	25
Indeno(1,2,3-c,d)Pyrene	<0.009	0.051	0.058	114	0.051	0.059	116	2	27-160	25
Isophorone	<0.009	0.051	0.047	92	0.051	0.049	96	4	26-175	25
2-Methylnaphthalene	<0.009	0.051	0.051	100	0.051	0.054	106	6	25-175	25
2-methylphenol	<0.009	0.051	0.040	78	0.051	0.042	82	5	14-176	25
3&4-Methylphenol	<0.009	0.102	0.035	34	0.102	0.037	36	6	14-176	25
Naphthalene	<0.009	0.051	0.051	100	0.051	0.055	108	8	26-175	25

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times (C-F)/(C+F)$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Project Name: 900 S. Central Avenue

Work Order #: 391815

Lab Batch ID: 825793

Date Analyzed: 10/04/2010

Reporting Units: mg/L

Project ID: Roxana-Route 111/21562291.00006

Batch #: 1 Matrix: Water

QC-Sample ID: 391815-001 S Analyst: DAE

Date Prepared: 09/30/2010

SVOAs by SW-846 8270C										
Analytes										
Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
2-Nitroaniline	0.051	0.050	98	0.051	0.049	96	2	65-135	25	
3-Nitroaniline	0.051	0.063	124	0.051	0.063	124	0	65-135	25	
4-Nitroaniline	0.051	0.063	124	0.051	0.063	124	0	65-135	25	
Nitrobenzene	0.051	0.047	92	0.051	0.050	98	6	65-135	25	
2-Nitrophenol	0.051	0.062	122	0.051	0.067	131	8	65-135	25	
4-Nitrophenol	0.051	0.031	61	0.051	0.031	61	0	10-80	50	
N-Nitrosodi-n-Propylamine	0.051	0.046	90	0.051	0.048	94	4	22-134	38	
N-Nitrosodiphenylamine	0.051	0.058	114	0.051	0.060	118	3	2-196	25	
Pentachlorophenol	0.051	0.073	143	0.051	0.074	145	1	17-117	50	X
Phenanthrene	0.051	0.056	110	0.051	0.057	112	2	65-135	25	
Phenol	0.051	0.018	35	0.051	0.019	37	5	12-110	25	
Pyrene	0.051	0.058	114	0.051	0.059	116	2	23-152	31	
Pyridine	0.051	0.025	49	0.051	0.028	55	11	16-86	28	
2,4,5-Trichlorophenol	0.051	0.059	116	0.051	0.059	116	0	65-135	25	
2,4,6-Trichlorophenol	0.051	0.058	114	0.051	0.059	116	2	65-135	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, N/A = Not Applicable, N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Work Order #: 391815

Lab Batch ID: 825829

Date Analyzed: 10/04/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 391815-001 S Batch #: 1 Matrix: Water

Date Prepared: 10/04/2010 Analyst: EZB

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
Reporting Units: ug/L											
VOAs by SW-846 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Acetone	<100	100	104	104	100	104	104	0	60-140	21	
Benzene	<5.00	50.0	46.2	92	50.0	45.1	90	2	66-142	21	
Bromobenzene	<5.00	50.0	51.0	102	50.0	50.6	101	1	75-125	20	
Bromochloromethane	<5.00	50.0	49.0	98	50.0	50.3	101	3	73-125	20	
Bromodichloromethane	<5.00	50.0	52.0	104	50.0	51.6	103	1	75-125	20	
Bromoform	<5.00	50.0	49.7	99	50.0	49.5	99	0	75-125	20	
Bromomethane	<5.00	50.0	37.1	74	50.0	34.9	70	6	70-130	20	
2-Butanone	<50.0	100	88.4	88	100	92.2	92	4	60-140	20	
MTBE	1.52	50.0	49.0	95	50.0	50.7	98	3	65-135	20	
n-Butylbenzene	<5.00	50.0	48.1	96	50.0	48.7	97	1	75-125	20	
Sec-Butylbenzene	<5.00	50.0	50.0	100	50.0	50.3	101	1	75-125	20	
tert-Butylbenzene	<5.00	50.0	52.1	104	50.0	52.0	104	0	75-125	20	
Carbon Disulfide	<50.0	50.0	46.5	93	50.0	47.8	96	3	60-140	20	
Carbon Tetrachloride	<5.00	50.0	49.1	98	50.0	47.7	95	3	62-125	20	
Chlorobenzene	<5.00	50.0	47.9	96	50.0	46.9	94	2	60-133	21	
Chloroethane	<10.0	50.0	40.9	82	50.0	41.0	82	0	70-130	20	
Chloroform	<5.00	50.0	49.2	98	50.0	50.4	101	2	74-125	20	
Chloromethane	<10.0	50.0	39.1	78	50.0	38.7	77	1	70-130	20	
2-Chlorotoluene	<5.00	50.0	51.6	103	50.0	51.1	102	1	73-125	20	
4-Chlorotoluene	<5.00	50.0	49.6	99	50.0	48.8	98	2	74-125	20	
p-Cymene (p-Isopropyltoluene)	<5.00	50.0	50.4	101	50.0	50.2	100	0	75-125	20	
Dibromochloromethane	<5.00	50.0	51.8	104	50.0	50.8	102	2	73-125	20	
1,2-Dibromo-3-Chloropropane	<5.00	50.0	49.1	98	50.0	50.7	101	3	59-125	28	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times [(C-F)/(C+F)]$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Project Name: 900 S. Central Avenue

Work Order #: 391815

Lab Batch ID: 825829

Date Analyzed: 10/04/2010

Reporting Units: ug/L

QC- Sample ID: 391815-001 S

Date Prepared: 10/04/2010

Batch #: 1 Matrix: Water

Analyst: EZB

Project ID: Roxana-Route 111/21562291.00006

VOAs by SW-846 8260B											
Analytes											
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Dibromomethane	<5.00	50.0	50.3	101	50.0	48.9	98	3	69-127	23	
1,2-Dichlorobenzene	<5.00	50.0	51.2	102	50.0	51.4	103	0	75-125	20	
1,3-Dichlorobenzene	<5.00	50.0	51.0	102	50.0	50.3	101	1	75-125	20	
1,4-Dichlorobenzene	<5.00	50.0	48.9	98	50.0	47.8	96	2	75-125	20	
Dichlorodifluoromethane	<5.00	50.0	43.3	87	50.0	42.6	85	2	70-130	23	
1,1-Dichloroethane	<5.00	50.0	51.9	104	50.0	53.3	107	3	72-125	20	
1,2-Dichloroethane	<5.00	50.0	49.1	98	50.0	48.3	97	2	68-127	20	
1,1-Dichloroethene	<5.00	50.0	47.6	95	50.0	48.9	98	3	59-172	22	
cis-1,2-Dichloroethene	<5.00	50.0	48.7	97	50.0	50.1	100	3	75-125	20	
trans-1,2-dichloroethene	<5.00	50.0	47.1	94	50.0	47.3	95	0	75-125	20	
1,2-Dichloropropane	<5.00	50.0	50.6	101	50.0	50.1	100	1	74-125	20	
1,3-Dichloropropane	<5.00	50.0	48.9	98	50.0	47.8	96	2	75-125	20	
2,2-Dichloropropane	<5.00	50.0	48.5	97	50.0	50.7	101	4	75-125	20	
1,1-Dichloropropene	<5.00	50.0	39.4	79	50.0	39.0	78	1	75-125	20	
cis-1,3-Dichloropropene	<5.00	50.0	49.0	98	50.0	47.4	95	3	74-125	20	
trans-1,3-dichloropropene	<5.00	50.0	45.6	91	50.0	45.4	91	0	66-125	20	
Ethylbenzene	<5.00	50.0	47.6	95	50.0	46.7	93	2	75-125	20	
Hexachlorobutadiene	<5.00	50.0	44.2	88	50.0	45.9	92	4	75-125	20	
isopropylbenzene	<5.00	50.0	49.0	98	50.0	49.6	99	1	75-125	20	
Methylene Chloride	4.06	50.0	57.7	107	50.0	59.1	110	2	75-125	35	
n-Propylbenzene	<5.00	50.0	49.2	98	50.0	50.2	100	2	75-125	20	
Styrene	<5.00	50.0	51.3	103	50.0	51.1	102	0	75-125	51	
1,1,1,2-Tetrachloroethane	<5.00	50.0	52.7	105	50.0	53.9	108	2	72-125	20	

Matrix Spike Percent Recovery $[D] = 100\%(C-A)/B$

Relative Percent Difference $RPD = 200\%(C-F)/(C+F)$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100\%(F-A)/E$

Project Name: 900 S. Central Avenue

Work Order #: 391815

Lab Batch ID: 825829

Date Analyzed: 10/04/2010

Reporting Units: ug/L

QC- Sample ID: 391815-001 S

Date Prepared: 10/04/2010

Batch #: 1 Matrix: Water

Analyst: EZB

Project ID: Roxana-Route 111/21562291.00006

VOAs by SW-846 8260B										
Analytes										
Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
1,1,2,2-Tetrachloroethane	<5.00	50.0	103	50.0	53.5	107	4	74-125	31	
Tetrachloroethylene	<5.00	50.0	96	50.0	47.3	95	2	71-125	20	
Toluene	<5.00	50.0	101	50.0	49.8	100	1	59-139	21	
1,2,3-Trichlorobenzene	<5.00	50.0	88	50.0	45.1	90	2	75-137	20	
1,2,4-Trichlorobenzene	<5.00	50.0	93	50.0	48.9	98	5	75-135	20	
1,1,1-Trichloroethane	<5.00	50.0	95	50.0	50.7	101	6	75-125	20	
1,1,2-Trichloroethane	<5.00	50.0	99	50.0	49.1	98	1	75-127	20	
Trichloroethane	<5.00	50.0	96	50.0	46.0	92	4	62-137	24	
Trichlorofluoromethane	<5.00	50.0	95	50.0	47.5	95	0	67-125	20	
1,2,3-Trichloropropane	<5.00	50.0	105	50.0	52.5	105	0	75-125	20	
1,2,4-Trimethylbenzene	<5.00	50.0	101	50.0	49.7	99	1	75-125	20	
1,3,5-Trimethylbenzene	<5.00	50.0	101	50.0	50.8	102	1	70-125	20	
o-Xylene	<5.00	50.0	101	50.0	50.1	100	0	75-125	20	
m,p-Xylenes	<10.0	100	96	100	94.5	95	1	75-125	20	
Vinyl Acetate	<50.0	100	101	100	102	102	1	60-140	20	
Vinyl Chloride	<2.00	50.0	79	50.0	39.2	78	1	75-125	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times [(C-F)/(C+F)]$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Shell Oil Products Chain Of Custody Record



LAB (LOCATION)
4143 Greenbrier Dr. Stafford, TX 77477
XENCO (PH: 281-240-4200 FAX: 281-240-1200)
CALSCIENCE ()
TEST AMERICA ()
SPL ()
OTHER ()

Print Bill To Contact Name: Wendy Pennington

INCIDENT # (ENV SERVICES) 9 7 2 1 6 6 4 0

DATE 9/29/10

PAGE 1 of 1

PO #

SAP #

SOPUS SITE ADDRESS (Street, City and State): 900 S. CENTRAL AVENUE, ROXANA, ILLINOIS 62004

WENDY PENNINGTON

ROXANA-Route 111 / 21562291.00006

LAB USE ONLY 391815-6

URS CORPORATION - FIELD OFFICE

170 E. RAND AVENUE

HARTFORD, ILLINOIS 62048

ST. LOUIS, MISSOURI 63110

OFF: 314-743-4108 OFF: 314-743-4108

CELL: 314-452-8929 CELL: 314-452-8929

TURNAROUND TIME (CALENDAR DAYS) 3 DAYS

DELIVERABLES LEVEL 1 LEVEL 2 LEVEL 3

TEMPERATURE ON RECEIPT C° Cooler #1 49C Cooler #2

SPECIAL INSTRUCTIONS OR NOTES:

Please include "J" values on Level 2 Reports

Please provide sample receipt upon login

RESULTS NEEDED ON WEEKEND

OTHER (SPECIFY) EDD

COOLERS

SHELL CONTRACT RATE APPLIES

LAB USE ONLY	Field Sample Identification		SAMPLING		PRESERVATIVE				NO. OF CONT.	VOC	SVOC	PID (ppm)	Laboratory Notes
	DATE	TIME	MATRIX	HCL	HA03	HA04	HA05	HA06					
	GWP-22-112	9/29/10 1150	Water	3					2	✓	✓	0.0	
	GWP-22-112MS	9/29/10 1150	Water	3					1	✓	✓	0.0	
	GWP-22-112MSB	9/29/10 1150	Water	3					1	✓	✓	0.0	
	GWP-22-81	9/29/10 1545	Water	3					2	✓	✓	0.0	
	GWP-22-81 NS	9/29/10 1545	Water							✓	✓	0.0	
	TB-092910		Water	2						✓			
			Water										
			Water										
			Water										
			Water										
			Water										

Relinquished By (Signature) *Wendy Pennington*

Relinquished By (Signature) *Wendy Pennington*

Relinquished By (Signature) *Wendy Pennington*

Received By (Signature) *Wendy Pennington*

Received By (Signature) *Wendy Pennington*

Received By (Signature) *Wendy Pennington*

Date: 9/29/10 Time: 1800

Date: 9/30/10 Time: 0900



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: U125
Date/Time: 9/30/10
Lab ID #: 391815
Initials: JK

ML

Sample Receipt Checklist

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	<u>N/A</u>	<u>JK</u>
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	N/A	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No. <u>2358</u>	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
<u>53</u> lbs <u>49</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
☐ Initial and Backup Temperature confirm out of temperature conditions
☐ Client understands and would like to proceed with analysis

Pizza Drive West
110

Signature: _____
Date: _____

Deliver *with sales*
9/24/10 @ 1800



FedEx® **US Airbill**
Express

FedEx
Tracking
Number

8735 5972 8439

1 From This portion can be removed for Recipient's records.

Date 4/24/10 FedEx Tracking Number 873559728439

Sender's
Name

John J. ...

Phone 1-800-437-3110

Company

...

Address

...

City

...

State

...

ZIP

...

2 Your Internal Billing Reference

3 To

Recipient's
Name

...

Phone 202-240-4200

Company

...

Address

...

We cannot deliver to PO boxes or P.O. ZIP codes

Address

...

Use this line for the HOLD location address or for communication at your shipping address.

City

...

State

...

ZIP

...

0495038437



8735 5972 8439

fedex.com 1800.GoFedEx 1800.463.3339

RECIPIENT: PEEL HERE

Recipient's Copy

Packages up to 150 lbs.

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Roxana Groundwater Profiling Data Review

Laboratory SDG: 392010

Reviewer: Elizabeth Kunkel

Date Reviewed: 11/1/2010

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

Sample Identification	Sample Identification
GWP-22-61	TB-093010
GWP-23-37.5	GWP-23-37.5-Dup

1.0 Data Package Completeness

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

Yes, however, COC designated sample ID GWP-23-37 is a field duplicate of sample GWP-23-37.5 and will be reported as GWP-23-37.5-Dup.

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 one SVOC LCSD recovery and one SVOC LCS/LCSD RPD were outside evaluation criteria. The compound bis(2-ethylhexyl) phthalate was detected in the method blank. Additionally, VOCs were detected in the trip blank. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated that samples were received by the laboratory at 1.8°C which is outside the 4°C ± 2°C criteria. Samples were received in good condition and not frozen; 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
TB-093010	VOCs	Acetone	26.4 µg/L
TB-093010	VOCs	Methylene chloride	10.3 µg/L
574921-1-BKS	SVOCs	bis(2-ethylhexyl) phthalate	0.002 mg/L

Qualifications due to blank contamination are included in the following table. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
GWP-22-61	SVOCs	bis(2-ethylhexyl) phthalate	-	U
GWP-23-37.5	SVOCs	bis(2-ethylhexyl) phthalate	-	U
GWP-23-37.5-Dup	SVOCs	bis(2-ethylhexyl) phthalate	-	U
GWP-22-61	VOCs	Acetone	-	U
GWP-22-61	VOCs	Methylene Chloride	11.1	U
GWP-23-37.5	VOCs	Acetone	102	U
GWP-23-37.5	VOCs	Methylene Chloride	10.3	U
GWP-23-37.5-Dup	VOCs	Acetone	-	U
GWP-23-37.5-Dup	VOCs	Methylene Chloride	11.2	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
574921-1-BKS	SVOCs	Benzo(k)fluoranthene	94/72	27	25-125/25
574921-1-BKS	SVOCs	N-Nitrosodi-n-Propylamine	128/142	10	22-134/38

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 is required if the RPD alone is outside evaluation criteria. No qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

No

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
GWP-23-37.5	GWP-23-37.5-Dup

Were field duplicates within evaluation criteria?

Yes

10.0 Sample Dilutions

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

Not applicable; samples analyzed did not require a dilution.

11.0 Additional Qualifications

Were additional qualifications applied?

No

Analytical Report 392010

for

URS Corporation-St. Louis

Project Manager: Wendy Pennington

900 S. Central Avenue

Roxana Route 111/21562291.00006

05-OCT-10



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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

Reviewed
on
10/7/2010

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)

Xenco-Boca Raton (EPA Lab Code: FL01273):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



05-OCT-10

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

Reference: XENCO Report No: **392010**
900 S. Central Avenue
Project Address: Roxana , IL 62084

Wendy Pennington:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 392010. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 392010 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Carlos Castro

Managing Director, Texas

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

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Sample Cross Reference 392010



URS Corporation-St. Louis, St. Louis, MO
900 S. Central Avenue

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
GWP-22-61 ✓	W	Sep-30-10 10:40		392010-001
TB-093010 ✓	W	Sep-30-10 00:00		392010-002
GWP-23-37.5 ✓	W	Sep-30-10 16:30		392010-003
GWP-23-37.5-Dup	W	Sep-30-10 15:30		392010-004



CASE NARRATIVE

Client Name: URS Corporation-St. Louis
Project Name: 900 S. Central Avenue



Project ID: Roxana Route 111/215622
Work Order Number: 392010

Report Date: 05-OCT-10
Date Received: 10/01/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-825829 VOAs by SW-846 8260B

Methylene chloride present in method blank above MDL, suspected laboratory contamination.

Sample: 392010-002	SW8260B / Water

<i>Both trip blanks contained ~0.5mL headspace.</i>

Batch: LBA-826058 SVOAs by SW-846 8270C

N-Nitrosodi-n-Propylamine recovered above QC limits in the Blank Spike Duplicate. No samples reporting hits for this compound.

Samples affected are: 392010-001, -004, -003.

Benzo(k)fluoranthene RPD was outside laboratory control limits.

Samples affected are: 392010-001, -004, -003

bis(2-ethylhexyl) phthalate detected in the blank below the RL but above the MDL; possible laboratory contamination.

Samples affected are: 392010-001, -004, -003.

Certificate of Analysis Summary 392010

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

Project Id: Roxana Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084

Project Name: 900 S. Central Avenue

Date Received in Lab: Fri Oct-01-10 09:00 am

Report Date: 05-OCT-10

Project Manager: Debbie Simmons



Analysis Requested	Lab Id: Field Id: Depth: Matrix: Sampled: Extracted: Analyzed: Units/RL:	392010-001 GWP-22-61 WATER Sep-30-10 10:40 mg/L RL	392010-002 TB-093010 WATER Sep-30-10 00:00	392010-003 GWP-23-37.5 WATER Sep-30-10 16:30 mg/L RL	392010-004 GWP-23-37.5-74p WATER Sep-30-10 15:30 mg/L RL
SVOAs by SW-846 8270C					
Acenaphthene		U 0.010		U 0.011	U 0.010
Acenaphthylene		U 0.010		U 0.011	U 0.010
Aniline (Phenylamine, Aminobenzene)		U 0.021		U 0.021	U 0.021
Anthracene		U 0.010		U 0.011	U 0.010
Benzo(a)anthracene		U 0.010		U 0.011	U 0.010
Benzo(a)pyrene		U 0.010		U 0.011	U 0.010
Benzo(b)fluoranthene		U 0.010		U 0.011	U 0.010
Benzo(k)fluoranthene		U 0.010		U 0.011	U 0.010
Benzo(g,h,i)perylene		U 0.010		U 0.011	U 0.010
Benzoic Acid		U 0.052		U 0.053	U 0.052
Benzyl Butyl Phthalate		U 0.010		U 0.011	U 0.010
bis(2-chloroethoxy) methane		U 0.010		U 0.011	U 0.010
bis(2-chloroethyl) ether		U 0.010		U 0.011	U 0.010
bis(2-chloroisopropyl) ether		U 0.010		U 0.011	U 0.010
bis(2-ethylhexyl) phthalate		U 0.010		U 0.011	U 0.010
4-Bromophenyl-phenylether		U 0.010		U 0.011	U 0.010
4-chloro-3-methylphenol		U 0.010		U 0.011	U 0.010
4-Chloroaniline		U 0.021		U 0.021	U 0.021
2-Chloronaphthalene		U 0.010		U 0.011	U 0.010
2-Chlorophenol		U 0.010		U 0.011	U 0.010
4-Chlorophenyl Phenyl Ether		U 0.010		U 0.011	U 0.010
Chrysene		U 0.010		U 0.011	U 0.010
Dibenz(a,h)anthracene		U 0.010		U 0.011	U 0.010
Dibenzofuran		U 0.010		U 0.011	U 0.010
di-n-Butyl Phthalate		U 0.010		U 0.011	U 0.010

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Carlos Castro

Managing Director, Texas

Certificate of Analysis Summary 392010

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

Project Name: 900 S. Central Avenue

Project Id: Roxana Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084



Date Received in Lab: Fri Oct-01-10 09:00 am

Report Date: 05-OCT-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id: Field Id: Depth: Matrix: Sampled:	392010-001 GWP-22-61 WATER Sep-30-10 10:40	392010-002 TB-093010 WATER Sep-30-10 00:00	392010-003 GWP-23-37.5 WATER Sep-30-10 16:30	392010-004 GWP-23-37.5-Dup WATER Sep-30-10 15:30	
	Extracted: Analyzed: Units/RL:	Oct-01-10 13:15 Oct-05-10 15:17 mg/L RL		Oct-01-10 13:18 Oct-05-10 15:38 mg/L RL	Oct-01-10 13:21 Oct-05-10 16:00 mg/L RL	
SVOAs by SW-846 8270C						
3,3-Dichlorobenzidine		U 0.010		U 0.011	U 0.010	
2,4-Dichlorophenol		U 0.010		U 0.011	U 0.010	
Diethyl Phthalate		U 0.010		U 0.011	U 0.010	
Dimethyl Phthalate		U 0.010		U 0.011	U 0.010	
2,4-Dimethylphenol		U 0.010		U 0.011	U 0.010	
4,6-dinitro-2-methyl phenol		U 0.010		U 0.011	U 0.010	
2,4-Dinitrophenol		U 0.021		U 0.021	U 0.021	
2,4-Dinitrotoluene		U 0.010		U 0.011	U 0.010	
2,6-Dinitrotoluene		U 0.010		U 0.011	U 0.010	
di-n-Octyl Phthalate		U 0.010		U 0.011	U 0.010	
Fluoranthene		U 0.010		U 0.011	U 0.010	
Fluorene		U 0.010		U 0.011	U 0.010	
Hexachlorobenzene		U 0.010		U 0.011	U 0.010	
Hexachlorocyclopentadiene		U 0.010		U 0.011	U 0.010	
Hexachloroethane		U 0.010		U 0.011	U 0.010	
Indeno(1,2,3-c,d)Pyrene		U 0.010		U 0.011	U 0.010	
Isophorone		U 0.010		U 0.011	U 0.010	
2-Methylnaphthalene		U 0.010		U 0.011	U 0.010	
2-methylphenol		U 0.010		U 0.011	U 0.010	
3&4-Methylphenol		U 0.010		U 0.011	U 0.010	
Naphthalene		U 0.010		0.003 J 0.011	U 0.010	
2-Nitroaniline		U 0.021		U 0.021	U 0.021	
3-Nitroaniline		U 0.021		U 0.021	U 0.021	
4-Nitroaniline		U 0.021		U 0.021	U 0.021	
Nitrobenzene		U 0.010		U 0.011	U 0.010	

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 392010

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

Project Name: 900 S. Central Avenue

Project Id: Roxana Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084



Date Received in Lab: Fri Oct-01-10 09:00 am

Report Date: 05-OCT-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	392010-001	392010-002	392010-003	392010-004	
	Field Id:	GWP-22-61	TB-093010	GWP-23-37.5	GWP-23-37.5 - Dup	
	Depth:					
	Matrix:	WATER	WATER	WATER	WATER	
	Sampled:	Sep-30-10 10:40	Sep-30-10 00:00	Sep-30-10 16:30	Sep-30-10 15:30	
SVOAs by SW-846 8270C	Extracted:	Oct-01-10 13:15		Oct-01-10 13:18	Oct-01-10 13:21	
	Analyzed:	Oct-05-10 15:17		Oct-05-10 15:38	Oct-05-10 16:00	
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL	
		U 0.010	U 0.011	U 0.011	U 0.010	
		U 0.010	U 0.011	U 0.011	U 0.010	
2-Nitrophenol		U 0.010		U 0.011	U 0.010	
4-Nitrophenol		U 0.010		U 0.011	U 0.010	
N-Nitrosodi-n-Propylamine		U 0.010		U 0.011	U 0.010	
N-Nitrosodiphenylamine		U 0.010		U 0.011	U 0.010	
Pentachlorophenol		U 0.010		U 0.011	U 0.010	
Phenanthrene		U 0.010		U 0.011	U 0.010	
Phenol		U 0.010		U 0.011	U 0.010	
Pyrene		U 0.010		U 0.011	U 0.010	
Pyridine		U 0.021		U 0.021	U 0.021	
2,4,5-Trichlorophenol		U 0.010		U 0.011	U 0.010	
2,4,6-Trichlorophenol		U 0.010		U 0.011	U 0.010	

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Version: 1.0%

Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 392010

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

Project Id: Roxana Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084



Date Received in Lab: Fri Oct-01-10 09:00 am

Report Date: 05-OCT-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	392010-001	392010-002	392010-003	392010-004
	Extracted:	Analyzed:	Units/RL:	ug/L	RL	ug/L	RL	ug/L	RL
VOAs by SW-846 8260B									
Acetone				ND	3.38 J	5.00	5.00	10.2	100
Benzene				U	5.00	5.00	5.00	5.00	5.00
Bromobenzene				U	5.00	5.00	5.00	5.00	5.00
Bromochloromethane				U	5.00	5.00	5.00	5.00	5.00
Bromodichloromethane				U	5.00	5.00	5.00	5.00	5.00
Bromoform				U	5.00	5.00	5.00	5.00	5.00
Bromomethane				U	5.00	5.00	5.00	5.00	5.00
2-Butanone				U	50.0	50.0	50.0	50.0	50.0
MTBE				3.38 J	5.00	5.00	5.00	5.00	5.00
n-Butylbenzene				U	5.00	5.00	5.00	5.00	5.00
Sec-Butylbenzene				U	5.00	5.00	5.00	5.00	5.00
tert-Butylbenzene				U	5.00	5.00	5.00	5.00	5.00
Carbon Disulfide				U	50.0	50.0	50.0	50.0	50.0
Carbon Tetrachloride				U	5.00	5.00	5.00	5.00	5.00
Chlorobenzene				U	5.00	5.00	5.00	5.00	5.00
Chloroethane				U	10.0	10.0	10.0	10.0	10.0
Chloroform				U	5.00	5.00	5.00	5.00	5.00
Chloromethane				U	10.0	10.0	10.0	10.0	10.0
2-Chlorotoluene				U	5.00	5.00	5.00	5.00	5.00
4-Chlorotoluene				U	5.00	5.00	5.00	5.00	5.00
p-Cymene (p-Isopropyltoluene)				U	5.00	5.00	5.00	5.00	5.00
Dibromochloromethane				U	5.00	5.00	5.00	5.00	5.00
1,2-Dibromo-3-Chloropropane				U	5.00	5.00	5.00	5.00	5.00
Dibromomethane				U	5.00	5.00	5.00	5.00	5.00
1,2-Dichlorobenzene				U	5.00	5.00	5.00	5.00	5.00

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Carlos Castro

Managing Director, Texas



Certificate of Analysis Summary 392010

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

Project Id: Roxana Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084



Date Received in Lab: Fri Oct-01-10 09:00 am

Report Date: 05-OCT-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:		392010-001		392010-002		392010-003		392010-004	
	Field Id:	Depth:	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
VOAs by SW-846 8260B	Sampled:		Sep-30-10 10:40	Sep-30-10 00:00	Sep-30-10 15:30	Sep-30-10 16:30	Sep-30-10 16:30	Sep-30-10 15:30	Sep-30-10 15:30	Sep-30-10 15:30
	Extracted:		Oct-04-10 15:00	Oct-04-10 15:02	Oct-04-10 15:04	Oct-04-10 15:06	Oct-04-10 15:06	Oct-04-10 15:04	Oct-04-10 15:04	Oct-04-10 15:04
	Analyzed:		Oct-04-10 15:53	Oct-04-10 16:15	Oct-04-10 16:38	Oct-04-10 17:01	Oct-04-10 17:01	Oct-04-10 16:38	Oct-04-10 16:38	Oct-04-10 16:38
	Units/RL:		ug/L RL	ug/L RL	ug/L RL	ug/L RL	ug/L RL	ug/L RL	ug/L RL	ug/L RL
	1,3-Dichlorobenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	1,4-Dichlorobenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Dichlorodifluoromethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	1,1-Dichloroethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	1,2-Dichloroethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	1,1,1-Trichloroethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	cis-1,2-Dichloroethene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	trans-1,2-dichloroethene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	1,2-Dichloropropane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	1,3-Dichloropropane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	2,2-Dichloropropane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	1,1-Dichloropropene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	cis-1,3-Dichloropropene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	trans-1,3-dichloropropene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Ethylbenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Hexachlorobutadiene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	isopropylbenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Methylene Chloride		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	n-Propylbenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Styrene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	1,1,1,2-Tetrachloroethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	1,1,2,2-Tetrachloroethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Tetrachloroethylene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Toluene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	1,2,3-Trichlorobenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
			U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 392010

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



Project Id: Roxana Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084

Project Name: 900 S. Central Avenue

Date Received in Lab: Fri Oct-01-10 09:00 am

Report Date: 05-OCT-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id: Field Id: Depth: Matrix: Sampled:	392010-001 GWP-22-61 WATER Sep-30-10 10:40	392010-002 TB-093010 WATER Sep-30-10 00:00	392010-003 GWP-23-37.5 WATER Sep-30-10 16:30	392010-004 GWP-23-37.5 WATER Sep-30-10 15:30	Dup
		Extracted: Analyzed: Units/RL:	Oct-04-10 15:00 Oct-04-10 15:53 ug/L RL	Oct-04-10 15:02 Oct-04-10 16:15 ug/L RL	Oct-04-10 15:04 Oct-04-10 16:38 ug/L RL	
VOAs by SW-846 8260B						
1,2,4-Trichlorobenzene		U 5.00	U 5.00	U 5.00	U 5.00	
1,1,1-Trichloroethane		U 5.00	U 5.00	U 5.00	U 5.00	
1,1,2-Trichloroethane		U 5.00	U 5.00	U 5.00	U 5.00	
Trichloroethene		U 5.00	U 5.00	U 5.00	U 5.00	
Trichlorofluoromethane		U 5.00	U 5.00	U 5.00	U 5.00	
1,2,3-Trichloropropane		U 5.00	U 5.00	U 5.00	U 5.00	
1,2,4-Trimethylbenzene		U 5.00	U 5.00	U 5.00	U 5.00	
1,3,5-Trimethylbenzene		U 5.00	U 5.00	U 5.00	U 5.00	
o-Xylene		U 5.00	U 5.00	U 5.00	U 5.00	
m,p-Xylenes		U 10.0	U 10.0	U 10.0	U 10.0	
Vinyl Acetate		U 50.0	U 50.0	U 50.0	U 50.0	
Vinyl Chloride		U 2.00	U 2.00	U 2.00	U 2.00	

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Version: 1%

Carlos Castro
Managing Director, Texas



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : VOAs by SW-846 8260B

Client : URS Corporation-St. Louis

Work Order #: 392010

Project ID: Roxana Route 111/21562291

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
GWP-23-37	Sep. 30, 2010	Oct. 1, 2010				Oct. 4, 2010	14	4	P
TB-093010	Sep. 30, 2010	Oct. 1, 2010				Oct. 4, 2010	14	4	P
GWP-22-61	Sep. 30, 2010	Oct. 1, 2010				Oct. 4, 2010	14	4	P
GWP-23-37.5	Sep. 30, 2010	Oct. 1, 2010				Oct. 4, 2010	14	4	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : SVOAs by SW-846 8270C

Client : URS Corporation-St. Louis

Work Order #: 392010

Project ID: Roxana Route 111/21562291

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
GWP-22-61	Sep. 30, 2010	Oct. 1, 2010	Oct. 1, 2010	7	1	Oct.5, 2010	40	4	P
GWP-23-37.5	Sep. 30, 2010	Oct. 1, 2010	Oct. 1, 2010	7	1	Oct.5, 2010	40	4	P
GWP-23-37	Sep. 30, 2010	Oct. 1, 2010	Oct. 1, 2010	7	1	Oct.5, 2010	40	4	P

F = These samples were analyzed outside the recommended holding time.

P = Samples analyzed within the recommended holding time.

Flagging Criteria

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

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9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 392010,

Project ID: Roxana Route 111/21562291.00006

Lab Batch #: 826058

Sample: 574921-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/05/10 12:43

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.049	0.050	98	43-116	
2-Fluorophenol	0.030	0.050	60	21-100	
Nitrobenzene-d5	0.050	0.050	100	35-114	
Phenol-d6	0.019	0.050	38	10-94	
Terphenyl-D14	0.052	0.050	104	33-141	
2,4,6-Tribromophenol	0.047	0.050	94	10-123	

Lab Batch #: 826058

Sample: 574921-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/05/10 13:05

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.049	0.050	98	43-116	
2-Fluorophenol	0.030	0.050	60	21-100	
Nitrobenzene-d5	0.049	0.050	98	35-114	
Phenol-d6	0.019	0.050	38	10-94	
Terphenyl-D14	0.052	0.050	104	33-141	
2,4,6-Tribromophenol	0.051	0.050	102	10-123	

Lab Batch #: 826058

Sample: 574921-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/05/10 13:27

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.051	0.050	102	43-116	
2-Fluorophenol	0.033	0.050	66	21-100	
Nitrobenzene-d5	0.051	0.050	102	35-114	
Phenol-d6	0.023	0.050	46	10-94	
Terphenyl-D14	0.052	0.050	104	33-141	
2,4,6-Tribromophenol	0.054	0.050	108	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 392010,

Project ID: Roxana Route 111/21562291.00006

Lab Batch #: 826058

Sample: 392010-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/05/10 15:17

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.050	0.052	96	43-116	
2-Fluorophenol	0.030	0.052	58	21-100	
Nitrobenzene-d5	0.052	0.052	100	35-114	
Phenol-d6	0.020	0.052	38	10-94	
Terphenyl-D14	0.055	0.052	106	33-141	
2,4,6-Tribromophenol	0.060	0.052	115	10-123	

Lab Batch #: 826058

Sample: 392010-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/05/10 15:38

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.051	0.053	96	43-116	
2-Fluorophenol	0.032	0.053	60	21-100	
Nitrobenzene-d5	0.054	0.053	102	35-114	
Phenol-d6	0.021	0.053	40	10-94	
Terphenyl-D14	0.055	0.053	104	33-141	
2,4,6-Tribromophenol	0.057	0.053	108	10-123	

Lab Batch #: 826058

Sample: 392010-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/05/10 16:00

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.050	0.052	96	43-116	
2-Fluorophenol	0.031	0.052	60	21-100	
Nitrobenzene-d5	0.052	0.052	100	35-114	
Phenol-d6	0.020	0.052	38	10-94	
Terphenyl-D14	0.054	0.052	104	33-141	
2,4,6-Tribromophenol	0.057	0.052	110	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 392010,

Project ID: Roxana Route 111/21562291.00006

Lab Batch #: 825829

Sample: 575018-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 11:05

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0495	0.0500	99	74-124	
Dibromofluoromethane	0.0508	0.0500	102	75-131	
1,2-Dichloroethane-D4	0.0529	0.0500	106	63-144	
Toluene-D8	0.0502	0.0500	100	80-117	

Lab Batch #: 825829

Sample: 575018-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 12:05

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0494	0.0500	99	74-124	
Dibromofluoromethane	0.0503	0.0500	101	75-131	
1,2-Dichloroethane-D4	0.0523	0.0500	105	63-144	
Toluene-D8	0.0507	0.0500	101	80-117	

Lab Batch #: 825829

Sample: 391815-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 13:36

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0506	0.0500	101	74-124	
Dibromofluoromethane	0.0504	0.0500	101	75-131	
1,2-Dichloroethane-D4	0.0480	0.0500	96	63-144	
Toluene-D8	0.0490	0.0500	98	80-117	

Lab Batch #: 825829

Sample: 391815-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 13:58

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0504	0.0500	101	74-124	
Dibromofluoromethane	0.0512	0.0500	102	75-131	
1,2-Dichloroethane-D4	0.0478	0.0500	96	63-144	
Toluene-D8	0.0497	0.0500	99	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 392010,

Project ID: Roxana Route 111/21562291.00006

Lab Batch #: 825829

Sample: 392010-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 15:53

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0502	0.0500	100	74-124	
Dibromofluoromethane	0.0490	0.0500	98	75-131	
1,2-Dichloroethane-D4	0.0480	0.0500	96	63-144	
Toluene-D8	0.0488	0.0500	98	80-117	

Lab Batch #: 825829

Sample: 392010-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 16:15

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0508	0.0500	102	74-124	
Dibromofluoromethane	0.0472	0.0500	94	75-131	
1,2-Dichloroethane-D4	0.0496	0.0500	99	63-144	
Toluene-D8	0.0479	0.0500	96	80-117	

Lab Batch #: 825829

Sample: 392010-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 16:38

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0512	0.0500	102	74-124	
Dibromofluoromethane	0.0495	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0478	0.0500	96	63-144	
Toluene-D8	0.0490	0.0500	98	80-117	

Lab Batch #: 825829

Sample: 392010-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 17:01

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0516	0.0500	103	74-124	
Dibromofluoromethane	0.0487	0.0500	97	75-131	
1,2-Dichloroethane-D4	0.0509	0.0500	102	63-144	
Toluene-D8	0.0482	0.0500	96	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Project Name: 900 S. Central Avenue

Work Order #: 392010

Project ID: Roxana Route 111/21562291.00006

Lab Batch #: 825829

Sample: 575018-1-BKS

Matrix: Water

Date Analyzed: 10/04/2010

Date Prepared: 10/04/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Acetone	<20.0	100	128	128	60-140	
Benzene	<1.00	50.0	48.9	98	66-142	
Bromobenzene	<1.00	50.0	49.4	99	75-125	
Bromochloromethane	<1.00	50.0	52.5	105	73-125	
Bromodichloromethane	<1.00	50.0	52.5	105	75-125	
Bromoform	<1.00	50.0	57.5	115	75-125	
Bromomethane	<1.00	50.0	46.0	92	70-130	
2-Butanone	<10.0	100	125	125	60-140	
MTBE	<1.00	50.0	54.9	110	65-135	
n-Butylbenzene	<1.00	50.0	48.4	97	75-125	
Sec-Butylbenzene	<1.00	50.0	48.1	96	75-125	
tert-Butylbenzene	<1.00	50.0	49.1	98	75-125	
Carbon Disulfide	<10.0	50.0	51.1	102	60-140	
Carbon Tetrachloride	<1.00	50.0	50.5	101	62-125	
Chlorobenzene	<1.00	50.0	48.0	96	60-133	
Chloroethane	<2.00	50.0	50.1	100	70-130	
Chloroform	<1.00	50.0	51.6	103	74-125	
Chloromethane	<2.00	50.0	50.4	101	70-130	
2-Chlorotoluene	<1.00	50.0	48.3	97	73-125	
4-Chlorotoluene	<1.00	50.0	48.2	96	74-125	
p-Cymene (p-Isopropyltoluene)	<1.00	50.0	48.1	96	75-125	
Dibromochloromethane	<1.00	50.0	53.7	107	73-125	
1,2-Dibromo-3-Chloropropane	<1.00	50.0	56.8	114	59-125	
Dibromomethane	<1.00	50.0	55.1	110	69-127	
1,2-Dichlorobenzene	<1.00	50.0	50.2	100	75-125	
1,3-Dichlorobenzene	<1.00	50.0	47.9	96	75-125	
1,4-Dichlorobenzene	<1.00	50.0	47.5	95	75-125	
Dichlorodifluoromethane	<1.00	50.0	50.1	100	70-130	
1,1-Dichloroethane	<1.00	50.0	51.3	103	72-125	
1,2-Dichloroethane	<1.00	50.0	52.9	106	68-127	
1,1-Dichloroethene	<1.00	50.0	49.6	99	59-172	
cis-1,2-Dichloroethene	<1.00	50.0	51.9	104	75-125	
trans-1,2-dichloroethene	<1.00	50.0	51.6	103	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 S. Central Avenue

Work Order #: 392010

Project ID: Roxana Route 111/21562291.00006

Lab Batch #: 825829

Sample: 575018-1-BKS

Matrix: Water

Date Analyzed: 10/04/2010

Date Prepared: 10/04/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,2-Dichloropropane	<1.00	50.0	52.0	104	74-125	
1,3-Dichloropropane	<1.00	50.0	51.5	103	75-125	
2,2-Dichloropropane	<1.00	50.0	49.4	99	75-125	
1,1-Dichloropropene	<1.00	50.0	49.7	99	75-125	
cis-1,3-Dichloropropene	<1.00	50.0	50.6	101	74-125	
trans-1,3-dichloropropene	<1.00	50.0	52.0	104	66-125	
Ethylbenzene	<1.00	50.0	47.0	94	75-125	
Hexachlorobutadiene	<1.00	50.0	44.6	89	75-125	
isopropylbenzene	<1.00	50.0	48.8	98	75-125	
Methylene Chloride	6.79	50.0	56.3	113	75-125	
n-Propylbenzene	<1.00	50.0	46.4	93	75-125	
Styrene	<1.00	50.0	50.4	101	75-125	
1,1,1,2-Tetrachloroethane	<1.00	50.0	54.4	109	72-125	
1,1,2,2-Tetrachloroethane	<1.00	50.0	56.5	113	74-125	
Tetrachloroethylene	<1.00	50.0	48.8	98	71-125	
Toluene	<1.00	50.0	52.0	104	59-139	
1,2,3-Trichlorobenzene	<1.00	50.0	45.3	91	75-137	
1,2,4-Trichlorobenzene	<1.00	50.0	46.6	93	75-135	
1,1,1-Trichloroethane	<1.00	50.0	50.9	102	75-125	
1,1,2-Trichloroethane	<1.00	50.0	53.2	106	75-127	
Trichloroethene	<1.00	50.0	49.3	99	62-137	
Trichlorofluoromethane	<1.00	50.0	49.5	99	67-125	
1,2,3-Trichloropropane	<1.00	50.0	53.5	107	75-125	
1,2,4-Trimethylbenzene	<1.00	50.0	48.3	97	75-125	
1,3,5-Trimethylbenzene	<1.00	50.0	48.6	97	70-125	
o-Xylene	<1.00	50.0	48.6	97	75-125	
m,p-Xylenes	<2.00	100	94.5	95	75-125	
Vinyl Acetate	<10.0	100	111	111	60-140	
Vinyl Chloride	<0.400	50.0	47.6	95	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 S. Central Avenue

Work Order #: 392010

Analyst: DAE

Lab Batch ID: 826058

Sample: 574921-1-BKS

Date Prepared: 10/01/2010

Batch #: 1

Project ID: Roxana Route 111/21562291.00006

Date Analyzed: 10/05/2010

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
SVOAs by SW-846 8270C Analytes	Acenaphthene	<0.001	0.050	0.052	104	0.05	0.052	104	0	27-132	31
	Acenaphthylene	<0.003	0.050	0.052	104	0.05	0.054	108	4	46-108	25
	Aniline (Phenylamine, Aminobenzene)	<0.001	0.050	0.039	78	0.05	0.042	84	7	5-115	25
	Anthracene	<0.001	0.050	0.052	104	0.05	0.055	110	6	47-145	25
	Benzo(a)anthracene	<0.001	0.050	0.053	106	0.05	0.055	110	4	33-143	25
	Benzo(a)pyrene	<0.001	0.050	0.056	112	0.05	0.059	118	5	65-135	25
	Benzo(b)fluoranthene	<0.001	0.050	0.059	118	0.05	0.070	140	17	24-159	25
	Benzo(k)fluoranthene	<0.001	0.050	0.047	94	0.05	0.036	72	27	25-125	25
	Benzo(g,h,i)perylene	<0.001	0.050	0.055	110	0.05	0.060	120	9	65-135	25
	Benzoic Acid	<0.012	0.150	0.120	80	0.15	0.153	102	24	30-115	40
	Benzyl Butyl Phthalate	<0.001	0.050	0.055	110	0.05	0.055	110	0	65-135	25
	bis(2-chloroethoxy) methane	<0.001	0.050	0.051	102	0.05	0.054	108	6	54-188	25
	bis(2-chloroethyl) ether	<0.001	0.050	0.051	102	0.05	0.054	108	6	65-135	25
	bis(2-chloroisopropyl) ether	<0.001	0.050	0.049	98	0.05	0.052	104	6	65-135	25
	bis(2-ethylhexyl) phthalate	0.002	0.050	0.055	110	0.05	0.055	110	0	8-158	25
4-Bromophenyl-phenylether	<0.001	0.050	0.054	108	0.05	0.056	112	4	65-135	25	
4-chloro-3-methylphenol	<0.001	0.050	0.050	100	0.05	0.053	106	6	16-129	33	
4-Chloroaniline	<0.004	0.050	0.047	94	0.05	0.048	96	2	9-128	25	
2-Chloronaphthalene	<0.003	0.050	0.052	104	0.05	0.043	86	19	65-135	25	
2-Chlorophenol	<0.002	0.050	0.047	94	0.05	0.050	100	6	16-116	40	

Relative Percent Difference RPD = $200 \times [(C-F)/(C+F)]$

Blank Spike Recovery [D] = $100 \times (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 \times (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 392010

Analyst: DAE

Lab Batch ID: 826058

Sample: 57492[-1-BKS]

Date Prepared: 10/01/2010

Batch #: 1

Project ID: Roxana Route 111/21562291.00006

Date Analyzed: 10/05/2010

Matrix: Water

Units: mg/L

SVOAs by SW-846 8270C											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
4-Chlorophenyl Phenyl Ether	<0.001	0.050	0.051	102	0.05	0.054	108	6	65-135	25	
Chrysene	<0.001	0.050	0.054	108	0.05	0.050	100	8	65-135	25	
Dibenz(a,h)anthracene	<0.001	0.050	0.059	118	0.05	0.062	124	5	50-125	25	
Dibenzofuran	<0.003	0.050	0.051	102	0.05	0.054	108	6	52-125	25	
di-n-Butyl Phthalate	<0.001	0.050	0.053	106	0.05	0.055	110	4	49-135	50	
3,3-Dichlorobenzidine	<0.003	0.050	0.053	106	0.05	0.055	110	4	12-147	25	
2,4-Dichlorophenol	<0.001	0.050	0.049	98	0.05	0.052	104	6	65-135	25	
Diethyl Phthalate	<0.001	0.050	0.052	104	0.05	0.053	106	2	37-125	50	
Dimethyl Phthalate	<0.001	0.050	0.053	106	0.05	0.055	110	4	25-175	50	
2,4-Dimethylphenol	<0.003	0.050	0.048	96	0.05	0.052	104	8	32-119	25	
4,6-dinitro-2-methyl phenol	<0.003	0.050	0.050	100	0.05	0.054	108	8	2-181	25	
2,4-Dinitrophenol	<0.002	0.050	0.048	96	0.05	0.054	108	12	65-135	25	
2,4-Dinitrotoluene	<0.003	0.050	0.054	108	0.05	0.056	112	4	22-135	38	
2,6-Dinitrotoluene	<0.001	0.050	0.053	106	0.05	0.057	114	7	49-122	38	
di-n-Octyl Phthalate	<0.001	0.050	0.051	102	0.05	0.054	108	6	43-134	50	
Fluoranthene	<0.001	0.050	0.052	104	0.05	0.053	106	2	47-125	25	
Fluorene	<0.001	0.050	0.052	104	0.05	0.053	106	2	48-139	25	
Hexachlorobenzene	<0.001	0.050	0.053	106	0.05	0.056	112	6	46-133	25	
Hexachlorocyclopentadiene	<0.003	0.050	0.031	62	0.05	0.033	66	6	41-125	25	
Hexachloroethane	<0.003	0.050	0.049	98	0.05	0.051	102	4	25-153	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C/[B])$
Blank Spike Duplicate Recovery [G] = $100 * (F/[E])$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 392010

Analyst: DAE

Lab Batch ID: 826058

Sample: 574921-1-BKS

Units: mg/L

Date Prepared: 10/01/2010

Batch #: 1

Project ID: Roxana Route 111/21562291.00006

Date Analyzed: 10/05/2010

Matrix: Water

SVOAs by SW-846 8270C											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Indeno(1,2,3-c,d)Pyrene	<0.001	0.050	0.057	114	0.05	0.061	122	7	27-160	25	
Isophorone	<0.001	0.050	0.051	102	0.05	0.053	106	4	26-175	25	
2-Methylnaphthalene	<0.003	0.050	0.047	94	0.05	0.045	90	4	25-175	25	
2-methylphenol	<0.003	0.050	0.043	86	0.05	0.047	94	9	14-176	25	
3&4-Methylphenol	<0.002	0.100	0.038	38	0.1	0.042	42	10	14-176	25	
Naphthalene	<0.002	0.050	0.049	98	0.05	0.051	102	4	26-175	25	
2-Nitroaniline	<0.001	0.050	0.055	110	0.05	0.057	114	4	65-135	25	
3-Nitroaniline	<0.006	0.050	0.051	102	0.05	0.054	108	6	65-135	25	
4-Nitroaniline	<0.004	0.050	0.052	104	0.05	0.055	110	6	65-135	25	
Nitrobenzene	<0.001	0.050	0.050	100	0.05	0.052	104	4	65-135	25	
2-Nitrophenol	<0.001	0.050	0.051	102	0.05	0.054	108	6	65-135	25	
4-Nitrophenol	<0.001	0.050	0.027	54	0.05	0.030	60	11	10-80	50	
N-Nitrosodi-n-Propylamine	<0.001	0.050	0.064	128	0.05	0.071	142	10	22-134	38	H
N-Nitrosodiphenylamine	<0.003	0.050	0.054	108	0.05	0.058	116	7	2-196	25	
Pentachlorophenol	<0.003	0.050	0.043	86	0.05	0.046	92	7	17-117	50	
Phenanthrene	<0.001	0.050	0.052	104	0.05	0.053	106	2	65-135	25	
Phenol	<0.001	0.050	0.025	50	0.05	0.029	58	15	12-110	25	
Pyrene	<0.001	0.050	0.055	110	0.05	0.057	114	4	23-152	31	
Pyridine	<0.006	0.050	0.031	62	0.05	0.032	64	3	16-86	28	
2,4,5-Trichlorophenol	<0.001	0.050	0.052	104	0.05	0.055	110	6	65-135	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C/B)$
Blank Spike Duplicate Recovery [G] = $100 * (F/E)$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 392010

Analyst: DAE

Lab Batch ID: 826058

Sample: 574921-1-BKS

Units: mg/L

Date Prepared: 10/01/2010

Batch #: 1

Project ID: Roxana Route 111/21562291.00006

Date Analyzed: 10/05/2010

Matrix: Water

SVOAs by SW-846 8270C		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk. Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
2,4,6-Trichlorophenol		<0.002	0.050	0.054	108	0.05	0.056	112	4	65-135	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C)/(B)$
Blank Spike Duplicate Recovery [G] = $100 * (F)/(E)$
All results are based on MDL and Validated for QC Purposes

Work Order # : 392010

Lab Batch ID: 825829

Date Analyzed: 10/04/2010

Reporting Units: ug/L

Project ID: Roxana Route 111/21562291.00006

QC- Sample ID: 391815-001 S

Batch #: 1

Matrix: Water

Analyst: EZB

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										Flag
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	
Acetone	<100	100	104	104	100	104	104	0	60-140	21	
Benzene	<5.00	50.0	46.2	92	50.0	45.1	90	2	66-142	21	
Bromobenzene	<5.00	50.0	51.0	102	50.0	50.6	101	1	75-125	20	
Bromochloromethane	<5.00	50.0	49.0	98	50.0	50.3	101	3	73-125	20	
Bromodichloromethane	<5.00	50.0	52.0	104	50.0	51.6	103	1	75-125	20	
Bromoform	<5.00	50.0	49.7	99	50.0	49.5	99	0	75-125	20	
Bromomethane	<5.00	50.0	37.1	74	50.0	34.9	70	6	70-130	20	
2-Butanone	<50.0	100	88.4	88	100	92.2	92	4	60-140	20	
MTBE	1.52	50.0	49.0	95	50.0	50.7	98	3	65-135	20	
n-Butylbenzene	<5.00	50.0	48.1	96	50.0	48.7	97	1	75-125	20	
Sec-Butylbenzene	<5.00	50.0	50.0	100	50.0	50.3	101	1	75-125	20	
tert-Butylbenzene	<5.00	50.0	52.1	104	50.0	52.0	104	0	75-125	20	
Carbon Disulfide	<50.0	50.0	46.5	93	50.0	47.8	96	3	60-140	20	
Carbon Tetrachloride	<5.00	50.0	49.1	98	50.0	47.7	95	3	62-125	20	
Chlorobenzene	<5.00	50.0	47.9	96	50.0	46.9	94	2	60-133	21	
Chloroethane	<10.0	50.0	40.9	82	50.0	41.0	82	0	70-130	20	
Chloroform	<5.00	50.0	49.2	98	50.0	50.4	101	2	74-125	20	
Chloromethane	<10.0	50.0	39.1	78	50.0	38.7	77	1	70-130	20	
2-Chlorotoluene	<5.00	50.0	51.6	103	50.0	51.1	102	1	73-125	20	
4-Chlorotoluene	<5.00	50.0	49.6	99	50.0	48.8	98	2	74-125	20	
p-Cymene (p-Isopropyltoluene)	<5.00	50.0	50.4	101	50.0	50.2	100	0	75-125	20	
Dibromochloromethane	<5.00	50.0	51.8	104	50.0	50.8	102	2	73-125	20	
1,2-Dibromo-3-Chloropropane	<5.00	50.0	49.1	98	50.0	50.7	101	3	59-125	28	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference RPD = 200*[(C-F)/(C+F)]

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

Applicable N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Project Name: 900 S. Central Avenue

Work Order #: 392010

Lab Batch ID: 825829

Date Analyzed: 10/04/2010

Reporting Units: ug/L

QC- Sample ID: 391815-001 S

Date Prepared: 10/04/2010

Batch #: 1 Matrix: Water

Analyst: EZB

Project ID: Roxana Route 111/21562291.00006

VOAs by SW-846 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Dibromomethane	<5.00	50.0	50.3	101	50.0	48.9	98	3	69-127	23	
1,2-Dichlorobenzene	<5.00	50.0	51.2	102	50.0	51.4	103	0	75-125	20	
1,3-Dichlorobenzene	<5.00	50.0	51.0	102	50.0	50.3	101	1	75-125	20	
1,4-Dichlorobenzene	<5.00	50.0	48.9	98	50.0	47.8	96	2	75-125	20	
Dichlorodifluoromethane	<5.00	50.0	43.3	87	50.0	42.6	85	2	70-130	23	
1,1-Dichloroethane	<5.00	50.0	51.9	104	50.0	53.3	107	3	72-125	20	
1,2-Dichloroethane	<5.00	50.0	49.1	98	50.0	48.3	97	2	68-127	20	
1,1-Dichloroethene	<5.00	50.0	47.6	95	50.0	48.9	98	3	59-172	22	
cis-1,2-Dichloroethene	<5.00	50.0	48.7	97	50.0	50.1	100	3	75-125	20	
trans-1,2-dichloroethene	<5.00	50.0	47.1	94	50.0	47.3	95	0	75-125	20	
1,2-Dichloropropane	<5.00	50.0	50.6	101	50.0	50.1	100	1	74-125	20	
1,3-Dichloropropane	<5.00	50.0	48.9	98	50.0	47.8	96	2	75-125	20	
2,2-Dichloropropane	<5.00	50.0	48.5	97	50.0	50.7	101	4	75-125	20	
1,1-Dichloropropene	<5.00	50.0	39.4	79	50.0	39.0	78	1	75-125	20	
cis-1,3-Dichloropropene	<5.00	50.0	49.0	98	50.0	47.4	95	3	74-125	20	
trans-1,3-dichloropropene	<5.00	50.0	45.6	91	50.0	45.4	91	0	66-125	20	
Ethylbenzene	<5.00	50.0	47.6	95	50.0	46.7	93	2	75-125	20	
Hexachlorobutadiene	<5.00	50.0	44.2	88	50.0	45.9	92	4	75-125	20	
isopropylbenzene	<5.00	50.0	49.0	98	50.0	49.6	99	1	75-125	20	
Methylene Chloride	4.06	50.0	57.7	107	50.0	59.1	110	2	75-125	35	
n-Propylbenzene	<5.00	50.0	49.2	98	50.0	50.2	100	2	75-125	20	
Styrene	<5.00	50.0	51.3	103	50.0	51.1	102	0	75-125	51	
1,1,1,2-Tetrachloroethane	<5.00	50.0	52.7	105	50.0	53.9	108	2	72-125	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



Form 3 - MS / MSD Recoveries

Project Name: 900 S. Central Avenue



Work Order #: 392010

Lab Batch ID: 825829

Date Analyzed: 10/04/2010

Reporting Units: ug/L

Project ID: Roxana Route 111/21562291.00006

QC-Sample ID: 391815-001 S

Batch #: 1

Matrix: Water

Analyst: EZB

Date Prepared: 10/04/2010

VOAs by SW-846 8260B		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
1,1,2,2-Tetrachloroethane		<5.00	50.0	51.3	103	50.0	53.5	107	4	74-125	31	
Tetrachloroethylene		<5.00	50.0	48.2	96	50.0	47.3	95	2	71-125	20	
Toluene		<5.00	50.0	50.5	101	50.0	49.8	100	1	59-139	21	
1,2,3-Trichlorobenzene		<5.00	50.0	44.0	88	50.0	45.1	90	2	75-137	20	
1,2,4-Trichlorobenzene		<5.00	50.0	46.4	93	50.0	48.9	98	5	75-135	20	
1,1,1-Trichloroethane		<5.00	50.0	47.6	95	50.0	50.7	101	6	75-125	20	
1,1,2-Trichloroethane		<5.00	50.0	49.5	99	50.0	49.1	98	1	75-127	20	
Trichloroethene		<5.00	50.0	47.9	96	50.0	46.0	92	4	62-137	24	
Trichlorofluoromethane		<5.00	50.0	47.6	95	50.0	47.5	95	0	67-125	20	
1,2,3-Trichloropropane		<5.00	50.0	52.3	105	50.0	52.5	105	0	75-125	20	
1,2,4-Trimethylbenzene		<5.00	50.0	50.3	101	50.0	49.7	99	1	75-125	20	
1,3,5-Trimethylbenzene		<5.00	50.0	50.4	101	50.0	50.8	102	1	70-125	20	
o-Xylene		<5.00	50.0	50.3	101	50.0	50.1	100	0	75-125	20	
m,p-Xylenes		<10.0	100	95.8	96	100	94.5	95	1	75-125	20	
Vinyl Acetate		<50.0	100	101	101	100	102	102	1	60-140	20	
Vinyl Chloride		<2.00	50.0	39.6	79	50.0	39.2	78	1	75-125	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



Shell Oil Products Chain Of Custody Record

LAB (LOCATION)

1143 Greenbrier Dr., Sulford, TX 77477

XENCO (PH) 281-240-4200 FAX 281-240-4260

CALSCIENCE (PH) _____

TEST AMERICA (PH) _____

SPL (PH) _____

OTHER (PH) _____

Please Check Appropriate Box:

- ☒ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SD&M ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER _____

Print Bill To Contact Name:

Wendy Pennington

PO #

SAP #

INCIDENT # (ENV SERVICES)

9 7 2 1 6 6 4 0

DATE: 9/30/10

PAGE: 1 of 1

CHECK IF NO INCIDENT APPLIES

☐

DATE: 9/30/10

PAGE: 1 of 1

CONSULTANT COMPANY

URS CORPORATION

1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300

CITY

ST. LOUIS, MISSOURI 63110

TELEPHONE

OFF: 314-743-4188

CELL: 314-452-8828

FAX

OFF: 314-743-4188

CELL: 314-452-8828

TURNAROUND TIME (CALENDAR DAYS):

☐ 3 DAYS ☐ 5 DAYS ☒ 7 DAYS

STANDARD (10 DAY)

DELIVERABLES:

☐ LEVEL 1 ☒ LEVEL 2 ☐ LEVEL 3

OTHER (SPECIFY) _____

EDD _____

TEMPERATURE ON RECEIPT °C

Cooler #1

17.8°C

Cooler #2

Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:

Please include "J" values on Level 2 Reports

Please provide sample receipt upon login.

RESULTS NEEDED ON WEEKEND

☐ 24 HOURS ☒ RESULTS NEEDED ON WEEKEND

LAB USE ONLY

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URS CORPORATION - FIELD OFFICE

170 E. RAND AVENUE

CITY

HARTFORD, ILLINOIS 62048

TELEPHONE

OFF: 314-743-4188

CELL: 314-452-8828

FAX

OFF: 314-743-4188

CELL: 314-452-8828

TURNAROUND TIME (CALENDAR DAYS):

☐ 3 DAYS ☐ 5 DAYS ☒ 7 DAYS

STANDARD (10 DAY)

DELIVERABLES:

☐ LEVEL 1 ☒ LEVEL 2 ☐ LEVEL 3

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EDD _____

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900 S. CENTRAL AVENUE; ROXANA, ILLINOIS 62084

CONSULTANT PROJECT CONTRACT NUMBER

WENDY PENNINGTON

SAMPLER NUMBER

392010-11

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SAMPLER NUMBER

392010-11

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XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 8/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: MRS
Date/Time: 10/01/10
Lab ID #: 392010-H
Initials: MM

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	No	
2. Shipping container in good condition?	Yes	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	N/A	
4. Chain of Custody present?	Yes	No		
5. Sample instructions complete on chain of custody?	Yes	No		
6. Any missing / extra samples?	Yes	No		
7. Chain of custody signed when relinquished / received?	Yes	No		
8. Chain of custody agrees with sample label(s)?	Yes	No		
9. Container labels legible and intact?	Yes	No		
10. Sample matrix / properties agree with chain of custody?	Yes	No		
11. Samples in proper container / bottle?	Yes	No		
12. Samples properly preserved?	Yes	No	N/A	
13. Sample container intact?	Yes	No		
14. Sufficient sample amount for indicated test(s)?	Yes	No		
15. All samples received within sufficient hold time?	Yes	No		
16. Subcontract of sample(s)?	Yes	No	N/A	
17. VOC sample have zero head space?	Yes	No	N/A	
18. Cooler 1 No. <u>2392</u>	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
<u>48</u> lbs <u>1.8</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
☐ Initial and Backup Temperature confirm out of temperature conditions
☐ Client understands and would like to proceed with analysis

0448 5972 8440

FedEx
Tracking
Number

Express

From - This portion can be removed for Reel 100's records.

9/30/10
FedEx
Tracking Number: 873559128940

Fedex Tracking Number:

Date 9/30/10

Sender's Name ... Wendy Pennington
Phone 314 429 0100

Ръковод

www.to

Company OK's Corporation

Address 1001 Hicklands Pl. #14 W Ste 500

Address	City	State	Zip	Dept./Floor/Building Room
10000	W.C.	W.C.	W.C.	W.C.

City Santa Clara State N.D. ZIP 58103

Your Internal Billing Reference

To
gentlemen.

Recipients' Name Samuel K. Kewmy Phone 281 240-4200

Company XENCO LABORATORIES INC

4143 GREENSB' AP 117

Address 4143 GREENGLAR DR
We cannot deliver to P.O. boxes or R.D. ZIP codes.

Address _____

Address _____
Use this line for the HOLD location address or for continuation of your shipping address.

City STAFFORD TX State TX ZIP 77477

TX 77477

State	TX	ZIP
Alabama	36000	36000
Alaska	99500	99500
Arizona	85000	85000
Arkansas	72700	72700
California	90000	90000
Colorado	80000	80000
Connecticut	06100	06100
Delaware	19700	19700
District of Columbia	20000	20000
Florida	32100	32100
Georgia	30300	30300
Hawaii	96800	96800
Idaho	83400	83400
Illinois	60600	60600
Indiana	46200	46200
Iowa	52200	52200
Kansas	66100	66100
Kentucky	40200	40200
Louisiana	70000	70000
Maine	04100	04100
Maryland	21200	21200
Massachusetts	02100	02100
Michigan	48200	48200
Minnesota	55400	55400
Mississippi	39200	39200
Missouri	64100	64100
Montana	59100	59100
Nebraska	68100	68100
Nevada	89100	89100
New Hampshire	03000	03000
New Jersey	07100	07100
New Mexico	87100	87100
New York	10000	10000
North Carolina	27600	27600
North Dakota	58100	58100
Ohio	43200	43200
Oklahoma	73100	73100
Oregon	97100	97100
Pennsylvania	19100	19100
Rhode Island	02900	02900
South Carolina	29400	29400
South Dakota	57100	57100
Tennessee	37200	37200
Texas	75200	75200
Utah	84100	84100
Vermont	05400	05400
Virginia	22200	22200
Washington	98100	98100
West Virginia	26000	26000
Wisconsin	53200	53200
Wyoming	82000	82000

City STAFFORD

0425038437



8735 5972 8440

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URS

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

Signature:

Paulum Mele Dalton

Date:

9/30/12 @ 1850

Roxana Groundwater Profiling Data Review

Laboratory SDG: 392196

Reviewer: Elizabeth Kunkel

Date Reviewed: 11/23/2010

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

Sample Identification	Sample Identification
GWP-23-45.5	GWP-23-45.5 EB
TB-100110	

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated that VOC LCS recoveries were outside evaluation criteria. SVOC LCS/LCSD recoveries were outside evaluation criteria. The compound methylene chloride was detected in the equipment blank and trip blank. Professional judgment was used to qualify bis (2-ethylhexyl) phthalate in sample GWP-23-45.5. These issues are addressed further in the appropriate sections below.

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
GWP-23-45.5 EB	VOCs	Methylene chloride	1.60 µg/L
TB-100110	VOCs	Methylene chloride	1.60 µg/L

Qualifications due to blank contamination are included in the table below. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
GWP-23-45.5	VOCs	Methylene chloride	-	U

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCS D Recovery	RPD	LCS/LCSD/RPD Criteria
575103-1-BKS	VOCs	1,2-Dibromo-3-chloropropane	127	NA	59-125/NA
575103-1-BKS	VOCs	1,1,2,2-Tetrachloroethane	126	NA	74-125/NA
575045-1-BKS	SVOCs	Hexachlorocyclopentadiene	40/40	0	41-125/25
575045-1-BKS	SVOCs	N-Nitrosodi-n-Propylamine	140/146	4	22-134/38

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.

Sample ID	Parameter	Analyte	Qualification
GWP-23-45.5	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 collected as part of this SDG?

Yes, sample GWP-23-45.5 was spiked and analyzed for VOCs.

Were MS/MSD recoveries within evaluation criteria?

Yes

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

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

Not applicable; samples analyzed did not require dilution.

11.0 Additional Qualifications

Were additional qualifications applied?

Yes, professional judgment was used to qualify common plasticizer, bis (2-ethylhexyl) phthalate reported at a concentration less than two times (2X) the reporting limit (RL). The compound bis (2-ethylhexyl) phthalate is found in extraction thimbles.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualifier	Comment
GWP-23-45.5	SVOCs	bis (2-ethylhexyl) phthalate	-	U	Professional Judgment

Analytical Report 392196

for

URS Corporation-St. Louis

Project Manager: Wendy Pennington

900 S. Central Avenue

Roxana-Route 111/21562291.00006

07-OCT-10



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



Reviewed
on
11/16/2010

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

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AAL11), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

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North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



07-OCT-10

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

Reference: XENCO Report No: **392196**
900 S. Central Avenue
Project Address: Roxana, IL

Wendy Pennington:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 392196. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 392196 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Carlos Castro

Managing Director, Texas

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Certified and approved by numerous States and Agencies.
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Houston - Dallas - San Antonio - Austin - Tampa - Miami - Atlanta - Corpus Christi - Latin America



Sample Cross Reference 392196



URS Corporation-St. Louis, St. Louis, MO
900 S. Central Avenue

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
GWP-23-45.5 /	W	Oct-01-10 10:00		392196-001
GWP-23-45.5 EB /	W	Oct-01-10 15:30		392196-002
TB-100110 /	W	Oct-01-10 00:00		392196-003



CASE NARRATIVE

Client Name: URS Corporation-St. Louis
Project Name: 900 S. Central Avenue



Project ID: Roxana-Route 111/215622
Work Order Number: 392196

Report Date: 07-OCT-10
Date Received: 10/02/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-826003 VOAs by SW-846 8260B

Methylene Chloride present in method blank above MDL, suspected laboratory contamination.
Samples affected are 392196-001,002,003.

SW8260B

Batch 826003, 1,1,2,2-Tetrachloroethane, 1,2-Dibromo-3-Chloropropane recovered above QC limits in the laboratory control sample. No samples reporting hits for these analytes.
Samples affected are: 392196-002, -001, -003.

Batch: LBA-826350 SVOAs by SW-846 8270C
SW8270C

Batch 826350, Hexachlorocyclopentadiene recovered below QC limits in the Blank Spike Duplicate. N-Nitrosodi-n-Propylamine recovered above QC limits in the Blank Spike and Duplicate.
Samples affected are: 392196-002, -001.

Hexachlorocyclopentadiene reported below QC limits for Blank Spike and Blank spike Duplicate.
Batch passes in accordance to Marginal Exceedence (NELAC Quality Systems, Appendix D).
Daily CCV and ICV are within QC Limits. Sample data reported are valid.

Certificate of Analysis Summary 392196

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



Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL

Project Name: 900 S. Central Avenue

Date Received in Lab: Sat Oct-02-10 10:20 am

Report Date: 07-OCT-10

Project Manager: Debbie Simmons

Analysis Requested		Lab Id:	392196-001	392196-002	392196-003	
		Field Id:	GWP-23-45.5	GWP-23-45.5 EB	TB-100110	
		Depth:				
		Matrix:	WATER	WATER	WATER	
		Sampled:	Oct-01-10 10:00	Oct-01-10 15:30	Oct-01-10 00:00	
SVOAs by SW-846 8270C		Extracted:	Oct-04-10 12:15	Oct-04-10 12:18		
		Analyzed:	Oct-06-10 16:22	Oct-06-10 16:44		
		Units/RL:	mg/L RL	mg/L RL		
Acenaphthene			U 0.010	U 0.012		
Acenaphthylene			U 0.010	U 0.012		
Aniline (Phenylamine, Aminobenzene)			U 0.020	U 0.023		
Anthracene			U 0.010	U 0.012		
Benzo(a)anthracene			U 0.010	U 0.012		
Benzo(a)pyrene			U 0.010	U 0.012		
Benzo(b)fluoranthene			U 0.010	U 0.012		
Benzo(k)fluoranthene			U 0.010	U 0.012		
Benzo(g,h,i)perylene			U 0.010	U 0.012		
Benzoic Acid			U 0.051	U 0.058		
Benzyl Butyl Phthalate			U 0.010	U 0.012		
bis(2-chloroethoxy) methane			U 0.010	U 0.012		
bis(2-chloroethyl) ether			U 0.010	U 0.012		
bis(2-chloroisopropyl) ether			U 0.010	U 0.012		
bis(2-ethylhexyl) phthalate			U 0.010	U 0.012		
4-Bromophenyl-phenylether			U 0.010	U 0.012		
4-chloro-3-methylphenol			U 0.010	U 0.012		
4-Chloroaniline			U 0.020	U 0.023		
2-Chloronaphthalene			U 0.010	U 0.012		
2-Chlorophenol			U 0.010	U 0.012		
4-Chlorophenyl Phenyl Ether			U 0.010	U 0.012		
Chrysene			U 0.010	U 0.012		
Dibenz(a,h)anthracene			U 0.010	U 0.012		
Dibenzofuran			U 0.010	U 0.012		
di-n-Butyl Phthalate			U 0.010	U 0.012		

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 392196

URS Corporation-St. Louis, St. Louis, MO
Project Name: 900 S. Central Avenue



Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL

Date Received in Lab: Sat Oct-02-10 10:20 am

Report Date: 07-OCT-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	392196-001	392196-002	392196-003	
	Field Id:	GWP-23-45.5	GWP-23-45.5 EB	TB-100110	
	Depth:				
	Matrix:	WATER	WATER	WATER	
	Sampled:	Oct-01-10 10:00	Oct-01-10 15:30	Oct-01-10 00:00	
SVOAs by SW-846 8270C	Extracted:	Oct-04-10 12:15	Oct-04-10 12:18		
	Analyzed:	Oct-06-10 16:22	Oct-06-10 16:44		
	Units/RL:	mg/L RL	mg/L RL		
	3,3-Dichlorobenzidine	U 0.010	U 0.012		
	2,4-Dichlorophenol	U 0.010	U 0.012		
	Diethyl Phthalate	U 0.010	U 0.012		
	Dimethyl Phthalate	U 0.010	U 0.012		
	2,4-Dimethylphenol	U 0.010	U 0.012		
	4,6-dinitro-2-methyl phenol	U 0.010	U 0.012		
	2,4-Dinitrophenol	U 0.020	U 0.023		
	2,4-Dinitrotoluene	U 0.010	U 0.012		
	2,6-Dinitrotoluene	U 0.010	U 0.012		
	di-n-Octyl Phthalate	U 0.010	U 0.012		
	Fluoranthene	U 0.010	U 0.012		
	Fluorene	U 0.010	U 0.012		
Hexachlorobenzene		U 0.010	U 0.012		
Hexachlorocyclopentadiene		U 0.010	U 0.012		
Hexachloroethane		U 0.010	U 0.012		
Indeno(1,2,3-c,d)Pyrene		U 0.010	U 0.012		
Isophorone		U 0.010	U 0.012		
2-Methylnaphthalene		U 0.010	U 0.012		
2-methylphenol		U 0.010	U 0.012		
3&4-Methylphenol		U 0.010	U 0.012		
Naphthalene		U 0.010	U 0.012		
2-Nitroaniline		U 0.020	U 0.023		
3-Nitroaniline		U 0.020	U 0.023		
4-Nitroaniline		U 0.020	U 0.023		
Nitrobenzene		U 0.010	U 0.012		

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Managing Director, Texas



Certificate of Analysis Summary 392196

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



Project Id: Roxana-Route 111/21562291.00006
Contact: Wendy Pennington
Project Location: Roxana, IL

Date Received in Lab: Sat Oct-02-10 10:20 am
Report Date: 07-OCT-10
Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	392196-001	392196-002	392196-003	
	Field Id:	GWP-23-45.5	GWP-23-45.5 EB	TB-100110	
	Depth:				
	Matrix:	WATER	WATER	WATER	
	Sampled:	Oct-01-10 10:00	Oct-01-10 15:30	Oct-01-10 00:00	
SVOAs by SW-846 8270C	Extracted:	Oct-04-10 12:15	Oct-04-10 12:18		
	Analyzed:	Oct-06-10 16:22	Oct-06-10 16:44		
	Units/RL:	mg/L RL	mg/L RL		
	2-Nitrophenol	U 0.010	U 0.012		
	4-Nitrophenol	U 0.010	U 0.012		
	N-Nitrosodi-n-Propylamine	U 0.010	U 0.012		
	N-Nitrosodiphenylamine	U 0.010	U 0.012		
	Pentachlorophenol	U 0.010	U 0.012		
	Phenanthrene	U 0.010	U 0.012		
	Phenol	U 0.010	U 0.012		
	Pyrene	U 0.010	U 0.012		
	Pyridine	U 0.020	U 0.023		
	2,4,5-Trichlorophenol	U 0.010	U 0.012		
	2,4,6-Trichlorophenol	U 0.010	U 0.012		

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Certificate of Analysis Summary 392196

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

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL

Project Name: 900 S. Central Avenue

Date Received in Lab: Sat Oct-02-10 10:20 am

Report Date: 07-OCT-10

Project Manager: Debbie Simmons



Analysis Requested	Lab Id:	392196-001	392196-002	392196-003	
	Field Id:	GWP-23-45.5	GWP-23-45.5 EB	TB-100110	
	Depth:				
	Matrix:	WATER	WATER	WATER	
	Sampled:	Oct-01-10 10:00	Oct-01-10 15:30	Oct-01-10 00:00	
VOAs by SW-846 8260B	Extracted:	Oct-04-10 19:12	Oct-04-10 19:11	Oct-04-10 19:10	
	Analyzed:	Oct-04-10 20:42	Oct-04-10 21:04	Oct-04-10 20:19	
	Units/RL:	ug/L RL	ug/L RL	ug/L RL	
		27.8 J 100	U 100	U 100	
	Acetone				
	Benzene	U 5.00	U 5.00	U 5.00	
	Bromobenzene	U 5.00	U 5.00	U 5.00	
	Bromochloromethane	U 5.00	U 5.00	U 5.00	
	Bromodichloromethane	U 5.00	U 5.00	U 5.00	
	Bromoform	U 5.00	U 5.00	U 5.00	
Bromomethane	U 5.00	U 5.00	U 5.00	U 5.00	
2-Butanone	U 50.0	U 50.0	U 50.0	U 50.0	
MTBE	U 5.00	U 5.00	U 5.00	U 5.00	
n-Butylbenzene	U 5.00	U 5.00	U 5.00	U 5.00	
Sec-Butylbenzene	U 5.00	U 5.00	U 5.00	U 5.00	
tert-Butylbenzene	U 5.00	U 5.00	U 5.00	U 5.00	
Carbon Disulfide	U 50.0	U 50.0	U 50.0	U 50.0	
Carbon Tetrachloride	U 5.00	U 5.00	U 5.00	U 5.00	
Chlorobenzene	U 5.00	U 5.00	U 5.00	U 5.00	
Chloroethane	U 10.0	U 10.0	U 10.0	U 10.0	
Chloroform	U 5.00	U 5.00	U 5.00	U 5.00	
Chloromethane	U 10.0	U 10.0	U 10.0	U 10.0	
2-Chlorotoluene	U 5.00	U 5.00	U 5.00	U 5.00	
4-Chlorotoluene	U 5.00	U 5.00	U 5.00	U 5.00	
p-Cymene (p-Isopropyltoluene)	U 5.00	U 5.00	U 5.00	U 5.00	
Dibromochloromethane	U 5.00	U 5.00	U 5.00	U 5.00	
1,2-Dibromo-3-Chloropropane	U 5.00	U 5.00	U 5.00	U 5.00	
Dibromomethane	U 5.00	U 5.00	U 5.00	U 5.00	
1,2-Dichlorobenzene	U 5.00	U 5.00	U 5.00	U 5.00	

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Managing Director, Texas



Certificate of Analysis Summary 392196

URS Corporation-St. Louis, St. Louis, MO
Project Name: 900 S. Central Avenue

Project Id: Roxana-Route 111/21562291.00006
Contact: Wendy Pennington
Project Location: Roxana, IL



Date Received in Lab: Sat Oct-02-10 10:20 am
Report Date: 07-OCT-10
Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	392196-001	392196-002	392196-003	
	Field Id: Depth: Matrix: Sampled:	GWP-23-45.5 WATER Oct-01-10 10:00	GWP-23-45.5 EB WATER Oct-01-10 15:30	TB-100110 WATER Oct-01-10 00:00	
VOAs by SW-846 8260B	Extracted:	Oct-04-10 19:12	Oct-04-10 19:11	Oct-04-10 19:10	
	Analyzed:	Oct-04-10 20:42	Oct-04-10 21:04	Oct-04-10 20:19	
	Units/RL:	ug/L RL	ug/L RL	ug/L RL	
	1,3-Dichlorobenzene	U 5.00	U 5.00	U 5.00	
	1,4-Dichlorobenzene	U 5.00	U 5.00	U 5.00	
	Dichlorodifluoromethane	U 5.00	U 5.00	U 5.00	
	1,1-Dichloroethane	U 5.00	U 5.00	U 5.00	
	1,2-Dichloroethane	U 5.00	U 5.00	U 5.00	
	1,1-Dichloroethene	U 5.00	U 5.00	U 5.00	
	cis-1,2-Dichloroethene	U 5.00	U 5.00	U 5.00	
	trans-1,2-dichloroethene	U 5.00	U 5.00	U 5.00	
	1,2-Dichloropropane	U 5.00	U 5.00	U 5.00	
	1,3-Dichloropropane	U 5.00	U 5.00	U 5.00	
	2,2-Dichloropropane	U 5.00	U 5.00	U 5.00	
	1,1-Dichloropropene	U 5.00	U 5.00	U 5.00	
	cis-1,3-Dichloropropene	U 5.00	U 5.00	U 5.00	
	trans-1,3-dichloropropene	U 5.00	U 5.00	U 5.00	
	Ethylbenzene	U 5.00	U 5.00	U 5.00	
	Hexachlorobutadiene	U 5.00	U 5.00	U 5.00	
	Isopropylbenzene	U 5.00	U 5.00	U 5.00	
	Methylene Chloride	0.5 ND 1.57 JB U 5.00	1.60 JB 5.00	1.60 JB 5.00	
	n-Propylbenzene	U 5.00	U 5.00	U 5.00	
	Styrene	U 5.00	U 5.00	U 5.00	
	1,1,1,2-Tetrachloroethane	U 5.00	U 5.00	U 5.00	
	1,1,2,2-Tetrachloroethane	U 5.00	U 5.00	U 5.00	
	Tetrachloroethylene	U 5.00	U 5.00	U 5.00	
	Toluene	U 5.00	U 5.00	U 5.00	
	1,2,3-Trichlorobenzene	U 5.00	U 5.00	U 5.00	

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 392196

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



Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL

Project Name: 900 S. Central Avenue

Date Received in Lab: Sat Oct-02-10 10:20 am

Report Date: 07-OCT-10

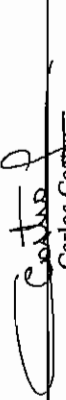
Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	392196-001	392196-002	392196-003	
	Field Id:	GWP-23-45.5	GWP-23-45.5 EB	TB-100110	
	Depth:				
	Matrix:	WATER	WATER	WATER	
	Sampled:	Oct-01-10 10:00	Oct-01-10 15:30	Oct-01-10 00:00	
VOAs by SW-846 8260B	Extracted:	Oct-04-10 19:12	Oct-04-10 19:11	Oct-04-10 19:10	
	Analyzed:	Oct-04-10 20:42	Oct-04-10 21:04	Oct-04-10 20:19	
	Units/RL:	ug/L RL	ug/L RL	ug/L RL	
	1,2,4-Trichlorobenzene	U 5.00	U 5.00	U 5.00	
	1,1,1-Trichloroethane	U 5.00	U 5.00	U 5.00	
	1,1,2-Trichloroethane	U 5.00	U 5.00	U 5.00	
	Trichloroethene	U 5.00	U 5.00	U 5.00	
	Trichlorofluoromethane	U 5.00	U 5.00	U 5.00	
	1,2,3-Trichloropropane	U 5.00	U 5.00	U 5.00	
	1,2,4-Trimethylbenzene	U 5.00	U 5.00	U 5.00	
	1,3,5-Trimethylbenzene	U 5.00	U 5.00	U 5.00	
	o-Xylene	U 5.00	U 5.00	U 5.00	
m,p-Xylenes		U 10.0	U 10.0	U 10.0	
Vinyl Acetate		U 50.0	U 50.0	U 50.0	
Vinyl Chloride		U 2.00	U 2.00	U 2.00	

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

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Version: 1.0%


Carlos Castro

Managing Director, Texas



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : VOAs by SW-846 8260B

Client : URS Corporation-St. Louis

Work Order #: 392196

Project ID: Roxana-Route 111/21562291.

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
GWP-23-45.5 EB	Oct. 1, 2010	Oct. 2, 2010				Oct.4, 2010	14	3	P
TB-100110	Oct. 1, 2010	Oct. 2, 2010				Oct.4, 2010	14	3	P
GWP-23-45.5	Oct. 1, 2010	Oct. 2, 2010				Oct.4, 2010	14	3	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : SVOAs by SW-846 8270C

Client : URS Corporation-St. Louis

Work Order #: 392196

Project ID: Roxana-Route 111/21562291.

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
GWP-23-45.5	Oct. 1, 2010	Oct. 2, 2010	Oct. 4, 2010	7	3	Oct.6, 2010	40	2	P
GWP-23-45.5 EB	Oct. 1, 2010	Oct. 2, 2010	Oct. 4, 2010	7	3	Oct.6, 2010	40	2	P

F = These samples were analyzed outside the recommended holding time.

P = Samples analyzed within the recommended holding time.

Flagging Criteria

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

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 392196,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 826350

Sample: 575045-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/06/10 15:18

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.048	0.050	96	43-116	
2-Fluorophenol	0.033	0.050	66	21-100	
Nitrobenzene-d5	0.051	0.050	102	35-114	
Phenol-d6	0.024	0.050	48	10-94	
Terphenyl-D14	0.052	0.050	104	33-141	
2,4,6-Tribromophenol	0.046	0.050	92	10-123	

Lab Batch #: 826350

Sample: 575045-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/06/10 15:40

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.050	0.050	100	43-116	
2-Fluorophenol	0.034	0.050	68	21-100	
Nitrobenzene-d5	0.050	0.050	100	35-114	
Phenol-d6	0.024	0.050	48	10-94	
Terphenyl-D14	0.053	0.050	106	33-141	
2,4,6-Tribromophenol	0.050	0.050	100	10-123	

Lab Batch #: 826350

Sample: 575045-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/06/10 16:01

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.047	0.050	94	43-116	
2-Fluorophenol	0.031	0.050	62	21-100	
Nitrobenzene-d5	0.048	0.050	96	35-114	
Phenol-d6	0.021	0.050	42	10-94	
Terphenyl-D14	0.044	0.050	88	33-141	
2,4,6-Tribromophenol	0.049	0.050	98	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 392196,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 826350

Sample: 392196-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/06/10 16:22

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.052	0.051	102	43-116	
2-Fluorophenol	0.020	0.051	39	21-100	
Nitrobenzene-d5	0.054	0.051	106	35-114	
Phenol-d6	0.015	0.051	29	10-94	
Terphenyl-D14	0.053	0.051	104	33-141	
2,4,6-Tribromophenol	0.056	0.051	110	10-123	

Lab Batch #: 826350

Sample: 392196-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/06/10 16:44

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.049	0.058	84	43-116	
2-Fluorophenol	0.036	0.058	62	21-100	
Nitrobenzene-d5	0.051	0.058	88	35-114	
Phenol-d6	0.026	0.058	45	10-94	
Terphenyl-D14	0.057	0.058	98	33-141	
2,4,6-Tribromophenol	0.050	0.058	86	10-123	

Lab Batch #: 826003

Sample: 575103-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 19:11

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0496	0.0500	99	74-124	
Dibromofluoromethane	0.0488	0.0500	98	75-131	
1,2-Dichloroethane-D4	0.0509	0.0500	102	63-144	
Toluene-D8	0.0479	0.0500	96	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 392196,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 826003

Sample: 575103-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 19:56

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0516	0.0500	103	74-124	
Dibromofluoromethane	0.0471	0.0500	94	75-131	
1,2-Dichloroethane-D4	0.0516	0.0500	103	63-144	
Toluene-D8	0.0482	0.0500	96	80-117	

Lab Batch #: 826003

Sample: 392196-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 20:19

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0517	0.0500	103	74-124	
Dibromofluoromethane	0.0478	0.0500	96	75-131	
1,2-Dichloroethane-D4	0.0487	0.0500	97	63-144	
Toluene-D8	0.0469	0.0500	94	80-117	

Lab Batch #: 826003

Sample: 392196-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 20:42

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0486	0.0500	97	74-124	
Dibromofluoromethane	0.0493	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0513	0.0500	103	63-144	
Toluene-D8	0.0491	0.0500	98	80-117	

Lab Batch #: 826003

Sample: 392196-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 21:04

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0503	0.0500	101	74-124	
Dibromofluoromethane	0.0484	0.0500	97	75-131	
1,2-Dichloroethane-D4	0.0480	0.0500	96	63-144	
Toluene-D8	0.0488	0.0500	98	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \cdot A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 392196,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 826003

Sample: 392196-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 21:27

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0500	0.0500	100	74-124	
Dibromofluoromethane	0.0500	0.0500	100	75-131	
1,2-Dichloroethane-D4	0.0516	0.0500	103	63-144	
Toluene-D8	0.0482	0.0500	96	80-117	

Lab Batch #: 826003

Sample: 392196-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/04/10 21:50

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0495	0.0500	99	74-124	
Dibromofluoromethane	0.0502	0.0500	100	75-131	
1,2-Dichloroethane-D4	0.0519	0.0500	104	63-144	
Toluene-D8	0.0484	0.0500	97	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

All results are based on MDL and validated for QC purposes.

Blank Spike Recovery

Project Name: 900 S. Central Avenue

Work Order #: 392196

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 826003

Sample: 575103-1-BKS

Matrix: Water

Date Analyzed: 10/04/2010

Date Prepared: 10/04/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK/BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Acetone	<20.0	100	105	105	60-140	
Benzene	<1.00	50.0	45.1	90	66-142	
Bromobenzene	<1.00	50.0	59.2	118	75-125	
Bromochloromethane	<1.00	50.0	46.1	92	73-125	
Bromodichloromethane	<1.00	50.0	48.8	98	75-125	
Bromoform	<1.00	50.0	56.8	114	75-125	
Bromomethane	<1.00	50.0	40.0	80	70-130	
2-Butanone	<10.0	100	104	104	60-140	
MTBE	<1.00	50.0	46.9	94	65-135	
n-Butylbenzene	<1.00	50.0	56.9	114	75-125	
Sec-Butylbenzene	<1.00	50.0	56.8	114	75-125	
tert-Butylbenzene	<1.00	50.0	57.5	115	75-125	
Carbon Disulfide	<10.0	50.0	42.7	85	60-140	
Carbon Tetrachloride	<1.00	50.0	45.4	91	62-125	
Chlorobenzene	<1.00	50.0	52.8	106	60-133	
Chloroethane	<2.00	50.0	42.9	86	70-130	
Chloroform	<1.00	50.0	45.7	91	74-125	
Chloromethane	<2.00	50.0	41.9	84	70-130	
2-Chlorotoluene	<1.00	50.0	55.6	111	73-125	
4-Chlorotoluene	<1.00	50.0	56.6	113	74-125	
p-Cymene (p-Isopropyltoluene)	<1.00	50.0	56.9	114	75-125	
Dibromochloromethane	<1.00	50.0	57.0	114	73-125	
1,2-Dibromo-3-Chloropropane	<1.00	50.0	63.4	127	59-125	(H)
Dibromomethane	<1.00	50.0	49.5	99	69-127	
1,2-Dichlorobenzene	<1.00	50.0	58.8	118	75-125	
1,3-Dichlorobenzene	<1.00	50.0	57.4	115	75-125	
1,4-Dichlorobenzene	<1.00	50.0	55.5	111	75-125	
Dichlorodifluoromethane	<1.00	50.0	43.9	88	70-130	
1,1-Dichloroethane	<1.00	50.0	45.0	90	72-125	
1,2-Dichloroethane	<1.00	50.0	49.2	98	68-127	
1,1-Dichloroethene	<1.00	50.0	43.7	87	59-172	
cis-1,2-Dichloroethene	<1.00	50.0	46.0	92	75-125	
trans-1,2-dichloroethene	<1.00	50.0	44.4	89	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit



Blank Spike Recovery



Project Name: 900 S. Central Avenue

Work Order #: 392196

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 826003

Sample: 575103-1-BKS

Matrix: Water

Date Analyzed: 10/04/2010

Date Prepared: 10/04/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,2-Dichloropropane	<1.00	50.0	48.0	96	74-125	
1,3-Dichloropropane	<1.00	50.0	56.1	112	75-125	
2,2-Dichloropropane	<1.00	50.0	44.4	89	75-125	
1,1-Dichloropropene	<1.00	50.0	46.4	93	75-125	
cis-1,3-Dichloropropene	<1.00	50.0	47.1	94	74-125	
trans-1,3-dichloropropene	<1.00	50.0	47.1	94	66-125	
Ethylbenzene	<1.00	50.0	51.6	103	75-125	
Hexachlorobutadiene	<1.00	50.0	53.4	107	75-125	
isopropylbenzene	<1.00	50.0	57.8	116	75-125	
Methylene Chloride	6.71	50.0	54.0	108	75-125	
n-Propylbenzene	<1.00	50.0	55.1	110	75-125	
Styrene	<1.00	50.0	55.8	112	75-125	
1,1,1,2-Tetrachloroethane	<1.00	50.0	58.3	117	72-125	
1,1,2,2-Tetrachloroethane	<1.00	50.0	62.9	126	74-125	H
Tetrachloroethylene	<1.00	50.0	52.7	105	71-125	
Toluene	<1.00	50.0	49.3	99	59-139	
1,2,3-Trichlorobenzene	<1.00	50.0	54.2	108	75-137	
1,2,4-Trichlorobenzene	<1.00	50.0	55.5	111	75-135	
1,1,1-Trichloroethane	<1.00	50.0	45.3	91	75-125	
1,1,2-Trichloroethane	<1.00	50.0	47.9	96	75-127	
Trichloroethene	<1.00	50.0	46.0	92	62-137	
Trichlorofluoromethane	<1.00	50.0	43.8	88	67-125	
1,2,3-Trichloropropane	<1.00	50.0	60.1	120	75-125	
1,2,4-Trimethylbenzene	<1.00	50.0	56.5	113	75-125	
1,3,5-Trimethylbenzene	<1.00	50.0	57.2	114	70-125	
o-Xylene	<1.00	50.0	52.7	105	75-125	
m,p-Xylenes	<2.00	100	103	103	75-125	
Vinyl Acetate	<10.0	100	95.5	96	60-140	
Vinyl Chloride	<0.400	50.0	41.4	83	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 S. Central Avenue

Work Order #: 392196

Analyst: DAE

Lab Batch ID: 826350

Sample: 575045-1-BKS

Date Prepared: 10/04/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 10/06/2010

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/L											
SVOAs by SW-846 8270C	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Acenaphthene	<0.001	0.050	0.051	102	0.05	0.050	100	2	27-132	31	
Acenaphthylene	<0.003	0.050	0.052	104	0.05	0.051	102	2	46-108	25	
Aniline (Phenylamine, Aminobenzene)	<0.001	0.050	0.038	76	0.05	0.037	74	3	5-115	25	
Anthracene	<0.001	0.050	0.054	108	0.05	0.052	104	4	47-145	25	
Benzo(a)anthracene	<0.001	0.050	0.052	104	0.05	0.051	102	2	33-143	25	
Benzo(a)pyrene	<0.001	0.050	0.056	112	0.05	0.052	104	7	65-135	25	
Benzo(b)fluoranthene	<0.001	0.050	0.057	114	0.05	0.058	116	2	24-159	25	
Benzo(k)fluoranthene	<0.001	0.050	0.048	96	0.05	0.038	76	23	25-125	25	
Benzo(g,h,i)perylene	<0.001	0.050	0.059	118	0.05	0.053	106	11	65-135	25	
Benzoic Acid	<0.012	0.150	0.145	97	0.15	0.137	91	6	30-115	40	
Benzyl Butyl Phthalate	<0.001	0.050	0.056	112	0.05	0.049	98	13	65-135	25	
bis(2-chloroethoxy) methane	<0.001	0.050	0.053	106	0.05	0.052	104	2	54-188	25	
bis(2-chloroethyl) ether	<0.001	0.050	0.050	100	0.05	0.050	100	0	65-135	25	
bis(2-chloroisopropyl) ether	<0.001	0.050	0.051	102	0.05	0.051	102	0	65-135	25	
bis(2-ethylhexyl) phthalate	<0.001	0.050	0.054	108	0.05	0.049	98	10	8-158	25	
4-Bromophenyl-phenylether	<0.001	0.050	0.054	108	0.05	0.055	110	2	65-135	25	
4-chloro-3-methylphenol	<0.001	0.050	0.050	100	0.05	0.050	100	0	16-129	33	
4-Chloroaniline	<0.004	0.050	0.045	90	0.05	0.042	84	7	9-128	25	
2-Chloronaphthalene	<0.003	0.050	0.042	84	0.05	0.042	84	0	65-135	25	
2-Chlorophenol	<0.002	0.050	0.048	96	0.05	0.047	94	2	16-116	40	

Relative Percent Difference RPD = $200 \cdot [(C-F)/(C+F)]$

Blank Spike Recovery [D] = $100 \cdot (C/B)$

Blank Spike Duplicate Recovery [G] = $100 \cdot (F/E)$

All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 392196

Analyst: DAE

Lab Batch ID: 826350

Sample: 575045-1-BKS

Units: mg/L

Date Prepared: 10/04/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 10/06/2010

Matrix: Water

SVOAs by SW-846 8270C												
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
	4-Chlorophenyl Phenyl Ether	<0.001	0.050	0.051	102	0.05	0.050	100	2	65-135	25	
	Chrysene	<0.001	0.050	0.050	100	0.05	0.049	98	2	65-135	25	
	Dibenz(a,h)anthracene	<0.001	0.050	0.062	124	0.05	0.056	112	10	50-125	25	
	Dibenzofuran	<0.003	0.050	0.051	102	0.05	0.050	100	2	52-125	25	
	di-n-Butyl Phthalate	<0.001	0.050	0.052	104	0.05	0.051	102	2	49-135	50	
	3,3-Dichlorobenzidine	<0.003	0.050	0.052	104	0.05	0.050	100	4	12-147	25	
	2,4-Dichlorophenol	<0.001	0.050	0.049	98	0.05	0.049	98	0	65-135	25	
	Diethyl Phthalate	<0.001	0.050	0.052	104	0.05	0.050	100	4	37-125	50	
	Dimethyl Phthalate	<0.001	0.050	0.052	104	0.05	0.051	102	2	25-175	50	
	2,4-Dimethylphenol	<0.003	0.050	0.050	100	0.05	0.051	102	2	32-119	25	
	4,6-dinitro-2-methyl phenol	<0.003	0.050	0.053	106	0.05	0.054	108	2	2-181	25	
2,4-Dinitrophenol	<0.002	0.050	0.054	108	0.05	0.055	110	2	65-135	25		
2,4-Dinitrotoluene	<0.003	0.050	0.054	108	0.05	0.050	100	8	22-135	38		
2,6-Dinitrotoluene	<0.001	0.050	0.054	108	0.05	0.053	106	2	49-122	38		
di-n-Octyl Phthalate	<0.001	0.050	0.057	114	0.05	0.047	94	19	43-134	50		
Fluoranthene	<0.001	0.050	0.052	104	0.05	0.051	102	2	47-125	25		
Fluorene	<0.001	0.050	0.050	100	0.05	0.049	98	2	48-139	25		
Hexachlorobenzene	<0.001	0.050	0.054	108	0.05	0.054	108	0	46-133	25		
Hexachlorocyclopentadiene	<0.003	0.050	0.020	40	0.05	0.020	40	0	41-125	25	L	
Hexachloroethane	<0.003	0.050	0.050	100	0.05	0.049	98	2	25-153	25		

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C/[B])$
Blank Spike Duplicate Recovery [G] = $100 * (F/[E])$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 392196

Analyst: DAE

Lab Batch ID: 826350

Sample: 575045-1-BKS

Units: mg/L

Date Prepared: 10/04/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 10/06/2010

Matrix: Water

SVOAs by SW-846 8270C											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Indeno(1,2,3-c,d)Pyrene	<0.001	0.050	0.060	120	0.05	0.056	112	7	27-160	25	
Isophorone	<0.001	0.050	0.051	102	0.05	0.051	102	0	26-175	25	
2-Methylnaphthalene	<0.003	0.050	0.048	96	0.05	0.049	98	2	25-175	25	
2-methylphenol	<0.003	0.050	0.046	92	0.05	0.045	90	2	14-176	25	
3&4-Methylphenol	<0.002	0.100	0.042	42	0.1	0.040	40	5	14-176	25	
Naphthalene	<0.002	0.050	0.049	98	0.05	0.049	98	0	26-175	25	
2-Nitroaniline	<0.001	0.050	0.055	110	0.05	0.054	108	2	65-135	25	
3-Nitroaniline	<0.006	0.050	0.051	102	0.05	0.048	96	6	65-135	25	
4-Nitroaniline	<0.004	0.050	0.050	100	0.05	0.049	98	2	65-135	25	
Nitrobenzene	<0.001	0.050	0.050	100	0.05	0.050	100	0	65-135	25	
2-Nitrophenol	<0.001	0.050	0.051	102	0.05	0.051	102	0	65-135	25	
4-Nitrophenol	<0.001	0.050	0.028	56	0.05	0.026	52	7	10-80	50	
N-Nitrosodi-n-Propylamine	<0.001	0.050	0.070	140	0.05	0.073	146	4	22-134	38	H
N-Nitrosodiphenylamine	<0.003	0.050	0.057	114	0.05	0.056	112	2	2-196	25	
Pentachlorophenol	<0.003	0.050	0.044	88	0.05	0.047	94	7	17-117	50	
Phenanthrene	<0.001	0.050	0.052	104	0.05	0.052	104	0	65-135	25	
Phenol	<0.001	0.050	0.023	46	0.05	0.021	42	9	12-110	25	
Pyrene	<0.001	0.050	0.056	112	0.05	0.050	100	11	23-152	31	
Pyridine	<0.006	0.050	0.027	54	0.05	0.030	60	11	16-86	28	
2,4,5-Trichlorophenol	<0.001	0.050	0.052	104	0.05	0.052	104	0	65-135	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 392196

Analyst: DAE

Lab Batch ID: 826350

Sample: 575045-1-BKS

Units: mg/L

Date Prepared: 10/04/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 10/06/2010

Matrix: Water

SVOAs by SW-846 8270C		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
2,4,6-Trichlorophenol		<0.002	0.050	0.052	104	0.05	0.053	106	2	65-135	25	

Relative Percent Difference RPD = $200 \cdot |(C-F)/(C+F)|$
Blank Spike Recovery [D] = $100 \cdot (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 \cdot (F)/[E]$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 392196

Lab Batch ID: 826003

Date Analyzed: 10/04/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC-Sample ID: 392196-001 S

Date Prepared: 10/04/2010

Batch #: 1

Analyst: EZB

Matrix: Water

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: ug/L	VOAs by SW-846 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Acetone	27.8	100	118	90	100	102	74	15	60-140	21	
	Benzene	<5.00	50.0	46.0	92	50.0	42.0	84	9	66-142	21	
	Bromobenzene	<5.00	50.0	58.0	116	50.0	51.6	103	12	75-125	20	
	Bromochloromethane	<5.00	50.0	47.2	94	50.0	42.7	85	10	73-125	20	
	Bromodichloromethane	<5.00	50.0	50.3	101	50.0	44.9	90	11	75-125	20	
	Bromoform	<5.00	50.0	56.6	113	50.0	50.8	102	11	75-125	20	
	Bromomethane	<5.00	50.0	39.1	78	50.0	38.9	78	1	70-130	20	
	2-Butanone	<50.0	100	94.5	95	100	79.3	79	17	60-140	20	
	MTBE	<5.00	50.0	46.7	93	50.0	42.4	85	10	65-135	20	
	n-Butylbenzene	<5.00	50.0	56.8	114	50.0	52.1	104	9	75-125	20	
	Sec-Butylbenzene	<5.00	50.0	56.3	113	50.0	52.2	104	8	75-125	20	
	tert-Butylbenzene	<5.00	50.0	57.7	115	50.0	53.8	108	7	75-125	20	
	Carbon Disulfide	<50.0	50.0	43.9	88	50.0	40.8	82	7	60-140	20	
	Carbon Tetrachloride	<5.00	50.0	47.2	94	50.0	44.2	88	7	62-125	20	
	Chlorobenzene	<5.00	50.0	52.5	105	50.0	47.5	95	10	60-133	21	
	Chloroethane	<10.0	50.0	44.3	89	50.0	42.5	85	4	70-130	20	
	Chloroform	<5.00	50.0	46.3	93	50.0	43.3	87	7	74-125	20	
	Chloromethane	<10.0	50.0	40.6	81	50.0	37.4	75	8	70-130	20	
	2-Chlorotoluene	<5.00	50.0	55.3	111	50.0	52.1	104	6	73-125	20	
	4-Chlorotoluene	<5.00	50.0	56.0	112	50.0	51.2	102	9	74-125	20	
	p-Cymene (p-Isopropyltoluene)	<5.00	50.0	57.0	114	50.0	51.2	102	11	75-125	20	
	Dibromochloromethane	<5.00	50.0	57.0	114	50.0	50.2	100	13	73-125	20	
	1,2-Dibromo-3-Chloropropane	<5.00	50.0	58.7	117	50.0	48.1	96	20	59-125	28	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Project Name: 900 S. Central Avenue

Work Order #: 392196

Lab Batch ID: 826003

Date Analyzed: 10/04/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 392196-001 S Batch #: 1 Matrix: Water

Date Prepared: 10/04/2010 Analyst: EZB

VOAs by SW-846 8260B		Analytes										Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Dibromomethane	<5.00	50.0	48.6	97	50.0	42.6	85	13	69-127	23											
	1,2-Dichlorobenzene	<5.00	50.0	58.4	117	50.0	53.0	106	10	75-125	20											
	1,3-Dichlorobenzene	<5.00	50.0	56.0	112	50.0	51.8	104	8	75-125	20											
	1,4-Dichlorobenzene	<5.00	50.0	55.9	112	50.0	50.4	101	10	75-125	20											
	Dichlorodifluoromethane	<5.00	50.0	43.3	87	50.0	40.0	80	8	70-130	23											
	1,1-Dichloroethane	<5.00	50.0	45.9	92	50.0	42.3	85	8	72-125	20											
	1,2-Dichloroethane	<5.00	50.0	49.2	98	50.0	43.5	87	12	68-127	20											
	1,1-Dichloroethene	<5.00	50.0	44.5	89	50.0	41.0	82	8	59-172	22											
	cis-1,2-Dichloroethene	<5.00	50.0	47.1	94	50.0	43.5	87	8	75-125	20											
	trans-1,2-dichloroethene	<5.00	50.0	44.2	88	50.0	42.2	84	5	75-125	20											
	1,2-Dichloropropane	<5.00	50.0	48.3	97	50.0	44.7	89	8	74-125	20											
	1,3-Dichloropropane	<5.00	50.0	54.4	109	50.0	47.7	95	13	75-125	20											
	2,2-Dichloropropane	<5.00	50.0	44.2	88	50.0	41.2	82	7	75-125	20											
	1,1-Dichloropropene	<5.00	50.0	46.3	93	50.0	41.5	83	11	75-125	20											
	cis-1,3-Dichloropropene	<5.00	50.0	45.8	92	50.0	41.2	82	11	74-125	20											
	trans-1,3-dichloropropene	<5.00	50.0	46.1	92	50.0	40.6	81	13	66-125	20											
	Ethylbenzene	<5.00	50.0	52.1	104	50.0	47.4	95	9	75-125	20											
	Hexachlorobutadiene	<5.00	50.0	52.5	105	50.0	48.6	97	8	75-125	20											
	isopropylbenzene	<5.00	50.0	56.4	113	50.0	51.6	103	9	75-125	20											
	Methylene Chloride	1.57	50.0	50.5	98	50.0	45.9	89	10	75-125	35											
	n-Propylbenzene	<5.00	50.0	54.4	109	50.0	49.8	100	9	75-125	20											
	Styrene	<5.00	50.0	56.2	112	50.0	50.2	100	11	75-125	51											
	1,1,1,2-Tetrachloroethane	<5.00	50.0	59.9	120	50.0	52.6	105	13	72-125	20											

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*(C-F)/(C+F)

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Project Name: 900 S. Central Avenue

Work Order #: 392196

Lab Batch ID: 826003

Date Analyzed: 10/04/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 392196-001 S

Date Prepared: 10/04/2010

Batch #: 1 Matrix: Water

Analyst: EZB

VOAs by SW-846 8260B		Analytes										Control Limits %R	Control Limits %RPD	Flag
Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag				
1,1,2,2-Tetrachloroethane	<5.00	61.4	123	50.0	51.7	103	17	74-125	31					
Tetrachloroethylene	<5.00	53.5	107	50.0	47.5	95	12	71-125	20					
Toluene	<5.00	49.4	99	50.0	45.4	91	8	59-139	21					
1,2,3-Trichlorobenzene	<5.00	54.2	108	50.0	48.8	98	10	75-137	20					
1,2,4-Trichlorobenzene	<5.00	56.5	113	50.0	50.9	102	10	75-135	20					
1,1,1-Trichloroethane	<5.00	45.8	92	50.0	42.3	85	8	75-125	20					
1,1,2-Trichloroethane	<5.00	50.1	100	50.0	44.0	88	13	75-127	20					
Trichloroethene	<5.00	47.0	94	50.0	42.7	85	10	62-137	24					
Trichlorofluoromethane	<5.00	43.6	87	50.0	41.0	82	6	67-125	20					
1,2,3-Trichloropropane	<5.00	56.3	113	50.0	48.6	97	15	75-125	20					
1,2,4-Trimethylbenzene	<5.00	56.3	113	50.0	51.5	103	9	75-125	20					
1,3,5-Trimethylbenzene	<5.00	57.0	114	50.0	50.8	102	12	70-125	20					
o-Xylene	<5.00	54.2	108	50.0	49.1	98	10	75-125	20					
m,p-Xylenes	<10.0	104	104	100	95.4	95	9	75-125	20					
Vinyl Acetate	<50.0	91.0	91	100	79.8	80	13	60-140	20					
Vinyl Chloride	<2.00	40.6	81	50.0	38.9	78	4	75-125	20					

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*(C-F)/(C+F)

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

ApplicableN = See Narrative, EQ, = Estimated Quantitation Limit



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: URS Corporation
Date/Time: 10/02/10
Lab ID #: 392196
Initials: Tr

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	No	
2. Shipping container in good condition?	Yes	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	N/A	
4. Chain of Custody present?	Yes	No		
5. Sample instructions complete on chain of custody?	Yes	No		
6. Any missing / extra samples?	Yes	No		
7. Chain of custody signed when relinquished / received?	Yes	No		
8. Chain of custody agrees with sample label(s)?	Yes	No		
9. Container labels legible and intact?	Yes	No		
10. Sample matrix / properties agree with chain of custody?	Yes	No		
11. Samples in proper container / bottle?	Yes	No		
12. Samples properly preserved?	Yes	No	N/A	
13. Sample container intact?	Yes	No		
14. Sufficient sample amount for indicated test(s)?	Yes	No		
15. All samples received within sufficient hold time?	Yes	No		
16. Subcontract of sample(s)?	Yes	No	N/A	
17. VOC sample have zero head space?	Yes	No	N/A	
18. Cooler 1 No. <u>2853</u>	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
<u>32</u> lbs <u>2.9</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
☐ Initial and Backup Temperature confirm out of temperature conditions
☐ Client understands and would like to proceed with analysis

RT 818 1
FZ B03

A
7400
10.02

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

Signature
Date

Roxana Groundwater Profiling Data Review

Laboratory SDG: 392392

Reviewer: Elizabeth Kunkel

Date Reviewed: 11/19/2010

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

Sample Identification	Sample Identification
GWP-24-44	GWP-24-52
TB-100410	

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 GWP-24-44 and GWP-24-52 contained high concentrations of a non-target compound, isopropyl alcohol, and hence required dilution. SVOC surrogate, 2,4,6-tribromophenol was diluted out and not recovered in samples GWP-24-44 and GWP-24-52. SVOC surrogate nitrobenzene-d₅ was outside evaluation criteria in sample GWP-24-52. SVOC LCS/LCSD recoveries were outside evaluation criteria. Additionally, methylene chloride was detected in the trip blank. Professional judgment was used to qualify bis (2-ethylhexyl) phthalate in sample GWP-24-44. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated that SVOC containers for samples GWP-24-44 and GWP-24-52 were only approximately 40% filled. Sufficient sample was available for samples GWP-24-44 and GWP-24-52 to complete requested analyses.

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
TB-100410	VOCs	Methylene chloride	10.2 µg/L

Qualifications due to blank contamination are included in the table below. Analytical

data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
GWP-24-44	VOCs	Methylene chloride	-	U
GWP-24-52	VOCs	Methylene chloride	-	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
575236-1-BKS	SVOCs	Hexachlorocyclopentadiene	30/32	6	41-125/25

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.

Sample ID	Parameter	Analyte	Qualification
GWP-24-44	SVOCs	Hexachlorocyclopentadiene	UJ
GWP-24-52	SVOCs	Hexachlorocyclopentadiene	UJ

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No, SVOC surrogate 2,4,6-tribromophenol was diluted out and not recovered in samples GWP-24-44 and GWP-24-52.

Sample ID	Parameter	Surrogate	Recovery	Criteria
GWP-24-52	SVOCs	Nitrobenzene-d ₅	316	35-114

Analytical data that required qualification based on surrogate data are included in the table below.

Sample ID	Parameter	Analyte	Qualification
GWP-24-52	SVOCs	Fluorene	J
GWP-24-52	SVOCs	2-Methylnaphthalene	J
GWP-24-52	SVOCs	Naphthalene	J

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

No

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

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

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

Yes, professional judgment was used to qualify common plasticizer, bis (2-ethylhexyl) phthalate reported at a concentration less than two times (2X) the reporting limit (RL). The compound bis (2-ethylhexyl) phthalate is found in extraction thimbles.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualifier	Comment
GWP-24-44	SVOCs	bis (2-ethylhexyl) phthalate	-	U	Professional Judgment

Analytical Report 392392

for

URS Corporation-St. Louis

Project Manager: Wendy Pennington

900 S. Central Avenue

Roxana- Route 111/21562291.00006

08-OCT-10



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*Reviewed
on*

11/19/2010

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

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Xenco-Boca Raton (EPA Lab Code: FL01273):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



08-OCT-10

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

Reference: XENCO Report No: **392392**
900 S. Central Avenue
Project Address: Roxana, IL 62084

Wendy Pennington:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 392392. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 392392 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Carlos Castro

Managing Director, Texas

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Sample Cross Reference 392392



URS Corporation-St. Louis, St. Louis, MO
900 S. Central Avenue

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
GWP-24-44 ✓	W	Oct-04-10 12:00		392392-001
GWP-24-52 ✓	W	Oct-04-10 12:30		392392-002
TB-100410 ✓	W	Oct-04-10 00:00		392392-003



CASE NARRATIVE

Client Name: URS Corporation-St. Louis

Project Name: 900 S. Central Avenue



Project ID: Roxana- Route 111/21562.

Report Date: 08-OCT-10

Work Order Number: 392392

Date Received: 10/05/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-826226 VOAs by SW-846 8260B

Methylene chloride present in method blank above MDL, suspected laboratory contamination.

Samples affected are 392392-001,002,003.

SW8260B

Batch 826226, Chloromethane recovered below QC limits in the Matrix Spike. Methylene Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. n-Propylbenzene recovered above QC limits in the Matrix Spike. 1,2,4-Trimethylbenzene, Ethylbenzene, n-Butylbenzene recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 392392-003, -001, -002.

The Laboratory Control Sample for Methylene Chloride, Chloromethane, 1,2,4-Trimethylbenzene, n-Butylbenzene, Ethylbenzene, n-Propylbenzene is within laboratory Control Limits

Note: Sample contained high concentrations of Isopropyl alcohol. 392392-001 (~16,726ppb) 392392-002 (~35,212ppb).

Sample: 392392-001	SW8260B / Water
Sample dilution required due to high concentrations of non-target compounds.	
Sample: 392392-002	SW8260B / Water
Sample dilution required due to high concentrations of non-target compounds.	



CASE NARRATIVE

Client Name: URS Corporation-St. Louis

Project Name: 900 S. Central Avenue



Project ID: Roxana- Route 111/21562.

Report Date: 08-OCT-10

Work Order Number: 392392

Date Received: 10/05/2010

*Batch: LBA-826595 SVOAs by SW-846 8270C
SW8270C*

Batch 826595, 2,4,6-Tribromophenol recovered below QC limits . Matrix interferences is suspected;

Samples affected are: 392392-001,392392-002.

Nitrobenzene-d5 recovered above QC limits . Matrix interferences is suspected;

Samples affected are: 392392-002.

SW8270C

Batch 826595, Hexachlorocyclopentadiene recovered below QC limits in the Blank Spike and Duplicate.

Samples affected are: 392392-001, -002.

Sample surrogates not within laboratory control limits due to samples being run at a dilution, samples run at a dilution due to non-target analytes and matrix interference.

Hexachlorocyclopentadiene reported below QC limits for Blank Spike and Blank spike Duplicate.

Batch passes in accordance to Marginal Exceedence (NELAC Quality Systems, Appendix D).

Daily CCV and ICV are within QC Limits. Sample data reported are valid.



Certificate of Analysis Summary 392392

URS Corporation-St. Louis, St. Louis, MO
Project Name: 900 S. Central Avenue



Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084

Date Received in Lab: Tue Oct-05-10 09:15 am

Report Date: 08-OCT-10

Project Manager: Debbie Simmons

Analysis Requested		Lab Id: Field Id: Depth: Matrix: Sampled:	392392-001 GWP-24-44 WATER Oct-04-10 12:00	392392-002 GWP-24-52 WATER Oct-04-10 12:30	392392-003 TB-100410 WATER Oct-04-10 00:00	
SVOAs by SW-846 8270C		Extracted: Analyzed: Units/RL:	Oct-05-10 13:39 Oct-08-10 09:26 mg/L RL	Oct-05-10 13:42 Oct-08-10 09:49 mg/L RL		
Acenaphthene			U 0.833	U 1.47		
Acenaphthylene			U 0.833	U 1.47		
Aniline (Phenylamine, Aminobenzene)			U 1.67	U 2.94		
Anthracene			U 0.833	U 1.47		
Benzo(a)anthracene			U 0.833	U 1.47		
Benzo(a)pyrene			U 0.833	U 1.47		
Benzo(b)fluoranthene			U 0.833	U 1.47		
Benzo(k)fluoranthene			U 0.833	U 1.47		
Benzo(g,h,i)perylene			U 0.833	U 1.47		
Benzoic Acid			U 4.17	U 7.35		
Benzyl Butyl Phthalate			U 0.833	U 1.47		
bis(2-chloroethoxy) methane			U 0.833	U 1.47		
bis(2-chloroethyl) ether			U 0.833	U 1.47		
bis(2-chloroisopropyl) ether			U 0.833	U 1.47		
bis(2-ethylhexyl) phthalate			0.0 ND 0.357 U 0.833	U 1.47		
4-Bromophenyl-phenylether			U 0.833	U 1.47		
4-chloro-3-methylphenol			U 0.833	U 1.47		
4-Chloroaniline			U 1.67	U 2.94		
2-Chloronaphthalene			U 0.833	U 1.47		
2-Chlorophenol			U 0.833	U 1.47		
4-Chlorophenyl Phenyl Ether			U 0.833	U 1.47		
Chrysene			U 0.833	U 1.47		
Dibenz(a,h)anthracene			U 0.833	U 1.47		
Dibenzofuran			U 0.833	U 1.47		
di-n-Butyl Phthalate			U 0.833	U 1.47		

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Managing Director, Texas



Certificate of Analysis Summary 392392

URS Corporation-St. Louis, St. Louis, MO
Project Name: 900 S. Central Avenue



Project Id: Roxana- Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084

Date Received in Lab: Tue Oct-05-10 09:15 am

Report Date: 08-OCT-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	392392-001	392392-002	392392-003	
	Field Id:	GWP-24-44	GWP-24-52	TB-100410	
	Depth:				
	Matrix:	WATER	WATER	WATER	
	Sampled:	Oct-04-10 12:00	Oct-04-10 12:30	Oct-04-10 00:00	
SVOAs by SW-846 8270C	Extracted:	Oct-05-10 13:39	Oct-05-10 13:42		
	Analyzed:	Oct-08-10 09:26	Oct-08-10 09:49		
	Units/RL:	mg/L RL	mg/L RL		
		U 0.833	U 1.47		
	3,3-Dichlorobenzidine	U 0.833	U 1.47		
	2,4-Dichlorophenol	U 0.833	U 1.47		
	Diethyl Phthalate	U 0.833	U 1.47		
	Dimethyl Phthalate	U 0.833	U 1.47		
	2,4-Dimethylphenol	U 0.833	U 1.47		
	4,6-dinitro-2-methyl phenol	U 0.833	U 1.47		
	2,4-Dinitrophenol	U 1.67	U 2.94		
	2,4-Dinitrotoluene	U 0.833	U 1.47		
	2,6-Dinitrotoluene	U 0.833	U 1.47		
	di-n-Octyl Phthalate	U 0.833	U 1.47		
Fluoranthene		U 0.833	U 1.47		
Fluorene		U 0.833	0.109 J 1.47		
Hexachlorobenzene		U 0.833	U 1.47		
Hexachlorocyclopentadiene		U 0.833	U 1.47		
Hexachloroethane		U 0.833	U 1.47		
Indeno(1,2,3-c,d)Pyrene		U 0.833	U 1.47		
Isophorone		U 0.833	U 1.47		
2-Methylnaphthalene		0.687 J 0.833	2.49 J 1.47		
2-methylphenol		U 0.833	U 1.47		
3&4-Methylphenol		U 0.833	U 1.47		
Naphthalene		U 0.833	0.621 J 1.47		
2-Nitroaniline		U 1.67	U 2.94		
3-Nitroaniline		U 1.67	U 2.94		
4-Nitroaniline		U 1.67	U 2.94		
Nitrobenzene		U 0.833	U 1.47		

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Carlos Castro

Managing Director, Texas



Certificate of Analysis Summary 392392

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

Project Name: 900 S. Central Avenue

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084



Date Received in Lab: Tue Oct-05-10 09:15 am

Report Date: 08-OCT-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	392392-001	392392-002	392392-003	
	Field Id:	GWP-24-44	GWP-24-52	TB-100410	
	Depth:				
	Matrix:	WATER	WATER	WATER	
	Sampled:	Oct-04-10 12:00	Oct-04-10 12:30	Oct-04-10 00:00	
SVOAs by SW-846 8270C	Extracted:	Oct-05-10 13:39	Oct-05-10 13:42		
	Analyzed:	Oct-08-10 09:26	Oct-08-10 09:49		
	Units/RL:	mg/L RL	mg/L RL		
	2-Nitrophenol	U 0.833	U 1.47		
	4-Nitrophenol	U 0.833	U 1.47		
	N-Nitrosodi-n-Propylamine	U 0.833	U 1.47		
	N-Nitrosodiphenylamine	U 0.833	U 1.47		
	Pentachlorophenol	U 0.833	U 1.47		
	Phenanthrene	U 0.833	U 1.47		
	Phenol	U 0.833	U 1.47		
	Pyrene	U 0.833	U 1.47		
	Pyridine	U 1.67	U 2.94		
2,4,5-Trichlorophenol 2,4,6-Trichlorophenol		U 0.833	U 1.47		
		U 0.833	U 1.47		

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Carlos Castro

Managing Director, Texas



Certificate of Analysis Summary 392392

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

Project Name: 900 S. Central Avenue

Project Id: Roxana- Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084



Date Received in Lab: Tue Oct-05-10 09:15 am

Report Date: 08-OCT-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	392392-001	392392-002	392392-003	
	Field Id:	GWP-24-44	GWP-24-52	TB-100410	
	Depth:				
	Matrix:				
	Sampled:				
VOAs by SW-846 8260B	Extracted:	Oct-05-10 20:18	Oct-05-10 20:20	Oct-05-10 14:00	
	Analyzed:	Oct-06-10 04:10	Oct-06-10 05:01	Oct-05-10 22:35	
	Units/RL:				
Acetone		2660 1000	1820 1000	U 100	
Benzene		1990 D 250	2000 D 250	U 5.00	
Bromobenzene		U 50.0	U 50.0	U 5.00	
Bromochloromethane		U 50.0	U 50.0	U 5.00	
Bromodichloromethane		U 50.0	U 50.0	U 5.00	
Bromoform		U 50.0	U 50.0	U 5.00	
Bromomethane		U 50.0	U 50.0	U 5.00	
2-Butanone		U 500	U 500	U 50.0	
MTBE		10.2 J 50.0	U 50.0	U 5.00	
n-Butylbenzene		52.1 50.0	60.4 50.0	U 5.00	
Sec-Butylbenzene		39.9 J 50.0	39.0 J 50.0	U 5.00	
tert-Butylbenzene		U 50.0	U 50.0	U 5.00	
Carbon Disulfide		U 500	U 500	U 50.0	
Carbon Tetrachloride		U 50.0	U 50.0	U 5.00	
Chlorobenzene		U 50.0	U 50.0	U 5.00	
Chloroethane		U 100	U 100	U 10.0	
Chloroform		U 50.0	U 50.0	U 5.00	
Chloromethane		U 100	U 100	U 10.0	
2-Chlorotoluene		U 50.0	U 50.0	U 5.00	
4-Chlorotoluene		U 50.0	U 50.0	U 5.00	
p-Cymene (p-Isopropyltoluene)		25.0 J 50.0	30.4 J 50.0	U 5.00	
Dibromochloromethane		U 50.0	U 50.0	U 5.00	
1,2-Dibromo-3-Chloropropane		U 50.0	U 50.0	U 5.00	
Dibromomethane		U 50.0	U 50.0	U 5.00	
1,2-Dichlorobenzene		U 50.0	U 50.0	U 5.00	

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Carlos Castro
Managing Director, Texas

Certificate of Analysis Summary 392392

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

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084

Project Name: 900 S. Central Avenue

Date Received in Lab: Tue Oct-05-10 09:15 am

Report Date: 08-OCT-10

Project Manager: Debbie Simmons



Analysis Requested		Lab Id:	392392-001	392392-002	392392-003	
		Field Id:	GWP-24-44	GWP-24-52	TB-100410	
		Depth:				
		Matrix:	WATER	WATER	WATER	
		Sampled:	Oct-04-10 12:00	Oct-04-10 12:30	Oct-04-10 00:00	
VOAs by SW-846 8260B	Extracted:		Oct-05-10 20:18	Oct-05-10 20:20	Oct-05-10 14:00	
	Analyzed:		Oct-06-10 04:10	Oct-06-10 05:01	Oct-05-10 22:35	
	Units/RL:		ug/L RL	ug/L RL	ug/L RL	
	1,3-Dichlorobenzene		U 50.0	U 50.0	U 5.00	
	1,4-Dichlorobenzene		U 50.0	U 50.0	U 5.00	
	Dichlorodifluoromethane		U 50.0	U 50.0	U 5.00	
	1,1-Dichloroethane		U 50.0	U 50.0	U 5.00	
	1,2-Dichloroethane		U 50.0	U 50.0	U 5.00	
	1,1-Dichloroethene		U 50.0	U 50.0	U 5.00	
	cis-1,2-Dichloroethene		U 50.0	U 50.0	U 5.00	
	trans-1,2-dichloroethene		U 50.0	U 50.0	U 5.00	
	1,2-Dichloropropane		U 50.0	U 50.0	U 5.00	
	1,3-Dichloropropane		U 50.0	U 50.0	U 5.00	
	2,2-Dichloropropane		U 50.0	U 50.0	U 5.00	
	1,1-Dichloropropene		U 50.0	U 50.0	U 5.00	
	cis-1,3-Dichloropropene		U 50.0	U 50.0	U 5.00	
	trans-1,3-dichloropropene		U 50.0	U 50.0	U 5.00	
	Ethylbenzene		U 50.0	48.6 J 50.0	U 5.00	
	Hexachlorobutadiene		U 50.0	U 50.0	U 5.00	
	Isopropylbenzene		62.9 50.0	76.4 50.0	U 5.00	
	Methylene Chloride		ND 21.0 50.0	ND 23.0 50.0	(10.2)B 5.00	
	n-Propylbenzene		131 50.0	145 50.0	U 5.00	
	Styrene		U 50.0	U 50.0	U 5.00	
	1,1,1,2-Tetrachloroethane		U 50.0	U 50.0	U 5.00	
	1,1,2,2-Tetrachloroethane		U 50.0	U 50.0	U 5.00	
	Tetrachloroethylene		U 50.0	U 50.0	U 5.00	
	Toluene		U 50.0	U 50.0	U 5.00	
	1,2,3-Trichlorobenzene		U 50.0	U 50.0	U 5.00	

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 392392

URS Corporation-St. Louis, St. Louis, MO
Project Name: 900 S. Central Avenue

Project Id: Roxana- Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084

Date Received in Lab: Tue Oct-05-10 09:15 am

Report Date: 08-OCT-10

Project Manager: Debbie Simmons



Analysis Requested	Lab Id:	392392-001	392392-002	392392-003	
	Field Id:	GWP-24-44	GWP-24-52	TB-100410	
	Depth:				
	Matrix:	WATER	WATER	WATER	
	Sampled:	Oct-04-10 12:00	Oct-04-10 12:30	Oct-04-10 00:00	
VOAs by SW-846 8260B	Extracted:	Oct-05-10 20:18	Oct-05-10 20:20	Oct-05-10 14:00	
	Analyzed:	Oct-06-10 04:10	Oct-06-10 05:01	Oct-05-10 22:35	
	Units/RL:	ug/L RL	ug/L RL	ug/L RL	
	1,2,4-Trichlorobenzene	U 50.0	U 50.0	U 5.00	
	1,1,1-Trichloroethane	U 50.0	U 50.0	U 5.00	
	1,1,2-Trichloroethane	U 50.0	U 50.0	U 5.00	
	Trichloroethene	U 50.0	U 50.0	U 5.00	
	Trichlorofluoromethane	U 50.0	U 50.0	U 5.00	
	1,2,3-Trichloropropane	333 50.0	732 50.0	U 5.00	
	1,2,4-Trimethylbenzene	U 50.0	U 50.0	U 5.00	
	1,3,5-Trimethylbenzene	U 50.0	U 50.0	U 5.00	
	o-Xylene	U 100	142 100	U 10.0	
m,p-Xylenes		U 500	U 500	U 50.0	
	Vinyl Acetate	U 20.0	U 20.0	U 2.00	
Vinyl Chloride					

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

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Carlos Castro
Managing Director, Texas



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : VOAs by SW-846 8260B

Client : URS Corporation-St. Louis

Work Order #: 392392

Project ID: Roxana- Route 111/21562291

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
GWP-24-44	Oct. 4, 2010	Oct. 5, 2010				Oct.6, 2010	14	2	P
GWP-24-52	Oct. 4, 2010	Oct. 5, 2010				Oct.6, 2010	14	2	P
TB-100410	Oct. 4, 2010	Oct. 5, 2010				Oct.5, 2010	14	1	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : SVOAs by SW-846 8270C

Client : URS Corporation-St. Louis

Work Order #: 392392

Project ID: Roxana- Route 111/21562291

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
GWP-24-52	Oct. 4, 2010	Oct. 5, 2010	Oct. 5, 2010	7	1	Oct.8, 2010	40	3	P
GWP-24-44	Oct. 4, 2010	Oct. 5, 2010	Oct. 5, 2010	7	1	Oct.8, 2010	40	3	P

F = These samples were analyzed outside the recommended holding time.

P = Samples analyzed within the recommended holding time.

Flagging Criteria

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

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit

PQL Practical Quantitation Limit

* Outside XENCO's scope of NELAC Accreditation.

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Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 392392,

Project ID: Roxana- Route 111/21562291.00006

Lab Batch #: 826595

Sample: 575236-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/06/10 17:05

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.043	0.050	86	43-116	
2-Fluorophenol	0.039	0.050	78	21-100	
Nitrobenzene-d5	0.045	0.050	90	35-114	
Phenol-d6	0.034	0.050	68	10-94	
Terphenyl-D14	0.046	0.050	92	33-141	
2,4,6-Tribromophenol	0.043	0.050	86	10-123	

Lab Batch #: 826595

Sample: 575236-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/06/10 17:26

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.042	0.050	84	43-116	
2-Fluorophenol	0.032	0.050	64	21-100	
Nitrobenzene-d5	0.042	0.050	84	35-114	
Phenol-d6	0.025	0.050	50	10-94	
Terphenyl-D14	0.044	0.050	88	33-141	
2,4,6-Tribromophenol	0.043	0.050	86	10-123	

Lab Batch #: 826595

Sample: 575236-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/06/10 17:48

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.045	0.050	90	43-116	
2-Fluorophenol	0.034	0.050	68	21-100	
Nitrobenzene-d5	0.045	0.050	90	35-114	
Phenol-d6	0.026	0.050	52	10-94	
Terphenyl-D14	0.046	0.050	92	33-141	
2,4,6-Tribromophenol	0.045	0.050	90	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 392392,

Project ID: Roxana- Route 111/21562291.00006

Lab Batch #: 826595

Sample: 392392-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/08/10 09:26

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.132	0.167	79	43-116	
2-Fluorophenol	0.124	0.167	74	21-100	
Nitrobenzene-d5	0.155	0.167	93	35-114	
Phenol-d6	0.105	0.167	63	10-94	
Terphenyl-D14	0.122	0.167	73	33-141	
2,4,6-Tribromophenol	U	0.167	0	10-123	***

Lab Batch #: 826595

Sample: 392392-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/08/10 09:49

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.122	0.147	83	43-116	
2-Fluorophenol	0.116	0.147	79	21-100	
Nitrobenzene-d5	0.465	0.147	316	35-114	***
Phenol-d6	0.077	0.147	52	10-94	
Terphenyl-D14	0.106	0.147	72	33-141	
2,4,6-Tribromophenol	U	0.147	0	10-123	***

Lab Batch #: 826226

Sample: 575274-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/05/10 20:17

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0502	0.0500	100	74-124	
Dibromofluoromethane	0.0513	0.0500	103	75-131	
1,2-Dichloroethane-D4	0.0500	0.0500	100	63-144	
Toluene-D8	0.0520	0.0500	104	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 392392,

Project ID: Roxana- Route 111/21562291.00006

Lab Batch #: 826226

Sample: 575274-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/05/10 20:43

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0494	0.0500	99	74-124	
Dibromofluoromethane	0.0505	0.0500	101	75-131	
1,2-Dichloroethane-D4	0.0475	0.0500	95	63-144	
Toluene-D8	0.0500	0.0500	100	80-117	

Lab Batch #: 826226

Sample: 391300-006 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/05/10 21:17

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0473	0.0500	95	74-124	
Dibromofluoromethane	0.0475	0.0500	95	75-131	
1,2-Dichloroethane-D4	0.0462	0.0500	92	63-144	
Toluene-D8	0.0511	0.0500	102	80-117	

Lab Batch #: 826226

Sample: 391300-006 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/05/10 21:43

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0467	0.0500	93	74-124	
Dibromofluoromethane	0.0468	0.0500	94	75-131	
1,2-Dichloroethane-D4	0.0473	0.0500	95	63-144	
Toluene-D8	0.0509	0.0500	102	80-117	

Lab Batch #: 826226

Sample: 392392-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/05/10 22:35

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0493	0.0500	99	74-124	
Dibromofluoromethane	0.0504	0.0500	101	75-131	
1,2-Dichloroethane-D4	0.0537	0.0500	107	63-144	
Toluene-D8	0.0485	0.0500	97	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 392392,

Project ID: Roxana- Route 111/21562291.00006

Lab Batch #: 826226

Sample: 392392-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/06/10 04:10

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0494	0.0500	99	74-124	
Dibromofluoromethane	0.0493	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0500	0.0500	100	63-144	
Toluene-D8	0.0499	0.0500	100	80-117	

Lab Batch #: 826226

Sample: 392392-001 / DL

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/06/10 04:36

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0461	0.0500	92	74-124	
Dibromofluoromethane	0.0475	0.0500	95	75-131	
1,2-Dichloroethane-D4	0.0495	0.0500	99	63-144	
Toluene-D8	0.0454	0.0500	91	80-117	

Lab Batch #: 826226

Sample: 392392-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/06/10 05:01

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0475	0.0500	95	74-124	
Dibromofluoromethane	0.0521	0.0500	104	75-131	
1,2-Dichloroethane-D4	0.0509	0.0500	102	63-144	
Toluene-D8	0.0511	0.0500	102	80-117	

Lab Batch #: 826226

Sample: 392392-002 / DL

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/06/10 05:27

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0443	0.0500	89	74-124	
Dibromofluoromethane	0.0504	0.0500	101	75-131	
1,2-Dichloroethane-D4	0.0492	0.0500	98	63-144	
Toluene-D8	0.0472	0.0500	94	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \cdot A / B$

All results are based on MDL and validated for QC purposes.

Blank Spike Recovery

Project Name: 900 S. Central Avenue

Work Order #: 392392

Project ID: Roxana- Route 111/21562291.00006

Lab Batch #: 826226

Sample: 575274-1-BKS

Matrix: Water

Date Analyzed: 10/05/2010

Date Prepared: 10/05/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Acetone	<20.0	100	104	104	60-140	
Benzene	<1.00	50.0	47.8	96	66-142	
Bromobenzene	<1.00	50.0	45.9	92	75-125	
Bromochloromethane	<1.00	50.0	46.7	93	73-125	
Bromodichloromethane	<1.00	50.0	46.7	93	75-125	
Bromoform	<1.00	50.0	51.8	104	75-125	
Bromomethane	<1.00	50.0	45.2	90	70-130	
2-Butanone	<10.0	100	87.1	87	60-140	
MTBE	<1.00	50.0	49.4	99	65-135	
n-Butylbenzene	<1.00	50.0	56.7	113	75-125	
Sec-Butylbenzene	<1.00	50.0	49.8	100	75-125	
tert-Butylbenzene	<1.00	50.0	48.7	97	75-125	
Carbon Disulfide	<10.0	50.0	45.1	90	60-140	
Carbon Tetrachloride	<1.00	50.0	57.4	115	62-125	
Chlorobenzene	<1.00	50.0	46.4	93	60-133	
Chloroethane	<2.00	50.0	48.8	98	70-130	
Chloroform	<1.00	50.0	46.6	93	74-125	
Chloromethane	<2.00	50.0	42.9	86	70-130	
2-Chlorotoluene	<1.00	50.0	50.4	101	73-125	
4-Chlorotoluene	<1.00	50.0	49.9	100	74-125	
p-Cymene (p-Isopropyltoluene)	<1.00	50.0	49.6	99	75-125	
Dibromochloromethane	<1.00	50.0	46.7	93	73-125	
1,2-Dibromo-3-Chloropropane	<1.00	50.0	47.5	95	59-125	
Dibromomethane	<1.00	50.0	44.1	88	69-127	
1,2-Dichlorobenzene	<1.00	50.0	48.4	97	75-125	
1,3-Dichlorobenzene	<1.00	50.0	48.3	97	75-125	
1,4-Dichlorobenzene	<1.00	50.0	46.5	93	75-125	
Dichlorodifluoromethane	<1.00	50.0	47.7	95	70-130	
1,1-Dichloroethane	<1.00	50.0	48.5	97	72-125	
1,2-Dichloroethane	<1.00	50.0	45.1	90	68-127	
1,1-Dichloroethene	<1.00	50.0	49.4	99	59-172	
cis-1,2-Dichloroethene	<1.00	50.0	47.4	95	75-125	
trans-1,2-dichloroethene	<1.00	50.0	48.8	98	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 S. Central Avenue

Work Order #: 392392

Project ID: Roxana- Route 111/21562291.00006

Lab Batch #: 826226

Sample: 575274-1-BKS

Matrix: Water

Date Analyzed: 10/05/2010

Date Prepared: 10/05/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK/BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,2-Dichloropropane	<1.00	50.0	45.0	90	74-125	
1,3-Dichloropropane	<1.00	50.0	43.1	86	75-125	
2,2-Dichloropropane	<1.00	50.0	56.2	112	75-125	
1,1-Dichloropropene	<1.00	50.0	50.0	100	75-125	
cis-1,3-Dichloropropene	<1.00	50.0	46.0	92	74-125	
trans-1,3-dichloropropene	<1.00	50.0	46.9	94	66-125	
Ethylbenzene	<1.00	50.0	51.2	102	75-125	
Hexachlorobutadiene	<1.00	50.0	49.1	98	75-125	
isopropylbenzene	<1.00	50.0	54.4	109	75-125	
Methylene Chloride	5.54	50.0	47.5	95	75-125	
n-Propylbenzene	<1.00	50.0	53.2	106	75-125	
Styrene	<1.00	50.0	52.0	104	75-125	
1,1,1,2-Tetrachloroethane	<1.00	50.0	51.4	103	72-125	
1,1,2,2-Tetrachloroethane	<1.00	50.0	47.2	94	74-125	
Tetrachloroethylene	<1.00	50.0	47.2	94	71-125	
Toluene	<1.00	50.0	44.7	89	59-139	
1,2,3-Trichlorobenzene	<1.00	50.0	48.8	98	75-137	
1,2,4-Trichlorobenzene	<1.00	50.0	49.2	98	75-135	
1,1,1-Trichloroethane	<1.00	50.0	54.4	109	75-125	
1,1,2-Trichloroethane	<1.00	50.0	43.4	87	75-127	
Trichloroethene	<1.00	50.0	47.7	95	62-137	
Trichlorofluoromethane	<1.00	50.0	55.4	111	67-125	
1,2,3-Trichloropropane	<1.00	50.0	47.4	95	75-125	
1,2,4-Trimethylbenzene	<1.00	50.0	53.2	106	75-125	
1,3,5-Trimethylbenzene	<1.00	50.0	53.0	106	70-125	
o-Xylene	<1.00	50.0	49.7	99	75-125	
m,p-Xylenes	<2.00	100	101	101	75-125	
Vinyl Acetate	<10.0	100	86.8	87	60-140	
Vinyl Chloride	<0.400	50.0	48.4	97	75-125	

Blank Spike Recovery [D] = $100 \times [C]/[B]$

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 S. Central Avenue
Work Order #: 392392
Analyst: DAE
Lab Batch ID: 826595
Sample: 575236-1-BKS
Date Prepared: 10/05/2010
Batch #: 1
Project ID: Roxana- Route 111/21562291.00006
Date Analyzed: 10/06/2010
Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
SVOAs by SW-846 8270C	Analytes										
	Acenaphthene	<0.001	0.050	0.044	88	0.05	0.047	94	7	27-132	31
	Acenaphthylene	<0.003	0.050	0.044	88	0.05	0.048	96	9	46-108	25
	Aniline (Phenylamine, Aminobenzene)	<0.001	0.050	0.035	70	0.05	0.039	78	11	5-115	25
	Anthracene	<0.001	0.050	0.045	90	0.05	0.048	96	6	47-145	25
	Benzo(a)anthracene	<0.001	0.050	0.046	92	0.05	0.047	94	2	33-143	25
	Benzo(a)pyrene	<0.001	0.050	0.043	86	0.05	0.051	102	17	65-135	25
	Benzo(b)fluoranthene	<0.001	0.050	0.050	100	0.05	0.058	116	15	24-159	25
	Benzo(k)fluoranthene	<0.001	0.050	0.032	64	0.05	0.034	68	6	25-125	25
	Benzo(g,h,i)perylene	<0.001	0.050	0.043	86	0.05	0.050	100	15	65-135	25
	Benzoic Acid	<0.012	0.150	0.064	43	0.15	0.062	41	3	30-115	40
	Benzyl Butyl Phthalate	<0.001	0.050	0.045	90	0.05	0.048	96	6	65-135	25
	bis(2-chloroethoxy) methane	<0.001	0.050	0.045	90	0.05	0.047	94	4	54-188	25
	bis(2-chloroethyl) ether	<0.001	0.050	0.043	86	0.05	0.047	94	9	65-135	25
	bis(2-chloroisopropyl) ether	<0.001	0.050	0.044	88	0.05	0.047	94	7	65-135	25
	bis(2-ethylhexyl) phthalate	<0.001	0.050	0.045	90	0.05	0.048	96	6	8-158	25
	4-Bromophenyl-phenylether	<0.001	0.050	0.046	92	0.05	0.049	98	6	65-135	25
	4-chloro-3-methylphenol	<0.001	0.050	0.045	90	0.05	0.046	92	2	16-129	33
4-Chloroaniline	<0.004	0.050	0.037	74	0.05	0.042	84	13	9-128	25	
2-Chloronaphthalene	<0.003	0.050	0.044	88	0.05	0.048	96	9	65-135	25	
2-Chlorophenol	<0.002	0.050	0.042	84	0.05	0.045	90	7	16-116	40	

 Relative Percent Difference RPD = $200 \times [(C-F)/(C+F)]$

 Blank Spike Recovery [D] = $100 \times (C/[B])$

 Blank Spike Duplicate Recovery [G] = $100 \times (F/[E])$

All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue
Work Order #: 392392
Analyst: DAE
Lab Batch ID: 826595
Sample: 575236-1-BKS
Date Prepared: 10/05/2010
Batch #: 1
Project ID: Roxana-Route 111/21562291.00006
Date Analyzed: 10/06/2010
Matrix: Water

Units: mg/L

SVOAs by SW-846 8270C											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk. Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
4-Chlorophenyl Phenyl Ether	<0.001	0.050	0.043	86	0.05	0.046	92	7	65-135	25	
Chrysene	<0.001	0.050	0.044	88	0.05	0.047	94	7	65-135	25	
Dibenz(a,h)anthracene	<0.001	0.050	0.047	94	0.05	0.052	104	10	50-125	25	
Dibenzofuran	<0.003	0.050	0.043	86	0.05	0.047	94	9	52-125	25	
di-n-Butyl Phthalate	<0.001	0.050	0.046	92	0.05	0.048	96	4	49-135	50	
3,3-Dichlorobenzidine	<0.003	0.050	0.041	82	0.05	0.047	94	14	12-147	25	
2,4-Dichlorophenol	<0.001	0.050	0.043	86	0.05	0.045	90	5	65-135	25	
Diethyl Phthalate	<0.001	0.050	0.044	88	0.05	0.047	94	7	37-125	50	
Dimethyl Phthalate	<0.001	0.050	0.045	90	0.05	0.048	96	6	25-175	50	
2,4-Dimethylphenol	<0.003	0.050	0.046	92	0.05	0.046	92	0	32-119	25	
4,6-dinitro-2-methyl phenol	<0.003	0.050	0.044	88	0.05	0.046	92	4	2-181	25	
2,4-Dinitrophenol	<0.002	0.050	0.043	86	0.05	0.043	86	0	65-135	25	
2,4-Dinitrotoluene	<0.003	0.050	0.046	92	0.05	0.048	96	4	22-135	38	
2,6-Dinitrotoluene	<0.001	0.050	0.044	88	0.05	0.047	94	7	49-122	38	
di-n-Octyl Phthalate	<0.001	0.050	0.044	88	0.05	0.050	100	13	43-134	50	
Fluoranthene	<0.001	0.050	0.044	88	0.05	0.046	92	4	47-125	25	
Fluorene	<0.001	0.050	0.043	86	0.05	0.047	94	9	48-139	25	
Hexachlorobenzene	<0.001	0.050	0.046	92	0.05	0.049	98	6	46-133	25	
Hexachlorocyclopentadiene	<0.003	0.050	0.015	30	0.05	0.016	32	6	41-125	25	L
Hexachloroethane	<0.003	0.050	0.042	84	0.05	0.045	90	7	25-153	25	

 Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$

 Blank Spike Recovery [D] = $100 * (C)/[B]$

 Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 392392

Analyst: DAE

Lab Batch ID: 826595

Sample: 575236-1-BKS

Date Prepared: 10/05/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 10/06/2010

Matrix: Water

Units: mg/L

SVOAs by SW-846 8270C											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Indeno(1,2,3-c,d)Pyrene	<0.001	0.050	0.047	94	0.05	0.051	102	8	27-160	25	
Isophorone	<0.001	0.050	0.044	88	0.05	0.047	94	7	26-175	25	
2-Methylnaphthalene	<0.003	0.050	0.058	116	0.05	0.060	120	3	25-175	25	
2-methylphenol	<0.003	0.050	0.042	84	0.05	0.043	86	2	14-176	25	
3&4-Methylphenol	<0.002	0.100	0.040	40	0.1	0.041	41	2	14-176	25	
Naphthalene	<0.002	0.050	0.042	84	0.05	0.045	90	7	26-175	25	
2-Nitroaniline	<0.001	0.050	0.048	96	0.05	0.050	100	4	65-135	25	
3-Nitroaniline	<0.006	0.050	0.043	86	0.05	0.047	94	9	65-135	25	
4-Nitroaniline	<0.004	0.050	0.046	92	0.05	0.048	96	4	65-135	25	
Nitrobenzene	<0.001	0.050	0.042	84	0.05	0.045	90	7	65-135	25	
2-Nitrophenol	<0.001	0.050	0.044	88	0.05	0.047	94	7	65-135	25	
4-Nitrophenol	<0.001	0.050	0.028	56	0.05	0.028	56	0	10-80	50	
N-Nitrosodi-n-Propylamine	<0.001	0.050	0.062	124	0.05	0.062	124	0	22-134	38	
N-Nitrosodiphenylamine	<0.003	0.050	0.048	96	0.05	0.050	100	4	2-196	25	
Pentachlorophenol	<0.003	0.050	0.041	82	0.05	0.041	82	0	17-117	50	
Phenanthrene	<0.001	0.050	0.044	88	0.05	0.048	96	9	65-135	25	
Phenol	<0.001	0.050	0.025	50	0.05	0.025	50	0	12-110	25	
Pyrene	<0.001	0.050	0.046	92	0.05	0.049	98	6	23-152	31	
Pyridine	<0.006	0.050	0.039	78	0.05	0.042	84	7	16-86	28	
2,4,5-Trichlorophenol	<0.001	0.050	0.046	92	0.05	0.043	86	7	65-135	25	

Relative Percent Difference RPD = $200 * [(C-F) / (C+F)]$

Blank Spike Recovery [D] = $100 * (C/[B])$

Blank Spike Duplicate Recovery [G] = $100 * (F/[E])$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: 900 S. Central Avenue

Work Order #: 392392

Analyst: DAE

Lab Batch ID: 826595

Sample: 575236-1-BKS

Units: mg/L

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 10/06/2010

Matrix: Water

Date Prepared: 10/05/2010

Batch #: 1

SVOAs by SW-846 8270C		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
2,4,6-Trichlorophenol		<0.002	0.050	0.046	92	0.05	0.045	90	2	65-135	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 392392

Lab Batch ID: 826226

Date Analyzed: 10/05/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 391300-006 S

Date Prepared: 10/05/2010

Batch #: 1 Matrix: Water

Analyst: EZB

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
VOAs by SW-846 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Acetone	96.1	100	165	69	100	157	61	5	60-140	21	
Benzene	5.16	50.0	46.4	82	50.0	47.4	84	2	66-142	21	
Bromobenzene	<0.500	50.0	40.5	81	50.0	43.1	86	6	75-125	20	
Bromochloromethane	<0.500	50.0	39.8	80	50.0	44.5	89	11	73-125	20	
Bromodichloromethane	<0.500	50.0	43.6	87	50.0	43.5	87	0	75-125	20	
Bromoform	<0.500	50.0	47.5	95	50.0	49.5	99	4	75-125	20	
Bromomethane	<0.500	50.0	37.6	75	50.0	38.9	78	3	70-130	20	
2-Butanone	81.0	100	146	65	100	141	60	3	60-140	20	
MTBE	10.5	50.0	53.7	86	50.0	57.3	94	6	65-135	20	
n-Butylbenzene	<0.500	50.0	102	204	50.0	98.7	197	3	75-125	20	X
Sec-Butylbenzene	7.23	50.0	52.1	90	50.0	51.7	89	1	75-125	20	
tert-Butylbenzene	2.21	50.0	45.9	87	50.0	46.6	89	2	75-125	20	
Carbon Disulfide	<0.500	50.0	35.8	72	50.0	37.1	74	4	60-140	20	
Carbon Tetrachloride	<0.500	50.0	45.4	91	50.0	44.4	89	2	62-125	20	
Chlorobenzene	<0.500	50.0	44.1	88	50.0	45.4	91	3	60-133	21	
Chloroethane	0.560	50.0	40.1	79	50.0	39.7	78	1	70-130	20	
Chloroform	<0.500	50.0	39.7	79	50.0	40.0	80	1	74-125	20	
Chloromethane	1.28	50.0	35.5	68	50.0	40.0	77	12	70-130	20	X
2-Chlorotoluene	<0.500	50.0	49.9	100	50.0	49.3	99	1	73-125	20	
4-Chlorotoluene	<0.500	50.0	43.1	86	50.0	43.6	87	1	74-125	20	
p-Cymene (p-Isopropyltoluene)	3.43	50.0	47.9	89	50.0	47.7	89	0	75-125	20	
Dibromochloromethane	<0.500	50.0	43.7	87	50.0	44.9	90	3	73-125	20	
1,2-Dibromo-3-Chloropropane	<0.500	50.0	42.1	84	50.0	41.4	83	2	59-125	28	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$

Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Project Name: 900 S. Central Avenue

Work Order #: 392392

Lab Batch ID: 826226

Date Analyzed: 10/05/2010

Reporting Units: ug/L

QC- Sample ID: 391300-006 S

Date Prepared: 10/05/2010

Batch #: 1 Matrix: Water

Analyst: EZB

Project ID: Roxana- Route 111/21562291.00006

VOAs by SW-846 8260B										
Analytes										
Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Dibromomethane	<0.500	39.3	79	50.0	40.7	81	4	69-127	23	
1,2-Dichlorobenzene	<0.500	43.7	87	50.0	45.8	92	5	75-125	20	
1,3-Dichlorobenzene	<0.500	43.4	87	50.0	45.1	90	4	75-125	20	
1,4-Dichlorobenzene	<0.500	43.2	86	50.0	44.4	89	3	75-125	20	
Dichlorodifluoromethane	<0.500	39.2	78	50.0	35.3	71	10	70-130	23	
1,1-Dichloroethane	<0.500	40.2	80	50.0	41.1	82	2	72-125	20	
1,2-Dichloroethane	<0.500	39.0	78	50.0	41.0	82	5	68-127	20	
1,1-Dichloroethene	<0.500	40.8	82	50.0	40.9	82	0	59-172	22	
cis-1,2-Dichloroethene	0.590	40.9	81	50.0	43.0	85	5	75-125	20	
trans-1,2-dichloroethene	<0.500	39.5	79	50.0	40.8	82	3	75-125	20	
1,2-Dichloropropane	<0.500	41.2	82	50.0	43.4	87	5	74-125	20	
1,3-Dichloropropane	<0.500	41.2	82	50.0	41.5	83	1	75-125	20	
2,2-Dichloropropane	<0.500	40.8	82	50.0	43.1	86	5	75-125	20	
1,1-Dichloropropene	<0.500	42.9	86	50.0	41.6	83	3	75-125	20	
cis-1,3-Dichloropropene	<0.500	43.9	88	50.0	45.4	91	3	74-125	20	
trans-1,3-dichloropropene	<0.500	44.2	88	50.0	48.8	98	10	66-125	20	
Ethylbenzene	1130	1300	340	50.0	1220	180	6	75-125	20	X
Hexachlorobutadiene	<0.450	44.0	88	50.0	43.4	87	1	75-125	20	
isopropylbenzene	121	177	112	50.0	172	102	3	75-125	20	
Methylene Chloride	1.08	36.2	70	50.0	37.3	72	3	75-125	35	X
n-Propylbenzene	220	289	138	50.0	277	114	4	75-125	20	X
Styrene	<0.500	48.0	96	50.0	50.3	101	5	75-125	51	
1,1,1,2-Tetrachloroethane	<0.500	45.3	91	50.0	48.2	96	6	72-125	20	

 Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
 Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

 Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

 ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
 N = See Narrative, EQL = Estimated Quantitation Limit

Project Name: 900 S. Central Avenue

Work Order #: 392392

Lab Batch ID: 826226

Date Analyzed: 10/05/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 391300-006 S

Date Prepared: 10/05/2010

Batch #: 1 Matrix: Water

Analyst: EZB

VOAs by SW-846 8260B											
Analytes											
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
1,1,2,2-Tetrachloroethane	<0.500	50.0	41.3	83	50.0	43.0	86	4	74-125	31	
Tetrachloroethylene	<0.500	50.0	44.5	89	50.0	44.5	89	0	71-125	20	
Toluene	16.2	50.0	59.6	87	50.0	61.1	90	2	59-139	21	
1,2,3-Trichlorobenzene	<0.500	50.0	45.7	91	50.0	47.5	95	4	75-137	20	
1,2,4-Trichlorobenzene	<0.500	50.0	47.1	94	50.0	48.1	96	2	75-135	20	
1,1,1-Trichloroethane	<0.500	50.0	43.5	87	50.0	43.0	86	1	75-125	20	
1,1,2-Trichloroethane	<0.500	50.0	41.0	82	50.0	43.2	86	5	75-127	20	
Trichloroethene	<0.500	50.0	41.9	84	50.0	43.6	87	4	62-137	24	
Trichlorofluoromethane	<0.500	50.0	44.6	89	50.0	42.5	85	5	67-125	20	
1,2,3-Trichloropropane	<0.500	50.0	45.9	92	50.0	46.4	93	1	75-125	20	
1,2,4-Trimethylbenzene	488	50.0	576	176	50.0	552	128	4	75-125	20	X
1,3,5-Trimethylbenzene	48.8	50.0	99.8	102	50.0	98.0	98	2	70-125	20	
o-Xylene	12.7	50.0	59.4	93	50.0	60.7	96	2	75-125	20	
m,p-Xylenes	289	100	406	117	100	397	108	2	75-125	20	
Vinyl Acetate	<50.0	100	74.5	75	100	75.2	75	1	60-140	20	
Vinyl Chloride	<0.500	50.0	39.6	79	50.0	40.1	80	1	75-125	20	

 Matrix Spike Percent Recovery $[D] = 100 \cdot (C-A)/B$
 Relative Percent Difference $RPD = 200 \cdot |(C-F)/(C+F)|$

 ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
 N = See Narrative, BQL = Estimated Quantitation Limit

 Matrix Spike Duplicate Percent Recovery $[G] = 100 \cdot (F-A)/E$



XENCO Laboratories
Atlanta, Boca Raton, Corpus Christi, Dallas
Houston, Miami, Odessa, Philadelphia
Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS-SRC
Revision/Date: No. 01, 5/27/2010
Effective Date: 8/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: URS
Date/Time: 10/5/10
Lab ID #: 392392
Initials: FC

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	No	
2. Shipping container in good condition?	Yes	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	Yes	No	N/A	
4. Chain of Custody present?	Yes	No		
5. Sample instructions complete on chain of custody?	Yes	No		
6. Any missing / extra samples?	Yes	No		
7. Chain of custody signed when relinquished / received?	Yes	No		
8. Chain of custody agrees with sample label(s)?	Yes	No		
9. Container labels legible and intact?	Yes	No		
10. Sample matrix / properties agree with chain of custody?	Yes	No		
11. Samples in proper container / bottle?	Yes	No		
12. Samples properly preserved?	Yes	No	N/A	
13. Sample container intact?	Yes	No		
14. Sufficient sample amount for indicated test(s)?	Yes	No		
15. All samples received within sufficient hold time?	Yes	No		
16. Subcontract of sample(s)?	Yes	No	N/A	
17. VOC sample have zero head space?	Yes	No	N/A	
18. Cooler 1 No. <u>2866</u>	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
<u>27</u> lbs <u>4.6</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/Time: _____

Regarding: ① SVOC containers only 40% full

Corrective Action Taken: _____

Check all that apply: ☐ Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
☐ Initial and Backup Temperature confirm out of temperature conditions
☐ Client understands and would like to proceed with analysis

FC

FedEx
Tracking
Number

8709 8946 7410

This portion can be removed for Recipient's records.

FedEx Tracking Number 870989467410

Sender's name 3D Imaging Phone 916 411 0100

Company 3D Imaging

Address 1001 Redwood Blvd Ste W 5010 Dept./Room/Suite/Floor

Internal Billing Reference

Recipient's name Phone

Company XENCO LABORATORIES HOLD Weekday Print FedEx location address below. NOT available for FedEx First Overnight. HOLD Saturday Print FedEx location address below. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Address 4143 GREENBRIAR DR cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Room/Suite/Floor

Address STAFFORD State TX ZIP 76077



8709 8946 7410

0215 Recipient's Copy

4a Express Package Service * To most locations. Packages up to 150 lbs.

☐ FedEx Priority Overnight Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☒ FedEx Standard Overnight Next business afternoon.* Saturday Delivery NOT available.

☐ FedEx First Overnight Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.

☐ FedEx Express Saver Third business day.* Saturday Delivery NOT available.

4b Express Freight Service ** To most locations. Packages over 150 lbs.

☐ FedEx 1Day Freight Next business day.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected. FedEx 1Day Freight Booking No.

☐ FedEx 2Day Freight Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☐ FedEx 3Day Freight Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit \$50K.

☐ FedEx Envelope* ☐ FedEx Pak* Includes FedEx Small Pak, FedEx Large Pak, and FedEx Saver Pak. ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery NOT available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.

☐ No Signature Required Package may be left without obtaining a signature for delivery.

☐ Direct Signature Someone at recipient's address may sign for delivery. Fee applies.

☐ Indirect Signature If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.

Does this shipment contain dangerous goods? One box must be checked.

☒ No ☐ Yes Dry Ice Dry ice, 5, UN 1845 ☐ Dry Ice ☐ Cargo Aircraft Only

☐ Yes Shipper's Declaration not required.

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

7 Payment Bill to:

Enter FedEx Acct. No. or Credit Card No. below. Obtain Recip. Acct. No. ☐

☒ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

Total Packages 1 Total Weight 2.9 lbs. Credit Card Auth. 553

Your liability is limited to \$500 unless you declare a higher value. See the current FedEx Service Guide for details.

Rev. Date 2/00-Part #130279-01/04-2008 FedEx-PRINTED IN U.S.A.-015

URS

URS Corporation
1001 Highlands Plaza Drive West
Suite 300
St Louis, MO 63110

Signature

Date

RT 155 1 B
7410
10.05

10/4/10

[Signature]

Roxana Groundwater Profiling Data Review

Laboratory SDG: 393929

Reviewer: Elizabeth Kunkel

Date Reviewed: 11/29/2010

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

Sample Identification	Sample Identification
GWP-26-106.3	TB101510

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. Additionally methylene chloride was detected in the trip blank. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated that sample GWP-26-106.3 was received by the laboratory at a pH = 6. Sample GWP-26-106.3 was analyzed within the 7 day hold time for non-preserved samples; 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
TB101510	VOCs	Methylene chloride	1.29 µg/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
576328-1-BKS	SVOCs	Acenaphthylene	112/114	2	46-108/25
576328-1-BKS	SVOCs	Dibenz(a,h)anthracene	130/132	2	50-125/25
576328-1-BKS	SVOCs	4-Nitrophenol	116/120	3	10-80/50
576328-1-BKS	SVOCs	Pentachlorophenol	108/ 120	11	17-117/50
576328-1-BKS	SVOCs	2,4,5-Trichlorophenol	132/ 138	4	65-135/25

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.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

No

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

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

Not applicable; samples analyzed did not require dilution.

11.0 Additional Qualifications

Were additional qualifications applied?

No

Analytical Report 393929

for

URS Corporation-St. Louis

Project Manager: Wendy Pennington

900 S. Central Avenue

Roxana-Route 111/21562291.00006

25-OCT-10



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Reviewed
on
11/23/2010

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)

Xenco-Boca Raton (EPA Lab Code: FL01273):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



25-OCT-10

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

Reference: XENCO Report No: **393929**
900 S. Central Avenue
Project Address: Roxana, IL 62084

Wendy Pennington:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 393929. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 393929 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Carlos Castro

Managing Director, Texas

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Sample Cross Reference 393929



URS Corporation-St. Louis, St. Louis, MO
900 S. Central Avenue

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
GWP-26-106.3	W	Oct-15-10 12:00		393929-001
TB101510	W	Oct-15-10 00:00		393929-002



CASE NARRATIVE

Client Name: URS Corporation-St. Louis
Project Name: 900 S. Central Avenue



Project ID: Roxana-Route 111/215622
Work Order Number: 393929

Report Date: 25-OCT-10
Date Received: 10/16/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-828082 VOAs by SW-846 8260B

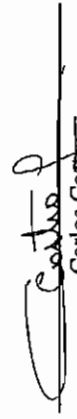
Batch: LBA-828753 TCLP SVOCs by SW-846 8270C
SW8270C

Batch 828753, 4-Nitrophenol, Acenaphthylene, Dibenzo(a,h)anthracene recovered above QC limits in the Blank Spike Duplicate. 2,4,5-Trichlorophenol, Pentachlorophenol recovered above QC limits in the Blank Spike Duplicate.
Samples affected are: 393929-001.

Analysis Requested	Lab Id:	393929-001	393929-002			
	Field Id:	GWP-26-106.3	TB101510			
	Depth:					
	Matrix:	WATER	WATER			
	Sampled:	Oct-15-10 12:00	Oct-15-10 00:00			
SVOAs by SW-846 8270C	Extracted:	Oct-18-10 09:57				
	Analyzed:	Oct-19-10 20:36				
	Units/RL:	mg/L RL				
	Acenaphthene	U 0.011				
	Acenaphthylene	U 0.011				
	Aniline (Phenylamine, Aminobenzene)	U 0.022				
	Anthracene	U 0.011				
	Benzo(a)anthracene	U 0.011				
	Benzo(a)pyrene	U 0.011				
	Benzo(b)fluoranthene	U 0.011				
	Benzo(k)fluoranthene	U 0.011				
	Benzo(g,h,i)perylene	U 0.011				
	Benzoic Acid	U 0.054				
	Benzyl Butyl Phthalate	U 0.011				
	bis(2-chloroethoxy) methane	U 0.011				
	bis(2-chloroethyl) ether	U 0.011				
	bis(2-chloroisopropyl) ether	U 0.011				
	bis(2-ethylhexyl) phthalate	U 0.011				
	4-Bromophenyl-phenylether	U 0.011				
	4-chloro-3-methylphenol	U 0.011				
	4-Chloroaniline	U 0.022				
	2-Chloronaphthalene	U 0.011				
	2-Chlorophenol	U 0.011				
	4-Chlorophenyl Phenyl Ether	U 0.011				
	Chrysene	U 0.011				
	Dibenz(a,h)anthracene	U 0.011				
	Dibenzofuran	U 0.011				
	di-n-Butyl Phthalate	U 0.011				

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Carlos Castro
 Managing Director, Texas



Certificate of Analysis Summary 393929

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

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084

Project Name: 900 S. Central Avenue

Date Received in Lab: Sat Oct-16-10 09:15 am

Report Date: 25-OCT-10

Project Manager: Debbie Simmons



Analysis Requested	Lab Id:	393929-001	393929-002	
	Field Id:	GWP-26-106.3	TB101510	
	Depth:			
	Matrix:	WATER	WATER	
	Sampled:	Oct-15-10 12:00	Oct-15-10 00:00	
SVOAs by SW-846 8270C	Extracted:	Oct-18-10 09:57		
	Analyzed:	Oct-19-10 20:36		
	Units/RL:	mg/L RL		
	3,3-Dichlorobenzidine	U 0.011		
	2,4-Dichlorophenol	U 0.011		
	Diethyl Phthalate	U 0.011		
	Dimethyl Phthalate	U 0.011		
	2,4-Dimethylphenol	U 0.011		
	4,6-dinitro-2-methyl phenol	U 0.011		
	2,4-Dinitrophenol	U 0.022		
	2,4-Dinitrotoluene	U 0.011		
	2,6-Dinitrotoluene	U 0.011		
	di-n-Octyl Phthalate	U 0.011		
	Fluoranthene	U 0.011		
	Fluorene	U 0.011		
	Hexachlorobenzene	U 0.011		
	Hexachlorocyclopentadiene	U 0.011		
	Hexachloroethane	U 0.011		
	Indeno(1,2,3-c,d)Pyrene	U 0.011		
	Isophorone	U 0.011		
	2-Methylnaphthalene	U 0.011		
	2-methylphenol	U 0.011		
	3&4-Methylphenol	U 0.011		
	Naphthalene	U 0.011		
	2-Nitroaniline	U 0.022		
	3-Nitroaniline	U 0.022		
	4-Nitroaniline	U 0.022		
	Nitrobenzene	U 0.011		

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Certificate of Analysis Summary 393929

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

Project Name: 900 S. Central Avenue

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084



Date Received in Lab: Sat Oct-16-10 09:15 am

Report Date: 25-OCT-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	393929-001	393929-002		
	Field Id:	GWP-26-106.3	TB101510		
	Depth:				
	Matrix:	WATER	WATER		
	Sampled:	Oct-15-10 12:00	Oct-15-10 00:00		
SVOAs by SW-846 8270C	Extracted:	Oct-18-10 09:57			
	Analyzed:	Oct-19-10 20:36			
	Units/RL:	mg/L RL			
	2-Nitrophenol	U 0.011			
	4-Nitrophenol	U 0.011			
	N-Nitrosodi-n-Propylamine	U 0.011			
	N-Nitrosodiphenylamine	U 0.011			
	Pentachlorophenol	U 0.011			
	Phenanthrene	U 0.011			
	Phenol	U 0.011			
	Pyrene	U 0.011			
	Pyridine	U 0.022			
	2,4,5-Trichlorophenol	U 0.011			
	2,4,6-Trichlorophenol	U 0.011			

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Certificate of Analysis Summary 393929

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

Project Name: 900 S. Central Avenue

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084



Date Received in Lab: Sat Oct-16-10 09:15 am

Report Date: 25-OCT-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	393929-001	393929-002			
	Field Id: Depth: Matrix: Sampled:	GWP-26-106.3 WATER Oct-15-10 12:00	TB101510 WATER Oct-15-10 00:00			
VOAs by SW-846 8260B	Extracted: Analyzed: Units/RL:	Oct-18-10 20:01 Oct-18-10 21:52 ug/L RL	Oct-18-10 20:00 Oct-18-10 21:30 ug/L RL			
Acetone		U 100	U 100			
Benzene		U 5.00	U 5.00			
Bromobenzene		U 5.00	U 5.00			
Bromochloromethane		U 5.00	U 5.00			
Bromodichloromethane		U 5.00	U 5.00			
Bromoform		U 5.00	U 5.00			
Bromomethane		U 5.00	U 5.00			
2-Butanone		U 50.0	U 50.0			
MTBE		U 5.00	U 5.00			
n-Butylbenzene		U 5.00	U 5.00			
Sec-Butylbenzene		U 5.00	U 5.00			
tert-Butylbenzene		U 5.00	U 5.00			
Carbon Disulfide		U 50.0	U 50.0			
Carbon Tetrachloride		U 5.00	U 5.00			
Chlorobenzene		U 5.00	U 5.00			
Chloroethane		U 10.0	U 10.0			
Chloroform		U 5.00	U 5.00			
Chloromethane		U 10.0	U 10.0			
2-Chlorotoluene		U 5.00	U 5.00			
4-Chlorotoluene		U 5.00	U 5.00			
p-Cymene (p-Isopropyltoluene)		U 5.00	U 5.00			
Dibromochloromethane		U 5.00	U 5.00			
1,2-Dibromo-3-Chloropropane		U 5.00	U 5.00			
Dibromomethane		U 5.00	U 5.00			
1,2-Dichlorobenzene		U 5.00	U 5.00			

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Certificate of Analysis Summary 393929

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

Project Name: 900 S. Central Avenue

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084



Date Received in Lab: Sat Oct-16-10 09:15 am

Report Date: 25-OCT-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	393929-001	393929-002			
	Field Id:	GWP-26-106.3	TB101510			
	Depth:					
	Matrix:	WATER	WATER			
	Sampled:	Oct-15-10 12:00	Oct-15-10 00:00			
VOAs by SW-846 8260B	Extracted:	Oct-18-10 20:01	Oct-18-10 20:00			
	Analyzed:	Oct-18-10 21:52	Oct-18-10 21:30			
	Units/RL:	ug/L RL	ug/L RL			
	1,3-Dichlorobenzene	U 5.00	U 5.00			
	1,4-Dichlorobenzene	U 5.00	U 5.00			
	Dichlorodifluoromethane	U 5.00	U 5.00			
	1,1-Dichloroethane	U 5.00	U 5.00			
	1,2-Dichloroethane	U 5.00	U 5.00			
	1,1,1-Dichloroethene	U 5.00	U 5.00			
	cis-1,2-Dichloroethene	U 5.00	U 5.00			
	trans-1,2-dichloroethene	U 5.00	U 5.00			
	1,2-Dichloropropane	U 5.00	U 5.00			
	1,3-Dichloropropane	U 5.00	U 5.00			
	2,2-Dichloropropane	U 5.00	U 5.00			
	1,1-Dichloropropene	U 5.00	U 5.00			
	cis-1,3-Dichloropropene	U 5.00	U 5.00			
	trans-1,3-dichloropropene	U 5.00	U 5.00			
	Ethylbenzene	U 5.00	U 5.00			
	Hexachlorobutadiene	U 5.00	U 5.00			
	isopropylbenzene	U 5.00	U 5.00			
	Methylene Chloride	U 5.00	1.29 U 5.00			
	n-Propylbenzene	U 5.00	U 5.00			
	Styrene	U 5.00	U 5.00			
	1,1,1,2-Tetrachloroethane	U 5.00	U 5.00			
	1,1,2,2-Tetrachloroethane	U 5.00	U 5.00			
	Tetrachloroethylene	U 5.00	U 5.00			
	Toluene	U 5.00	U 5.00			
	1,2,3-Trichlorobenzene	U 5.00	U 5.00			

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Carlos Castro

Managing Director, Texas



Certificate of Analysis Summary 393929

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

Project Name: 900 S. Central Avenue

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084



Date Received in Lab: Sat Oct-16-10 09:15 am

Report Date: 25-OCT-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	393929-001	393929-002			
	Field Id:	GWP-26-106.3	TB101510			
	Depth:					
	Matrix:	WATER	WATER			
	Sampled:	Oct-15-10 12:00	Oct-15-10 00:00			
VOAs by SW-846 8260B	Extracted:	Oct-18-10 20:01	Oct-18-10 20:00			
	Analyzed:	Oct-18-10 21:52	Oct-18-10 21:30			
	Units/RL:	ug/L RL	ug/L RL			
	1,2,4-Trichlorobenzene	U 5.00	U 5.00			
	1,1,1-Trichloroethane	U 5.00	U 5.00			
	1,1,2-Trichloroethane	U 5.00	U 5.00			
	Trichloroethene	U 5.00	U 5.00			
	Trichlorofluoromethane	U 5.00	U 5.00			
	1,2,3-Trichloropropane	U 5.00	U 5.00			
	1,2,4-Trimethylbenzene	U 5.00	U 5.00			
	1,3,5-Trimethylbenzene	U 5.00	U 5.00			
	o-Xylene	U 5.00	U 5.00			
	m,p-Xylenes	U 10.0	U 10.0			
	Vinyl Acetate	U 50.0	U 50.0			
	Vinyl Chloride	U 2.00	U 2.00			

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Carlos Castro
Managing Director, Texas



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : VOAs by SW-846 8260B

Client : URS Corporation-St. Louis

Work Order #: 393929

Project ID: Roxana-Route 111/21562291.

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
GWP-26-106.3	Oct. 15, 2010	Oct. 16, 2010				Oct.18, 2010	14	3	P
TB101510	Oct. 15, 2010	Oct. 16, 2010				Oct.18, 2010	14	3	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : SVOAs by SW-846 8270C

Client : URS Corporation-St. Louis

Work Order #: 393929

Project ID: Roxana-Route 111/21562291.

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
GWP-26-106.3	Oct. 15, 2010	Oct. 16, 2010	Oct. 18, 2010	7	3	Oct.19, 2010	40	1	P

F = These samples were analyzed outside the recommended holding time.

P = Samples analyzed within the recommended holding time.

Flagging Criteria

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

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9701 Harry Hines Blvd, Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 393929,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 828753

Sample: 393929-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/19/10 20:36

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.046	0.054	85	43-116	
2-Fluorophenol	0.030	0.054	56	21-100	
Nitrobenzene-d5	0.039	0.054	72	35-114	
Phenol-d6	0.017	0.054	31	10-94	
Terphenyl-D14	0.052	0.054	96	33-141	
2,4,6-Tribromophenol	0.060	0.054	111	10-123	

Lab Batch #: 828753

Sample: 576328-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/22/10 14:49

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.033	0.050	66	43-116	
2-Fluorophenol	0.037	0.050	74	21-100	
Nitrobenzene-d5	0.033	0.050	66	35-114	
Phenol-d6	0.023	0.050	46	10-94	
Terphenyl-D14	0.037	0.050	74	33-141	
2,4,6-Tribromophenol	0.049	0.050	98	10-123	

Lab Batch #: 828753

Sample: 576328-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/22/10 15:12

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.033	0.050	66	43-116	
2-Fluorophenol	0.039	0.050	78	21-100	
Nitrobenzene-d5	0.033	0.050	66	35-114	
Phenol-d6	0.028	0.050	56	10-94	
Terphenyl-D14	0.034	0.050	68	33-141	
2,4,6-Tribromophenol	0.060	0.050	120	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 393929,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 828753

Sample: 576328-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/22/10 15:36

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.033	0.050	66	43-116	
2-Fluorophenol	0.038	0.050	76	21-100	
Nitrobenzene-d5	0.034	0.050	68	35-114	
Phenol-d6	0.027	0.050	54	10-94	
Terphenyl-D14	0.034	0.050	68	33-141	
2,4,6-Tribromophenol	0.061	0.050	122	10-123	

Lab Batch #: 828082

Sample: 576412-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/18/10 20:00

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0507	0.0500	101	74-124	
Dibromofluoromethane	0.0500	0.0500	100	75-131	
1,2-Dichloroethane-D4	0.0514	0.0500	103	63-144	
Toluene-D8	0.0484	0.0500	97	80-117	

Lab Batch #: 828082

Sample: 576412-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/18/10 20:46

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0503	0.0500	101	74-124	
Dibromofluoromethane	0.0490	0.0500	98	75-131	
1,2-Dichloroethane-D4	0.0483	0.0500	97	63-144	
Toluene-D8	0.0500	0.0500	100	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 393929,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 828082

Sample: 393929-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/18/10 21:30

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0503	0.0500	101	74-124	
Dibromofluoromethane	0.0495	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0513	0.0500	103	63-144	
Toluene-D8	0.0498	0.0500	100	80-117	

Lab Batch #: 828082

Sample: 393929-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/18/10 21:52

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0493	0.0500	99	74-124	
Dibromofluoromethane	0.0493	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0501	0.0500	100	63-144	
Toluene-D8	0.0513	0.0500	103	80-117	

Lab Batch #: 828082

Sample: 393943-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/18/10 22:38

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0501	0.0500	100	74-124	
Dibromofluoromethane	0.0489	0.0500	98	75-131	
1,2-Dichloroethane-D4	0.0455	0.0500	91	63-144	
Toluene-D8	0.0498	0.0500	100	80-117	

Lab Batch #: 828082

Sample: 393943-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/18/10 23:01

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0511	0.0500	102	74-124	
Dibromofluoromethane	0.0514	0.0500	103	75-131	
1,2-Dichloroethane-D4	0.0469	0.0500	94	63-144	
Toluene-D8	0.0482	0.0500	96	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Blank Spike Recovery



Project Name: 900 S. Central Avenue

Work Order #: 393929

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 828082

Sample: 576412-1-BKS

Matrix: Water

Date Analyzed: 10/18/2010

Date Prepared: 10/18/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Acetone	<20.0	100	87.6	88	60-140	
Benzene	<1.00	50.0	45.9	92	66-142	
Bromobenzene	<1.00	50.0	46.1	92	75-125	
Bromochloromethane	<1.00	50.0	47.1	94	73-125	
Bromodichloromethane	<1.00	50.0	49.0	98	75-125	
Bromoform	<1.00	50.0	38.8	78	75-125	
Bromomethane	<1.00	50.0	42.6	85	70-130	
2-Butanone	<10.0	100	92.1	92	60-140	
MTBE	<1.00	50.0	44.8	90	65-135	
n-Butylbenzene	<1.00	50.0	44.2	88	75-125	
Sec-Butylbenzene	<1.00	50.0	46.4	93	75-125	
tert-Butylbenzene	<1.00	50.0	47.2	94	75-125	
Carbon Disulfide	<10.0	50.0	47.3	95	60-140	
Carbon Tetrachloride	<1.00	50.0	46.4	93	62-125	
Chlorobenzene	<1.00	50.0	47.4	95	60-133	
Chloroethane	<2.00	50.0	44.2	88	70-130	
Chloroform	<1.00	50.0	48.0	96	74-125	
Chloromethane	<2.00	50.0	48.3	97	70-130	
2-Chlorotoluene	<1.00	50.0	47.6	95	73-125	
4-Chlorotoluene	<1.00	50.0	46.8	94	74-125	
p-Cymene (p-Isopropyltoluene)	<1.00	50.0	46.9	94	75-125	
Dibromochloromethane	<1.00	50.0	44.3	89	73-125	
1,2-Dibromo-3-Chloropropane	<1.00	50.0	42.3	85	59-125	
Dibromomethane	<1.00	50.0	47.6	95	69-127	
1,2-Dichlorobenzene	<1.00	50.0	45.5	91	75-125	
1,3-Dichlorobenzene	<1.00	50.0	47.0	94	75-125	
1,4-Dichlorobenzene	<1.00	50.0	45.5	91	75-125	
Dichlorodifluoromethane	<1.00	50.0	52.7	105	70-130	
1,1-Dichloroethane	<1.00	50.0	50.1	100	72-125	
1,2-Dichloroethane	<1.00	50.0	50.4	101	68-127	
1,1-Dichloroethene	<1.00	50.0	47.4	95	59-172	
cis-1,2-Dichloroethene	<1.00	50.0	46.5	93	75-125	
trans-1,2-dichloroethene	<1.00	50.0	44.6	89	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 S. Central Avenue

Work Order #: 393929

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 828082

Sample: 576412-1-BKS

Matrix: Water

Date Analyzed: 10/18/2010

Date Prepared: 10/18/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK/BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,2-Dichloropropane	<1.00	50.0	47.0	94	74-125	
1,3-Dichloropropane	<1.00	50.0	46.6	93	75-125	
2,2-Dichloropropane	<1.00	50.0	50.7	101	75-125	
1,1-Dichloropropene	<1.00	50.0	40.5	81	75-125	
cis-1,3-Dichloropropene	<1.00	50.0	50.5	101	74-125	
trans-1,3-dichloropropene	<1.00	50.0	48.2	96	66-125	
Ethylbenzene	<1.00	50.0	47.4	95	75-125	
Hexachlorobutadiene	<1.00	50.0	45.9	92	75-125	
isopropylbenzene	<1.00	50.0	44.9	90	75-125	
Methylene Chloride	<1.00	50.0	38.6	77	75-125	
n-Propylbenzene	<1.00	50.0	47.5	95	75-125	
Styrene	<1.00	50.0	49.0	98	75-125	
1,1,1,2-Tetrachloroethane	<1.00	50.0	47.2	94	72-125	
1,1,2,2-Tetrachloroethane	<1.00	50.0	42.0	84	74-125	
Tetrachloroethylene	<1.00	50.0	47.7	95	71-125	
Toluene	<1.00	50.0	44.7	89	59-139	
1,2,3-Trichlorobenzene	<1.00	50.0	44.0	88	75-137	
1,2,4-Trichlorobenzene	<1.00	50.0	45.8	92	75-135	
1,1,1-Trichloroethane	<1.00	50.0	48.5	97	75-125	
1,1,2-Trichloroethane	<1.00	50.0	46.5	93	75-127	
Trichloroethene	<1.00	50.0	47.1	94	62-137	
Trichlorofluoromethane	<1.00	50.0	54.2	108	67-125	
1,2,3-Trichloropropane	<1.00	50.0	46.1	92	75-125	
1,2,4-Trimethylbenzene	<1.00	50.0	46.5	93	75-125	
1,3,5-Trimethylbenzene	<1.00	50.0	46.7	93	70-125	
o-Xylene	<1.00	50.0	48.2	96	75-125	
m,p-Xylenes	<2.00	100	93.9	94	75-125	
Vinyl Acetate	<10.0	100	97.7	98	60-140	
Vinyl Chloride	<0.400	50.0	50.3	101	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 S. Central Avenue

Work Order #: 393929

Analyst: DAE

Lab Batch ID: 828753

Sample: 576328-1-BKS

Date Prepared: 10/18/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 10/22/2010

Matrix: Water

Units: mg/L

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
SVOAs by SW-846 8270C											
Acenaphthene	<0.001	0.050	0.057	114	0.05	0.058	116	2	27-132	31	
Acenaphthylene	<0.003	0.050	0.056	112	0.05	0.057	114	2	46-108	25	(H)
Aniline (Phenylamine, Aminobenzene)	<0.001	0.050	0.046	92	0.05	0.049	98	6	5-115	25	
Anthracene	<0.001	0.050	0.058	116	0.05	0.059	118	2	47-145	25	
Benzo(a)anthracene	<0.001	0.050	0.058	116	0.05	0.058	116	0	33-143	25	
Benzo(a)pyrene	<0.001	0.050	0.063	126	0.05	0.065	130	3	65-135	25	
Benzo(b)fluoranthene	<0.001	0.050	0.064	128	0.05	0.064	128	0	24-159	25	
Benzo(k)fluoranthene	<0.001	0.050	0.061	122	0.05	0.059	118	3	25-125	25	
Benzo(g,h,i)perylene	<0.001	0.050	0.065	130	0.05	0.066	132	2	65-135	25	
Benzoic Acid	<0.012	0.150	0.167	111	0.15	0.169	113	1	30-115	40	
Benzyl Butyl Phthalate	<0.001	0.050	0.060	120	0.05	0.059	118	2	65-135	25	
bis(2-chloroethoxy) methane	<0.001	0.050	0.053	106	0.05	0.056	112	6	54-188	25	
bis(2-chloroethyl) ether	<0.001	0.050	0.052	104	0.05	0.054	108	4	65-135	25	
bis(2-chloroisopropyl) ether	<0.001	0.050	0.051	102	0.05	0.053	106	4	65-135	25	
bis(2-ethylhexyl) phthalate	<0.001	0.050	0.060	120	0.05	0.061	122	2	8-158	25	
4-Bromophenyl-phenylether	<0.001	0.050	0.059	118	0.05	0.059	118	0	65-135	25	
4-chloro-3-methylphenol	<0.001	0.050	0.055	110	0.05	0.057	114	4	16-129	33	
4-Chloroaniline	<0.004	0.050	0.053	106	0.05	0.055	110	4	9-128	25	
2-Chloronaphthalene	<0.003	0.050	0.056	112	0.05	0.058	116	4	65-135	25	
2-Chlorophenol	<0.002	0.050	0.053	106	0.05	0.055	110	4	16-116	40	

Relative Percent Difference RPD = $200 \times [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 \times (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 \times (F)/[E]$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 393929

Analyst: DAE

Lab Batch ID: 828753

Sample: 576328-1-BKS

Units: mg/L

Date Prepared: 10/18/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 10/22/2010

Matrix: Water

SVOAs by SW-846 8270C		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
4-Chlorophenyl Phenyl Ether		<0.001	0.050	0.056	112	0.05	0.057	114	2	65-135	25	
Chrysene		<0.001	0.050	0.059	118	0.05	0.060	120	2	65-135	25	
Dibenz(a,h)anthracene		<0.001	0.050	0.065	130	0.05	0.066	132	2	50-125	25	CH
Dibenzofuran		<0.003	0.050	0.057	114	0.05	0.058	116	2	52-125	25	
di-n-Butyl Phthalate		<0.001	0.050	0.060	120	0.05	0.061	122	2	49-135	50	
3,3-Dichlorobenzidine		<0.003	0.050	0.055	110	0.05	0.056	112	2	12-147	25	
2,4-Dichlorophenol		<0.001	0.050	0.057	114	0.05	0.059	118	3	65-135	25	
Diethyl Phthalate		<0.001	0.050	0.057	114	0.05	0.059	118	3	37-125	50	
Dimethyl Phthalate		<0.001	0.050	0.058	116	0.05	0.059	118	2	25-175	50	
2,4-Dimethylphenol		<0.003	0.050	0.054	108	0.05	0.056	112	4	32-119	25	
4,6-dinitro-2-methyl phenol		<0.003	0.050	0.055	110	0.05	0.056	112	2	2-181	25	
2,4-Dinitrophenol		<0.002	0.050	0.067	134	0.05	0.061	122	9	65-135	25	
2,4-Dinitrotoluene		<0.003	0.050	0.059	118	0.05	0.061	122	3	22-135	38	
2,6-Dinitrotoluene		<0.001	0.050	0.058	116	0.05	0.060	120	3	49-122	38	
di-n-Octyl Phthalate		<0.001	0.050	0.063	126	0.05	0.066	132	5	43-134	50	
Fluoranthene		<0.001	0.050	0.060	120	0.05	0.060	120	0	47-125	25	
Fluorene		<0.001	0.050	0.057	114	0.05	0.058	116	2	48-139	25	
Hexachlorobenzene		<0.001	0.050	0.057	114	0.05	0.058	116	2	46-133	25	
Hexachlorocyclopentadiene		<0.003	0.050	0.046	92	0.05	0.048	96	4	41-125	25	
Hexachloroethane		<0.003	0.050	0.052	104	0.05	0.053	106	2	25-153	25	

Relative Percent Difference RPD = $200 \times [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 \times (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 \times (F)/[E]$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 393929

Analyst: DAE

Lab Batch ID: 828753

Sample: 576328-1-BKS

Date Prepared: 10/18/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 10/22/2010

Matrix: Water

Units: mg/L

SVOAs by SW-846 8270C											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Indeno(1,2,3-c,d)Pyrene	<0.001	0.050	0.064	128	0.05	0.065	130	2	27-160	25	
Isophorone	<0.001	0.050	0.054	108	0.05	0.056	112	4	26-175	25	
2-Methylnaphthalene	<0.003	0.050	0.054	108	0.05	0.056	112	4	25-175	25	
2-methylphenol	<0.003	0.050	0.053	106	0.05	0.055	110	4	14-176	25	
3&4-Methylphenol	<0.002	0.100	0.047	47	0.1	0.047	47	0	14-176	25	
Naphthalene	<0.002	0.050	0.053	106	0.05	0.054	108	2	26-175	25	
2-Nitroaniline	<0.001	0.050	0.058	116	0.05	0.058	116	0	65-135	25	
3-Nitroaniline	<0.006	0.050	0.056	112	0.05	0.058	116	4	65-135	25	
4-Nitroaniline	<0.004	0.050	0.056	112	0.05	0.058	116	4	65-135	25	
Nitrobenzene	<0.001	0.050	0.060	120	0.05	0.061	122	2	65-135	25	
2-Nitrophenol	<0.001	0.050	0.055	110	0.05	0.057	114	4	65-135	25	
4-Nitrophenol	<0.001	0.050	0.058	116	0.05	0.060	120	3	10-80	50	(H)
N-Nitrosodi-n-Propylamine	<0.001	0.050	0.051	102	0.05	0.053	106	4	22-134	38	
N-Nitrosodiphenylamine	<0.003	0.050	0.059	118	0.05	0.059	118	0	2-196	25	
Pentachlorophenol	<0.003	0.050	0.054	108	0.05	0.060	120	11	17-117	50	(H)
Phenanthrene	<0.001	0.050	0.059	118	0.05	0.059	118	0	65-135	25	
Phenol	<0.001	0.050	0.031	62	0.05	0.029	58	7	12-110	25	
Pyrene	<0.001	0.050	0.059	118	0.05	0.059	118	0	23-152	31	
Pyridine	<0.006	0.050	0.027	54	0.05	0.030	60	11	16-86	28	
2,4,5-Trichlorophenol	<0.001	0.050	0.066	132	0.05	0.069	138	4	65-135	25	(H)

Relative Percent Difference RPD = $200 \times [(C-F)/(C+F)]$

Blank Spike Recovery [D] = $100 \times (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 \times (F)/[E]$

All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 393929

Analyst: DAE

Lab Batch ID: 828753

Sample: 576328-1-BKS

Units: mg/L

Date Prepared: 10/18/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 10/22/2010

Matrix: Water

SVOAs by SW-846 8270C		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
2,4,6-Trichlorophenol		<0.002	0.050	0.059	118	0.05	0.063	126	7	65-135	25	

Relative Percent Difference RPD = $200 * [(C-F) / (C+F)]$
Blank Spike Recovery [D] = $100 * (C) / [B]$
Blank Spike Duplicate Recovery [G] = $100 * (F) / [E]$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 393929

Lab Batch ID: 828082

Date Analyzed: 10/18/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 393943-001 S

Date Prepared: 10/18/2010

Batch #: 1 Matrix: Water

Analyst: EZB

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
VOAs by SW-846 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Acetone	<100	100	90.1	90	100	92.9	93	3	60-140	21	
Benzene	<5.00	50.0	46.9	94	50.0	43.2	86	8	66-142	21	
Bromobenzene	<5.00	50.0	49.8	100	50.0	47.4	95	5	75-125	20	
Bromochloromethane	<5.00	50.0	47.9	96	50.0	47.4	95	1	73-125	20	
Bromodichloromethane	<5.00	50.0	54.0	108	50.0	49.4	99	9	75-125	20	
Bromoform	<5.00	50.0	40.9	82	50.0	41.7	83	2	75-125	20	
Bromomethane	<5.00	50.0	36.0	72	50.0	37.9	76	5	70-130	20	
2-Butanone	<50.0	100	85.1	85	100	92.4	92	8	60-140	20	
MTBE	<5.00	50.0	46.3	93	50.0	46.4	93	0	65-135	20	
n-Butylbenzene	<5.00	50.0	46.3	93	50.0	42.4	85	9	75-125	20	
Sec-Butylbenzene	<5.00	50.0	47.2	94	50.0	44.0	88	7	75-125	20	
tert-Butylbenzene	<5.00	50.0	49.2	98	50.0	45.3	91	8	75-125	20	
Carbon Disulfide	<50.0	50.0	48.9	98	50.0	45.1	90	8	60-140	20	
Carbon Tetrachloride	<5.00	50.0	50.1	100	50.0	44.8	90	11	62-125	20	
Chlorobenzene	<5.00	50.0	48.6	97	50.0	44.9	90	8	60-133	21	
Chloroethane	<10.0	50.0	36.8	74	50.0	38.5	77	5	70-130	20	
Chloroform	<5.00	50.0	50.0	100	50.0	47.1	94	6	74-125	20	
Chloromethane	<10.0	50.0	40.9	82	50.0	43.6	87	6	70-130	20	
2-Chlorotoluene	<5.00	50.0	49.0	98	50.0	46.1	92	6	73-125	20	
4-Chlorotoluene	<5.00	50.0	48.6	97	50.0	45.1	90	7	74-125	20	
p-Cymene (p-Isopropyltoluene)	<5.00	50.0	47.9	96	50.0	44.5	89	7	75-125	20	
Dibromochloromethane	<5.00	50.0	46.8	94	50.0	46.6	93	0	73-125	20	
1,2-Dibromo-3-Chloropropane	<5.00	50.0	44.5	89	50.0	45.1	90	1	59-125	28	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$

Relative Percent Difference $RPD = 200 \times [(C-F)/(C+F)]$

ND = Not Detected, I = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

Applicable N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Work Order #: 393929

Lab Batch ID: 828082

Date Analyzed: 10/18/2010

Reporting Units: ug/L

QC-Sample ID: 393943-001 S

Date Prepared: 10/18/2010

Batch #: 1 Matrix: Water

Analyst: EZB

Project ID: Roxana-Route 111/21562291.00006

VOAs by SW-846 8260B		Analytes									
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Dibromomethane	<5.00	50.0	48.6	97	50.0	47.8	96	2	69-127	23
	1,2-Dichlorobenzene	<5.00	50.0	48.1	96	50.0	46.1	92	4	75-125	20
	1,3-Dichlorobenzene	<5.00	50.0	49.4	99	50.0	46.0	92	7	75-125	20
	1,4-Dichlorobenzene	<5.00	50.0	47.0	94	50.0	44.0	88	7	75-125	20
	Dichlorodifluoromethane	<5.00	50.0	44.7	89	50.0	46.9	94	5	70-130	23
	1,1-Dichloroethane	<5.00	50.0	52.2	104	50.0	47.4	95	10	72-125	20
	1,2-Dichloroethane	<5.00	50.0	51.0	102	50.0	48.6	97	5	68-127	20
	1,1-Dichloroethene	<5.00	50.0	48.7	97	50.0	45.4	91	7	59-172	22
	cis-1,2-Dichloroethene	<5.00	50.0	49.7	99	50.0	47.3	95	5	75-125	20
	trans-1,2-dichloroethene	<5.00	50.0	47.2	94	50.0	43.6	87	8	75-125	20
	1,2-Dichloropropane	<5.00	50.0	49.2	98	50.0	45.6	91	8	74-125	20
	1,3-Dichloropropane	<5.00	50.0	46.7	93	50.0	45.9	92	2	75-125	20
	2,2-Dichloropropane	<5.00	50.0	50.9	102	50.0	46.8	94	8	75-125	20
	1,1-Dichloropropene	<5.00	50.0	40.9	82	50.0	37.5	75	9	75-125	20
	cis-1,3-Dichloropropene	<5.00	50.0	52.5	105	50.0	49.4	99	6	74-125	20
	trans-1,3-dichloropropene	<5.00	50.0	49.8	100	50.0	48.0	96	4	66-125	20
	Ethylbenzene	<5.00	50.0	47.9	96	50.0	45.2	90	6	75-125	20
	Hexachlorobutadiene	<5.00	50.0	48.2	96	50.0	44.2	88	9	75-125	20
	isopropylbenzene	<5.00	50.0	46.9	94	50.0	43.2	86	8	75-125	20
	Methylene Chloride	<5.00	50.0	40.2	80	50.0	38.0	76	6	75-125	35
	n-Propylbenzene	<5.00	50.0	49.3	99	50.0	44.9	90	9	75-125	20
	Styrene	<5.00	50.0	49.1	98	50.0	46.7	93	5	75-125	51
	1,1,1,2-Tetrachloroethane	<5.00	50.0	49.8	100	50.0	46.5	93	7	72-125	20

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times [(C-F)/(C+F)]$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Project Name: 900 S. Central Avenue

Work Order #: 393929

Lab Batch ID: 828082

Date Analyzed: 10/18/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 393943-001 S

Batch #: 1

Matrix: Water

Analyst: EZB

Date Prepared: 10/18/2010

VOAs by SW-846 8260B										
Analytes										
Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
1,1,2,2-Tetrachloroethane	50.0	44.4	89	50.0	44.2	88	0	74-125	31	
Tetrachloroethylene	50.0	47.9	96	50.0	43.0	86	11	71-125	20	
Toluene	50.0	46.5	93	50.0	42.2	84	10	59-139	21	
1,2,3-Trichlorobenzene	50.0	45.2	90	50.0	46.7	93	3	75-137	20	
1,2,4-Trichlorobenzene	50.0	47.0	94	50.0	45.7	91	3	75-135	20	
1,1,1-Trichloroethane	50.0	49.5	99	50.0	45.3	91	9	75-125	20	
1,1,2-Trichloroethane	50.0	47.7	95	50.0	47.3	95	1	75-127	20	
Trichloroethene	50.0	49.0	98	50.0	45.3	91	8	62-137	24	
Trichlorofluoromethane	50.0	45.7	91	50.0	48.5	97	6	67-125	20	
1,2,3-Trichloropropane	50.0	47.6	95	50.0	47.8	96	0	75-125	20	
1,2,4-Trimethylbenzene	50.0	48.6	97	50.0	44.4	89	9	75-125	20	
1,3,5-Trimethylbenzene	50.0	48.7	97	50.0	44.4	89	9	70-125	20	
o-Xylene	50.0	48.7	97	50.0	46.2	92	5	75-125	20	
m,p-Xylenes	100	94.0	94	100	86.3	86	9	75-125	20	
Vinyl Acetate	100	96.0	96	100	93.7	94	2	60-140	20	
Vinyl Chloride	50.0	41.3	83	50.0	44.6	89	8	75-125	20	

 Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
 Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

 ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
 N = See Narrative, EQL = Estimated Quantitation Limit

 Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Final 1.000



Prelogin/Nonconformance Report- Sample Log-In

Client: URS Corporation
Date/ Time Received: 10/16/10 @ 9:15
WO ID #: 393 393929
Initials of Sample Receipt Person: J

Acceptable Temperature Range: 0-6° C
Acceptable pH Range(s):
<2 for samples preserved with HNO₃, HCL, H₂SO₄
>10 for samples preserved with NaAsO₂+NaOH, ZnAc+NaOH

Checklist completed by, date/time: TN 9:00 10/16/10

Temperature Measuring device used: 2

Checklist reviewed by, date/time: Qny 10/16/10 9:55

Sample Receipt Checklist

Cooler Number: 201 / / /
Weight of Cooler: 20 / / / °C

#1 *Temperature of cooler(s)?	<u>YES</u>	No	None	
#2 *Shipping container in good condition?	<u>YES</u>	No	N/A	<u>Blue/Water</u>
#3 *Samples received on Ice?	<u>YES</u>	No	N/A	
#4 *Custody Seals intact on shipping container/ cooler?	<u>YES</u>	No	N/A	
#5 Custody Seals intact on sample bottles/ container?	<u>YES</u>	No	N/A	
#6 *Custody Seals Signed and dated for Containers/coolers	<u>YES</u>	No	N/A	
#7 *Chain of Custody present?	<u>YES</u>	No		
#8 Sample instructions complete on Chain of Custody?	<u>YES</u>	No		
#9 Any missing/extra samples?	<u>Yes</u>	<u>NO</u>		
#10 Chain of Custody signed when relinquished/ received?	<u>YES</u>	No		
#11 Chain of Custody agrees with sample label(s)?	<u>YES</u>	No		
#12 Container label(s) legible and intact?	<u>YES</u>	No		
#13 Sample matrix/ properties agree with Chain of Custody?	<u>YES</u>	No		
#14 Samples in proper container/ bottle?	<u>YES</u>	No		
#15 Samples properly preserved?	<u>YES</u>	No	N/A	<u>See Notes below</u>
#16 Sample container(s) intact?	<u>YES</u>	No		
#17 Sufficient sample amount for indicated test(s)?	<u>YES</u>	No		
#18 All samples received within hold time?	<u>YES</u>	No		
#19 Subcontract of sample(s)?	<u>Yes</u>	<u>NO</u>		
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	<u>YES</u>	No	N/A	

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Notes on pH check: Liter -> pH = 6.

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____
Regarding: _____

Corrective Action Taken: _____

311

500

FedEx **US Airbill**
Express

Package Tracking Number

8735 5972 8494

Recipient's Copy

1 From This portion can be removed for Recipient's records.

Date 10/15/10 FedEx Tracking Number 873559728494

Sender's Name W. Pennington Phone 314 454 0100

Company WPC Corp

Address 1001 Highland Heights Rd Ste 300

City Saint Louis State MO ZIP 63103

2 Your Internal Billing Reference

3 To Recipient's Name

Phone 201 240-4200

Company GENCO LABORATORIES INC

Address 4143 GREENBRIAR DR

City STAFFORD State TX ZIP 77477

Use this box for the bill-to location address or for continuation of your shipping address.

0425038437



8735 5972 8494

fedex.com 1800.GoFedEx 1800.463.3339

4a Express Package Service

☒ FedEx Priority Overnight ☐ FedEx Standard Overnight ☐ FedEx First Overnight

☐ FedEx 2Day ☐ FedEx Express Saver

4b Express Freight Service

☐ FedEx 1Day Freight ☐ FedEx 2Day Freight ☐ FedEx 3Day Freight

5 Packaging

☐ FedEx Envelope ☐ FedEx Pak ☐ FedEx Box ☐ FedEx Tube ☐ Other

6 Special Handling and Delivery Signature Options

☒ SATURDAY Delivery ☐ Signature Required ☐ Direct Signature ☐ Indirect Signature

7 Payment Bill to:

☐ Sender ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

605

Heater

10/15/10 1700

Roxana Groundwater Profiling Data Review

Laboratory SDG: 394946

Reviewer: Elizabeth Kunkel

Date Reviewed: 12/1/2010

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

Sample Identification	Sample Identification
GWP-26-68	GWP-26-81
TB-100110	

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 SVOC surrogate recoveries were outside evaluation criteria in investigative sample GWP-26-68 and also in several quality control samples. SVOC LCS/LCSD recoveries were outside evaluation criteria. SVOC MS/MSD recoveries and one SVOC MS/MSD RPD were outside evaluation criteria in sample GWP-26-68.

The cooler receipt form indicated that samples were received by the laboratory at a temperature of 1.0°C, which is below the 4°C ± 2°C criteria. The samples were received in good condition; therefore, no qualification of data was required. Additionally, the laboratory incorrectly transcribed the COC designated sample ID, GWP-26-68 as GWP-26-28. Results were reported using the COC designated sample ID.

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
577187-1-BKS	SVOCs	Acenaphthylene	112/110	2	46-108/25
577187-1-BKS	SVOCs	Benzo(k)fluoranthene	130/120	8	25-125/25
577187-1-BKS	SVOCs	Benzoic acid	125/101	21	30-115/40
577187-1-BKS	SVOCs	Dibenz(a,h)anthracene	134/126	6	50-125/25
577187-1-BKS	SVOCs	2,4-Dinitrophenol	124/ 148	18	65-135/25
577187-1-BKS	SVOCs	4-Nitrophenol	114/114	0	10-80/50
577187-1-BKS	SVOCs	2,4,5-Trichlorophenol	142/138	3	65-135/25

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.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery	Criteria
577187-1-BKS/BKS	SVOCs	2,4,6-Tribromophenol	130	10-123
577187-1-BSD/BSD	SVOCs	2,4,6-Tribromophenol	124	10-123
GWP-26-68	SVOCs	2,4,6-Tribromophenol	128	10-123
GWP-26-68-MS	SVOCs	2,4,6-Tribromophenol	126	10-123
GWP-26-68-MSD	SVOCs	2,4,6-Tribromophenol	126	10-123

Samples 577187-1-BKS/BKS and 577187-1-BSD/BSD are quality control samples and do not require qualification. Analytical data reported as nondetect 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 collected as part of this SDG?

Yes, sample GWP-26-68 was spiked and analyzed for SVOCs and VOCs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD Criteria
GWP-26-68	SVOCs	Aniline	36/62	53	5-115/25
GWP-26-68	SVOCs	Benzoic acid	126/120	4	30-115/40
GWP-26-68	SVOCs	2,4-Dinitrophenol	128/136	6	65-135/25
GWP-26-68	SVOCs	4-Nitrophenol	108/106	2	10-80/50
GWP-26-68	SVOCs	Pentachlorophenol	134/130	3	17-117/50
GWP-26-68	SVOCs	2,4,5-Trichlorophenol	140/138	1	65-135/25

Analytical data reported as non-detect and associated with MS/MSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. MS/MSD samples are not qualified on RPD alone and MS/MSD recoveries were within evaluation criteria for aniline. No qualification of data was required.

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

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

Not applicable; samples analyzed did not require dilution.

11.0 Additional Qualifications

Were additional qualifications applied?

No

Analytical Report 394946

for

URS Corporation-St. Louis

Project Manager: Wendy Pennington

900 S. Central Avenue

Roxana-Route 111/21562291.00006

29-OCT-10



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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

Reviewed
on
11/29/2010

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)

Xenco-Boca Raton (EPA Lab Code: FL01273):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)

North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



29-OCT-10

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

Reference: XENCO Report No: **394946**
900 S. Central Avenue
Project Address: Roxana, IL

Wendy Pennington:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 394946. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 394946 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Carlos Castro

Managing Director, Texas

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

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



Sample Cross Reference 394946



URS Corporation-St. Louis, St. Louis, MO
900 S. Central Avenue

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
GWP-26- ⁶ 28 /	W	Oct-26-10 11:15		394946-001
GWP-26-81 /	W	Oct-26-10 13:00		394946-002
TB102610 /	W	Oct-26-10 00:00		394946-003



CASE NARRATIVE

Client Name: URS Corporation-St. Louis
Project Name: 900 S. Central Avenue



Project ID: Roxana-Route 111/215622
Work Order Number: 394946

Report Date: 29-OCT-10
Date Received: 10/27/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-829655 SVOAs by SW-846 8270C

Benzo(k)fluoranthene, Benzoic Acid recovered above QC limits in the Blank Spike. 2,4,5-Trichlorophenol, 4-Nitrophenol, Acenaphthylene, Dibenz(a,h)anthracene recovered above QC limits in the Blank Spike Duplicate. 2,4-Dinitrophenol recovered above QC limits in the Blank Spike Duplicate.

Samples affected are: 394946-001, -002.

Aniline (Phenylamine, Aminobenzene) RPD was outside QC limits the Matrix Spike/Matrix Spike Duplicate.

Samples affected are: 394946-001, -002

Surrogate 2,4,6-Tribromophenol recovered above QC limits Data confirmed by re-analysis.

Samples affected are: 577187-1-BKS, 577187-1-BSD, 394946-001 S, 394946-001 SD, 394946-001.

2,4,5-Trichlorophenol, 4-Nitrophenol, Benzoic Acid, Pentachlorophenol recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. 2,4-Dinitrophenol recovered above QC limits in the Matrix Spike Duplicate.

Samples affected are: 394946-001, -002.

The Laboratory Control Sample for 2,4-Dinitrophenol, Pentachlorophenol is within laboratory Control Limits

Certificate of Analysis Summary 394946 URS Corporation-St. Louis, St. Louis, MO Project Name: 900 S. Central Avenue

Project Id: Roxana-Route 111/21562291.00006
 Contact: Wendy Pennington
 Project Location: Roxana, IL



Date Received in Lab: Wed Oct-27-10 09:15 am
 Report Date: 29-OCT-10
 Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	394946-001	394946-002	394946-003	
	Field Id:	GWP-26-81	GWP-26-81	TB102610	
	Depth:				
	Matrix:	WATER	WATER	WATER	
	Sampled:	Oct-26-10 11:15	Oct-26-10 13:00	Oct-26-10 00:00	
SVOAs by SW-846 8270C	Extracted:	Oct-27-10 09:36	Oct-27-10 09:36		
	Analyzed:	Oct-29-10 11:25	Oct-29-10 12:36		
	Units/RL:	mg/L RL	mg/L RL		
	Acenaphthene	U 0.010	U 0.010		
	Acenaphthylene	U 0.010	U 0.010		
	Aniline (Phenylamine, Aminobenzene)	U 0.020	U 0.020		
	Anthracene	U 0.010	U 0.010		
	Benzo(a)anthracene	U 0.010	U 0.010		
	Benzo(a)pyrene	U 0.010	U 0.010		
	Benzo(b)fluoranthene	U 0.010	U 0.010		
	Benzo(k)fluoranthene	U 0.010	U 0.010		
	Benzo(g,h,i)perylene	U 0.010	U 0.010		
	Benzoic Acid	U 0.050	U 0.050		
	Benzyl Butyl Phthalate	U 0.010	U 0.010		
	bis(2-chloroethoxy) methane	U 0.010	U 0.010		
	bis(2-chloroethyl) ether	U 0.010	U 0.010		
	bis(2-chloroisopropyl) ether	U 0.010	U 0.010		
	bis(2-ethylhexyl) phthalate	U 0.010	U 0.010		
	4-Bromophenyl-phenylether	U 0.010	U 0.010		
	4-chloro-3-methylphenol	U 0.010	U 0.010		
	4-Chloroaniline	U 0.020	U 0.020		
	2-Chloronaphthalene	U 0.010	U 0.010		
	2-Chlorophenol	U 0.010	U 0.010		
	4-Chlorophenyl Phenyl Ether	U 0.010	U 0.010		
	Chrysene	U 0.010	U 0.010		
	Dibenz(a,h)anthracene	U 0.010	U 0.010		
	Dibenzofuran	U 0.010	U 0.010		
	di-n-Butyl Phthalate	U 0.010	U 0.010		

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Carlos Castro
 Managing Director, Texas

Certificate of Analysis Summary 394946 URS Corporation-St. Louis, St. Louis, MO Project Name: 900 S. Central Avenue

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL

Date Received in Lab: Wed Oct-27-10 09:15 am

Report Date: 29-OCT-10

Project Manager: Debbie Simmons



Analysis Requested	Lab Id:	394946-001	394946-002	394946-003	
	Field Id:	GWP-26-88	GWP-26-81	TB102610	
	Depth:				
	Matrix:	WATER	WATER	WATER	
	Sampled:	Oct-26-10 11:15	Oct-26-10 13:00	Oct-26-10 00:00	
SVOAs by SW-846 8270C	Extracted:	Oct-27-10 09:27	Oct-27-10 09:36		
	Analyzed:	Oct-29-10 11:25	Oct-29-10 12:36		
	Units/RL:	mg/L RL	mg/L RL		
	3,3-Dichlorobenzidine	U 0.010	U 0.010		
	2,4-Dichlorophenol	U 0.010	U 0.010		
	Diethyl Phthalate	U 0.010	U 0.010		
	Dimethyl Phthalate	U 0.010	U 0.010		
	2,4-Dimethylphenol	U 0.010	U 0.010		
	4,6-dinitro-2-methyl phenol	U 0.010	U 0.010		
	2,4-Dinitrophenol	U 0.020	U 0.020		
	2,4-Dinitrotoluene	U 0.010	U 0.010		
	2,6-Dinitrotoluene	U 0.010	U 0.010		
	di-n-Octyl Phthalate	U 0.010	U 0.010		
	Fluoranthene	U 0.010	U 0.010		
	Fluorene	U 0.010	U 0.010		
	Hexachlorobenzene	U 0.010	U 0.010		
	Hexachlorocyclopentadiene	U 0.010	U 0.010		
	Hexachloroethane	U 0.010	U 0.010		
	Indeno(1,2,3-c,d)Pyrene	U 0.010	U 0.010		
	Isophorone	U 0.010	U 0.010		
	2-Methylnaphthalene	U 0.010	U 0.010		
	2-methylphenol	U 0.010	U 0.010		
	3&4-Methylphenol	U 0.010	U 0.010		
	Naphthalene	U 0.010	U 0.010		
	2-Nitroaniline	U 0.020	U 0.020		
	3-Nitroaniline	U 0.020	U 0.020		
	4-Nitroaniline	U 0.020	U 0.020		
	Nitrobenzene	U 0.010	U 0.010		

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 Carlos Castro
 Managing Director, Texas



Certificate of Analysis Summary 394946
URS Corporation-St. Louis, St. Louis, MO
Project Name: 900 S. Central Avenue

Project Id: Roxana-Route 111/21562291.00006
Contact: Wendy Pennington
Project Location: Roxana, IL



Date Received in Lab: Wed Oct-27-10 09:15 am
Report Date: 29-OCT-10
Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	394946-001	394946-002	394946-003	
	Field Id:	GWP-26-28	GWP-26-81	TB102610	
	Depth:				
	Matrix:	WATER	WATER	WATER	
	Sampled:	Oct-26-10 11:15	Oct-26-10 13:00	Oct-26-10 00:00	
SVOAs by SW-846 8270C	Extracted:	Oct-27-10 09:27	Oct-27-10 09:36		
	Analyzed:	Oct-29-10 11:25	Oct-29-10 12:36		
	Units/RL:	mg/L RL	mg/L RL		
	2-Nitrophenol	U 0.010	U 0.010		
	4-Nitrophenol	U 0.010	U 0.010		
	N-Nitrosodi-n-Propylamine	U 0.010	U 0.010		
	N-Nitrosodiphenylamine	U 0.010	U 0.010		
	Pentachlorophenol	U 0.010	U 0.010		
	Phenanthrene	U 0.010	U 0.010		
	Phenol	U 0.010	U 0.010		
	Pyrene	U 0.010	U 0.010		
	Pyridine	U 0.020	U 0.020		
	2,4,5-Trichlorophenol	U 0.010	U 0.010		
	2,4,6-Trichlorophenol	U 0.010	U 0.010		

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Carlos Castro
Managing Director, Texas

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	394946-001 GWP-26-28	394946-002 GWP-26-81	394946-003 TBI02610	
	Extracted:	Analyzed:	Units/RL:	ug/L	RL	ug/L	RL	ug/L	RL
VOAs by SW-846 8260B	Oct-27-10 12:20	Oct-27-10 12:53							
Acetone	U	U	100						
Benzene	U	U	5.00						
Bromobenzene	U	U	5.00						
Bromochloromethane	U	U	5.00						
Bromodichloromethane	U	U	5.00						
Bromoform	U	U	5.00						
Bromomethane	U	U	5.00						
2-Butanone	U	U	50.0						
MTBE	2.66 J	5.00							
n-Butylbenzene	U	U	5.00						
Sec-Butylbenzene	U	U	5.00						
tert-Butylbenzene	U	U	5.00						
Carbon Disulfide	U	U	50.0						
Carbon Tetrachloride	U	U	5.00						
Chlorobenzene	U	U	5.00						
Chloroethane	U	U	10.0						
Chloroform	U	U	5.00						
Chloromethane	U	U	10.0						
2-Chlorotoluene	U	U	5.00						
4-Chlorotoluene	U	U	5.00						
p-Cymene (p-Isopropyltoluene)	U	U	5.00						
Dibromochloromethane	U	U	5.00						
1,2-Dibromo-3-Chloropropane	U	U	5.00						
Dibromomethane	U	U	5.00						
1,2-Dichlorobenzene	U	U	5.00						

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Carlos Castro
 Managing Director, Texas



Certificate of Analysis Summary 394946

URS Corporation-St. Louis, St. Louis, MO
Project Name: 900 S. Central Avenue



Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL

Date Received in Lab: Wed Oct-27-10 09:15 am

Report Date: 29-OCT-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	394946-001	394946-002	394946-003	
	Field Id:	GWP-26-28	GWP-26-81	TB102610	
	Depth:				
	Matrix:	WATER	WATER	WATER	
	Sampled:	Oct-26-10 11:15	Oct-26-10 13:00	Oct-26-10 00:00	
VOAs by SW-846 8260B	Extracted:	Oct-27-10 12:20	Oct-27-10 12:22	Oct-27-10 12:24	
	Analyzed:	Oct-27-10 12:53	Oct-27-10 13:21	Oct-27-10 13:45	
	Units/RL:	ug/L RL	ug/L RL	ug/L RL	
	1,3-Dichlorobenzene	U 5.00	U 5.00	U 5.00	
	1,4-Dichlorobenzene	U 5.00	U 5.00	U 5.00	
	Dichlorodifluoromethane	U 5.00	U 5.00	U 5.00	
	1,1-Dichloroethane	U 5.00	U 5.00	U 5.00	
	1,2-Dichloroethane	U 5.00	U 5.00	U 5.00	
	1,1-Dichloroethene	U 5.00	U 5.00	U 5.00	
	cis-1,2-Dichloroethene	U 5.00	U 5.00	U 5.00	
	trans-1,2-dichloroethene	U 5.00	U 5.00	U 5.00	
	1,2-Dichloropropane	U 5.00	U 5.00	U 5.00	
	1,3-Dichloropropane	U 5.00	U 5.00	U 5.00	
	2,2-Dichloropropane	U 5.00	U 5.00	U 5.00	
	1,1-Dichloropropene	U 5.00	U 5.00	U 5.00	
	cis-1,3-Dichloropropene	U 5.00	U 5.00	U 5.00	
	trans-1,3-dichloropropene	U 5.00	U 5.00	U 5.00	
	Ethylbenzene	U 5.00	U 5.00	U 5.00	
	Hexachlorobutadiene	U 5.00	U 5.00	U 5.00	
	isopropylbenzene	U 5.00	U 5.00	U 5.00	
	Methylene Chloride	U 5.00	U 5.00	U 5.00	
	n-Propylbenzene	U 5.00	U 5.00	U 5.00	
	Styrene	U 5.00	U 5.00	U 5.00	
	1,1,1,2-Tetrachloroethane	U 5.00	U 5.00	U 5.00	
	1,1,2,2-Tetrachloroethane	U 5.00	U 5.00	U 5.00	
	Tetrachloroethylene	U 5.00	U 5.00	U 5.00	
	Toluene	U 5.00	U 5.00	U 5.00	
	1,2,3-Trichlorobenzene	U 5.00	U 5.00	U 5.00	

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Carlos Castro
Managing Director, Texas

Certificate of Analysis Summary 394946 URS Corporation-St. Louis, St. Louis, MO Project Name: 900 S. Central Avenue

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL

Date Received in Lab: Wed Oct-27-10 09:15 am

Report Date: 29-OCT-10

Project Manager: Debbie Simmons



Analysis Requested	Lab Id:	394946-001	394946-002	394946-003	
	Field Id:	GWP-26-28	GWP-26-81	TB102610	
	Depth:				
	Matrix:	WATER	WATER	WATER	
	Sampled:	Oct-26-10 11:15	Oct-26-10 13:00	Oct-26-10 00:00	
VOAs by SW-846 8260B	Extracted:	Oct-27-10 12:20	Oct-27-10 12:22	Oct-27-10 12:24	
	Analyzed:	Oct-27-10 12:53	Oct-27-10 13:21	Oct-27-10 13:45	
	Units/RL:	ug/L RL	ug/L RL	ug/L RL	
		U 5.00	U 5.00	U 5.00	
		U 5.00	U 5.00	U 5.00	
1,2,4-Trichlorobenzene		U 5.00	U 5.00	U 5.00	
1,1,1-Trichloroethane		U 5.00	U 5.00	U 5.00	
1,1,2-Trichloroethane		U 5.00	U 5.00	U 5.00	
Trichloroethene		U 5.00	U 5.00	U 5.00	
Trichlorofluoromethane		U 5.00	U 5.00	U 5.00	
1,2,3-Trichloropropane		U 5.00	U 5.00	U 5.00	
1,2,4-Trimethylbenzene		U 5.00	U 5.00	U 5.00	
1,3,5-Trimethylbenzene		U 5.00	U 5.00	U 5.00	
o-Xylene		U 5.00	U 5.00	U 5.00	
m,p-Xylenes		U 10.0	U 10.0	U 10.0	
Vinyl Acetate		U 50.0	U 50.0	U 50.0	
Vinyl Chloride		U 2.00	U 2.00	U 2.00	

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 Carlos Castro
 Managing Director, Texas



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : VOAs by SW-846 8260B

Client : URS Corporation-St. Louis

Work Order #: 394946

Project ID: Roxana-Route 111/21562291.

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
GWP-26-81	Oct. 26, 2010	Oct. 27, 2010				Oct.27, 2010	14	1	P
GWP-26-28	Oct. 26, 2010	Oct. 27, 2010				Oct.27, 2010	14	1	P
TB102610	Oct. 26, 2010	Oct. 27, 2010				Oct.27, 2010	14	1	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : SVOAs by SW-846 8270C

Client : URS Corporation-St. Louis

Work Order #: 394946

Project ID: Roxana-Route 111/21562291.

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
GWP-26-81	Oct. 26, 2010	Oct. 27, 2010	Oct. 27, 2010	7	1	Oct.29, 2010	40	2	P
GWP-26-28	Oct. 26, 2010	Oct. 27, 2010	Oct. 27, 2010	7	1	Oct.29, 2010	40	2	P

F = These samples were analyzed outside the recommended holding time.

P = Samples analyzed within the recommended holding time.

Flagging Criteria

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

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 394946,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 829655

Sample: 577187-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/10 10:14

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.037	0.050	74	43-116	
2-Fluorophenol	0.033	0.050	66	21-100	
Nitrobenzene-d5	0.037	0.050	74	35-114	
Phenol-d6	0.020	0.050	40	10-94	
Terphenyl-D14	0.041	0.050	82	33-141	
2,4,6-Tribromophenol	0.061	0.050	122	10-123	

Lab Batch #: 829655

Sample: 577187-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/10 10:38

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.034	0.050	68	43-116	
2-Fluorophenol	0.033	0.050	66	21-100	
Nitrobenzene-d5	0.033	0.050	66	35-114	
Phenol-d6	0.023	0.050	46	10-94	
Terphenyl-D14	0.036	0.050	72	33-141	
2,4,6-Tribromophenol	0.065	0.050	130	10-123	**

Lab Batch #: 829655

Sample: 577187-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/10 11:01

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.033	0.050	66	43-116	
2-Fluorophenol	0.033	0.050	66	21-100	
Nitrobenzene-d5	0.033	0.050	66	35-114	
Phenol-d6	0.022	0.050	44	10-94	
Terphenyl-D14	0.034	0.050	68	33-141	
2,4,6-Tribromophenol	0.062	0.050	124	10-123	**

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \cdot A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 394946,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 829655

Sample: 394946-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/10 11:25

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.033	0.050	66	43-116	
2-Fluorophenol	0.021	0.050	42	21-100	
Nitrobenzene-d5	0.032	0.050	64	35-114	
Phenol-d6	0.012	0.050	24	10-94	
Terphenyl-D14	0.036	0.050	72	33-141	
2,4,6-Tribromophenol	0.064	0.050	128	10-123	**

Lab Batch #: 829655

Sample: 394946-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/10 11:48

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.032	0.050	64	43-116	
2-Fluorophenol	0.021	0.050	42	21-100	
Nitrobenzene-d5	0.032	0.050	64	35-114	
Phenol-d6	0.014	0.050	28	10-94	
Terphenyl-D14	0.035	0.050	70	33-141	
2,4,6-Tribromophenol	0.063	0.050	126	10-123	**

Lab Batch #: 829655

Sample: 394946-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/10 12:12

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.032	0.050	64	43-116	
2-Fluorophenol	0.021	0.050	42	21-100	
Nitrobenzene-d5	0.031	0.050	62	35-114	
Phenol-d6	0.014	0.050	28	10-94	
Terphenyl-D14	0.033	0.050	66	33-141	
2,4,6-Tribromophenol	0.063	0.050	126	10-123	**

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 394946,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 829655

Sample: 394946-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/10 12:36

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.034	0.050	68	43-116	
2-Fluorophenol	0.022	0.050	44	21-100	
Nitrobenzene-d5	0.033	0.050	66	35-114	
Phenol-d6	0.012	0.050	24	10-94	
Terphenyl-D14	0.037	0.050	74	33-141	
2,4,6-Tribromophenol	0.060	0.050	120	10-123	

Lab Batch #: 829449

Sample: 577257-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/27/10 09:06

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0512	0.0500	102	74-124	
Dibromofluoromethane	0.0508	0.0500	102	75-131	
1,2-Dichloroethane-D4	0.0525	0.0500	105	63-144	
Toluene-D8	0.0502	0.0500	100	80-117	

Lab Batch #: 829449

Sample: 577257-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/27/10 09:51

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0480	0.0500	96	74-124	
Dibromofluoromethane	0.0497	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0525	0.0500	105	63-144	
Toluene-D8	0.0502	0.0500	100	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 394946,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 829449

Sample: 394946-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/27/10 12:53

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0503	0.0500	101	74-124	
Dibromofluoromethane	0.0499	0.0500	100	75-131	
1,2-Dichloroethane-D4	0.0481	0.0500	96	63-144	
Toluene-D8	0.0496	0.0500	99	80-117	

Lab Batch #: 829449

Sample: 394946-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/27/10 13:21

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0485	0.0500	97	74-124	
Dibromofluoromethane	0.0518	0.0500	104	75-131	
1,2-Dichloroethane-D4	0.0512	0.0500	102	63-144	
Toluene-D8	0.0508	0.0500	102	80-117	

Lab Batch #: 829449

Sample: 394946-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/27/10 13:45

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0493	0.0500	99	74-124	
Dibromofluoromethane	0.0507	0.0500	101	75-131	
1,2-Dichloroethane-D4	0.0525	0.0500	105	63-144	
Toluene-D8	0.0495	0.0500	99	80-117	

Lab Batch #: 829449

Sample: 394946-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/27/10 14:07

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0498	0.0500	100	74-124	
Dibromofluoromethane	0.0500	0.0500	100	75-131	
1,2-Dichloroethane-D4	0.0477	0.0500	95	63-144	
Toluene-D8	0.0499	0.0500	100	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 394946,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 829449

Sample: 394946-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/27/10 14:30

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0504	0.0500	101	74-124	
Dibromofluoromethane	0.0505	0.0500	101	75-131	
1,2-Dichloroethane-D4	0.0499	0.0500	100	63-144	
Toluene-D8	0.0494	0.0500	99	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Blank Spike Recovery



Project Name: 900 S. Central Avenue

Work Order #: 394946

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 829449

Sample: 577257-1-BKS

Matrix: Water

Date Analyzed: 10/27/2010

Date Prepared: 10/27/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Acetone	<20.0	100	109	109	60-140	
Benzene	<1.00	50.0	50.5	101	66-142	
Bromobenzene	<1.00	50.0	50.8	102	75-125	
Bromochloromethane	<1.00	50.0	50.3	101	73-125	
Bromodichloromethane	<1.00	50.0	50.7	101	75-125	
Bromoform	<1.00	50.0	52.8	106	75-125	
Bromomethane	<1.00	50.0	51.6	103	70-130	
2-Butanone	<10.0	100	117	117	60-140	
MTBE	<1.00	50.0	50.3	101	65-135	
n-Butylbenzene	<1.00	50.0	50.1	100	75-125	
Sec-Butylbenzene	<1.00	50.0	50.6	101	75-125	
tert-Butylbenzene	<1.00	50.0	50.5	101	75-125	
Carbon Disulfide	<10.0	50.0	51.4	103	60-140	
Carbon Tetrachloride	<1.00	50.0	51.2	102	62-125	
Chlorobenzene	<1.00	50.0	49.7	99	60-133	
Chloroethane	<2.00	50.0	52.1	104	70-130	
Chloroform	<1.00	50.0	52.0	104	74-125	
Chloromethane	<2.00	50.0	52.2	104	70-130	
2-Chlorotoluene	<1.00	50.0	50.7	101	73-125	
4-Chlorotoluene	<1.00	50.0	50.6	101	74-125	
p-Cymene (p-Isopropyltoluene)	<1.00	50.0	50.2	100	75-125	
Dibromochloromethane	<1.00	50.0	52.8	106	73-125	
1,2-Dibromo-3-Chloropropane	<1.00	50.0	53.8	108	59-125	
Dibromomethane	<1.00	50.0	53.5	107	69-127	
1,2-Dichlorobenzene	<1.00	50.0	49.4	99	75-125	
1,3-Dichlorobenzene	<1.00	50.0	49.7	99	75-125	
1,4-Dichlorobenzene	<1.00	50.0	49.5	99	75-125	
Dichlorodifluoromethane	<1.00	50.0	49.0	98	70-130	
1,1-Dichloroethane	<1.00	50.0	52.6	105	72-125	
1,2-Dichloroethane	<1.00	50.0	53.3	107	68-127	
1,1-Dichloroethene	<1.00	50.0	51.0	102	59-172	
cis-1,2-Dichloroethene	<1.00	50.0	51.3	103	75-125	
trans-1,2-dichloroethene	<1.00	50.0	52.0	104	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit



Blank Spike Recovery



Project Name: 900 S. Central Avenue

Work Order #: 394946

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 829449

Sample: 577257-1-BKS

Matrix: Water

Date Analyzed: 10/27/2010

Date Prepared: 10/27/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,2-Dichloropropane	<1.00	50.0	50.5	101	74-125	
1,3-Dichloropropane	<1.00	50.0	52.0	104	75-125	
2,2-Dichloropropane	<1.00	50.0	51.0	102	75-125	
1,1-Dichloropropene	<1.00	50.0	52.6	105	75-125	
cis-1,3-Dichloropropene	<1.00	50.0	52.0	104	74-125	
trans-1,3-dichloropropene	<1.00	50.0	52.0	104	66-125	
Ethylbenzene	<1.00	50.0	49.4	99	75-125	
Hexachlorobutadiene	<1.00	50.0	48.3	97	75-125	
isopropylbenzene	<1.00	50.0	50.9	102	75-125	
Methylene Chloride	<1.00	50.0	50.6	101	75-125	
n-Propylbenzene	<1.00	50.0	50.4	101	75-125	
Styrene	<1.00	50.0	49.2	98	75-125	
1,1,1,2-Tetrachloroethane	<1.00	50.0	49.4	99	72-125	
1,1,2,2-Tetrachloroethane	<1.00	50.0	53.0	106	74-125	
Tetrachloroethylene	<1.00	50.0	50.9	102	71-125	
Toluene	<1.00	50.0	50.0	100	59-139	
1,2,3-Trichlorobenzene	<1.00	50.0	45.5	91	75-137	
1,2,4-Trichlorobenzene	<1.00	50.0	46.5	93	75-135	
1,1,1-Trichloroethane	<1.00	50.0	51.8	104	75-125	
1,1,2-Trichloroethane	<1.00	50.0	52.3	105	75-127	
Trichloroethene	<1.00	50.0	52.0	104	62-137	
Trichlorofluoromethane	<1.00	50.0	53.5	107	67-125	
1,2,3-Trichloropropane	<1.00	50.0	53.3	107	75-125	
1,2,4-Trimethylbenzene	<1.00	50.0	49.6	99	75-125	
1,3,5-Trimethylbenzene	<1.00	50.0	50.7	101	70-125	
o-Xylene	<1.00	50.0	49.0	98	75-125	
m,p-Xylenes	<2.00	100	96.5	97	75-125	
Vinyl Acetate	<10.0	100	109	109	60-140	
Vinyl Chloride	<0.400	50.0	51.3	103	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 S. Central Avenue

Work Order #: 394946

Analyst: DAE

Lab Batch ID: 829655

Sample: 577187-1-BKS

Date Prepared: 10/27/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 10/29/2010

Matrix: Water

Units: mg/L

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
SVOAs by SW-846 8270C	Analytes										
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	<0.001	0.050	0.056	112	0.05	0.055	110	2	27-132	31	
	<0.003	0.050	0.056	112	0.05	0.055	110	2	46-108	25	H
	<0.001	0.050	0.045	90	0.05	0.045	90	0	5-115	25	
	<0.001	0.050	0.058	116	0.05	0.056	112	4	47-145	25	
	<0.001	0.050	0.059	118	0.05	0.058	116	2	33-143	25	
	<0.001	0.050	0.064	128	0.05	0.062	124	3	65-135	25	
	<0.001	0.050	0.062	124	0.05	0.063	126	2	24-159	25	
	<0.001	0.050	0.065	130	0.05	0.060	120	8	25-125	25	H
	<0.001	0.050	0.067	134	0.05	0.064	128	5	65-135	25	
	<0.012	0.150	0.188	125	0.15	0.152	101	21	30-115	40	H
	<0.001	0.050	0.060	120	0.05	0.057	114	5	65-135	25	
	<0.001	0.050	0.049	98	0.05	0.048	96	2	54-188	25	
	<0.001	0.050	0.050	100	0.05	0.050	100	0	65-135	25	
	<0.001	0.050	0.048	96	0.05	0.047	94	2	65-135	25	
	<0.001	0.050	0.061	122	0.05	0.058	116	5	8-158	25	
	<0.001	0.050	0.060	120	0.05	0.059	118	2	65-135	25	
	<0.001	0.050	0.055	110	0.05	0.056	112	2	16-129	33	
	<0.004	0.050	0.054	108	0.05	0.054	108	0	9-128	25	
	<0.003	0.050	0.056	112	0.05	0.053	106	6	65-135	25	
	<0.002	0.050	0.051	102	0.05	0.052	104	2	16-116	40	

Relative Percent Difference RPD = $200 \times [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 \times (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 \times (F)/[E]$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue
Work Order #: 394946
Analyst: DAE
Lab Batch ID: 829655
Sample: 577187-1-BKS
Date Prepared: 10/27/2010
Batch #: 1
Project ID: Roxana-Route 111/21562291.00006
Date Analyzed: 10/29/2010
Matrix: Water
Units: mg/L

SVOAs by SW-846 8270C											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
4-Chlorophenyl Phenyl Ether	<0.001	0.050	0.057	114	0.05	0.056	112	2	65-135	25	
Chrysene	<0.001	0.050	0.059	118	0.05	0.057	114	3	65-135	25	
Dibenz(a,h)anthracene	<0.001	0.050	0.067	134	0.05	0.063	126	6	50-125	25	(H)
Dibenzofuran	<0.003	0.050	0.057	114	0.05	0.056	112	2	52-125	25	
di-n-Butyl Phthalate	<0.001	0.050	0.061	122	0.05	0.059	118	3	49-135	50	
3,3-Dichlorobenzidine	<0.003	0.050	0.059	118	0.05	0.057	114	3	12-147	25	
2,4-Dichlorophenol	<0.001	0.050	0.054	108	0.05	0.055	110	2	65-135	25	
Diethyl Phthalate	<0.001	0.050	0.059	118	0.05	0.058	116	2	37-125	50	
Dimethyl Phthalate	<0.001	0.050	0.058	116	0.05	0.057	114	2	25-175	50	
2,4-Dimethylphenol	<0.003	0.050	0.054	108	0.05	0.054	108	0	32-119	25	
4,6-dinitro-2-methyl phenol	<0.003	0.050	0.058	116	0.05	0.056	112	4	2-181	25	
2,4-Dinitrophenol	<0.002	0.050	0.062	124	0.05	0.074	148	18	65-135	25	(H)
2,4-Dinitrotoluene	<0.003	0.050	0.061	122	0.05	0.060	120	2	22-135	38	
2,6-Dinitrotoluene	<0.001	0.050	0.059	118	0.05	0.058	116	2	49-122	38	
di-n-Octyl Phthalate	<0.001	0.050	0.064	128	0.05	0.063	126	2	43-134	50	
Fluoranthene	<0.001	0.050	0.060	120	0.05	0.059	118	2	47-125	25	
Fluorene	<0.001	0.050	0.058	116	0.05	0.057	114	2	48-139	25	
Hexachlorobenzene	<0.001	0.050	0.057	114	0.05	0.056	112	2	46-133	25	
Hexachlorocyclopentadiene	<0.003	0.050	0.044	88	0.05	0.042	84	5	41-125	25	
Hexachloroethane	<0.003	0.050	0.050	100	0.05	0.052	104	4	25-153	25	

Relative Percent Difference RPD = $200 \times [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 \times (C)/(B)$
Blank Spike Duplicate Recovery [G] = $100 \times (F)/(E)$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 394946

Analyst: DAE

Lab Batch ID: 829655

Sample: 577187-1-BKS

Date Prepared: 10/27/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 10/29/2010

Matrix: Water

Units: mg/L

SVOAs by SW-846 8270C											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Indeno(1,2,3-c,d)Pyrene	<0.001	0.050	0.066	132	0.05	0.063	126	5	27-160	25	
Isophorone	<0.001	0.050	0.052	104	0.05	0.053	106	2	26-175	25	
2-Methylnaphthalene	<0.003	0.050	0.055	110	0.05	0.055	110	0	25-175	25	
2-methylphenol	<0.003	0.050	0.056	112	0.05	0.044	88	24	14-176	25	
3&4-Methylphenol	<0.002	0.100	0.048	48	0.1	0.047	47	2	14-176	25	
Naphthalene	<0.002	0.050	0.053	106	0.05	0.052	104	2	26-175	25	
2-Nitroaniline	<0.001	0.050	0.055	110	0.05	0.054	108	2	65-135	25	
3-Nitroaniline	<0.006	0.050	0.057	114	0.05	0.058	116	2	65-135	25	
4-Nitroaniline	<0.004	0.050	0.059	118	0.05	0.059	118	0	65-135	25	
Nitrobenzene	<0.001	0.050	0.055	110	0.05	0.056	112	2	65-135	25	
2-Nitrophenol	<0.001	0.050	0.055	110	0.05	0.055	110	0	65-135	25	
4-Nitrophenol	<0.001	0.050	0.057	114	0.05	0.057	114	0	10-80	50	H
N-Nitrosodi-n-Propylamine	<0.001	0.050	0.050	100	0.05	0.049	98	2	22-134	38	
N-Nitrosodiphenylamine	<0.003	0.050	0.059	118	0.05	0.056	112	5	2-196	25	
Pentachlorophenol	<0.003	0.050	0.041	82	0.05	0.032	64	25	17-117	50	
Phenanthrene	<0.001	0.050	0.058	116	0.05	0.057	114	2	65-135	25	
Phenol	<0.001	0.050	0.024	48	0.05	0.023	46	4	12-110	25	
Pyrene	<0.001	0.050	0.058	116	0.05	0.056	112	4	23-152	31	
Pyridine	<0.006	0.050	0.029	58	0.05	0.031	62	7	16-86	28	
2,4,5-Trichlorophenol	<0.001	0.050	0.071	142	0.05	0.069	138	3	65-135	25	H

Relative Percent Difference RPD = $200 \times [(C-F)/(C+F)]$

Blank Spike Recovery [D] = $100 \times (C/B)$

Blank Spike Duplicate Recovery [G] = $100 \times (F/E)$

All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 394946

Analyst: DAE

Lab Batch ID: 829655

Sample: 577187-1-BKS

Units: mg/L

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 10/29/2010

Matrix: Water

Date Prepared: 10/27/2010

Batch #: 1

SVOAs by SW-846 8270C		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
2,4,6-Trichlorophenol		<0.002	0.050	0.061	122	0.05	0.062	124	2	65-135	25	

Relative Percent Difference RPD = $200 * [(C-F) / (C+F)]$
Blank Spike Recovery [D] = $100 * (C) / [B]$
Blank Spike Duplicate Recovery [G] = $100 * (F) / [E]$
All results are based on MDL and Validated for QC Purposes

Work Order #: 394946

Lab Batch ID: 829655

Date Analyzed: 10/29/2010

Reporting Units: mg/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 394946-001 S

Date Prepared: 10/27/2010

Batch #: 1 Matrix: Water

Analyst: DAE

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
SVOAs by SW-846 8270C											
Acenaphthene	<0.010	0.050	0.053	106	0.050	0.053	106	0	27-132	31	
Acenaphthylene	<0.010	0.050	0.052	104	0.050	0.053	106	2	46-108	25	
Aniline (Phenylamine, Aminobenzene)	<0.020	0.050	0.018	36	0.050	0.031	62	53	5-115	25	(F)
Anthracene	<0.010	0.050	0.055	110	0.050	0.055	110	0	47-145	25	
Benzo(a)anthracene	<0.010	0.050	0.058	116	0.050	0.057	114	2	33-143	25	
Benzo(a)pyrene	<0.010	0.050	0.060	120	0.050	0.060	120	0	65-135	25	
Benzo(b)fluoranthene	<0.010	0.050	0.060	120	0.050	0.057	114	5	24-159	25	
Benzo(k)fluoranthene	<0.010	0.050	0.058	116	0.050	0.061	122	5	25-125	25	
Benzo(g,h,i)perylene	<0.010	0.050	0.063	126	0.050	0.063	126	0	65-135	25	
Benzoic Acid	<0.050	0.149	0.187	126	0.150	0.180	120	4	30-115	40	(X)
Benzyl Butyl Phthalate	<0.010	0.050	0.062	124	0.050	0.061	122	2	65-135	25	
bis(2-chloroethoxy) methane	<0.010	0.050	0.049	98	0.050	0.048	96	2	54-188	25	
bis(2-chloroethyl) ether	<0.010	0.050	0.050	100	0.050	0.052	104	4	65-135	25	
bis(2-chloroisopropyl) ether	<0.010	0.050	0.044	88	0.050	0.044	88	0	65-135	25	
bis(2-ethylhexyl) phthalate	<0.010	0.050	0.063	126	0.050	0.062	124	2	8-158	25	
4-Bromophenyl-phenylether	<0.010	0.050	0.054	108	0.050	0.055	110	2	65-135	25	
4-chloro-3-methylphenol	<0.010	0.050	0.049	98	0.050	0.049	98	0	16-129	33	
4-Chloroaniline	<0.020	0.050	0.049	98	0.050	0.049	98	0	9-128	25	
2-Chloronaphthalene	<0.010	0.050	0.051	102	0.050	0.051	102	0	65-135	25	
2-Chlorophenol	<0.010	0.050	0.044	88	0.050	0.044	88	0	16-116	40	
4-Chlorophenyl Phenyl Ether	<0.010	0.050	0.053	106	0.050	0.053	106	0	65-135	25	
Chrysene	<0.010	0.050	0.061	122	0.050	0.061	122	0	65-135	25	
Dibenz(a,h)anthracene	<0.010	0.050	0.062	124	0.050	0.062	124	0	50-125	25	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times [(C-F)/(C+F)]$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Project Name: 900 S. Central Avenue

Work Order #: 394946

Lab Batch ID: 829655

Date Analyzed: 10/29/2010

Reporting Units: mg/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 394946-001 S

Date Prepared: 10/27/2010

Batch #: 1

Analyst: DAE

Matrix: Water

SVOAs by SW-846 8270C		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Dibenzofuran		<0.010	0.050	0.053	106	0.050	0.053	106	0	52-125	25	
di-n-Butyl Phthalate		<0.010	0.050	0.059	118	0.050	0.059	118	0	49-135	50	
3,3-Dichlorobenzidine		<0.010	0.050	0.006	12	0.050	0.006	12	0	12-147	25	
2,4-Dichlorophenol		<0.010	0.050	0.053	106	0.050	0.053	106	0	65-135	25	
Diethyl Phthalate		<0.010	0.050	0.057	114	0.050	0.056	112	2	37-125	50	
Dimethyl Phthalate		<0.010	0.050	0.055	110	0.050	0.055	110	0	25-175	50	
2,4-Dimethylphenol		<0.010	0.050	0.049	98	0.050	0.047	94	4	32-119	25	
4,6-dinitro-2-methyl phenol		<0.010	0.050	0.057	114	0.050	0.058	116	2	2-181	25	
2,4-Dinitrophenol		<0.020	0.050	0.064	128	0.050	0.068	136	6	65-135	25	X
2,4-Dinitrotoluene		<0.010	0.050	0.059	118	0.050	0.059	118	0	22-135	38	
2,6-Dinitrotoluene		<0.010	0.050	0.056	112	0.050	0.056	112	0	49-122	38	
di-n-Octyl Phthalate		<0.010	0.050	0.063	126	0.050	0.061	122	3	43-134	50	
Fluoranthene		<0.010	0.050	0.056	112	0.050	0.056	112	0	47-125	25	
Fluorene		<0.010	0.050	0.054	108	0.050	0.054	108	0	48-139	25	
Hexachlorobenzene		<0.010	0.050	0.054	108	0.050	0.054	108	0	46-133	25	
Hexachlorocyclopentadiene		<0.010	0.050	0.032	64	0.050	0.031	62	3	41-125	25	
Hexachloroethane		<0.010	0.050	0.048	96	0.050	0.048	96	0	25-153	25	
Indeno(1,2,3-c,d)Pyrene		<0.010	0.050	0.062	124	0.050	0.061	122	2	27-160	25	
Isophorone		<0.010	0.050	0.049	98	0.050	0.050	100	2	26-175	25	
2-Methylnaphthalene		<0.010	0.050	0.051	102	0.050	0.050	100	2	25-175	25	
2-methylphenol		<0.010	0.050	0.049	98	0.050	0.050	100	2	14-176	25	
3&4-Methylphenol		<0.010	0.099	0.031	31	0.100	0.036	36	15	14-176	25	
Naphthalene		<0.010	0.050	0.050	100	0.050	0.050	100	0	26-175	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Project Name: 900 S. Central Avenue

Work Order #: 394946

Lab Batch ID: 829655

Date Analyzed: 10/29/2010

Reporting Units: mg/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 394946-001 S

Date Prepared: 10/27/2010

Batch #: 1 Matrix: Water

Analyst: DAE

SVOAs by SW-846 8270C											
Analytes											
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
2-Nitroaniline	<0.020	0.050	0.054	108	0.050	0.055	110	2	65-135	25	
3-Nitroaniline	<0.020	0.050	0.053	106	0.050	0.054	108	2	65-135	25	
4-Nitroaniline	<0.020	0.050	0.055	110	0.050	0.056	112	2	65-135	25	
Nitrobenzene	<0.010	0.050	0.050	100	0.050	0.050	100	0	65-135	25	
2-Nitrophenol	<0.010	0.050	0.051	102	0.050	0.050	100	2	65-135	25	
4-Nitrophenol	<0.010	0.050	0.054	108	0.050	0.053	106	2	10-80	50	(X)
N-Nitrosodi-n-Propylamine	<0.010	0.050	0.047	94	0.050	0.048	96	2	22-134	38	
N-Nitrosodiphenylamine	<0.010	0.050	0.056	112	0.050	0.056	112	0	2-196	25	
Pentachlorophenol	<0.010	0.050	0.067	134	0.050	0.065	130	3	17-117	50	(X)
Phenanthrene	<0.010	0.050	0.054	108	0.050	0.054	108	0	65-135	25	
Phenol	<0.010	0.050	0.014	28	0.050	0.014	28	0	12-110	25	
Pyrene	<0.010	0.050	0.058	116	0.050	0.057	114	2	23-152	31	
Pyridine	<0.020	0.050	0.018	36	0.050	0.015	30	18	16-86	28	
2,4,5-Trichlorophenol	<0.010	0.050	0.070	140	0.050	0.069	138	1	65-135	25	(X)
2,4,6-Trichlorophenol	<0.010	0.050	0.061	122	0.050	0.060	120	2	65-135	25	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times [(C-F)/(C+F)]$
ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Work Order #: 394946

Lab Batch ID: 829449

Date Analyzed: 10/27/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 394946-001 S

Batch #: 1 Matrix: Water

Date Prepared: 10/27/2010

Analyst: EZB

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
VOAs by SW-846 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample		Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
				%R [D]	[E]						
Acetone	<100	100	92.4	92	100	97.8	98	6	60-140	21	
Benzene	<5.00	50.0	49.6	99	50.0	50.1	100	1	66-142	21	
Bromobenzene	<5.00	50.0	49.7	99	50.0	50.4	101	1	75-125	20	
Bromochloromethane	<5.00	50.0	49.0	98	50.0	49.7	99	1	73-125	20	
Bromodichloromethane	<5.00	50.0	49.6	99	50.0	50.0	100	1	75-125	20	
Bromoform	<5.00	50.0	46.3	93	50.0	49.9	100	7	75-125	20	
Bromomethane	<5.00	50.0	51.0	102	50.0	49.9	100	2	70-130	20	
2-Butanone	<50.0	100	89.1	89	100	93.6	94	5	60-140	20	
MTBE	2.66	50.0	50.7	96	50.0	51.2	97	1	65-135	20	
n-Butylbenzene	<5.00	50.0	49.8	100	50.0	49.5	99	1	75-125	20	
Sec-Butylbenzene	<5.00	50.0	51.1	102	50.0	51.1	102	0	75-125	20	
tert-Butylbenzene	<5.00	50.0	52.2	104	50.0	52.8	106	1	75-125	20	
Carbon Disulfide	<50.0	50.0	50.6	101	50.0	50.7	101	0	60-140	20	
Carbon Tetrachloride	<5.00	50.0	50.7	101	50.0	51.0	102	1	62-125	20	
Chlorobenzene	<5.00	50.0	48.9	98	50.0	49.8	100	2	60-133	21	
Chloroethane	<10.0	50.0	51.1	102	50.0	51.2	102	0	70-130	20	
Chloroform	<5.00	50.0	51.2	102	50.0	52.1	104	2	74-125	20	
Chloromethane	<10.0	50.0	51.3	103	50.0	50.2	100	2	70-130	20	
2-Chlorotoluene	<5.00	50.0	49.5	99	50.0	50.6	101	2	73-125	20	
4-Chlorotoluene	<5.00	50.0	49.5	99	50.0	49.8	100	1	74-125	20	
p-Cymene (p-Isopropyltoluene)	<5.00	50.0	50.2	100	50.0	50.4	101	0	75-125	20	
Dibromochloromethane	<5.00	50.0	50.3	101	50.0	52.3	105	4	73-125	20	
1,2-Dibromo-3-Chloropropane	<5.00	50.0	42.2	84	50.0	46.7	93	10	59-125	28	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Work Order #: 394946

Lab Batch ID: 829449

Date Analyzed: 10/27/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 394946-001 S

Date Prepared: 10/27/2010

Batch #: 1 Matrix: Water

Analyst: EZB

VOAs by SW-846 8260B		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Dibromomethane		<5.00	50.0	48.4	97	50.0	49.9	100	3	69-127	23	
1,2-Dichlorobenzene		<5.00	50.0	49.5	99	50.0	49.7	99	0	75-125	20	
1,3-Dichlorobenzene		<5.00	50.0	49.6	99	50.0	50.0	100	1	75-125	20	
1,4-Dichlorobenzene		<5.00	50.0	49.3	99	50.0	49.5	99	0	75-125	20	
Dichlorodifluoromethane		<5.00	50.0	50.6	101	50.0	48.2	96	5	70-130	23	
1,1-Dichloroethane		<5.00	50.0	52.2	104	50.0	51.5	103	1	72-125	20	
1,2-Dichloroethane		<5.00	50.0	49.8	100	50.0	50.5	101	1	68-127	20	
1,1-Dichloroethene		<5.00	50.0	51.1	102	50.0	51.5	103	1	59-172	22	
cis-1,2-Dichloroethene		<5.00	50.0	50.7	101	50.0	50.5	101	0	75-125	20	
trans-1,2-dichloroethene		<5.00	50.0	51.6	103	50.0	51.6	103	0	75-125	20	
1,2-Dichloropropane		<5.00	50.0	49.8	100	50.0	49.5	99	1	74-125	20	
1,3-Dichloropropane		<5.00	50.0	47.9	96	50.0	50.6	101	5	75-125	20	
2,2-Dichloropropane		<5.00	50.0	51.2	102	50.0	50.4	101	2	75-125	20	
1,1-Dichloropropene		<5.00	50.0	50.7	101	50.0	50.9	102	0	75-125	20	
cis-1,3-Dichloropropene		<5.00	50.0	49.2	98	50.0	49.6	99	1	74-125	20	
trans-1,3-dichloropropene		<5.00	50.0	47.6	95	50.0	47.1	94	1	66-125	20	
Ethylbenzene		<5.00	50.0	48.5	97	50.0	49.7	99	2	75-125	20	
Hexachlorobutadiene		<5.00	50.0	48.0	96	50.0	48.6	97	1	75-125	20	
isopropylbenzene		<5.00	50.0	51.3	103	50.0	52.1	104	2	75-125	20	
Methylene Chloride		<5.00	50.0	50.9	102	50.0	50.4	101	1	75-125	35	
n-Propylbenzene		<5.00	50.0	50.6	101	50.0	50.9	102	1	75-125	20	
Styrene		<5.00	50.0	48.4	97	50.0	48.4	97	0	75-125	51	
1,1,1,2-Tetrachloroethane		<5.00	50.0	49.4	99	50.0	51.4	103	4	72-125	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*(C-F)/(C+F)

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



Form 3 - MS / MSD Recoveries

Project Name: 900 S. Central Avenue



Work Order #: 394946

Lab Batch ID: 829449

Date Analyzed: 10/27/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC-Sample ID: 394946-001 S

Date Prepared: 10/27/2010

Batch #: 1 Matrix: Water

Analyst: EZB

VOAs by SW-846 8260B Analytes		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
1,1,2,2-Tetrachloroethane		<5.00	50.0	46.8	94	50.0	49.3	99	5	74-125	31	
Tetrachloroethylene		<5.00	50.0	49.9	100	50.0	50.9	102	2	71-125	20	
Toluene		<5.00	50.0	49.2	98	50.0	48.8	98	1	59-139	21	
1,2,3-Trichlorobenzene		<5.00	50.0	43.4	87	50.0	44.7	89	3	75-137	20	
1,2,4-Trichlorobenzene		<5.00	50.0	45.5	91	50.0	46.3	93	2	75-135	20	
1,1,1-Trichloroethane		<5.00	50.0	52.0	104	50.0	52.2	104	0	75-125	20	
1,1,2-Trichloroethane		<5.00	50.0	47.4	95	50.0	48.6	97	3	75-127	20	
Trichloroethene		<5.00	50.0	51.0	102	50.0	50.6	101	1	62-137	24	
Trichlorofluoromethane		<5.00	50.0	52.5	105	50.0	52.5	105	0	67-125	20	
1,2,3-Trichloropropane		<5.00	50.0	45.8	92	50.0	47.6	95	4	75-125	20	
1,2,4-Trimethylbenzene		<5.00	50.0	50.3	101	50.0	50.2	100	0	75-125	20	
1,3,5-Trimethylbenzene		<5.00	50.0	51.0	102	50.0	50.9	102	0	70-125	20	
o-Xylene		<5.00	50.0	48.9	98	50.0	49.5	99	1	75-125	20	
m,p-Xylenes		<10.0	100	96.3	96	100	97.4	97	1	75-125	20	
Vinyl Acetate		<50.0	100	98.6	99	100	98.8	99	0	60-140	20	
Vinyl Chloride		<2.00	50.0	50.4	101	50.0	49.2	98	2	75-125	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$

Relative Percent Difference $RPD = 200 \times [(C-F)/(C+F)]$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

Applicable N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$



Prelogin/Nonconformance Report- Sample Log-In

Client: URS

Date/ Time Received: 10/27/10

WO ID #: 394946

Initials of Sample Receipt Person: _____

Checklist completed by, date/time: JL

Checklist reviewed by, date/time: ML

Acceptable Temperature Range: 0-6° C

Acceptable pH Range(s):

<2 for samples preserved with HNO₃, HCL, H₂SO₄

>10 for samples preserved with NaAsO₂+NaOH, ZnAc+NaOH

Temperature Measuring device used: R-29 IR

Sample Receipt Checklist

Cooler Number: <u>12071</u>	Weight of Cooler: <u>46</u>
#1 *Temperature of cooler(s)?	<u>10.1</u> °C
#2 *Shipping container in good condition?	<u>YES</u> No None
#3 *Samples received on ice?	<u>YES</u> No N/A Blue/Water
#4 *Custody Seals intact on shipping container/ cooler?	<u>YES</u> No N/A
#5 Custody Seals intact on sample bottles/ container?	<u>Yes</u> <u>NO</u> N/A
#6 *Custody Seals Signed and dated for Containers/coolers	<u>YES</u> No N/A
#7 *Chain of Custody present?	<u>YES</u> No
#8 Sample instructions complete on Chain of Custody?	<u>YES</u> No
#9 Any missing/extra samples?	<u>Yes</u> <u>NO</u>
#10 Chain of Custody signed when relinquished/ received?	<u>YES</u> No
#11 Chain of Custody agrees with sample label(s)?	<u>YES</u> No
#12 Container label(s) legible and intact?	<u>YES</u> No
#13 Sample matrix/ properties agree with Chain of Custody?	<u>YES</u> No
#14 Samples in proper container/ bottle?	<u>YES</u> No
#15 Samples properly preserved?	<u>YES</u> No N/A See Notes below
#16 Sample container(s) intact?	<u>YES</u> No
#17 Sufficient sample amount for indicated test(s)?	<u>YES</u> No
#18 All samples received within hold time?	<u>YES</u> No
#19 Subcontract of sample(s)?	<u>Yes</u> <u>NO</u>
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	<u>YES</u> No N/A

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Notes on pH check: _____

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

URS

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

Signature: _____

Date: _____

[Handwritten Signature]
10/10/10

Roxana Groundwater Profiling Data Review

Laboratory SDG: 395267

Reviewer: Elizabeth Kunkel

Date Reviewed: 12/2/2010

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

Sample Identification	Sample Identification
GWP-25-103.85	GWP-25-81
GWP-25-68	GWP-25-68D
TB102810	

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 one SVOC LCS/LCSD recovery and one SVOC LCS/LCSD RPD were outside evaluation criteria. Additionally, methylene chloride was detected in the trip blank. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated that samples were received by the laboratory at a temperature of 1.3°C, which is below the 4°C ± 2°C criteria. The 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
TB102810	VOCs	Methylene chloride	13.3 µg/L

Qualifications due to blank contamination are included in the table below. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
GWP-25-103.85	VOCs	Methylene chloride	6.87	U
GWP-25-81	VOCs	Methylene chloride	7.35	U
GWP-25-68	VOCs	Methylene chloride	7.55	U
GWP-25-68D	VOCs	Methylene chloride	6.84	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
577467-1-BKS	SVOCs	4-Nitrophenol	100/96	4	10-80/50
577467-1-BKS	SVOCs	Pentachlorophenol	38/68	57	17-117/50

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 samples are not qualified on RPD alone and LCS/LCSD recoveries were within evaluation criteria for pentachlorophenol. No qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

No

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
GWP-25-68	GWP-25-68D

Were field duplicates within evaluation criteria?

Yes

10.0 Sample Dilutions

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

Not applicable; samples analyzed did not require dilution.

11.0 Additional Qualifications

Were additional qualifications applied?

No

Analytical Report 395267

for

URS Corporation-St. Louis

Project Manager: Wendy Pennington

900 S. Central Avenue

Roxana-Route 111/21562291.00006

02-NOV-10



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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

Reviewed
on
12/2/2010

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AAL11), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)

Xenco-Boca Raton (EPA Lab Code: FL01273):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



02-NOV-10

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

Reference: XENCO Report No: **395267**
900 S. Central Avenue
Project Address: Roxana, IL

Wendy Pennington:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 395267. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 395267 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Carlos Castro

Managing Director, Texas

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Sample Cross Reference 395267



URS Corporation-St. Louis, St. Louis, MO
900 S. Central Avenue

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
GWP-25-103.85 ✓	W	Oct-28-10 15:35		395267-001
GWP-25-81 ✓	W	Oct-28-10 11:30		395267-002
GWP-25-68 ✓	W	Oct-28-10 17:45		395267-003
GWP-25-68D ✓	W	Oct-28-10 17:45		395267-004
TB102810 ✓	W	Oct-28-10 00:00		395267-005



CASE NARRATIVE

Client Name: URS Corporation-St. Louis
Project Name: 900 S. Central Avenue



Project ID: Roxana-Route 111/215622
Work Order Number: 395267

Report Date: 02-NOV-10
Date Received: 10/29/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-830083 SVOAs by SW-846 8270C
SW8270C

Batch 830083, Pentachlorophenol RPD was outside laboratory control limits.
Samples affected are: 395267-004, -001, -002, -003

SW8270C

Batch 830083, 4-Nitrophenol recovered above QC limits in the Blank Spike and Duplicate.
Samples affected are: 395267-004, -001, -002, -003.



Certificate of Analysis Summary 395267

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

Project Name: 900 S. Central Avenue

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL



Date Received in Lab: Fri Oct-29-10 09:00 am

Report Date: 02-NOV-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	395267-001	395267-002	395267-003	395267-004	395267-005
	Field Id:	GWP-25-103.85	GWP-25-81	GWP-25-68	GWP-25-68D	TB102810
	Depth:					
	Matrix:	WATER	WATER	WATER	WATER	WATER
	Sampled:	Oct-28-10 15:35	Oct-28-10 11:30	Oct-28-10 17:45	Oct-28-10 17:45	Oct-28-10 00:00
SVOAs by SW-846 8270C	Extracted:	Oct-29-10 16:33	Oct-29-10 16:36	Oct-29-10 16:39	Oct-29-10 16:42	
	Analyzed:	Nov-02-10 12:21	Nov-02-10 12:45	Nov-02-10 13:08	Nov-02-10 13:31	
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL	
	Acenaphthene	U 0.010	U 0.010	U 0.010	U 0.009	
	Acenaphthylene	U 0.010	U 0.010	U 0.010	U 0.009	
	Aniline (Phenylamine, Aminobenzene)	U 0.019	U 0.019	U 0.019	U 0.019	
	Anthracene	U 0.010	U 0.010	U 0.010	U 0.009	
	Benzo(a)anthracene	U 0.010	U 0.010	U 0.010	U 0.009	
	Benzo(a)pyrene	U 0.010	U 0.010	U 0.010	U 0.009	
	Benzo(b)fluoranthene	U 0.010	U 0.010	U 0.010	U 0.009	
	Benzo(k)fluoranthene	U 0.010	U 0.010	U 0.010	U 0.009	
	Benzo(g,h,i)perylene	U 0.010	U 0.010	U 0.010	U 0.009	
	Benzoic Acid	U 0.048	U 0.048	U 0.048	U 0.047	
	Benzyl Butyl Phthalate	U 0.010	U 0.010	U 0.010	U 0.009	
	bis(2-chloroethoxy) methane	U 0.010	U 0.010	U 0.010	U 0.009	
	bis(2-chloroethyl) ether	U 0.010	U 0.010	U 0.010	U 0.009	
	bis(2-chloroisopropyl) ether	U 0.010	U 0.010	U 0.010	U 0.009	
	bis(2-ethylhexyl) phthalate	U 0.010	U 0.010	U 0.010	U 0.009	
	4-Bromophenyl-phenylether	U 0.010	U 0.010	U 0.010	U 0.009	
	4-chloro-3-methylphenol	U 0.010	U 0.010	U 0.010	U 0.009	
	4-Chloroaniline	U 0.019	U 0.019	U 0.019	U 0.019	
	2-Chloronaphthalene	U 0.010	U 0.010	U 0.010	U 0.009	
	2-Chlorophenol	U 0.010	U 0.010	U 0.010	U 0.009	
	4-Chlorophenyl Phenyl Ether	U 0.010	U 0.010	U 0.010	U 0.009	
	Chrysene	U 0.010	U 0.010	U 0.010	U 0.009	
	Dibenz(a,h)anthracene	U 0.010	U 0.010	U 0.010	U 0.009	
	Dibenzofuran	U 0.010	U 0.010	U 0.010	U 0.009	
	di-n-Butyl Phthalate	U 0.010	U 0.010	U 0.010	U 0.009	

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 395267

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

Project Name: 900 S. Central Avenue

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL

Date Received in Lab: Fri Oct-29-10 09:00 am

Report Date: 02-NOV-10

Project Manager: Debbie Simmons



Analysis Requested	Lab Id:	395267-001	395267-002	395267-003	395267-004	395267-005
	Field Id:	GWP-25-103.85	GWP-25-81	GWP-25-68	GWP-25-68D	TB102810
	Depth:					
	Matrix:	WATER	WATER	WATER	WATER	WATER
	Sampled:	Oct-28-10 15:35	Oct-28-10 11:30	Oct-28-10 17:45	Oct-28-10 17:45	Oct-28-10 00:00
SVOAs by SW-846 8270C	Extracted:	Oct-29-10 16:33	Oct-29-10 16:36	Oct-29-10 16:39	Oct-29-10 16:42	
	Analyzed:	Nov-02-10 12:21	Nov-02-10 12:45	Nov-02-10 13:08	Nov-02-10 13:31	
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL	
3,3-Dichlorobenzidine		U 0.010	U 0.010	U 0.010	U 0.009	
2,4-Dichlorophenol		U 0.010	U 0.010	U 0.010	U 0.009	
Diethyl Phthalate		U 0.010	U 0.010	U 0.010	U 0.009	
Dimethyl Phthalate		U 0.010	U 0.010	U 0.010	U 0.009	
2,4-Dimethylphenol		U 0.010	U 0.010	U 0.010	U 0.009	
4,6-dinitro-2-methyl phenol		U 0.010	U 0.010	U 0.010	U 0.009	
2,4-Dinitrophenol		U 0.019	U 0.019	U 0.019	U 0.019	
2,4-Dinitrotoluene		U 0.010	U 0.010	U 0.010	U 0.009	
2,6-Dinitrotoluene		U 0.010	U 0.010	U 0.010	U 0.009	
di-n-Octyl Phthalate		U 0.010	U 0.010	U 0.010	U 0.009	
Fluoranthene		U 0.010	U 0.010	U 0.010	U 0.009	
Fluorene		U 0.010	U 0.010	U 0.010	U 0.009	
Hexachlorobenzene		U 0.010	U 0.010	U 0.010	U 0.009	
Hexachlorocyclopentadiene		U 0.010	U 0.010	U 0.010	U 0.009	
Hexachloroethane		U 0.010	U 0.010	U 0.010	U 0.009	
Indeno(1,2,3-c,d)Pyrene		U 0.010	U 0.010	U 0.010	U 0.009	
Isophorone		U 0.010	U 0.010	U 0.010	U 0.009	
2-Methylnaphthalene		U 0.010	U 0.010	U 0.010	U 0.009	
2-methylphenol		U 0.010	U 0.010	U 0.010	U 0.009	
3&4-Methylphenol		U 0.010	U 0.010	U 0.010	U 0.009	
Naphthalene		U 0.010	U 0.010	U 0.010	U 0.009	
2-Nitroaniline		U 0.019	U 0.019	U 0.019	U 0.019	
3-Nitroaniline		U 0.019	U 0.019	U 0.019	U 0.019	
4-Nitroaniline		U 0.019	U 0.019	U 0.019	U 0.019	
Nitrobenzene		U 0.010	U 0.010	U 0.010	U 0.009	

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 395267

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

Project Name: 900 S. Central Avenue

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL

Date Received in Lab: Fri Oct-29-10 09:00 am

Report Date: 02-NOV-10

Project Manager: Debbie Simmons



Analysis Requested	Lab Id:	395267-001	395267-002	395267-003	395267-004	395267-005
	Field Id:	GWP-25-103.85	GWP-25-81	GWP-25-68	GWP-25-68D	TB102810
Depth:						
Matrix:		WATER	WATER	WATER	WATER	WATER
Sampled:		Oct-28-10 15:35	Oct-28-10 11:30	Oct-28-10 17:45	Oct-28-10 17:45	Oct-28-10 00:00
Extracted:		Oct-29-10 16:33	Oct-29-10 16:36	Oct-29-10 16:39	Oct-29-10 16:42	
Analyzed:		Nov-02-10 12:21	Nov-02-10 12:45	Nov-02-10 13:08	Nov-02-10 13:31	
Units/RL:		mg/L RL	mg/L RL	mg/L RL	mg/L RL	
2-Nitrophenol		U 0.010	U 0.010	U 0.010	U 0.009	
4-Nitrophenol		U 0.010	U 0.010	U 0.010	U 0.009	
N-Nitrosodi-n-Propylamine		U 0.010	U 0.010	U 0.010	U 0.009	
N-Nitrosodiphenylamine		U 0.010	U 0.010	U 0.010	U 0.009	
Pentachlorophenol		U 0.010	U 0.010	U 0.010	U 0.009	
Phenanthrene		U 0.010	U 0.010	U 0.010	U 0.009	
Phenol		U 0.010	U 0.010	U 0.010	U 0.009	
Pyrene		U 0.010	U 0.010	U 0.010	U 0.009	
Pyridine		U 0.019	U 0.019	U 0.019	U 0.019	
2,4,5-Trichlorophenol		U 0.010	U 0.010	U 0.010	U 0.009	
2,4,6-Trichlorophenol		U 0.010	U 0.010	U 0.010	U 0.009	

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Carlos Castro
Managing Director, Texas

Certificate of Analysis Summary 395267

URS Corporation-St. Louis, St. Louis, MO
Project Name: 900 S. Central Avenue



Project Id: Roxana-Route 111/21562291.00006
Contact: Wendy Pennington
Project Location: Roxana, IL

Date Received in Lab: Fri Oct-29-10 09:00 am
Report Date: 02-NOV-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	395267-001	395267-002	395267-003	395267-004	395267-005
	Field Id:	GWP-25-103.85	GWP-25-81	GWP-25-68	GWP-25-68D	TB102810
	Depth:					
	Matrix:	WATER	WATER	WATER	WATER	WATER
	Sampled:	Oct-28-10 15:35	Oct-28-10 11:30	Oct-28-10 17:45	Oct-28-10 17:45	Oct-28-10 00:00
VOAs by SW-846 8260B	Extracted:	Oct-29-10 13:02	Oct-29-10 13:04	Oct-29-10 13:06	Oct-29-10 13:08	Oct-29-10 13:00
	Analyzed:	Oct-29-10 15:56	Oct-29-10 16:19	Oct-29-10 16:41	Oct-29-10 17:05	Oct-29-10 13:40
	Units/RL:	ug/L RL	ug/L RL	ug/L RL	ug/L RL	ug/L RL
		U 100	U 100	U 100	U 100	U 100
Acetone		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Benzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Bromobenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Bromochloromethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Bromodichloromethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Bromoform		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Bromomethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
2-Butanone		U 50.0	U 50.0	U 50.0	U 50.0	U 50.0
MTBE		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
n-Butylbenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Sec-Butylbenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
tert-Butylbenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Carbon Disulfide		U 50.0	U 50.0	U 50.0	U 50.0	U 50.0
Carbon Tetrachloride		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Chlorobenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Chloroethane		U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
Chloroform		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Chloromethane		U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
2-Chlorotoluene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
4-Chlorotoluene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
p-Cymene (p-Isopropyltoluene)		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Dibromochloromethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
1,2-Dibromo-3-Chloropropane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Dibromomethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
1,2-Dichlorobenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 395267

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

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL



Date Received in Lab: Fri Oct-29-10 09:00 am

Report Date: 02-NOV-10

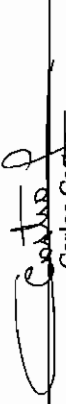
Project Manager: Debbie Simmons

Project Name: 900 S. Central Avenue

Analysis Requested		Lab Id:	395267-001	395267-002	395267-003	395267-004	395267-005
Field Id:	GWP-25-103.85	GWP-25-81	GWP-25-68	GWP-25-68D	TB102810		
Depth:							
Matrix:	WATER	WATER	WATER	WATER	WATER		
Sampled:	Oct-28-10 15:35	Oct-28-10 11:30	Oct-28-10 17:45	Oct-28-10 17:45	Oct-28-10 00:00		
Extracted:	Oct-29-10 13:02	Oct-29-10 13:04	Oct-29-10 13:06	Oct-29-10 13:08	Oct-29-10 13:00		
Analyzed:	Oct-29-10 15:56	Oct-29-10 16:19	Oct-29-10 16:41	Oct-29-10 17:05	Oct-29-10 13:40		
Units/RL:	ug/L RL	ug/L RL	ug/L RL	ug/L RL	ug/L RL		
1,3-Dichlorobenzene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
1,4-Dichlorobenzene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
Dichlorodifluoromethane	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
1,1-Dichloroethane	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
1,2-Dichloroethane	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
1,1-Dichloroethene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
cis-1,2-Dichloroethene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
trans-1,2-dichloroethene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
1,2-Dichloropropane	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
1,3-Dichloropropane	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
2,2-Dichloropropane	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
1,1-Dichloropropene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
cis-1,3-Dichloropropene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
trans-1,3-dichloropropene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
Ethylbenzene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
Hexachlorobutadiene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
Isopropylbenzene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
Methylene Chloride	5.00 ND 6.87 U 5.00	6.87 U 5.00	6.35 U 5.00	6.55 U 5.00	6.84 U 5.00		
n-Propylbenzene	5.00 ND 6.87 U 5.00	6.87 U 5.00	6.35 U 5.00	6.55 U 5.00	6.84 U 5.00		
Styrene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
1,1,1,2-Tetrachloroethane	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
1,1,2,2-Tetrachloroethane	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
Tetrachloroethylene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
Toluene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		
1,2,3-Trichlorobenzene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00		

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

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi


Carlos Castro

Managing Director, Texas



Certificate of Analysis Summary 395267

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

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL

Project Name: 900 S. Central Avenue

Date Received in Lab: Fri Oct-29-10 09:00 am

Report Date: 02-NOV-10

Project Manager: Debbie Simmons



Analysis Requested	Lab Id:	395267-001	395267-002	395267-003	395267-004	395267-005
	Field Id:	GWP-25-103.85	GWP-25-81	GWP-25-68	GWP-25-68D	TB102810
	Depth:					
	Matrix:	WATER	WATER	WATER	WATER	WATER
	Sampled:	Oct-28-10 15:35	Oct-28-10 11:30	Oct-28-10 17:45	Oct-28-10 17:45	Oct-28-10 00:00
VOAs by SW-846 8260B	Extracted:	Oct-29-10 13:02	Oct-29-10 13:04	Oct-29-10 13:06	Oct-29-10 13:08	Oct-29-10 13:00
	Analyzed:	Oct-29-10 15:56	Oct-29-10 16:19	Oct-29-10 16:41	Oct-29-10 17:05	Oct-29-10 13:40
	Units/RL:	ug/L RL	ug/L RL	ug/L RL	ug/L RL	ug/L RL
	1,2,4-Trichlorobenzene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	1,1,1-Trichloroethane	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	1,1,2-Trichloroethane	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Trichloroethene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Trichlorofluoromethane	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	1,2,3-Trichloropropane	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	1,2,4-Trimethylbenzene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	1,3,5-Trimethylbenzene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	o-Xylene	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	m,p-Xylenes	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
	Vinyl Acetate	U 50.0	U 50.0	U 50.0	U 50.0	U 50.0
	Vinyl Chloride	U 2.00	U 2.00	U 2.00	U 2.00	U 2.00

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

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Carlos Castro
Managing Director, Texas



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : VOAs by SW-846 8260B

Client : URS Corporation-St. Louis

Work Order #: 395267

Project ID: Roxana-Route 111/21562291

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
GWP-25-68	Oct. 28, 2010	Oct. 29, 2010				Oct.29, 2010	14	1	P
GWP-25-81	Oct. 28, 2010	Oct. 29, 2010				Oct.29, 2010	14	1	P
GWP-25-68D	Oct. 28, 2010	Oct. 29, 2010				Oct.29, 2010	14	1	P
TB102810	Oct. 28, 2010	Oct. 29, 2010				Oct.29, 2010	14	1	P
GWP-25-103.85	Oct. 28, 2010	Oct. 29, 2010				Oct.29, 2010	14	1	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : SVOAs by SW-846 8270C

Client : URS Corporation-St. Louis

Work Order #: 395267

Project ID: Roxana-Route 111/21562291.

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
GWP-25-81	Oct. 28, 2010	Oct. 29, 2010	Oct. 29, 2010	7	1	Nov.2, 2010	40	4	P
GWP-25-68D	Oct. 28, 2010	Oct. 29, 2010	Oct. 29, 2010	7	1	Nov.2, 2010	40	4	P
GWP-25-103.85	Oct. 28, 2010	Oct. 29, 2010	Oct. 29, 2010	7	1	Nov.2, 2010	40	4	P
GWP-25-68	Oct. 28, 2010	Oct. 29, 2010	Oct. 29, 2010	7	1	Nov.2, 2010	40	4	P

F = These samples were analyzed outside the recommended holding time.

P = Samples analyzed within the recommended holding time.

Flagging Criteria

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

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 395267,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 830083

Sample: 577467-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/02/10 11:10

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.030	0.050	60	43-116	
2-Fluorophenol	0.033	0.050	66	21-100	
Nitrobenzene-d5	0.029	0.050	58	35-114	
Phenol-d6	0.024	0.050	48	10-94	
Terphenyl-D14	0.032	0.050	64	33-141	
2,4,6-Tribromophenol	0.049	0.050	98	10-123	

Lab Batch #: 830083

Sample: 577467-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/02/10 11:34

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.032	0.050	64	43-116	
2-Fluorophenol	0.038	0.050	76	21-100	
Nitrobenzene-d5	0.031	0.050	62	35-114	
Phenol-d6	0.022	0.050	44	10-94	
Terphenyl-D14	0.035	0.050	70	33-141	
2,4,6-Tribromophenol	0.061	0.050	122	10-123	

Lab Batch #: 830083

Sample: 577467-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/02/10 11:57

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.030	0.050	60	43-116	
2-Fluorophenol	0.033	0.050	66	21-100	
Nitrobenzene-d5	0.029	0.050	58	35-114	
Phenol-d6	0.026	0.050	52	10-94	
Terphenyl-D14	0.032	0.050	64	33-141	
2,4,6-Tribromophenol	0.056	0.050	112	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 395267,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 830083

Sample: 395267-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/02/10 12:21

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.028	0.048	58	43-116	
2-Fluorophenol	0.019	0.048	40	21-100	
Nitrobenzene-d5	0.026	0.048	54	35-114	
Phenol-d6	0.011	0.048	23	10-94	
Terphenyl-D14	0.032	0.048	67	33-141	
2,4,6-Tribromophenol	0.052	0.048	108	10-123	

Lab Batch #: 830083

Sample: 395267-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/02/10 12:45

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.027	0.048	56	43-116	
2-Fluorophenol	0.021	0.048	44	21-100	
Nitrobenzene-d5	0.025	0.048	52	35-114	
Phenol-d6	0.010	0.048	21	10-94	
Terphenyl-D14	0.031	0.048	65	33-141	
2,4,6-Tribromophenol	0.047	0.048	98	10-123	

Lab Batch #: 830083

Sample: 395267-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/02/10 13:08

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.028	0.048	58	43-116	
2-Fluorophenol	0.022	0.048	46	21-100	
Nitrobenzene-d5	0.026	0.048	54	35-114	
Phenol-d6	0.011	0.048	23	10-94	
Terphenyl-D14	0.032	0.048	67	33-141	
2,4,6-Tribromophenol	0.049	0.048	102	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 395267,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 830083

Sample: 395267-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/02/10 13:31

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.029	0.047	62	43-116	
2-Fluorophenol	0.025	0.047	53	21-100	
Nitrobenzene-d5	0.027	0.047	57	35-114	
Phenol-d6	0.013	0.047	28	10-94	
Terphenyl-D14	0.033	0.047	70	33-141	
2,4,6-Tribromophenol	0.050	0.047	106	10-123	

Lab Batch #: 829894

Sample: 577531-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/10 09:45

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0506	0.0500	101	74-124	
Dibromofluoromethane	0.0509	0.0500	102	75-131	
1,2-Dichloroethane-D4	0.0503	0.0500	101	63-144	
Toluene-D8	0.0494	0.0500	99	80-117	

Lab Batch #: 829894

Sample: 577531-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/10 10:30

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0484	0.0500	97	74-124	
Dibromofluoromethane	0.0519	0.0500	104	75-131	
1,2-Dichloroethane-D4	0.0501	0.0500	100	63-144	
Toluene-D8	0.0501	0.0500	100	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 395267,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 829894

Sample: 394689-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/10 12:32

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0509	0.0500	102	74-124	
Dibromofluoromethane	0.0495	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0489	0.0500	98	63-144	
Toluene-D8	0.0497	0.0500	99	80-117	

Lab Batch #: 829894

Sample: 394689-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/10 12:55

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0513	0.0500	103	74-124	
Dibromofluoromethane	0.0501	0.0500	100	75-131	
1,2-Dichloroethane-D4	0.0500	0.0500	100	63-144	
Toluene-D8	0.0499	0.0500	100	80-117	

Lab Batch #: 829894

Sample: 395267-005 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/10 13:40

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0493	0.0500	99	74-124	
Dibromofluoromethane	0.0501	0.0500	100	75-131	
1,2-Dichloroethane-D4	0.0503	0.0500	101	63-144	
Toluene-D8	0.0493	0.0500	99	80-117	

Lab Batch #: 829894

Sample: 395267-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/10 15:56

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0483	0.0500	97	74-124	
Dibromofluoromethane	0.0504	0.0500	101	75-131	
1,2-Dichloroethane-D4	0.0510	0.0500	102	63-144	
Toluene-D8	0.0503	0.0500	101	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \cdot A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 395267,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 829894

Sample: 395267-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/10 16:19

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0482	0.0500	96	74-124	
Dibromofluoromethane	0.0494	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0486	0.0500	97	63-144	
Toluene-D8	0.0501	0.0500	100	80-117	

Lab Batch #: 829894

Sample: 395267-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/10 16:41

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0492	0.0500	98	74-124	
Dibromofluoromethane	0.0497	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0506	0.0500	101	63-144	
Toluene-D8	0.0504	0.0500	101	80-117	

Lab Batch #: 829894

Sample: 395267-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 10/29/10 17:05

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0494	0.0500	99	74-124	
Dibromofluoromethane	0.0502	0.0500	100	75-131	
1,2-Dichloroethane-D4	0.0480	0.0500	96	63-144	
Toluene-D8	0.0498	0.0500	100	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \cdot A / B$

All results are based on MDL and validated for QC purposes.

Project Name: 900 S. Central Avenue

Work Order #: 395267

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 829894

Sample: 577531-1-BKS

Matrix: Water

Date Analyzed: 10/29/2010

Date Prepared: 10/29/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK/BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Acetone	<20.0	100	101	101	60-140	
Benzene	<1.00	50.0	44.8	90	66-142	
Bromobenzene	<1.00	50.0	47.3	95	75-125	
Bromochloromethane	<1.00	50.0	49.7	99	73-125	
Bromodichloromethane	<1.00	50.0	48.5	97	75-125	
Bromoform	<1.00	50.0	51.0	102	75-125	
Bromomethane	<1.00	50.0	45.6	91	70-130	
2-Butanone	<10.0	100	99.1	99	60-140	
MTBE	<1.00	50.0	47.6	95	65-135	
n-Butylbenzene	<1.00	50.0	42.0	84	75-125	
Sec-Butylbenzene	<1.00	50.0	43.7	87	75-125	
tert-Butylbenzene	<1.00	50.0	45.2	90	75-125	
Carbon Disulfide	<10.0	50.0	48.5	97	60-140	
Carbon Tetrachloride	<1.00	50.0	43.3	87	62-125	
Chlorobenzene	<1.00	50.0	46.1	92	60-133	
Chloroethane	<2.00	50.0	44.0	88	70-130	
Chloroform	<1.00	50.0	49.4	99	74-125	
Chloromethane	<2.00	50.0	49.3	99	70-130	
2-Chlorotoluene	<1.00	50.0	46.9	94	73-125	
4-Chlorotoluene	<1.00	50.0	44.5	89	74-125	
p-Cymene (p-Isopropyltoluene)	<1.00	50.0	44.5	89	75-125	
Dibromochloromethane	<1.00	50.0	50.9	102	73-125	
1,2-Dibromo-3-Chloropropane	<1.00	50.0	51.9	104	59-125	
Dibromomethane	<1.00	50.0	51.3	103	69-127	
1,2-Dichlorobenzene	<1.00	50.0	46.7	93	75-125	
1,3-Dichlorobenzene	<1.00	50.0	46.7	93	75-125	
1,4-Dichlorobenzene	<1.00	50.0	45.5	91	75-125	
Dichlorodifluoromethane	<1.00	50.0	47.4	95	70-130	
1,1-Dichloroethane	<1.00	50.0	51.3	103	72-125	
1,2-Dichloroethane	<1.00	50.0	49.4	99	68-127	
1,1-Dichloroethene	<1.00	50.0	44.6	89	59-172	
cis-1,2-Dichloroethene	<1.00	50.0	48.7	97	75-125	
trans-1,2-dichloroethene	<1.00	50.0	46.5	93	75-125	

Blank Spike Recovery [D] = $100 \times [C] / [B]$

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit



Blank Spike Recovery



Project Name: 900 S. Central Avenue

Work Order #: 395267

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 829894

Sample: 577531-1-BKS

Matrix: Water

Date Analyzed: 10/29/2010

Date Prepared: 10/29/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,2-Dichloropropane	<1.00	50.0	50.4	101	74-125	
1,3-Dichloropropane	<1.00	50.0	49.8	100	75-125	
2,2-Dichloropropane	<1.00	50.0	44.8	90	75-125	
1,1-Dichloropropene	<1.00	50.0	38.1	76	75-125	
cis-1,3-Dichloropropene	<1.00	50.0	50.2	100	74-125	
trans-1,3-dichloropropene	<1.00	50.0	48.4	97	66-125	
Ethylbenzene	<1.00	50.0	44.3	89	75-125	
Hexachlorobutadiene	<1.00	50.0	41.0	82	75-125	
isopropylbenzene	<1.00	50.0	43.0	86	75-125	
Methylene Chloride	<1.00	50.0	51.6	103	75-125	
n-Propylbenzene	<1.00	50.0	44.2	88	75-125	
Styrene	<1.00	50.0	46.4	93	75-125	
1,1,1,2-Tetrachloroethane	<1.00	50.0	47.0	94	72-125	
1,1,2,2-Tetrachloroethane	<1.00	50.0	49.8	100	74-125	
Tetrachloroethylene	<1.00	50.0	44.9	90	71-125	
Toluene	<1.00	50.0	44.5	89	59-139	
1,2,3-Trichlorobenzene	<1.00	50.0	43.9	88	75-137	
1,2,4-Trichlorobenzene	<1.00	50.0	44.0	88	75-135	
1,1,1-Trichloroethane	<1.00	50.0	45.6	91	75-125	
1,1,2-Trichloroethane	<1.00	50.0	49.8	100	75-127	
Trichloroethene	<1.00	50.0	46.3	93	62-137	
Trichlorofluoromethane	<1.00	50.0	48.2	96	67-125	
1,2,3-Trichloropropane	<1.00	50.0	51.4	103	75-125	
1,2,4-Trimethylbenzene	<1.00	50.0	44.8	90	75-125	
1,3,5-Trimethylbenzene	<1.00	50.0	45.0	90	70-125	
o-Xylene	<1.00	50.0	46.0	92	75-125	
m,p-Xylenes	<2.00	100	86.5	87	75-125	
Vinyl Acetate	<10.0	100	106	106	60-140	
Vinyl Chloride	<0.400	50.0	46.4	93	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 S. Central Avenue

Work Order #: 395267

Analyst: DAE

Lab Batch ID: 830083

Sample: 577467-1-BKS

Date Prepared: 10/29/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 11/02/2010

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
SVOAs by SW-846 8270C	Analyses										
	Acenaphthene	<0.001	0.050	0.051	102	0.05	0.049	98	4	27-132	31
	Acenaphthylene	<0.003	0.050	0.052	104	0.05	0.049	98	6	46-108	25
	Aniline (Phenylamines, Aminobenzene)	<0.001	0.050	0.041	82	0.05	0.040	80	2	5-115	25
	Anthracene	<0.001	0.050	0.054	108	0.05	0.052	104	4	47-145	25
	Benzo(a)anthracene	<0.001	0.050	0.057	114	0.05	0.054	108	5	33-143	25
	Benzo(a)pyrene	<0.001	0.050	0.059	118	0.05	0.057	114	3	65-135	25
	Benzo(b)fluoranthene	<0.001	0.050	0.057	114	0.05	0.055	110	4	24-159	25
	Benzo(k)fluoranthene	<0.001	0.050	0.059	118	0.05	0.059	118	0	25-125	25
	Benzo(g,h,i)perylene	<0.001	0.050	0.059	118	0.05	0.056	112	5	65-135	25
	Benzoic Acid	<0.012	0.150	0.171	114	0.15	0.128	85	29	30-115	40
	Benzyl Butyl Phthalate	<0.001	0.050	0.055	110	0.05	0.053	106	4	65-135	25
	bis(2-chloroethoxy) methane	<0.001	0.050	0.045	90	0.05	0.043	86	5	54-188	25
	bis(2-chloroethyl) ether	<0.001	0.050	0.047	94	0.05	0.045	90	4	65-135	25
	bis(2-chloroisopropyl) ether	<0.001	0.050	0.043	86	0.05	0.041	82	5	65-135	25
	bis(2-ethylhexyl) phthalate	<0.001	0.050	0.056	112	0.05	0.054	108	4	8-158	25
4-Bromophenyl-phenylether	<0.001	0.050	0.060	120	0.05	0.056	112	7	65-135	25	
4-chloro-3-methylphenol	<0.001	0.050	0.053	106	0.05	0.050	100	6	16-129	33	
4-Chloroaniline	<0.004	0.050	0.051	102	0.05	0.049	98	4	9-128	25	
2-Chloronaphthalene	<0.003	0.050	0.050	100	0.05	0.048	96	4	65-135	25	
2-Chlorophenol	<0.002	0.050	0.050	100	0.05	0.047	94	6	16-116	40	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C/B)$
Blank Spike Duplicate Recovery [G] = $100 * (F/E)$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 395267

Analyst: DAE

Lab Batch ID: 830083

Sample: 577467-1-BKS

Units: mg/L

Date Prepared: 10/29/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 11/02/2010

Matrix: Water

SVOAs by SW-846 8270C											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
4-Chlorophenyl Phenyl Ether	<0.001	0.050	0.053	106	0.05	0.051	102	4	65-135	25	
Chrysene	<0.001	0.050	0.057	114	0.05	0.054	108	5	65-135	25	
Dibenz(a,h)anthracene	<0.001	0.050	0.059	118	0.05	0.058	116	2	50-125	25	
Dibenzofuran	<0.003	0.050	0.053	106	0.05	0.050	100	6	52-125	25	
di-n-Butyl Phthalate	<0.001	0.050	0.057	114	0.05	0.055	110	4	49-135	50	
3,3-Dichlorobenzidine	<0.003	0.050	0.053	106	0.05	0.049	98	8	12-147	25	
2,4-Dichlorophenol	<0.001	0.050	0.056	112	0.05	0.053	106	6	65-135	25	
Diethyl Phthalate	<0.001	0.050	0.055	110	0.05	0.052	104	6	37-125	50	
Dimethyl Phthalate	<0.001	0.050	0.053	106	0.05	0.052	104	2	25-175	50	
2,4-Dimethylphenol	<0.003	0.050	0.051	102	0.05	0.048	96	6	32-119	25	
4,6-dinitro-2-methyl phenol	<0.003	0.050	0.052	104	0.05	0.050	100	4	2-181	25	
2,4-Dinitrophenol	<0.002	0.050	0.058	116	0.05	0.054	108	7	65-135	25	
2,4-Dinitrotoluene	<0.003	0.050	0.057	114	0.05	0.054	108	5	22-135	38	
2,6-Dinitrotoluene	<0.001	0.050	0.055	110	0.05	0.052	104	6	49-122	38	
di-n-Octyl Phthalate	<0.001	0.050	0.057	114	0.05	0.056	112	2	43-134	50	
Fluoranthene	<0.001	0.050	0.058	116	0.05	0.056	112	4	47-125	25	
Fluorene	<0.001	0.050	0.053	106	0.05	0.050	100	6	48-139	25	
Hexachlorobenzene	<0.001	0.050	0.056	112	0.05	0.054	108	4	46-133	25	
Hexachlorocyclopentadiene	<0.003	0.050	0.034	68	0.05	0.032	64	6	41-125	25	
Hexachloroethane	<0.003	0.050	0.047	94	0.05	0.045	90	4	25-153	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C/B)$
Blank Spike Duplicate Recovery [G] = $100 * (F/E)$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 395267

Analyst: DAE

Lab Batch ID: 830083

Sample: 577467-1-BKS

Date Prepared: 10/29/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 11/02/2010

Matrix: Water

Units: mg/L

SVOAs by SW-846 8270C											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Indeno(1,2,3-c,d)Pyrene	<0.001	0.050	0.058	116	0.05	0.058	116	0	27-160	25	
Isophorone	<0.001	0.050	0.050	100	0.05	0.047	94	6	26-175	25	
2-Methylnaphthalene	<0.003	0.050	0.060	120	0.05	0.054	108	11	25-175	25	
2-methylphenol	<0.003	0.050	0.050	100	0.05	0.047	94	6	14-176	25	
3&4-Methylphenol	<0.002	0.100	0.047	47	0.1	0.039	39	19	14-176	25	
Naphthalene	<0.002	0.050	0.050	100	0.05	0.047	94	6	26-175	25	
2-Nitroaniline	<0.001	0.050	0.050	100	0.05	0.048	96	4	65-135	25	
3-Nitroaniline	<0.006	0.050	0.054	108	0.05	0.051	102	6	65-135	25	
4-Nitroaniline	<0.004	0.050	0.053	106	0.05	0.051	102	4	65-135	25	
Nitrobenzene	<0.001	0.050	0.046	92	0.05	0.041	82	11	65-135	25	
2-Nitrophenol	<0.001	0.050	0.053	106	0.05	0.049	98	8	65-135	25	
4-Nitrophenol	<0.001	0.050	0.050	100	0.05	0.048	96	4	10-80	50	(H)
N-Nitrosodi-n-Propylamine	<0.001	0.050	0.046	92	0.05	0.043	86	7	22-134	38	
N-Nitrosodiphenylamine	<0.003	0.050	0.054	108	0.05	0.051	102	6	2-196	25	
Pentachlorophenol	<0.003	0.050	0.019	38	0.05	0.034	68	57	17-117	50	(F)
Phenanthrene	<0.001	0.050	0.054	108	0.05	0.052	104	4	65-135	25	
Phenol	<0.001	0.050	0.030	60	0.05	0.027	54	11	12-110	25	
Pyrene	<0.001	0.050	0.055	110	0.05	0.053	106	4	23-152	31	
Pyridine	<0.006	0.050	0.025	50	0.05	0.020	40	22	16-86	28	
2,4,5-Trichlorophenol	<0.001	0.050	0.065	130	0.05	0.063	126	3	65-135	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+E)]$
Blank Spike Recovery [D] = $100 * (C)/(B)$
Blank Spike Duplicate Recovery [G] = $100 * (F)/(E)$
All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: 900 S. Central Avenue

Work Order #: 395267

Analyst: DAE

Lab Batch ID: 830083

Sample: 577467-1-BKS

Units: mg/L

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 11/02/2010

Matrix: Water

Date Prepared: 10/29/2010

Batch #: 1

SVOAs by SW-846 8270C		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
2,4,6-Trichlorophenol		<0.002	0.050	0.057	114	0.05	0.056	112	2	65-135	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C/[B])$
Blank Spike Duplicate Recovery [G] = $100 * (F/[E])$
All results are based on MDL and Validated for QC Purposes

Work Order #: 395267

Lab Batch ID: 829894

Date Analyzed: 10/29/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 394689-001 S

Date Prepared: 10/29/2010

Batch #: 1

Analyst: EZB

Matrix: Water

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: ug/L	VOAs by SW-846 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Acetone	<100	100	93.9	94	100	99.9	100	6	60-140	21	
	Benzene	1.89	50.0	48.6	93	50.0	50.6	97	4	66-142	21	
	Bromobenzene	<5.00	50.0	49.1	98	50.0	51.8	104	5	75-125	20	
	Bromochloromethane	<5.00	50.0	49.5	99	50.0	52.1	104	5	73-125	20	
	Bromodichloromethane	<5.00	50.0	48.5	97	50.0	50.6	101	4	75-125	20	
	Bromoform	<5.00	50.0	47.1	94	50.0	48.8	98	4	75-125	20	
	Bromomethane	<5.00	50.0	47.4	95	50.0	46.9	94	1	70-130	20	
	2-Butanone	<50.0	100	88.6	89	100	99.1	99	11	60-140	20	
	MTBE	<5.00	50.0	46.4	93	50.0	49.4	99	6	65-135	20	
	n-Butylbenzene	2.03	50.0	48.2	92	50.0	48.9	94	1	75-125	20	
	Sec-Butylbenzene	1.85	50.0	49.8	96	50.0	51.1	99	3	75-125	20	
	tert-Butylbenzene	<5.00	50.0	51.4	103	50.0	52.7	105	2	75-125	20	
	Carbon Disulfide	12.6	50.0	62.1	99	50.0	65.4	106	5	60-140	20	
	Carbon Tetrachloride	<5.00	50.0	44.7	89	50.0	46.7	93	4	62-125	20	
	Chlorobenzene	4.09	50.0	52.8	97	50.0	53.4	99	1	60-133	21	
	Chloroethane	<10.0	50.0	47.7	95	50.0	46.8	94	2	70-130	20	
	Chloroform	<5.00	50.0	50.6	101	50.0	52.1	104	3	74-125	20	
	Chloromethane	<10.0	50.0	50.3	101	50.0	49.4	99	2	70-130	20	
	2-Chlorotoluene	<5.00	50.0	49.6	99	50.0	50.9	102	3	73-125	20	
	4-Chlorotoluene	<5.00	50.0	48.0	96	50.0	49.1	98	2	74-125	20	
	p-Cymene (p-Isopropyltoluene)	2.04	50.0	49.1	94	50.0	50.2	96	2	75-125	20	
	Dibromochloromethane	<5.00	50.0	49.9	100	50.0	51.1	102	2	73-125	20	
	1,2-Dibromo-3-Chloropropane	<5.00	50.0	48.7	97	50.0	52.5	105	8	59-125	28	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*[(C-F)/(C+F)]

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Work Order #: 395267

Lab Batch ID: 829894

Date Analyzed: 10/29/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 394689-001 S

Date Prepared: 10/29/2010

Batch #: 1 Matrix: Water

Analyst: EZB

VOAs by SW-846 8260B		Analytes										Control Limits %RPD	Flag
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD			
Dibromomethane	<5.00	50.0	51.0	102	50.0	54.1	108	6	69-127	23			
1,2-Dichlorobenzene	2.76	50.0	50.1	95	50.0	51.4	97	3	75-125	20			
1,3-Dichlorobenzene	3.00	50.0	51.7	97	50.0	52.4	99	1	75-125	20			
1,4-Dichlorobenzene	3.15	50.0	50.4	95	50.0	51.5	97	2	75-125	20			
Dichlorodifluoromethane	<5.00	50.0	51.4	103	50.0	51.0	102	1	70-130	23			
1,1-Dichloroethane	<5.00	50.0	52.4	105	50.0	54.8	110	4	72-125	20			
1,2-Dichloroethane	<5.00	50.0	49.3	99	50.0	50.7	101	3	68-127	20			
1,1-Dichloroethene	<5.00	50.0	46.9	94	50.0	49.7	99	6	59-172	22			
cis-1,2-Dichloroethene	<5.00	50.0	50.2	100	50.0	52.1	104	4	75-125	20			
trans-1,2-dichloroethene	<5.00	50.0	47.8	96	50.0	50.1	100	5	75-125	20			
1,2-Dichloropropane	<5.00	50.0	50.8	102	50.0	52.2	104	3	74-125	20			
1,3-Dichloropropane	<5.00	50.0	49.5	99	50.0	51.1	102	3	75-125	20			
2,2-Dichloropropane	<5.00	50.0	46.7	93	50.0	48.8	98	4	75-125	20			
1,1-Dichloropropene	<5.00	50.0	40.4	81	50.0	41.9	84	4	75-125	20			
cis-1,3-Dichloropropene	<5.00	50.0	50.2	100	50.0	52.8	106	5	74-125	20			
trans-1,3-dichloropropene	<5.00	50.0	46.9	94	50.0	50.6	101	8	66-125	20			
Ethylbenzene	10.8	50.0	48.7	76	50.0	48.7	76	0	75-125	20			
Hexachlorobutadiene	<5.00	50.0	42.5	85	50.0	43.7	87	3	75-125	20			
isopropylbenzene	2.15	50.0	49.7	95	50.0	50.8	97	2	75-125	20			
Methylene Chloride	4.57	50.0	53.4	98	50.0	56.1	103	5	75-125	35			
n-Propylbenzene	4.52	50.0	53.9	99	50.0	54.0	99	0	75-125	20			
Styrene	<5.00	50.0	44.2	88	50.0	46.4	93	5	75-125	51			
1,1,1,2-Tetrachloroethane	<5.00	50.0	48.6	97	50.0	49.1	98	1	72-125	20			

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times [(C-F)/(C+F)]$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQ = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Work Order #: 395267

Lab Batch ID: 829894

Date Analyzed: 10/29/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 394689-001 S

Date Prepared: 10/29/2010

Batch #: 1 Matrix: Water

Analyst: EZB

VOAs by SW-846 8260B											
Analytes											
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
1,1,2,2-Tetrachloroethane	<5.00	50.0	50.1	100	50.0	52.5	105	5	74-125	31	
Tetrachloroethylene	5.88	50.0	54.8	98	50.0	55.3	99	1	71-125	20	
Toluene	1.28	50.0	47.8	93	50.0	49.2	96	3	59-139	21	
1,2,3-Trichlorobenzene	<5.00	50.0	41.2	82	50.0	42.8	86	4	75-137	20	
1,2,4-Trichlorobenzene	<5.00	50.0	43.0	86	50.0	43.8	88	2	75-135	20	
1,1,1-Trichloroethane	<5.00	50.0	47.0	94	50.0	49.3	99	5	75-125	20	
1,1,2-Trichloroethane	<5.00	50.0	50.5	101	50.0	53.1	106	5	75-127	20	
Trichloroethene	<5.00	50.0	49.3	99	50.0	50.6	101	3	62-137	24	
Trichlorofluoromethane	<5.00	50.0	53.3	107	50.0	52.7	105	1	67-125	20	
1,2,3-Trichloropropane	<5.00	50.0	48.5	97	50.0	51.2	102	5	75-125	20	
1,2,4-Trimethylbenzene	41.5	50.0	88.4	94	50.0	88.3	94	0	75-125	20	
1,3,5-Trimethylbenzene	8.93	50.0	54.6	91	50.0	56.7	96	4	70-125	20	
o-Xylene	4.20	50.0	52.9	97	50.0	53.2	98	1	75-125	20	
m,p-Xylenes	13.7	100	106	92	100	107	93	1	75-125	20	
Vinyl Acetate	<50.0	100	95.3	95	100	100	100	5	60-140	20	
Vinyl Chloride	<2.00	50.0	49.1	98	50.0	48.3	97	2	75-125	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times [(C-F)/(C+F)]$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$



Prelogin/Nonconformance Report- Sample Log-In

Client: URS

Date/ Time Received: 10/29/10

WO ID #: 395267

Initials of Sample Receipt Person: _____

Checklist completed by, date/time: JC

Checklist reviewed by, date/time: MLI

Acceptable Temperature Range: 0-6° C

Acceptable pH Range(s):

<2 for samples preserved with HNO₃, HCL, H₂SO₄

>10 for samples preserved with NaAsO₂+NaOH, ZnAc+NaOH

Temperature Measuring device used: R29

Sample Receipt Checklist

Cooler Number: 26611 / /

Weight of Cooler: 55 / /
1.3 / / °C

#1 *Temperature of cooler(s)?	<u>YES</u>	No	None	
#2 *Shipping container in good condition?	<u>YES</u>	No	N/A	<u>Blue/Water</u>
#3 *Samples received on ice?	<u>YES</u>	No	N/A	
#4 *Custody Seals Intact on shipping container/ cooler?	<u>YES</u>	No	N/A	
#5 Custody Seals intact on sample bottles/ container?	<u>YES</u>	No	N/A	
#6 *Custody Seals Signed and dated for Containers/coolers	<u>YES</u>	No	N/A	
#7 *Chain of Custody present?	<u>YES</u>	No		
#8 Sample Instructions complete on Chain of Custody?	<u>YES</u>	No		
#9 Any missing/extra samples?	<u>Yes</u>	<u>NO</u>		
#10 Chain of Custody signed when relinquished/ received?	<u>YES</u>	No		
#11 Chain of Custody agrees with sample label(s)?	<u>YES</u>	No		
#12 Container label(s) legible and intact?	<u>YES</u>	No		
#13 Sample matrix/ properties agree with Chain of Custody?	<u>YES</u>	No		
#14 Samples in proper container/ bottle?	<u>YES</u>	No		
#15 Samples properly preserved?	<u>YES</u>	No	N/A	<u>See Notes below</u>
#16 Sample container(s) intact?	<u>YES</u>	No		
#17 Sufficient sample amount for indicated test(s)?	<u>YES</u>	No		
#18 All samples received within hold time?	<u>YES</u>	No		
#19 Subcontract of sample(s)?	<u>Yes</u>	<u>NO</u>		
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	<u>YES</u>	No	N/A	

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Notes on pH check: _____

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

FedEx® US Airbill
Express

8731 2046 4508

1 From This portion can be removed for Recipient's records

Date 10/18/10 FedEx Tracking Number 873120464508

Sender's Name W. Pennington Phone 314 439 1100

Company W.F.S. Corp

Address 1001 Highlands Pkwy NW Ste 300

City Atlanta State GA Zip 30310

2 Your Internal Billing Reference

3 To Recipient's Name Sample Billing Phone 281 240-4200

Company XENCO LABORATORIES INC

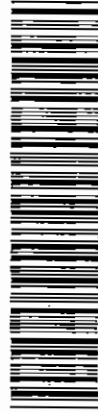
Address 1413 GREENBRIAR DR

We cannot deliver to P.O. boxes or F.D. ZIP codes.

Address STAFFORD

City STAFFORD State TX Zip 77477

0423009527



8731 2046 4508

Recipient's Copy

4a Express Package Service *To most locations. Packages up to 150 lbs.

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☐ FedEx 2Day ☐ FedEx Express Saver ☐ FedEx Home Delivery

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5 Packaging ☐ Envelope* ☐ FedEx Pak* ☐ FedEx Box* ☒ FedEx Tube* ☐ Other

6 Special Handling and Delivery Signature Options

☐ Signature Required ☐ Direct Signature ☐ Indirect Signature

☐ No Signature Required ☐ Signature Required ☐ Signature Required

Does this shipment contain dangerous goods? ☒ No ☐ Yes

7 Payment Bill to: ☐ Sender ☒ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

Total Packages 1 Total Weight 56 lbs.

Your liability is limited to \$100 unless you declare a higher value. See the current FedEx Service Guide for details.

605



URS Corporation
1001 Highlands Plaza Drive West
Suite 300
St Louis, MO 63110

Signature: _____

Date: _____

[Handwritten Signature]
10/28/10

Roxana Groundwater Profiling Data Review

Laboratory SDG: 395411

Reviewer: Elizabeth Kunkel

Date Reviewed: 12/7/2010

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

Sample Identification	Sample Identification
GWP-27-28.5	GWP-27-28.5EB
GWP-27-36.5	TB102910

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 methylene chloride was detected in the method blank. SVOC LCS/LCSD recoveries and LCS/LCSD RPDs were outside evaluation criteria. Samples GWP-27-28.5 and GWP-27-36.5 contained high levels of the non-target analyte, isopropyl alcohol. Additionally, the compound bis(2-ethylhexyl) phthalate was detected in the equipment blank and method blank. The compound methylene chloride was detected in the trip blank. These issues are addressed further in the appropriate sections below.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

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

Yes

Blank ID	Parameter	Analyte	Concentration/Amount
GWP-27-28.5EB	SVOCs	bis(2-ethylhexyl) phthalate	0.004 mg/L
TB102910	VOCs	Methylene chloride	3.24 µg/L
57786-1-BKS	VOCs	Methylene chloride	4.67 µg/L
577544-1-BKS	SVOCs	bis(2-ethylhexyl) phthalate	0.001 mg/L

Qualifications due to blank contamination are included in the table below. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
GWP-27-28.5	SVOCs	bis(2-ethylhexyl) phthalate	-	U
GWP-27-36.5	SVOCs	bis(2-ethylhexyl) phthalate	-	U

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
577544-1-BKS	SVOCs	Aniline	62/28	76	5-115/25
577544-1-BKS	SVOCs	Benzoic acid	113/123	8	30-115/40
577544-1-BKS	SVOCs	4-Chloroaniline	84/52	47	9-128/25
577544-1-BKS	SVOCs	3,3-Dichlorobenzidine	78/20	118	12-147/25
577544-1-BKS	SVOCs	4-Nitrophenol	90/82	9	10-80/50
577544-1-BKS	SVOCs	Pyridine	26/12	74	16-86/28

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.

Sample ID	Parameter	Analyte	Qualification
GWP-27-28.5	SVOCs	Pyridine	UJ
GWP-27-36.5	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 GWP-27-36.5 was spiked and analyzed for VOCs.

Were MS/MSD recoveries within evaluation criteria?

Yes

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

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

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

Yes, professional judgment was used to qualify the common laboratory contaminant acetone reported at concentrations less than two times (2X) the reporting limit (RL).

Sample ID	Analyte	Qualification	New Reporting Limit (RL)	Comment
GWP-27-36.5	Acetone	U	-	Professional Judgment

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

Sample ID	Analyte	Qualification	New Reporting Limit (RL)	Comment
GWP-27-28.5	Acetone	U	256	Professional Judgment

Analytical Report 395411

for

URS Corporation-St. Louis

Project Manager: Wendy Pennington

900 S Central Avenue

Roxana-Route 111/21562291.00006

03-NOV-10



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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

Reviewed
on
12/6/2010

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LA000312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AAL11), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)

Xenco-Boca Raton (EPA Lab Code: FL01273):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



03-NOV-10

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

Reference: XENCO Report No: **395411**
900 S Central Avenue
Project Address: Roxana, IL 62084

Wendy Pennington:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 395411. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 395411 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Carlos Castro

Managing Director, Texas

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Sample Cross Reference 395411



URS Corporation-St. Louis, St. Louis, MO
900 S Central Avenue

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
GWP-27-28.5 /	W	Oct-29-10 14:15		395411-001
GWP-27-28.5EB /	W	Oct-29-10 14:30		395411-002
GWP-27-36.5 /	W	Oct-29-10 15:50		395411-003
TB102910 /	W	Oct-29-10 00:00		395411-004



CASE NARRATIVE

Client Name: URS Corporation-St. Louis

Project Name: 900 S Central Avenue



Project ID: Roxana-Route 111/215622
Work Order Number: 395411

Report Date: 03-NOV-10
Date Received: 10/30/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-830272 TCLP SVOCs by EPA 8270C

3,3-Dichlorobenzidine, 4-Chloroaniline, Aniline (Phenylamine, Aminobenzene), Pyridine RPD was outside laboratory control limits.

Samples affected are: 395411-001, -003, -002

Pyridine recovered below QC limits in the Blank Spike Duplicate but was passing in the Blank Spike. 4-Nitrophenol recovered above QC limits in the Blank Spike and Blank Spike Duplicate. Benzoic Acid recovered above QC limits in the Blank Spike Duplicate.

Samples affected are: 395411-001, -003, -002.

4-Nitrophenol, Benzoic Acid, Pentachlorophenol recovered above QC limits in the Matrix Spike.

Samples affected are: 395411-001, -003, -002.

The Laboratory Control Sample for Benzoic Acid, Pentachlorophenol is within laboratory Control Limits

Batch: LBA-830346 VOAs by SW-846 8260B

Methylene Chloride detected in the blank below the RL but above the MDL; possible laboratory contamination.

Samples affected are: 395411-004, -002.

Bromomethane, Chloromethane, Vinyl Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Carbon Disulfide, trans-1,2-dichloroethene recovered below QC limits in the Matrix Spike Duplicate.

Samples affected are: 395411-004, -002.

The Laboratory Control Sample for Bromomethane, Carbon Disulfide, Chloromethane, trans-1,2-dichloroethene, Vinyl Chloride is within laboratory Control Limits

Batch: LBA-830354 VOAs by SW-846 8260B

Note: Both samples 395411-001 and 395411-003 have high concentrations of Isopropyl alcohol.



Certificate of Analysis Summary 395411

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

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084



Date Received in Lab: Sat Oct-30-10 09:30 am

Report Date: 03-NOV-10

Project Manager: Debbie Simmons

Analysis Requested		Lab Id: Field Id: Depth: Matrix: Sampled:	395411-001 GWP-27-28.5 WATER Oct-29-10 14:15 mg/L RL	395411-002 GWP-27-28.5EB WATER Oct-29-10 14:30 mg/L RL	395411-003 GWP-27-36.5 WATER Oct-29-10 15:50 mg/L RL	395411-004 TB102910 WATER Oct-29-10 00:00
SVOAs by SW-846 8270C		Extracted: Analyzed: Units/RL:	Nov-01-10 09:06 Nov-02-10 23:08 mg/L RL	Nov-01-10 09:09 Nov-02-10 23:32 mg/L RL	Nov-01-10 09:12 Nov-02-10 23:55 mg/L RL	
Acenaphthene			U 0.011	U 0.009	U 0.010	
Acenaphthylene			U 0.011	U 0.009	U 0.010	
Aniline (Phenylamine, Aminobenzene)			U 0.021	U 0.019	U 0.021	
Anthracene			U 0.011	U 0.009	U 0.010	
Benzo(a)anthracene			U 0.011	U 0.009	U 0.010	
Benzo(a)pyrene			U 0.011	U 0.009	U 0.010	
Benzo(b)fluoranthene			U 0.011	U 0.009	U 0.010	
Benzo(k)fluoranthene			U 0.011	U 0.009	U 0.010	
Benzo(g,h,i)perylene			U 0.011	U 0.009	U 0.010	
Benzoic Acid			U 0.053	U 0.047	U 0.052	
Benzyl Butyl Phthalate			U 0.011	U 0.009	U 0.010	
bis(2-chloroethoxy) methane			U 0.011	U 0.009	U 0.010	
bis(2-chloroethyl) ether			U 0.011	U 0.009	U 0.010	
bis(2-chloroisopropyl) ether			U 0.011	U 0.009	U 0.010	
bis(2-ethylhexyl) phthalate			ND 0.007 U 0.011	0.009 U 0.009	ND 0.003 U 0.010	
4-Bromophenyl-phenylether			U 0.011	U 0.009	U 0.010	
4-chloro-3-methylphenol			U 0.011	U 0.009	U 0.010	
4-Chloroaniline			U 0.021	U 0.019	U 0.021	
2-Chloronaphthalene			U 0.011	U 0.009	U 0.010	
2-Chlorophenol			U 0.011	U 0.009	U 0.010	
4-Chlorophenyl Phenyl Ether			U 0.011	U 0.009	U 0.010	
Chrysene			U 0.011	U 0.009	U 0.010	
Dibenz(a,h)anthracene			U 0.011	U 0.009	U 0.010	
Dibenzofuran			U 0.011	U 0.009	U 0.010	
di-n-Butyl Phthalate			U 0.011	U 0.009	U 0.010	

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

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Carlos Castro

Managing Director, Texas



Certificate of Analysis Summary 395411

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

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084



Date Received in Lab: Sat Oct-30-10 09:30 am

Report Date: 03-NOV-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	395411-001	395411-002	395411-003	395411-004	
	Field Id:	GWP-27-28.5	GWP-27-28.5EB	GWP-27-36.5	TB102910	
	Depth:					
	Matrix:	WATER	WATER	WATER	WATER	
	Sampled:	Oct-29-10 14:15	Oct-29-10 14:30	Oct-29-10 15:50	Oct-29-10 00:00	
SVOAs by SW-846 8270C	Extracted:	Nov-01-10 09:06	Nov-01-10 09:09	Nov-01-10 09:12		
	Analyzed:	Nov-02-10 23:08	Nov-02-10 23:32	Nov-02-10 23:55		
	Units/RL:	mg/L RL	mg/L RL	mg/L RL		
		U 0.011	U 0.009	U 0.010		
	3,3-Dichlorobenzidine					
	2,4-Dichlorophenol	U 0.011	U 0.009	U 0.010		
	Diethyl Phthalate	U 0.011	U 0.009	U 0.010		
	Dimethyl Phthalate	U 0.011	U 0.009	U 0.010		
	2,4-Dimethylphenol	U 0.011	U 0.009	U 0.010		
	4,6-dinitro-2-methyl phenol	U 0.011	U 0.009	U 0.010		
	2,4-Dinitrophenol	U 0.021	U 0.019	U 0.021		
	2,4-Dinitrotoluene	U 0.011	U 0.009	U 0.010		
	2,6-Dinitrotoluene	U 0.011	U 0.009	U 0.010		
	di-n-Octyl Phthalate	U 0.011	U 0.009	U 0.010		
	Fluoranthene	U 0.011	U 0.009	U 0.010		
	Fluorene	U 0.011	U 0.009	U 0.010		
	Hexachlorobenzene	U 0.011	U 0.009	U 0.010		
	Hexachlorocyclopentadiene	U 0.011	U 0.009	U 0.010		
	Hexachloroethane	U 0.011	U 0.009	U 0.010		
	Indeno(1,2,3-c,d)Pyrene	U 0.011	U 0.009	U 0.010		
	Isophorone	U 0.011	U 0.009	U 0.010		
	2-Methylnaphthalene	U 0.011	U 0.009	U 0.010		
	2-methylphenol	U 0.011	U 0.009	U 0.010		
	3&4-Methylphenol	U 0.011	U 0.009	U 0.010		
	Naphthalene	U 0.011	U 0.009	U 0.010		
	2-Nitroaniline	U 0.021	U 0.019	U 0.021		
	3-Nitroaniline	U 0.021	U 0.019	U 0.021		
	4-Nitroaniline	U 0.021	U 0.019	U 0.021		
	Nitrobenzene	U 0.011	U 0.009	U 0.010		

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 395411

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



Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084

Project Name: 900 S Central Avenue

Date Received in Lab: Sat Oct-30-10 09:30 am

Report Date: 03-NOV-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	395411-001	395411-002	395411-003	395411-004	
	Field Id:	GWP-27-28.5	GWP-27-28.5EB	GWP-27-36.5	TB102910	
	Depth:					
	Matrix:	WATER	WATER	WATER	WATER	
	Sampled:	Oct-29-10 14:15	Oct-29-10 14:30	Oct-29-10 15:50	Oct-29-10 00:00	
SVOAs by SW-846 8270C	Extracted:	Nov-01-10 09:06	Nov-01-10 09:09	Nov-01-10 09:12		
	Analyzed:	Nov-02-10 23:08	Nov-02-10 23:32	Nov-02-10 23:55		
	Units/RL:	mg/L RL	mg/L RL	mg/L RL		
	2-Nitrophenol	U 0.011	U 0.009	U 0.010		
	4-Nitrophenol	U 0.011	U 0.009	U 0.010		
	N-Nitrosodi-n-Propylamine	U 0.011	U 0.009	U 0.010		
	N-Nitrosodiphenylamine	U 0.011	U 0.009	U 0.010		
	Pentachlorophenol	U 0.011	U 0.009	U 0.010		
	Phenanthrene	U 0.011	U 0.009	U 0.010		
	Phenol	U 0.011	U 0.009	U 0.010		
	Pyrene	U 0.011	U 0.009	U 0.010		
	Pyridine	U 0.011	U 0.009	U 0.021		
	2,4,5-Trichlorophenol	U 0.011	U 0.009	U 0.010		
	2,4,6-Trichlorophenol	U 0.011	U 0.009	U 0.010		

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 395411

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

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084

Project Name: 900 S Central Avenue

Date Received in Lab: Sat Oct-30-10 09:30 am

Report Date: 03-NOV-10

Project Manager: Debbie Simmons



Analysis Requested	Lab Id:	395411-001	395411-002	395411-003	395411-004
	Field Id:	GWP-27-28.5	GWP-27-28.5EB	GWP-27-36.5	TB102910
	Depth:				
	Matrix:	WATER	WATER	WATER	WATER
	Sampled:	Oct-29-10 14:15	Oct-29-10 14:30	Oct-29-10 15:50	Oct-29-10 00:00
VOAs by SW-846 8260B	Extracted:	Nov-03-10 10:02	Nov-02-10 11:02	Nov-03-10 10:00	Nov-02-10 11:00
	Analyzed:	Nov-03-10 11:27	Nov-02-10 13:22	Nov-03-10 11:01	Nov-02-10 12:55
	Units/RL:	ug/L RL 250 U 100	ug/L RL 100 U 100	ug/L RL 100 U 100	ug/L RL U 100
	Acetone	ND	ND	ND	U 5.00
	Benzene	U 5.00	U 5.00	U 5.00	U 5.00
	Bromobenzene	U 5.00	U 5.00	U 5.00	U 5.00
	Bromochloromethane	U 5.00	U 5.00	U 5.00	U 5.00
	Bromodichloromethane	U 5.00	U 5.00	U 5.00	U 5.00
	Bromoform	U 5.00	U 5.00	U 5.00	U 5.00
	Bromomethane	U 5.00	U 5.00	U 5.00	U 5.00
	2-Butanone	U 50.0	U 50.0	U 50.0	U 50.0
	MTBE	3.92 J 5.00	U 5.00	U 5.00	U 5.00
	n-Butylbenzene	U 5.00	U 5.00	U 5.00	U 5.00
	Sec-Butylbenzene	U 5.00	U 5.00	U 5.00	U 5.00
	tert-Butylbenzene	U 5.00	U 5.00	U 5.00	U 5.00
Carbon Disulfide	Carbon Disulfide	U 50.0	U 50.0	U 50.0	U 50.0
	Carbon Tetrachloride	U 5.00	U 5.00	U 5.00	U 5.00
	Chlorobenzene	U 5.00	U 5.00	U 5.00	U 5.00
	Chloroethane	U 10.0	U 10.0	U 10.0	U 10.0
	Chloroform	U 5.00	U 5.00	U 5.00	U 5.00
	Chloromethane	U 10.0	U 10.0	U 10.0	U 10.0
	2-Chlorotoluene	U 5.00	U 5.00	U 5.00	U 5.00
	4-Chlorotoluene	U 5.00	U 5.00	U 5.00	U 5.00
	p-Cymene (p-Isopropyltoluene)	U 5.00	U 5.00	U 5.00	U 5.00
	Dibromochloromethane	U 5.00	U 5.00	U 5.00	U 5.00
1,2-Dibromo-3-Chloropropane	1,2-Dibromo-3-Chloropropane	U 5.00	U 5.00	U 5.00	U 5.00
	Dibromomethane	U 5.00	U 5.00	U 5.00	U 5.00
1,2-Dichlorobenzene	1,2-Dichlorobenzene	U 5.00	U 5.00	U 5.00	U 5.00

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Carlos Castro
Managing Director, Texas

Certificate of Analysis Summary 395411

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

Project Name: 900 S Central Avenue

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084



Date Received in Lab: Sat Oct-30-10 09:30 am

Report Date: 03-NOV-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	395411-001	395411-002	395411-003	395411-004
	Field Id:	GWP-27-28.5	GWP-27-28.5EB	GWP-27-36.5	TB102910
	Depth:				
	Matrix:	WATER	WATER	WATER	WATER
	Sampled:	Oct-29-10 14:15	Oct-29-10 14:30	Oct-29-10 15:50	Oct-29-10 00:00
VOAs by SW-846 8260B	Extracted:	Nov-03-10 10:02	Nov-02-10 11:02	Nov-03-10 10:00	Nov-02-10 11:00
	Analyzed:	Nov-03-10 11:27	Nov-02-10 13:22	Nov-03-10 11:01	Nov-02-10 12:55
	Units/RL:	ug/L RL	ug/L RL	ug/L RL	ug/L RL
	1,3-Dichlorobenzene	U 5.00	U 5.00	U 5.00	U 5.00
	1,4-Dichlorobenzene	U 5.00	U 5.00	U 5.00	U 5.00
	Dichlorodifluoromethane	U 5.00	U 5.00	U 5.00	U 5.00
	1,1-Dichloroethane	U 5.00	U 5.00	U 5.00	U 5.00
	1,2-Dichloroethane	U 5.00	U 5.00	U 5.00	U 5.00
	1,1-Dichloroethene	U 5.00	U 5.00	U 5.00	U 5.00
	cis-1,2-Dichloroethene	U 5.00	U 5.00	U 5.00	U 5.00
	trans-1,2-dichloroethene	U 5.00	U 5.00	U 5.00	U 5.00
	1,2-Dichloropropane	U 5.00	U 5.00	U 5.00	U 5.00
	1,3-Dichloropropane	U 5.00	U 5.00	U 5.00	U 5.00
	2,2-Dichloropropane	U 5.00	U 5.00	U 5.00	U 5.00
	1,1-Dichloropropene	U 5.00	U 5.00	U 5.00	U 5.00
	cis-1,3-Dichloropropene	U 5.00	U 5.00	U 5.00	U 5.00
	trans-1,3-dichloropropene	U 5.00	U 5.00	U 5.00	U 5.00
	Ethylbenzene	U 5.00	U 5.00	U 5.00	U 5.00
	Hexachlorobutadiene	U 5.00	U 5.00	U 5.00	U 5.00
	isopropylbenzene	U 5.00	U 5.00	U 5.00	U 5.00
	Methylene Chloride	U 5.00	U 5.00	U 5.00	3.24 JB 5.00
	n-Propylbenzene	U 5.00	U 5.00	U 5.00	U 5.00
	Styrene	U 5.00	U 5.00	U 5.00	U 5.00
	1,1,1,2-Tetrachloroethane	U 5.00	U 5.00	U 5.00	U 5.00
	1,1,2,2-Tetrachloroethane	U 5.00	U 5.00	U 5.00	U 5.00
	Tetrachloroethylene	U 5.00	U 5.00	U 5.00	U 5.00
	Toluene	1.05 J 5.00	U 5.00	U 5.00	U 5.00
	1,2,3-Trichlorobenzene	U 5.00	U 5.00	U 5.00	U 5.00

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 Carlos Castro
 Managing Director, Texas



Certificate of Analysis Summary 395411

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

Project Id: Roxana-Route 111/21562291.00006

Contact: Wendy Pennington

Project Location: Roxana, IL 62084

Project Name: 900 S Central Avenue

Date Received in Lab: Sat Oct-30-10 09:30 am

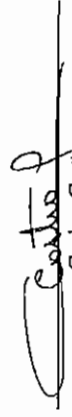
Report Date: 03-NOV-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	395411-001	395411-002	395411-003	395411-004
	Field Id:	GWP-27-28.5	GWP-27-28.5EB	GWP-27-36.5	TB102910
	Depth:				
	Matrix:	WATER	WATER	WATER	WATER
	Sampled:	Oct-29-10 14:15	Oct-29-10 14:30	Oct-29-10 15:50	Oct-29-10 00:00
VOAs by SW-846 8260B	Extracted:	Nov-03-10 10:02	Nov-02-10 11:02	Nov-03-10 10:00	Nov-02-10 11:00
	Analyzed:	Nov-03-10 11:27	Nov-02-10 13:22	Nov-03-10 11:01	Nov-02-10 12:55
	Units/RL:	ug/L RL	ug/L RL	ug/L RL	ug/L RL
	1,2,4-Trichlorobenzene	U 5.00	U 5.00	U 5.00	U 5.00
	1,1,1-Trichloroethane	U 5.00	U 5.00	U 5.00	U 5.00
	1,1,2-Trichloroethane	U 5.00	U 5.00	U 5.00	U 5.00
	Trichloroethene	U 5.00	U 5.00	U 5.00	U 5.00
	Trichlorofluoromethane	U 5.00	U 5.00	U 5.00	U 5.00
	1,2,3-Trichloropropane	U 5.00	U 5.00	U 5.00	U 5.00
	1,2,4-Trimethylbenzene	U 5.00	U 5.00	U 5.00	U 5.00
	1,3,5-Trimethylbenzene	U 5.00	U 5.00	U 5.00	U 5.00
	o-Xylene	U 5.00	U 5.00	U 5.00	U 5.00
	m,p-Xylenes	U 10.0	U 10.0	U 10.0	U 10.0
	Vinyl Acetate	U 50.0	U 50.0	U 50.0	U 50.0
	Vinyl Chloride	U 2.00	U 2.00	U 2.00	U 2.00

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Carlos Castro
Managing Director, Texas



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : VOAs by SW-846 8260B

Client : URS Corporation-St. Louis

Work Order #: 395411

Project ID: Roxana-Route 111/21562291

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
GWP-27-28.5EB	Oct. 29, 2010	Oct. 30, 2010				Nov.2, 2010	14	4	P
GWP-27-28.5	Oct. 29, 2010	Oct. 30, 2010				Nov.3, 2010	14	5	P
TB102910	Oct. 29, 2010	Oct. 30, 2010				Nov.2, 2010	14	4	P
GWP-27-36.5	Oct. 29, 2010	Oct. 30, 2010				Nov.3, 2010	14	5	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : SVOAs by SW-846 8270C

Client : URS Corporation-St. Louis

Work Order #: 395411

Project ID: Roxana-Route 111/21562291.

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
GWP-27-28.5	Oct. 29, 2010	Oct. 30, 2010	Nov. 1, 2010	7	3	Nov.2, 2010	40	1	P
GWP-27-36.5	Oct. 29, 2010	Oct. 30, 2010	Nov. 1, 2010	7	3	Nov.2, 2010	40	1	P
GWP-27-28.5EB	Oct. 29, 2010	Oct. 30, 2010	Nov. 1, 2010	7	3	Nov.2, 2010	40	1	P

F = These samples were analyzed outside the recommended holding time.

P = Samples analyzed within the recommended holding time.

Flagging Criteria

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

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
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12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



Form 2 - Surrogate Recoveries

Project Name: 900 S Central Avenue

Work Orders : 395411,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 830272

Sample: 577544-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/02/10 18:26

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.027	0.050	54	43-116	
2-Fluorophenol	0.026	0.050	52	21-100	
Nitrobenzene-d5	0.026	0.050	52	35-114	
Phenol-d6	0.014	0.050	28	10-94	
Terphenyl-D14	0.030	0.050	60	33-141	
2,4,6-Tribromophenol	0.048	0.050	96	10-123	

Lab Batch #: 830272

Sample: 577544-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/02/10 18:49

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.028	0.050	56	43-116	
2-Fluorophenol	0.032	0.050	64	21-100	
Nitrobenzene-d5	0.027	0.050	54	35-114	
Phenol-d6	0.023	0.050	46	10-94	
Terphenyl-D14	0.029	0.050	58	33-141	
2,4,6-Tribromophenol	0.054	0.050	108	10-123	

Lab Batch #: 830272

Sample: 577544-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/02/10 19:13

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.028	0.050	56	43-116	
2-Fluorophenol	0.031	0.050	62	21-100	
Nitrobenzene-d5	0.027	0.050	54	35-114	
Phenol-d6	0.023	0.050	46	10-94	
Terphenyl-D14	0.030	0.050	60	33-141	
2,4,6-Tribromophenol	0.056	0.050	112	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: 900 S Central Avenue

Work Orders : 395411,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 830272

Sample: 395023-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/L

Date Analyzed: 11/02/10 21:57

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.148	0.250	59	43-116	
2-Fluorophenol	0.194	0.250	78	21-100	
Nitrobenzene-d5	0.146	0.250	58	35-114	
Phenol-d6	0.175	0.250	70	10-94	
Terphenyl-D14	0.150	0.250	60	33-141	
2,4,6-Tribromophenol	0.287	0.250	115	10-123	

Lab Batch #: 830272

Sample: 395023-004 S / MS

Batch: 1 Matrix: Soil

Units: mg/L

Date Analyzed: 11/02/10 22:44

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.157	0.250	63	43-116	
2-Fluorophenol	0.206	0.250	82	21-100	
Nitrobenzene-d5	0.154	0.250	62	35-114	
Phenol-d6	0.192	0.250	77	10-94	
Terphenyl-D14	0.160	0.250	64	33-141	
2,4,6-Tribromophenol	0.297	0.250	119	10-123	

Lab Batch #: 830272

Sample: 395411-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/02/10 23:08

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.029	0.053	55	43-116	
2-Fluorophenol	0.022	0.053	42	21-100	
Nitrobenzene-d5	0.028	0.053	53	35-114	
Phenol-d6	0.013	0.053	25	10-94	
Terphenyl-D14	0.033	0.053	62	33-141	
2,4,6-Tribromophenol	0.062	0.053	117	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S Central Avenue

Work Orders : 395411,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 830272

Sample: 395411-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/02/10 23:32

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.020	0.047	43	43-116	
2-Fluorophenol	0.013	0.047	28	21-100	
Nitrobenzene-d5	0.020	0.047	43	35-114	
Phenol-d6	0.008	0.047	17	10-94	
Terphenyl-D14	0.026	0.047	55	33-141	
2,4,6-Tribromophenol	0.041	0.047	87	10-123	

Lab Batch #: 830272

Sample: 395411-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/02/10 23:55

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.028	0.052	54	43-116	
2-Fluorophenol	0.017	0.052	33	21-100	
Nitrobenzene-d5	0.027	0.052	52	35-114	
Phenol-d6	0.010	0.052	19	10-94	
Terphenyl-D14	0.030	0.052	58	33-141	
2,4,6-Tribromophenol	0.056	0.052	108	10-123	

Lab Batch #: 830346

Sample: 577786-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/02/10 08:42

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0506	0.0500	101	74-124	
Dibromofluoromethane	0.0522	0.0500	104	75-131	
1,2-Dichloroethane-D4	0.0511	0.0500	102	63-144	
Toluene-D8	0.0520	0.0500	104	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S Central Avenue

Work Orders : 395411,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 830346

Sample: 577786-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/02/10 09:42

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0499	0.0500	100	74-124	
Dibromofluoromethane	0.0544	0.0500	109	75-131	
1,2-Dichloroethane-D4	0.0547	0.0500	109	63-144	
Toluene-D8	0.0499	0.0500	100	80-117	

Lab Batch #: 830346

Sample: 395099-011 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/02/10 11:37

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0542	0.0500	108	74-124	
Dibromofluoromethane	0.0496	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0491	0.0500	98	63-144	
Toluene-D8	0.0521	0.0500	104	80-117	

Lab Batch #: 830346

Sample: 395099-011 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/02/10 12:03

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0552	0.0500	110	74-124	
Dibromofluoromethane	0.0487	0.0500	97	75-131	
1,2-Dichloroethane-D4	0.0470	0.0500	94	63-144	
Toluene-D8	0.0520	0.0500	104	80-117	

Lab Batch #: 830346

Sample: 395411-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/02/10 12:55

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0533	0.0500	107	74-124	
Dibromofluoromethane	0.0523	0.0500	105	75-131	
1,2-Dichloroethane-D4	0.0523	0.0500	105	63-144	
Toluene-D8	0.0507	0.0500	101	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S Central Avenue

Work Orders : 395411,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 830346

Sample: 395411-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/02/10 13:22

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0529	0.0500	106	74-124	
Dibromofluoromethane	0.0538	0.0500	108	75-131	
1,2-Dichloroethane-D4	0.0546	0.0500	109	63-144	
Toluene-D8	0.0505	0.0500	101	80-117	

Lab Batch #: 830354

Sample: 577792-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/03/10 09:33

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0531	0.0500	106	74-124	
Dibromofluoromethane	0.0507	0.0500	101	75-131	
1,2-Dichloroethane-D4	0.0498	0.0500	100	63-144	
Toluene-D8	0.0527	0.0500	105	80-117	

Lab Batch #: 830354

Sample: 577792-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/03/10 10:26

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0503	0.0500	101	74-124	
Dibromofluoromethane	0.0537	0.0500	107	75-131	
1,2-Dichloroethane-D4	0.0526	0.0500	105	63-144	
Toluene-D8	0.0502	0.0500	100	80-117	

Lab Batch #: 830354

Sample: 395411-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/03/10 11:01

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0537	0.0500	107	74-124	
Dibromofluoromethane	0.0528	0.0500	106	75-131	
1,2-Dichloroethane-D4	0.0517	0.0500	103	63-144	
Toluene-D8	0.0505	0.0500	101	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S Central Avenue

Work Orders : 395411,

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 830354

Sample: 395411-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/03/10 11:27

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0559	0.0500	112	74-124	
Dibromofluoromethane	0.0504	0.0500	101	75-131	
1,2-Dichloroethane-D4	0.0499	0.0500	100	63-144	
Toluene-D8	0.0497	0.0500	99	80-117	

Lab Batch #: 830354

Sample: 395411-003 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/03/10 11:53

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0531	0.0500	106	74-124	
Dibromofluoromethane	0.0511	0.0500	102	75-131	
1,2-Dichloroethane-D4	0.0492	0.0500	98	63-144	
Toluene-D8	0.0525	0.0500	105	80-117	

Lab Batch #: 830354

Sample: 395411-003 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/03/10 12:20

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0543	0.0500	109	74-124	
Dibromofluoromethane	0.0502	0.0500	100	75-131	
1,2-Dichloroethane-D4	0.0501	0.0500	100	63-144	
Toluene-D8	0.0520	0.0500	104	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Project Name: 900 S Central Avenue

Work Order #: 395411

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 830346

Sample: 577786-1-BKS

Matrix: Water

Date Analyzed: 11/02/2010

Date Prepared: 11/02/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Acetone	<20.0	100	100	100	60-140	
Benzene	<1.00	50.0	46.1	92	66-142	
Bromobenzene	<1.00	50.0	50.1	100	75-125	
Bromochloromethane	<1.00	50.0	46.2	92	73-125	
Bromodichloromethane	<1.00	50.0	49.2	98	75-125	
Bromoform	<1.00	50.0	51.8	104	75-125	
Bromomethane	<1.00	50.0	43.2	86	70-130	
2-Butanone	<10.0	100	102	102	60-140	
MTBE	<1.00	50.0	49.8	100	65-135	
n-Butylbenzene	<1.00	50.0	50.8	102	75-125	
Sec-Butylbenzene	<1.00	50.0	52.1	104	75-125	
tert-Butylbenzene	<1.00	50.0	51.2	102	75-125	
Carbon Disulfide	<10.0	50.0	39.3	79	60-140	
Carbon Tetrachloride	<1.00	50.0	48.0	96	62-125	
Chlorobenzene	<1.00	50.0	46.7	93	60-133	
Chloroethane	<2.00	50.0	46.6	93	70-130	
Chloroform	<1.00	50.0	47.9	96	74-125	
Chloromethane	<2.00	50.0	44.1	88	70-130	
2-Chlorotoluene	<1.00	50.0	50.8	102	73-125	
4-Chlorotoluene	<1.00	50.0	50.8	102	74-125	
p-Cymene (p-Isopropyltoluene)	<1.00	50.0	52.5	105	75-125	
Dibromochloromethane	<1.00	50.0	49.6	99	73-125	
1,2-Dibromo-3-Chloropropane	<1.00	50.0	49.9	100	59-125	
Dibromomethane	<1.00	50.0	46.6	93	69-127	
1,2-Dichlorobenzene	<1.00	50.0	49.7	99	75-125	
1,3-Dichlorobenzene	<1.00	50.0	49.2	98	75-125	
1,4-Dichlorobenzene	<1.00	50.0	47.8	96	75-125	
Dichlorodifluoromethane	<1.00	50.0	47.0	94	70-130	
1,1-Dichloroethane	<1.00	50.0	49.4	99	72-125	
1,2-Dichloroethane	<1.00	50.0	45.4	91	68-127	
1,1-Dichloroethene	<1.00	50.0	45.0	90	59-172	
cis-1,2-Dichloroethene	<1.00	50.0	48.4	97	75-125	
trans-1,2-dichloroethene	<1.00	50.0	44.8	90	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit



Blank Spike Recovery



Project Name: 900 S Central Avenue

Work Order #: 395411

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 830346

Sample: 577786-1-BKS

Matrix: Water

Date Analyzed: 11/02/2010

Date Prepared: 11/02/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,2-Dichloropropane	<1.00	50.0	48.5	97	74-125	
1,3-Dichloropropane	<1.00	50.0	48.5	97	75-125	
2,2-Dichloropropane	<1.00	50.0	56.4	113	75-125	
1,1-Dichloropropene	<1.00	50.0	46.1	92	75-125	
cis-1,3-Dichloropropene	<1.00	50.0	51.9	104	74-125	
trans-1,3-dichloropropene	<1.00	50.0	53.7	107	66-125	
Ethylbenzene	<1.00	50.0	47.8	96	75-125	
Hexachlorobutadiene	<1.00	50.0	46.2	92	75-125	
isopropylbenzene	<1.00	50.0	52.7	105	75-125	
Methylene Chloride	4.67	50.0	52.9	106	75-125	
n-Propylbenzene	<1.00	50.0	52.4	105	75-125	
Styrene	<1.00	50.0	48.4	97	75-125	
1,1,1,2-Tetrachloroethane	<1.00	50.0	46.9	94	72-125	
1,1,2,2-Tetrachloroethane	<1.00	50.0	51.6	103	74-125	
Tetrachloroethylene	<1.00	50.0	44.5	89	71-125	
Toluene	<1.00	50.0	47.8	96	59-139	
1,2,3-Trichlorobenzene	<1.00	50.0	49.6	99	75-137	
1,2,4-Trichlorobenzene	<1.00	50.0	48.7	97	75-135	
1,1,1-Trichloroethane	<1.00	50.0	50.0	100	75-125	
1,1,2-Trichloroethane	<1.00	50.0	49.3	99	75-127	
Trichloroethene	<1.00	50.0	46.9	94	62-137	
Trichlorofluoromethane	<1.00	50.0	46.8	94	67-125	
1,2,3-Trichloropropane	<1.00	50.0	52.9	106	75-125	
1,2,4-Trimethylbenzene	<1.00	50.0	50.7	101	75-125	
1,3,5-Trimethylbenzene	<1.00	50.0	51.1	102	70-125	
o-Xylene	<1.00	50.0	47.7	95	75-125	
m,p-Xylenes	<2.00	100	95.5	96	75-125	
Vinyl Acetate	<10.0	100	100	100	60-140	
Vinyl Chloride	<0.400	50.0	48.1	96	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 S Central Avenue

Work Order #: 395411

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 830354

Sample: 577792-1-BKS

Matrix: Water

Date Analyzed: 11/03/2010

Date Prepared: 11/03/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Acetone	<20.0	100	115	115	60-140	
Benzene	<1.00	50.0	48.0	96	66-142	
Bromobenzene	<1.00	50.0	50.5	101	75-125	
Bromochloromethane	<1.00	50.0	49.1	98	73-125	
Bromodichloromethane	<1.00	50.0	52.5	105	75-125	
Bromoform	<1.00	50.0	55.1	110	75-125	
Bromomethane	<1.00	50.0	47.3	95	70-130	
2-Butanone	<10.0	100	112	112	60-140	
MTBE	<1.00	50.0	54.6	109	65-135	
n-Butylbenzene	<1.00	50.0	49.7	99	75-125	
Sec-Butylbenzene	<1.00	50.0	50.7	101	75-125	
tert-Butylbenzene	<1.00	50.0	50.9	102	75-125	
Carbon Disulfide	<10.0	50.0	46.8	94	60-140	
Carbon Tetrachloride	<1.00	50.0	50.6	101	62-125	
Chlorobenzene	<1.00	50.0	47.3	95	60-133	
Chloroethane	<2.00	50.0	49.3	99	70-130	
Chloroform	<1.00	50.0	48.9	98	74-125	
Chloromethane	<2.00	50.0	47.7	95	70-130	
2-Chlorotoluene	<1.00	50.0	51.7	103	73-125	
4-Chlorotoluene	<1.00	50.0	51.4	103	74-125	
p-Cymene (p-Isopropyltoluene)	<1.00	50.0	51.5	103	75-125	
Dibromochloromethane	<1.00	50.0	53.4	107	73-125	
1,2-Dibromo-3-Chloropropane	<1.00	50.0	51.9	104	59-125	
Dibromomethane	<1.00	50.0	52.1	104	69-127	
1,2-Dichlorobenzene	<1.00	50.0	47.4	95	75-125	
1,3-Dichlorobenzene	<1.00	50.0	48.6	97	75-125	
1,4-Dichlorobenzene	<1.00	50.0	46.8	94	75-125	
Dichlorodifluoromethane	<1.00	50.0	52.2	104	70-130	
1,1-Dichloroethane	<1.00	50.0	50.3	101	72-125	
1,2-Dichloroethane	<1.00	50.0	51.3	103	68-127	
1,1-Dichloroethene	<1.00	50.0	46.7	93	59-172	
cis-1,2-Dichloroethene	<1.00	50.0	49.6	99	75-125	
trans-1,2-dichloroethene	<1.00	50.0	47.3	95	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit



Blank Spike Recovery



Project Name: 900 S Central Avenue

Work Order #: 395411

Project ID: Roxana-Route 111/21562291.00006

Lab Batch #: 830354

Sample: 577792-1-BKS

Matrix: Water

Date Analyzed: 11/03/2010

Date Prepared: 11/03/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,2-Dichloropropane	<1.00	50.0	51.5	103	74-125	
1,3-Dichloropropane	<1.00	50.0	51.8	104	75-125	
2,2-Dichloropropane	<1.00	50.0	55.8	112	75-125	
1,1-Dichloropropene	<1.00	50.0	49.2	98	75-125	
cis-1,3-Dichloropropene	<1.00	50.0	56.9	114	74-125	
trans-1,3-dichloropropene	<1.00	50.0	59.4	119	66-125	
Ethylbenzene	<1.00	50.0	49.2	98	75-125	
Hexachlorobutadiene	<1.00	50.0	45.1	90	75-125	
isopropylbenzene	<1.00	50.0	51.8	104	75-125	
Methylene Chloride	<1.00	50.0	47.9	96	75-125	
n-Propylbenzene	<1.00	50.0	51.8	104	75-125	
Styrene	<1.00	50.0	49.6	99	75-125	
1,1,1,2-Tetrachloroethane	<1.00	50.0	48.5	97	72-125	
1,1,2,2-Tetrachloroethane	<1.00	50.0	53.5	107	74-125	
Tetrachloroethylene	<1.00	50.0	44.6	89	71-125	
Toluene	<1.00	50.0	49.6	99	59-139	
1,2,3-Trichlorobenzene	<1.00	50.0	49.2	98	75-137	
1,2,4-Trichlorobenzene	<1.00	50.0	48.2	96	75-135	
1,1,1-Trichloroethane	<1.00	50.0	51.0	102	75-125	
1,1,2-Trichloroethane	<1.00	50.0	54.9	110	75-127	
Trichloroethene	<1.00	50.0	49.3	99	62-137	
Trichlorofluoromethane	<1.00	50.0	49.9	100	67-125	
1,2,3-Trichloropropane	<1.00	50.0	55.5	111	75-125	
1,2,4-Trimethylbenzene	<1.00	50.0	51.6	103	75-125	
1,3,5-Trimethylbenzene	<1.00	50.0	51.5	103	70-125	
o-Xylene	<1.00	50.0	49.1	98	75-125	
m,p-Xylenes	<2.00	100	97.4	97	75-125	
Vinyl Acetate	<10.0	100	108	108	60-140	
Vinyl Chloride	<0.400	50.0	50.4	101	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 S Central Avenue

Work Order #: 395411

Analyst: DAE

Lab Batch ID: 830272

Sample: 577544-1-BKS

Date Prepared: 11/01/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 11/02/2010

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY												
	SVOAs by SW-846 8270C	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes	Acenaphthene	<0.001	0.050	0.046	92	0.05	0.046	92	0	27-132	31	
	Acenaphthylene	<0.003	0.050	0.046	92	0.05	0.046	92	0	46-108	25	
	Aniline (Phenylamine, Aminobenzene)	<0.001	0.050	0.031	62	0.05	0.014	28	76	5-115	25	F
	Anthracene	<0.001	0.050	0.048	96	0.05	0.048	96	0	47-145	25	
	Benzo(a)anthracene	<0.001	0.050	0.049	98	0.05	0.050	100	2	33-143	25	
	Benzo(a)pyrene	<0.001	0.050	0.051	102	0.05	0.054	108	6	65-135	25	
	Benzo(b)fluoranthene	<0.001	0.050	0.049	98	0.05	0.053	106	8	24-159	25	
	Benzo(k)fluoranthene	<0.001	0.050	0.052	104	0.05	0.055	110	6	25-125	25	
	Benzo(g,h,i)perylene	<0.001	0.050	0.051	102	0.05	0.053	106	4	65-135	25	
	Benzoic Acid	<0.012	0.150	0.170	113	0.15	0.184	123	8	30-115	40	H
	Benzyl Butyl Phthalate	<0.001	0.050	0.048	96	0.05	0.050	100	4	65-135	25	
	bis(2-chloroethoxy) methane	<0.001	0.050	0.040	80	0.05	0.040	80	0	54-188	25	
	bis(2-chloroethyl) ether	<0.001	0.050	0.042	84	0.05	0.041	82	2	65-135	25	
	bis(2-chloroisopropyl) ether	<0.001	0.050	0.039	78	0.05	0.039	78	0	65-135	25	
	bis(2-ethylhexyl) phthalate	0.001	0.050	0.050	100	0.05	0.054	108	8	8-158	25	
4-Bromophenyl-phenylether	<0.001	0.050	0.049	98	0.05	0.049	98	0	65-135	25		
4-chloro-3-methylphenol	<0.001	0.050	0.047	94	0.05	0.047	94	0	16-129	33		
4-Chloroaniline	<0.004	0.050	0.042	84	0.05	0.026	52	47	9-128	25	F	
2-Chloronaphthalene	<0.003	0.050	0.045	90	0.05	0.046	92	2	65-135	25		
2-Chlorophenol	<0.002	0.050	0.044	88	0.05	0.044	88	0	16-116	40		

Relative Percent Difference RPD = $200 * ((C-F) / (C+F))$

Blank Spike Recovery [D] = $100 * (C) / [B]$

Blank Spike Duplicate Recovery [G] = $100 * (F) / [E]$

All results are based on MDL and Validated for QC Purposes

Project Name: 900 S Central Avenue

Work Order #: 395411

Analyst: DAE

Lab Batch ID: 830272

Sample: 577544-1-BKS

Units: mg/L

Date Prepared: 11/01/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00006

Date Analyzed: 11/02/2010

Matrix: Water

SVOAs by SW-846 8270C											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
4-Chlorophenyl Phenyl Ether	<0.001	0.050	0.048	96	0.05	0.048	96	0	65-135	25	
Chrysene	<0.001	0.050	0.049	98	0.05	0.052	104	6	65-135	25	
Dibenz(a,h)anthracene	<0.001	0.050	0.051	102	0.05	0.056	112	9	50-125	25	
Dibenzofuran	<0.003	0.050	0.047	94	0.05	0.047	94	0	52-125	25	
di-n-Butyl Phthalate	<0.001	0.050	0.049	98	0.05	0.051	102	4	49-135	50	
3,3-Dichlorobenzidine	<0.003	0.050	0.039	78	0.05	0.010	20	118	12-147	25	F
2,4-Dichlorophenol	<0.001	0.050	0.049	98	0.05	0.049	98	0	65-135	25	
Diethyl Phthalate	<0.001	0.050	0.048	96	0.05	0.049	98	2	37-125	50	
Dimethyl Phthalate	<0.001	0.050	0.048	96	0.05	0.048	96	0	25-175	50	
2,4-Dimethylphenol	<0.003	0.050	0.045	90	0.05	0.045	90	0	32-119	25	
4,6-dinitro-2-methyl phenol	<0.003	0.050	0.047	94	0.05	0.050	100	6	2-181	25	
2,4-Dinitrophenol	<0.002	0.050	0.057	114	0.05	0.059	118	3	65-135	25	
2,4-Dinitrotoluene	<0.003	0.050	0.051	102	0.05	0.052	104	2	22-135	38	
2,6-Dinitrotoluene	<0.001	0.050	0.050	100	0.05	0.050	100	0	49-122	38	
di-n-Octyl Phthalate	<0.001	0.050	0.049	98	0.05	0.054	108	10	43-134	50	
Fluoranthene	<0.001	0.050	0.051	102	0.05	0.052	104	2	47-125	25	
Fluorene	<0.001	0.050	0.048	96	0.05	0.048	96	0	48-139	25	
Hexachlorobenzene	<0.001	0.050	0.048	96	0.05	0.049	98	2	46-133	25	
Hexachlorocyclopentadiene	<0.003	0.050	0.028	56	0.05	0.029	58	4	41-125	25	
Hexachloroethane	<0.003	0.050	0.043	86	0.05	0.043	86	0	25-153	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S Central Avenue
Work Order #: 395411
Analyst: DAE
Lab Batch ID: 830272
Sample: 577544-1-BKS
Units: mg/L
Date Prepared: 11/01/2010
Batch #: 1
Project ID: Roxana-Route 111/21562291.00006
Date Analyzed: 11/02/2010
Matrix: Water

SVOAs by SW-846 8270C											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Indeno(1,2,3-c,d)Pyrene	<0.001	0.050	0.051	102	0.05	0.055	110	8	27-160	25	
Isophorone	<0.001	0.050	0.043	86	0.05	0.043	86	0	26-175	25	
2-Methylnaphthalene	<0.003	0.050	0.055	110	0.05	0.058	116	5	25-175	25	
2-methylphenol	<0.003	0.050	0.049	98	0.05	0.044	88	11	14-176	25	
3&4-Methylphenol	<0.002	0.100	0.043	43	0.1	0.040	40	7	14-176	25	
Naphthalene	<0.002	0.050	0.043	86	0.05	0.044	88	2	26-175	25	
2-Nitroaniline	<0.001	0.050	0.045	90	0.05	0.043	86	5	65-135	25	
3-Nitroaniline	<0.006	0.050	0.048	96	0.05	0.042	84	13	65-135	25	
4-Nitroaniline	<0.004	0.050	0.048	96	0.05	0.043	86	11	65-135	25	
Nitrobenzene	<0.001	0.050	0.040	80	0.05	0.038	76	5	65-135	25	
2-Nitrophenol	<0.001	0.050	0.046	92	0.05	0.046	92	0	65-135	25	
4-Nitrophenol	<0.001	0.050	0.045	90	0.05	0.041	82	9	10-80	50	H
N-Nitrosodi-n-Propylamine	<0.001	0.050	0.041	82	0.05	0.041	82	0	22-134	38	
N-Nitrosodiphenylamine	<0.003	0.050	0.047	94	0.05	0.044	88	7	2-196	25	
Pentachlorophenol	<0.003	0.050	0.039	78	0.05	0.053	106	30	17-117	50	
Phenanthrene	<0.001	0.050	0.047	94	0.05	0.049	98	4	65-135	25	
Phenol	<0.001	0.050	0.024	48	0.05	0.024	48	0	12-110	25	
Pyrene	<0.001	0.050	0.048	96	0.05	0.050	100	4	23-152	31	
Pyridine	<0.006	0.050	0.013	26	0.05	0.006	12	74	16-86	28	FL
2,4,5-Trichlorophenol	<0.001	0.050	0.059	118	0.05	0.062	124	5	65-135	25	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/(B)$

Blank Spike Duplicate Recovery [G] = $100 * (F)/(E)$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: 900 S Central Avenue

Work Order #: 395411

Analyst: DAE

Lab Batch ID: 830272

Sample: 577544-1-BKS

Units: mg/L

Project ID: Roxana-Route 111/21562291.00006
Date Analyzed: 11/02/2010

Matrix: Water

Date Prepared: 11/01/2010

Batch #: 1

SVOAs by SW-846 8270C		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
2,4,6-Trichlorophenol		<0.002	0.050	0.053	106	0.05	0.054	108	2	65-135	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$
All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries

Project Name: 900 S Central Avenue



Work Order #: 395411

Lab Batch #: 830272

Date Analyzed: 11/02/2010

Date Prepared: 11/01/2010

Project ID: Roxana-Route 111/21562291.00006

Analyst: DAE

QC- Sample ID: 395023-003 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY						
SVOAs by SW-846 8270C	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Acenaphthene	<0.050	0.250	0.242	97	27-132	
Acenaphthylene	<0.050	0.250	0.242	97	46-108	
Aniline (Phenylamine, Aminobenzene)	<0.100	0.250	0.127	51	5-115	
Anthracene	<0.050	0.250	0.250	100	47-145	
Benzo(a)anthracene	<0.050	0.250	0.255	102	33-143	
Benzo(a)pyrene	<0.050	0.250	0.264	106	65-135	
Benzo(b)fluoranthene	<0.050	0.250	0.260	104	24-159	
Benzo(k)fluoranthene	<0.050	0.250	0.259	104	25-125	
Benzo(g,h,i)perylene	<0.050	0.250	0.267	107	65-135	
Benzoic Acid	<0.250	0.750	0.894	119	30-115	X
Benzyl Butyl Phthalate	<0.050	0.250	0.246	98	65-135	
bis(2-chloroethoxy) methane	<0.050	0.250	0.209	84	54-188	
bis(2-chloroethyl) ether	<0.050	0.250	0.223	89	65-135	
bis(2-chloroisopropyl) ether	<0.050	0.250	0.202	81	65-135	
bis(2-ethylhexyl) phthalate	0.017	0.250	0.267	100	8-158	
4-Bromophenyl-phenylether	<0.050	0.250	0.262	105	65-135	
4-chloro-3-methylphenol	<0.050	0.250	0.242	97	16-129	
4-Chloroaniline	<0.100	0.250	0.190	76	9-128	
2-Chloronaphthalene	<0.050	0.250	0.243	97	65-135	
2-Chlorophenol	<0.050	0.250	0.238	95	16-116	
4-Chlorophenyl Phenyl Ether	<0.050	0.250	0.248	99	65-135	
Chrysene	<0.050	0.250	0.259	104	65-135	
Dibenz(a,h)anthracene	<0.050	0.250	0.274	110	50-125	
Dibenzofuran	<0.050	0.250	0.245	98	52-125	
di-n-Butyl Phthalate	<0.050	0.250	0.259	104	49-135	
3,3-Dichlorobenzidine	<0.050	0.250	0.204	82	12-147	
2,4-Dichlorophenol	<0.050	0.250	0.247	99	65-135	
Diethyl Phthalate	<0.050	0.250	0.252	101	37-125	
Dimethyl Phthalate	<0.050	0.250	0.250	100	25-175	
2,4-Dimethylphenol	<0.050	0.250	0.239	96	32-119	
4,6-dinitro-2-methyl phenol	<0.050	0.250	0.236	94	2-181	
2,4-Dinitrophenol	<0.100	0.250	0.274	110	65-135	
2,4-Dinitrotoluene	<0.050	0.250	0.268	107	22-135	
2,6-Dinitrotoluene	<0.050	0.250	0.257	103	49-122	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference [E] = 200*(C-A)/(C+B)

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS Recoveries

Project Name: 900 S Central Avenue



Work Order #: 395411

Lab Batch #: 830272

Date Analyzed: 11/02/2010

Date Prepared: 11/01/2010

Project ID: Roxana-Route 111/21562291.00006

Analyst: DAE

QC- Sample ID: 395023-003 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

SVOAs by SW-846 8270C		Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
di-n-Octyl Phthalate	<0.050	0.250	0.249	100	43-134	
Fluoranthene	<0.050	0.250	0.268	107	47-125	
Fluorene	<0.050	0.250	0.251	100	48-139	
Hexachlorobenzene	<0.050	0.250	0.255	102	46-133	
Hexachlorocyclopentadiene	<0.050	0.250	0.144	58	41-125	
Hexachloroethane	<0.050	0.250	0.223	89	25-153	
Indeno(1,2,3-c,d)Pyrene	<0.050	0.250	0.270	108	27-160	
Isophorone	<0.050	0.250	0.227	91	26-175	
2-Methylnaphthalene	<0.050	0.250	0.269	108	25-175	
2-methylphenol	<0.050	0.250	0.250	100	14-176	
3&4-Methylphenol	<0.050	0.500	0.232	46	14-176	
Naphthalene	<0.050	0.250	0.233	93	26-175	
2-Nitroaniline	<0.100	0.250	0.232	93	65-135	
3-Nitroaniline	<0.100	0.250	0.242	97	65-135	
4-Nitroaniline	<0.100	0.250	0.249	100	65-135	
Nitrobenzene	<0.050	0.250	0.254	102	65-135	
2-Nitrophenol	<0.050	0.250	0.244	98	65-135	
4-Nitrophenol	<0.050	0.250	0.231	92	10-80	X
N-Nitrosodi-n-Propylamine	<0.050	0.250	0.216	86	22-134	
N-Nitrosodiphenylamine	<0.050	0.250	0.247	99	2-196	
Pentachlorophenol	<0.050	0.250	0.290	116	17-117	
Phenanthrene	<0.050	0.250	0.247	99	65-135	
Phenol	<0.050	0.250	0.185	74	12-110	
Pyrene	<0.050	0.250	0.244	98	23-152	
Pyridine	<0.100	0.250	0.098	39	16-86	
2,4,5-Trichlorophenol	<0.050	0.250	0.306	122	65-135	
2,4,6-Trichlorophenol	<0.050	0.250	0.271	108	65-135	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference [E] = 200*(C-A)/(C+B)

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS Recoveries

Project Name: 900 S Central Avenue



Work Order #: 395411

Lab Batch #: 830272

Date Analyzed: 11/02/2010

Date Prepared: 11/01/2010

Project ID: Roxana-Route 111/21562291.00006

Analyst: DAE

QC- Sample ID: 395023-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY						
SVOAs by SW-846 8270C	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Acenaphthene	<0.050	0.250	0.260	104	27-132	
Acenaphthylene	<0.050	0.250	0.259	104	46-108	
Aniline (Phenylamine, Aminobenzene)	<0.100	0.250	0.145	58	5-115	
Anthracene	<0.050	0.250	0.268	107	47-145	
Benzo(a)anthracene	<0.050	0.250	0.273	109	33-143	
Benzo(a)pyrene	<0.050	0.250	0.282	113	65-135	
Benzo(b)fluoranthene	<0.050	0.250	0.270	108	24-159	
Benzo(k)fluoranthene	<0.050	0.250	0.287	115	25-125	
Benzo(g,h,i)perylene	<0.050	0.250	0.286	114	65-135	
Benzoic Acid	<0.250	0.750	0.933	124	30-115	X
Benzyl Butyl Phthalate	<0.050	0.250	0.264	106	65-135	
bis(2-chloroethoxy) methane	<0.050	0.250	0.226	90	54-188	
bis(2-chloroethyl) ether	<0.050	0.250	0.238	95	65-135	
bis(2-chloroisopropyl) ether	<0.050	0.250	0.218	87	65-135	
bis(2-ethylhexyl) phthalate	0.019	0.250	0.290	108	8-158	
4-Bromophenyl-phenylether	<0.050	0.250	0.280	112	65-135	
4-chloro-3-methylphenol	<0.050	0.250	0.262	105	16-129	
4-Chloroaniline	<0.100	0.250	0.214	86	9-128	
2-Chloronaphthalene	<0.050	0.250	0.255	102	65-135	
2-Chlorophenol	<0.050	0.250	0.254	102	16-116	
4-Chlorophenyl Phenyl Ether	<0.050	0.250	0.267	107	65-135	
Chrysene	<0.050	0.250	0.274	110	65-135	
Dibenz(a,h)anthracene	<0.050	0.250	0.288	115	50-125	
Dibenzofuran	<0.050	0.250	0.266	106	52-125	
di-n-Butyl Phthalate	<0.050	0.250	0.276	110	49-135	
3,3-Dichlorobenzidine	<0.050	0.250	0.221	88	12-147	
2,4-Dichlorophenol	<0.050	0.250	0.277	111	65-135	
Diethyl Phthalate	<0.050	0.250	0.273	109	37-125	
Dimethyl Phthalate	<0.050	0.250	0.268	107	25-175	
2,4-Dimethylphenol	<0.050	0.250	0.260	104	32-119	
4,6-dinitro-2-methyl phenol	<0.050	0.250	0.246	98	2-181	
2,4-Dinitrophenol	<0.100	0.250	0.335	134	65-135	
2,4-Dinitrotoluene	<0.050	0.250	0.284	114	22-135	
2,6-Dinitrotoluene	<0.050	0.250	0.274	110	49-122	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference [E] = 200*(C-A)/(C+B)

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS Recoveries

Project Name: 900 S Central Avenue



Work Order #: 395411

Lab Batch #: 830272

Date Analyzed: 11/02/2010

Date Prepared: 11/01/2010

Project ID: Roxana-Route 111/21562291.00006

Analyst: DAE

QC- Sample ID: 395023-004 S

Batch #: 1

Matrix: Soil

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY

SVOAs by SW-846 8270C		Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
di-n-Octyl Phthalate	<0.050	0.250	0.270	108	43-134	
Fluoranthene	<0.050	0.250	0.285	114	47-125	
Fluorene	<0.050	0.250	0.269	108	48-139	
Hexachlorobenzene	<0.050	0.250	0.269	108	46-133	
Hexachlorocyclopentadiene	<0.050	0.250	0.161	64	41-125	
Hexachloroethane	<0.050	0.250	0.241	96	25-153	
Indeno(1,2,3-c,d)Pyrene	<0.050	0.250	0.286	114	27-160	
Isophorone	<0.050	0.250	0.245	98	26-175	
2-Methylnaphthalene	<0.050	0.250	0.269	108	25-175	
2-methylphenol	<0.050	0.250	0.259	104	14-176	
3&4-Methylphenol	<0.050	0.500	0.252	50	14-176	
Naphthalene	<0.050	0.250	0.249	100	26-175	
2-Nitroaniline	<0.100	0.250	0.252	101	65-135	
3-Nitroaniline	<0.100	0.250	0.266	106	65-135	
4-Nitroaniline	<0.100	0.250	0.269	108	65-135	
Nitrobenzene	<0.050	0.250	0.272	109	65-135	
2-Nitrophenol	<0.050	0.250	0.261	104	65-135	
4-Nitrophenol	<0.050	0.250	0.248	99	10-80	X
N-Nitrosodi-n-Propylamine	<0.050	0.250	0.236	94	22-134	
N-Nitrosodiphenylamine	<0.050	0.250	0.269	108	2-196	
Pentachlorophenol	<0.050	0.250	0.332	133	17-117	X
Phenanthrene	<0.050	0.250	0.265	106	65-135	
Phenol	<0.050	0.250	0.200	80	12-110	
Pyrene	<0.050	0.250	0.264	106	23-152	
Pyridine	<0.100	0.250	0.084	34	16-86	
2,4,5-Trichlorophenol	<0.050	0.250	0.326	130	65-135	
2,4,6-Trichlorophenol	<0.050	0.250	0.300	120	65-135	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference [E] = 200*(C-A)/(C+B)

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

Work Order #: 395411

Lab Batch ID: 830346

Date Analyzed: 11/02/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 395099-011 S Batch #: 1 Matrix: Water

Date Prepared: 11/02/2010 Analyst: EZB

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: ug/L	VOAs by SW-846 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Acetone	<100	100	72.6	73	100	77.2	77	6	60-140	21	
	Benzene	<5.00	50.0	40.7	81	50.0	40.7	81	0	66-142	21	
	Bromobenzene	<5.00	50.0	48.0	96	50.0	48.5	97	1	75-125	20	
	Bromochloromethane	<5.00	50.0	43.9	88	50.0	42.7	85	3	73-125	20	
	Bromodichloromethane	<5.00	50.0	49.7	99	50.0	49.1	98	1	75-125	20	
	Bromoform	<5.00	50.0	50.3	101	50.0	52.7	105	5	75-125	20	
	Bromomethane	<5.00	50.0	34.4	69	50.0	31.4	63	9	70-130	20	X
	2-Butanone	<50.0	100	75.2	75	100	81.7	82	8	60-140	20	
	MTBE	1.42	50.0	50.8	99	50.0	49.5	96	3	65-135	20	
	n-Butylbenzene	<5.00	50.0	43.8	88	50.0	42.4	85	3	75-125	20	
	Sec-Butylbenzene	<5.00	50.0	46.3	93	50.0	45.0	90	3	75-125	20	
	tert-Butylbenzene	<5.00	50.0	48.1	96	50.0	46.5	93	3	75-125	20	
	Carbon Disulfide	<50.0	50.0	31.0	62	50.0	29.3	59	6	60-140	20	X
	Carbon Tetrachloride	<5.00	50.0	42.5	85	50.0	41.3	83	3	62-125	20	
	Chlorobenzene	<5.00	50.0	44.3	89	50.0	44.2	88	0	60-133	21	
	Chloroethane	<10.0	50.0	36.5	73	50.0	35.8	72	2	70-130	20	
	Chloroform	<5.00	50.0	44.4	89	50.0	42.7	85	4	74-125	20	
	Chloromethane	<10.0	50.0	34.3	69	50.0	31.3	63	9	70-130	20	X
	2-Chlorotoluene	<5.00	50.0	47.7	95	50.0	47.1	94	1	73-125	20	
	4-Chlorotoluene	<5.00	50.0	47.7	95	50.0	47.8	96	0	74-125	20	
	p-Cymene (p-Isopropyltoluene)	<5.00	50.0	46.9	94	50.0	45.3	91	3	75-125	20	
	Dibromochloromethane	<5.00	50.0	50.7	101	50.0	51.0	102	1	73-125	20	
	1,2-Dibromo-3-Chloropropane	<5.00	50.0	39.8	80	50.0	40.8	82	2	59-125	28	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*(C-F)/(C+F)

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Work Order #: 395411

Lab Batch ID: 830346

Date Analyzed: 11/02/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC-Sample ID: 395099-011 S

Date Prepared: 11/02/2010

Batch #: 1

Analyst: EZB

Matrix: Water

VOAs by SW-846 8260B		Analytes										Control Limits %RPD	Control Limits %R	RPD %	Spiked Dup. %R [G]	Duplicate Sample Result [F]	Spiked Sample %R [D]	Spike Added [B]	Spiked Sample Result [C]	Parent Sample Result [A]	Flag
Dibromomethane																					
1,2-Dichlorobenzene																					
1,3-Dichlorobenzene																					
1,4-Dichlorobenzene																					
Dichlorodifluoromethane																					
1,1-Dichloroethane																					
1,2-Dichloroethane																					
1,1-Dichloroethene																					
cis-1,2-Dichloroethene																					
trans-1,2-dichloroethene																					X
1,2-Dichloropropane																					
1,3-Dichloropropane																					
2,2-Dichloropropane																					
1,1-Dichloropropene																					
cis-1,3-Dichloropropene																					
trans-1,3-dichloropropene																					
Ethylbenzene																					
Hexachlorobutadiene																					
isopropylbenzene																					
Methylene Chloride																					
n-Propylbenzene																					
Styrene																					
1,1,1,2-Tetrachloroethane																					

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Project Name: 900 S Central Avenue

Work Order #: 395411

Lab Batch ID: 830346

Date Analyzed: 11/02/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 395099-011 S

Batch #: 1 Matrix: Water

Date Prepared: 11/02/2010

Analyst: EZB

VOAs by SW-846 8260B										
Analytes										
Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
1,1,2,2-Tetrachloroethane	50.0	47.4	95	50.0	48.4	97	2	74-125	31	
Tetrachloroethylene	50.0	40.0	80	50.0	39.6	79	1	71-125	20	
Toluene	50.0	44.3	89	50.0	43.5	87	2	59-139	21	
1,2,3-Trichlorobenzene	50.0	45.6	91	50.0	42.4	85	7	75-137	20	
1,2,4-Trichlorobenzene	50.0	44.3	89	50.0	41.6	83	6	75-135	20	
1,1,1-Trichloroethane	50.0	43.6	87	50.0	41.8	84	4	75-125	20	
1,1,2-Trichloroethane	50.0	49.8	100	50.0	50.2	100	1	75-127	20	
Trichloroethene	50.0	42.5	85	50.0	41.8	84	2	62-137	24	
Trichlorofluoromethane	50.0	38.5	77	50.0	37.3	75	3	67-125	20	
1,2,3-Trichloropropane	50.0	47.7	95	50.0	50.6	101	6	75-125	20	
1,2,4-Trimethylbenzene	50.0	47.8	96	50.0	46.8	94	2	75-125	20	
1,3,5-Trimethylbenzene	50.0	47.2	94	50.0	46.1	92	2	70-125	20	
o-Xylene	50.0	45.4	91	50.0	44.8	90	1	75-125	20	
m,p-Xylenes	100	87.4	87	100	87.1	87	0	75-125	20	
Vinyl Acetate	100	85.1	85	100	86.3	86	1	60-140	20	
Vinyl Chloride	50.0	35.7	71	50.0	33.5	67	6	75-125	20	X

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*(C-F)/(C+F)

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Project Name: 900 S Central Avenue

Work Order #: 395411

Lab Batch ID: 830354

Date Analyzed: 11/03/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 395411-003 S

Date Prepared: 11/03/2010

Batch #: I Matrix: Water

Analyst: EZB

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
VOAs by SW-846 8260B Analytes	Acetone	37.1	100	131	94	100	136	99	4	60-140	21
	Benzene	<5.00	50.0	46.7	93	50.0	46.6	93	0	66-142	21
	Bromobenzene	<5.00	50.0	49.8	100	50.0	50.6	101	2	75-125	20
	Bromochloromethane	<5.00	50.0	49.3	99	50.0	49.4	99	0	73-125	20
	Bromodichloromethane	<5.00	50.0	52.0	104	50.0	52.7	105	1	75-125	20
	Bromoform	<5.00	50.0	52.2	104	50.0	55.0	110	5	75-125	20
	Bromomethane	<5.00	50.0	44.3	89	50.0	42.2	84	5	70-130	20
	2-Butanone	<50.0	100	98.7	99	100	101	101	2	60-140	20
	MTBE	<5.00	50.0	57.6	115	50.0	56.5	113	2	65-135	20
	n-Butylbenzene	<5.00	50.0	47.8	96	50.0	47.5	95	1	75-125	20
	Sec-Butylbenzene	<5.00	50.0	49.8	100	50.0	49.8	100	0	75-125	20
	tert-Butylbenzene	<5.00	50.0	50.2	100	50.0	50.6	101	1	75-125	20
	Carbon Disulfide	<50.0	50.0	46.0	92	50.0	43.5	87	6	60-140	20
	Carbon Tetrachloride	<5.00	50.0	48.0	96	50.0	47.0	94	2	62-125	20
	Chlorobenzene	<5.00	50.0	46.6	93	50.0	47.4	95	2	60-133	21
	Chloroethane	<10.0	50.0	47.3	95	50.0	44.8	90	5	70-130	20
	Chloroform	<5.00	50.0	49.3	99	50.0	48.2	96	2	74-125	20
	Chloromethane	<10.0	50.0	44.6	89	50.0	43.4	87	3	70-130	20
	2-Chlorotoluene	<5.00	50.0	50.2	100	50.0	50.4	101	0	73-125	20
4-Chlorotoluene	<5.00	50.0	49.8	100	50.0	50.7	101	2	74-125	20	
p-Cymene (p-Isopropyltoluene)	<5.00	50.0	50.3	101	50.0	50.5	101	0	75-125	20	
Dibromochloromethane	<5.00	50.0	51.6	103	50.0	53.7	107	4	73-125	20	
1,2-Dibromo-3-Chloropropane	<5.00	50.0	46.7	93	50.0	50.7	101	8	59-125	28	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*(C-F)/(C+F)

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Work Order #: 395411

Lab Batch ID: 830354

Date Analyzed: 11/03/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC-Sample ID: 395411-003 S

Date Prepared: 11/03/2010

Batch #: 1 Matrix: Water

Analyst: EZB

VOAs by SW-846 8260B		Analytes									
Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
Dibromomethane	<5.00	51.4	103	50.0	51.6	103	0	69-127	23		
1,2-Dichlorobenzene	<5.00	47.9	96	50.0	48.5	97	1	75-125	20		
1,3-Dichlorobenzene	<5.00	47.0	94	50.0	47.6	95	1	75-125	20		
1,4-Dichlorobenzene	<5.00	45.4	91	50.0	46.0	92	1	75-125	20		
Dichlorodifluoromethane	<5.00	50.2	100	50.0	48.5	97	3	70-130	23		
1,1-Dichloroethane	<5.00	50.3	101	50.0	49.2	98	2	72-125	20		
1,2-Dichloroethane	<5.00	50.4	101	50.0	51.0	102	1	68-127	20		
1,1-Dichloroethene	<5.00	45.4	91	50.0	44.8	90	1	59-172	22		
cis-1,2-Dichloroethene	<5.00	48.7	97	50.0	48.4	97	1	75-125	20		
trans-1,2-dichloroethene	<5.00	46.8	94	50.0	45.3	91	3	75-125	20		
1,2-Dichloropropane	<5.00	50.9	102	50.0	50.8	102	0	74-125	20		
1,3-Dichloropropane	<5.00	51.5	103	50.0	52.5	105	2	75-125	20		
2,2-Dichloropropane	<5.00	52.9	106	50.0	51.3	103	3	75-125	20		
1,1-Dichloropropene	<5.00	47.4	95	50.0	46.9	94	1	75-125	20		
cis-1,3-Dichloropropene	<5.00	54.4	109	50.0	55.3	111	2	74-125	20		
trans-1,3-dichloropropene	<5.00	58.7	117	50.0	60.2	120	3	66-125	20		
Ethylbenzene	<5.00	47.9	96	50.0	47.4	95	1	75-125	20		
Hexachlorobutadiene	<5.00	43.3	87	50.0	43.3	87	0	75-125	20		
isopropylbenzene	<5.00	50.7	101	50.0	51.2	102	1	75-125	20		
Methylene Chloride	<5.00	47.8	96	50.0	47.2	94	1	75-125	35		
n-Propylbenzene	<5.00	50.4	101	50.0	50.9	102	1	75-125	20		
Styrene	<5.00	48.9	98	50.0	48.6	97	1	75-125	51		
1,1,1,2-Tetrachloroethane	<5.00	48.2	96	50.0	47.9	96	1	72-125	20		

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*(C-F)/(C+F)

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit



Form 3 - MS / MSD Recoveries

Project Name: 900 S Central Avenue



Work Order #: 395411

Lab Batch ID: 830354

Date Analyzed: 11/03/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00006

QC- Sample ID: 395411-003 S Batch #: 1 Matrix: Water

Date Prepared: 11/03/2010 Analyst: EZB

VOAs by SW-846 8260B												
Analytes												
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
1,1,1,2,2-Tetrachloroethane	<5.00	50.0	51.8	104	50.0	53.8	108	4	74-125	31		
Tetrachloroethylene	<5.00	50.0	44.0	88	50.0	44.6	89	1	71-125	20		
Toluene	<5.00	50.0	49.0	98	50.0	48.6	97	1	59-139	21		
1,2,3-Trichlorobenzene	<5.00	50.0	49.4	99	50.0	48.8	98	1	75-137	20		
1,2,4-Trichlorobenzene	<5.00	50.0	48.0	96	50.0	47.0	94	2	75-135	20		
1,1,1-Trichloroethane	<5.00	50.0	49.1	98	50.0	48.2	96	2	75-125	20		
1,1,2-Trichloroethane	<5.00	50.0	52.5	105	50.0	54.1	108	3	75-127	20		
Trichloroethene	<5.00	50.0	47.9	96	50.0	47.6	95	1	62-137	24		
Trichlorofluoromethane	<5.00	50.0	46.9	94	50.0	45.8	92	2	67-125	20		
1,2,3-Trichloropropane	<5.00	50.0	51.4	103	50.0	54.6	109	6	75-125	20		
1,2,4-Trimethylbenzene	<5.00	50.0	49.8	100	50.0	50.0	100	0	75-125	20		
1,3,5-Trimethylbenzene	<5.00	50.0	49.8	100	50.0	50.3	101	1	70-125	20		
o-Xylene	<5.00	50.0	48.7	97	50.0	47.8	96	2	75-125	20		
m,p-Xylenes	<10.0	100	95.4	95	100	93.7	94	2	75-125	20		
Vinyl Acetate	<50.0	100	106	106	100	104	104	2	60-140	20		
Vinyl Chloride	<2.00	50.0	47.8	96	50.0	46.6	93	3	75-125	20		

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference RPD = 200*(C-F)/(C+F)

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E



Shell Oil Products Chain Of Custody Record

LAB (LOCATION)

4143 Greenbular Dr., Safford, TX 77437

XENCO () PH-281-240-4200 FAX-281-240-4200

ON SCIENCE ()

TEST AMERICA ()

SPL ()

OTHER ()

ENV. SERVICES

MOTIVA SERVICES

MOTIVA SDRCH

SHELL PIPELINE

Print Bill To Contact Name:

Wendy Pennington

PO #

SAP #

INCIDENT # (ENV SERVICES)

9 7 2 1 8 8 4 0

CHECK IF NO INCIDENT & APPLIES

DATE: 10/29/10

PAGE: 1 of 1

CONSULTANT PROJECT NAME (NO)

ROXANA-Route 111 / 21582291.00006

LAB USE ONLY

395411-H

SHIPMENT NAME (SHIP)

WENDY PENNINGTON

800 S. CENTRAL AVENUE; ROXANA, ILLINOIS 62084

900 S. CENTRAL AVENUE; ROXANA, ILLINOIS 62084

CONSULTANT PROJECT NAME (NO)

WENDY PENNINGTON

800 S. CENTRAL AVENUE; ROXANA, ILLINOIS 62084

CONSULTANT PROJECT NAME (NO)

WENDY PENNINGTON

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CONSULTANT PROJECT NAME (NO)

WENDY PENNINGTON

800 S. CENTRAL AVENUE; ROXANA, ILLINOIS 62084

CONSULTANT PROJECT NAME (NO)

WENDY PENNINGTON

ST. LOUIS, MISSOURI 63110

OFF: 314-743-4180

OFF: 314-743-4188

CELL: 314-452-8929

CELL: 314-452-8929

TURNAROUND TIME (CALENDAR DAYS)

STANDARD (10 DAY)

5 DAYS

3 DAYS

2 DAYS

DELIVERABLES:

LEVEL 1

LEVEL 2

LEVEL 4

OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT °C

Cooler #1

Cooler #2

Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:

Please include "J" values on Level 2 Reports

Please provide sample receipt upon login.

Shell CONTRACT RATE APPLIES

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Prelogin/Nonconformance Report- Sample Log-In

Client: URS
Date/ Time Received: 10/30/10 9:30
WO ID #: 395411
Initials of Sample Receipt Person: Q-m
Checklist completed by, date/time: Q-m 10/30/10
Checklist reviewed by, date/time: _____

Acceptable Temperature Range: 0-6° C
Acceptable pH Range(s):
<2 for samples preserved with HNO₃, HCL, H₂SO₄
>10 for samples preserved with NaAsO₂+NaOH, ZnAc+NaOH
Temperature Measuring device used: R-29 IR

Sample Receipt Checklist

Cooler Number: 2951 / /
Weight of Cooler: 52 / /
4.2 °C

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

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Notes on pH check: PH OKAY

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____
Regarding: _____

Corrective Action Taken: _____

FedEx. US Airbill
Express

FedEx Tracking Number

8731 2046 4519

1 From This portion can be removed for Recipient's records.

 Date 1/11/10 FedEx Tracking Number 873120464519

RECIPIENT: PEEL HERE

 Sender Seneca Pennington Phone 429 0150

 Company Compas Corp

 Address 1001 Highland Village Dr

 City Land O Lakes State MO ZIP 63102

2 Your Internal Billing Reference

 3 To Recipient's Name XENCO LABORATORIES INC Phone 281 240-4300

 Company XENCO LABORATORIES INC

 Address 143 GREENBRIAR DR

We cannot deliver to PO boxes or 90 ZIP codes.

 Address STAFFORD

Use this line for the HOD location address or for confirmation of your shipping address.

 City STAFFORD State TX ZIP 77477

0423009527



8731 2046 4519

Recipient's Copy

 4a Express Package Service **Packages up to 150 lbs.**
☒ FedEx Priority Overnight **FedEx First Overnight** ☐ **FedEx Standard Overnight** ☐ **FedEx 2Day** ☐ **FedEx Express Saver** ☐
☐ **FedEx 2Day** ☐ **FedEx Express Saver** ☐ **FedEx 2Day** ☐ **FedEx Express Saver** ☐

 4b Express Freight Service **Packages over 150 lbs.**
☐ **FedEx 1Day Freight** ☐ **FedEx 2Day Freight** ☐ **FedEx 3Day Freight** ☐
☐ **FedEx 1Day Freight** ☐ **FedEx 2Day Freight** ☐ **FedEx 3Day Freight** ☐

 5 Packaging ☐ **FedEx Envelope*** ☐ **FedEx Box** ☐ **FedEx Tube** ☒ **Other**
☐ **FedEx Envelope*** ☐ **FedEx Box** ☐ **FedEx Tube** ☒ **Other**

6 Special Handling and Delivery Signature Options

☒ **SATURDAY Delivery** ☐ **Signature Required** ☐ **Signature Required** ☐
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URS Corporation
1001 Highlands Plaza Drive West
Suite 300
St Louis, MO 63110

Signature: _____

Date: _____

[Handwritten signature]

0-29-10

4TH Quarter Groundwater Sampling
Analytical Data

SDG 394976

SDG 397190

SDG 397708

Roxana Groundwater Quarterly – 4th Quarter 2010

Laboratory SDG: 394976

Reviewer: Elizabeth Kunkel

Date Reviewed: 12/9/2010

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

Sample Identification	Sample Identification
P93A-102610	P93B-102610
P93C-102610	P93D-102610
TB-102610	

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 SVOC surrogate recoveries were outside evaluation criteria in samples P93A-102610 and P93C-102610. SVOC LCS/LCSD recoveries and LCS/LCSD RPDs were outside evaluation criteria. Additionally, bis(2-ethylhexyl) phthalate was detected in the method blank. Samples were diluted due to high levels of target analytes. These issues are addressed further in the appropriate sections below.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within 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
577290-1-BKS	SVOCs	Bis(2-ethylhexyl) phthalate	0.001 mg/L

Qualifications due to blank contamination are included in the following table. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
P93C-102610	SVOCs	Bis(2-ethylhexyl) phthalate	-	U

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/RPD Criteria
577290-1-BKS	SVOCs	2-Methylnaphthalene	88/116	27	25-175/25
577290-1-BKS	SVOCs	4-Nitrophenol	92/94	2	10-80/50
577290-1-BKS	SVOCs	Pentachlorophenol	44/74	51	17-117/50

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. Data does not require qualification based on RPD alone outside evaluation criteria. No qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery	Criteria
P93A-102610	SVOCs	2,4,6-Tribromophenol	128	10-123
P93C-102610	SVOCs	2,4,6-Tribromophenol	136	10-123

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
P93A-102610	SVOCs	Phenol	J

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

Yes, sample P93C-102610 was spiked and analyzed for VOCs.

Were MS/MSD recoveries within evaluation criteria?

Yes

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

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

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

No

Analytical Report 394976

for

URS Corporation-St. Louis

Project Manager: Wendy Pennington

900 South Central Ave

Roxana Quarterly/21562291.00009

10-NOV-10



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



Reviewed

on

12/9/2010

4143 Greenbriar Dr., Stafford, TX 77477

Ph:(281) 240-4200 Fax:(281) 240-4280

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)

Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)

New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)

Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AAL11), West Virginia (362), Kentucky (85)

Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)

Xenco-Boca Raton (EPA Lab Code: FL01273):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)

North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



10-NOV-10

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

Reference: XENCO Report No: **394976**
900 South Central Ave
Project Address: Roxana, IL

Wendy Pennington:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 394976. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 394976 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Carlos Castro

Managing Director, Texas

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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Sample Cross Reference 394976



URS Corporation-St. Louis, St. Louis, MO
900 South Central Ave

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
P93A-102610 ✓	W	Oct-26-10 09:50		394976-001
P93B-102610 ✓	W	Oct-26-10 11:15		394976-002
P93C-102610 ✓	W	Oct-26-10 10:15		394976-003
P93D-102610 ✓	W	Oct-26-10 11:20		394976-004
TB-102610 ✓	W	Oct-26-10 00:00		394976-005



CASE NARRATIVE

Client Name: URS Corporation-St. Louis
Project Name: 900 South Central Ave



Project ID: Roxana Quarterly/215622
Work Order Number: 394976

Report Date: 10-NOV-10
Date Received: 10/27/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-829867 SVOAs by SW-846 8270C
SW8270C

Batch 829867, 2-Methylnaphthalene, Pentachlorophenol RPD was outside laboratory control limits.

Samples affected are: 394976-002, -001, -003, -004

SW8270C

Batch 829867, 2,4,6-Tribromophenol recovered above QC limits . Matrix interferences is suspected;

Samples affected are: 394976-002, 394976-003.

SW8270C

Batch 829867, 4-Nitrophenol recovered above QC limits in the Blank Spike and Duplicate.

Samples affected are: 394976-002, -001, -003, -004.

Sample surrogates not within laboratory control limits due to either samples being run at a dilution or sample matrix effects. If its sample matrix effects the sample was re-run to confirm.

Batch: LBA-831119 VOAs by SW-846 8260B
SW8260B

Batch 831119, Vinyl Acetate recovered above QC limits in the Matrix Spike.

Samples affected are: 394976-002, -001.

The Laboratory Control Sample for Vinyl Acetate is within laboratory Control Limits

Certificate of Analysis Summary 394976

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

Project Id: Roxana Quarterly/21562291.00009

Contact: Wendy Pennington

Project Location: Roxana, IL

Project Name: 900 South Central Ave

Date Received in Lab: Wed Oct-27-10 09:15 am

Report Date: 10-NOV-10

Project Manager: Debbie Simmons



Analysis Requested	Lab Id: Field Id: Depth: Matrix: Sampled:	394976-001 P93A-102610 WATER Oct-26-10 09:50	394976-002 P93B-102610 WATER Oct-26-10 11:15	394976-003 P93C-102610 WATER Oct-26-10 10:15	394976-004 P93D-102610 WATER Oct-26-10 11:20	394976-005 TB-102610 WATER Oct-26-10 00:00
		mg/L	mg/L	mg/L	mg/L	mg/L
SVOAs by SW-846 8270C	Extracted:	Oct-28-10 07:45	Oct-28-10 07:48	Oct-28-10 07:51	Oct-28-10 07:54	
	Analyzed:	Nov-10-10 13:25	Nov-10-10 13:25	Nov-10-10 13:25	Nov-10-10 13:25	
	Units/RL:	RL	RL	RL	RL	RL
Acenaphthene		U 0.009	U 0.009	U 0.009	U 0.010	
Acenaphthylene		U 0.009	U 0.009	U 0.009	U 0.010	
Aniline (Phenylamine, Aminobenzene)		U 0.019	U 0.019	U 0.019	U 0.019	
Anthracene		U 0.009	U 0.009	U 0.009	U 0.010	
Benzo(a)anthracene		U 0.009	U 0.009	U 0.009	U 0.010	
Benzo(a)pyrene		U 0.009	U 0.009	U 0.009	U 0.010	
Benzo(b)fluoranthene		U 0.009	U 0.009	U 0.009	U 0.010	
Benzo(k)fluoranthene		U 0.009	U 0.009	U 0.009	U 0.010	
Benzo(g,h,i)perylene		U 0.009	U 0.009	U 0.009	U 0.010	
Benzoic Acid		U 0.047	U 0.047	U 0.047	U 0.048	
Benzyl Butyl Phthalate		U 0.009	U 0.009	U 0.009	U 0.010	
bis(2-chloroethoxy) methane		U 0.009	U 0.009	U 0.009	U 0.010	
bis(2-chloroethyl) ether		U 0.009	U 0.009	U 0.009	U 0.010	
bis(2-chloroisopropyl) ether		U 0.009	U 0.009	U 0.009	U 0.010	
bis(2-ethylhexyl) phthalate		U 0.009	U 0.009	U 0.009	U 0.010	
4-Bromophenyl-phenylether		U 0.009	U 0.009	U 0.009	U 0.010	
4-chloro-3-methylphenol		U 0.009	U 0.009	U 0.009	U 0.010	
4-Chloroaniline		U 0.019	U 0.019	U 0.019	U 0.019	
2-Chloronaphthalene		U 0.009	U 0.009	U 0.009	U 0.010	
2-Chlorophenol		U 0.009	U 0.009	U 0.009	U 0.010	
4-Chlorophenyl Phenyl Ether		U 0.009	U 0.009	U 0.009	U 0.010	
Chrysene		U 0.009	U 0.009	U 0.009	U 0.010	
Dibenz(a,h)anthracene		U 0.009	U 0.009	U 0.009	U 0.010	
Dibenzofuran		U 0.009	U 0.009	U 0.009	U 0.010	
di-n-Butyl Phthalate		U 0.009	U 0.009	U 0.009	U 0.010	

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

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Version: 1.0%

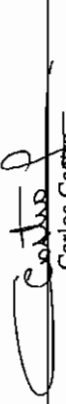
Carlos Castro
Managing Director, Texas

Analysis Requested	Lab Id:	394976-001	394976-002	394976-003	394976-004	394976-005
	Field Id:	P93A-102610	P93B-102610	P93C-102610	P93D-102610	TB-102610
Depth:						
Matrix:						
Sampled:						
Extracted:						
Analyzed:						
Units/RL:						
SVOAs by SW-846 8270C						
3,3-Dichlorobenzidine		U 0.009	U 0.009	U 0.009	U 0.010	
2,4-Dichlorophenol		U 0.009	U 0.009	U 0.009	U 0.010	
Diethyl Phthalate		U 0.009	U 0.009	U 0.009	U 0.010	
Dimethyl Phthalate		U 0.009	U 0.009	U 0.009	U 0.010	
2,4-Dimethylphenol		U 0.009	U 0.009	U 0.009	U 0.010	
4,6-dinitro-2-methyl phenol		U 0.009	U 0.009	U 0.009	U 0.010	
2,4-Dinitrophenol		U 0.019	U 0.019	U 0.019	U 0.019	
2,4-Dinitrotoluene		U 0.009	U 0.009	U 0.009	U 0.010	
2,6-Dinitrotoluene		U 0.009	U 0.009	U 0.009	U 0.010	
di-n-Octyl Phthalate		U 0.009	U 0.009	U 0.009	U 0.010	
Fluoranthene		U 0.009	U 0.009	U 0.009	U 0.010	
Fluorene		U 0.009	U 0.009	U 0.009	U 0.010	
Hexachlorobenzene		U 0.009	U 0.009	U 0.009	U 0.010	
Hexachlorocyclopentadiene		U 0.009	U 0.009	U 0.009	U 0.010	
Hexachloroethane		U 0.009	U 0.009	U 0.009	U 0.010	
Indeno(1,2,3-c,d)Pyrene		U 0.009	U 0.009	U 0.009	U 0.010	
Isophorone		U 0.009	U 0.009	U 0.009	U 0.010	
2-Methylnaphthalene		0.023 0.009	U 0.009	U 0.009	U 0.010	
2-methylphenol		U 0.009	U 0.009	U 0.009	U 0.010	
3&4-Methylphenol		U 0.009	U 0.009	U 0.009	U 0.010	
Naphthalene		0.095 D 0.094	U 0.009	U 0.009	U 0.010	
2-Nitroaniline		U 0.019	U 0.019	U 0.019	U 0.019	
3-Nitroaniline		U 0.019	U 0.019	U 0.019	U 0.019	
4-Nitroaniline		U 0.019	U 0.019	U 0.019	U 0.019	
Nitrobenzene		U 0.009	U 0.009	U 0.009	U 0.010	

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Carlos Castro

Managing Director, Texas



Certificate of Analysis Summary 394976

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

Project Name: 900 South Central Ave

Project Id: Roxana Quarterly/21562291.00009

Contact: Wendy Pennington

Project Location: Roxana, IL

Date Received in Lab: Wed Oct-27-10 09:15 am

Report Date: 10-NOV-10

Project Manager: Debbie Simmons



Analysis Requested	Lab Id:	394976-001	394976-002	394976-003	394976-004	394976-005
	Field Id:	P93A-102610	P93B-102610	P93C-102610	P93D-102610	TB-102610
	Depth:					
	Matrix:	WATER	WATER	WATER	WATER	WATER
	Sampled:	Oct-26-10 09:50	Oct-26-10 11:15	Oct-26-10 10:15	Oct-26-10 11:20	Oct-26-10 00:00
SVOAs by SW-846 8270C	Extracted:	Oct-28-10 07:45	Oct-28-10 07:48	Oct-28-10 07:51	Oct-28-10 07:54	
	Analyzed:	Nov-10-10 13:25	Nov-10-10 13:25	Nov-10-10 13:25	Nov-10-10 13:25	
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL	
	2-Nitrophenol	U 0.009	U 0.009	U 0.009	U 0.010	
	4-Nitrophenol	U 0.009	U 0.009	U 0.009	U 0.010	
	N-Nitrosodi-n-Propylamine	U 0.009	U 0.009	U 0.009	U 0.010	
	N-Nitrosodiphenylamine	U 0.009	U 0.009	U 0.009	U 0.010	
	Pentachlorophenol	U 0.009	U 0.009	U 0.009	U 0.010	
	Phenanthrene	U 0.009	U 0.009	U 0.009	U 0.010	
	Phenol	0.310 ~~0.094~~	0.094 0.009	U 0.009	U 0.010	
2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	Pyrene	U 0.009	U 0.009	U 0.009	U 0.010	
	Pyridine	U 0.019	U 0.019	U 0.019	U 0.019	
	2,4,5-Trichlorophenol	U 0.009	U 0.009	U 0.009	U 0.010	
	2,4,6-Trichlorophenol	U 0.009	U 0.009	U 0.009	U 0.010	

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Carlos Castro

Managing Director, Texas

Certificate of Analysis Summary 394976

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

Project Name: 900 South Central Ave



Project Id: Roxana Quarterly/21562291.00009
Contact: Wendy Pennington
Project Location: Roxana, IL

Date Received in Lab: Wed Oct-27-10 09:15 am
Report Date: 10-NOV-10
Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	394976-001	394976-002	394976-003	394976-004	394976-005
	Field Id:	P93A-102610	P93B-102610	P93C-102610	P93D-102610	TB-102610
Depth:						
Matrix:						
Sampled:						
Extracted:						
Analyzed:						
Units/RL:						
VOAs by SW-846 8260B						
Acetone		U 25000	U 10000	U 100	U 100	U 100
Benzene		422000 D 25000	189000 D 10000	U 5.00	42.9 U 5.00	U 5.00
Bromobenzene		U 1250	U 500	U 5.00	U 5.00	U 5.00
Bromochloromethane		U 1250	U 500	U 5.00	U 5.00	U 5.00
Bromodichloromethane		U 1250	U 500	U 5.00	U 5.00	U 5.00
Bromoform		U 1250	U 500	U 5.00	U 5.00	U 5.00
Bromomethane		U 1250	U 500	U 5.00	U 5.00	U 5.00
2-Butanone		U 12500	U 5000	U 50.0	U 50.0	U 50.0
MTBE		U 1250	U 500	1.36 J 5.00	12.2 U 5.00	U 5.00
n-Butylbenzene		U 1250	U 500	U 5.00	U 5.00	U 5.00
Sec-Butylbenzene		U 1250	U 500	U 5.00	U 5.00	U 5.00
tert-Butylbenzene		U 1250	U 500	U 5.00	U 5.00	U 5.00
Carbon Disulfide		U 12500	U 5000	U 50.0	U 50.0	U 50.0
Carbon Tetrachloride		U 1250	U 500	U 5.00	U 5.00	U 5.00
Chlorobenzene		U 1250	U 500	U 5.00	U 5.00	U 5.00
Chloroethane		U 2500	U 1000	U 10.0	U 10.0	U 10.0
Chloroform		U 1250	U 500	U 5.00	U 5.00	U 5.00
Chloromethane		U 2500	U 1000	U 10.0	U 10.0	U 10.0
2-Chlorotoluene		U 1250	U 500	U 5.00	U 5.00	U 5.00
4-Chlorotoluene		U 1250	U 500	U 5.00	U 5.00	U 5.00
p-Cymene (p-Isopropyltoluene)		U 1250	U 500	U 5.00	U 5.00	U 5.00
Dibromochloromethane		U 1250	U 500	U 5.00	U 5.00	U 5.00
1,2-Dibromo-3-Chloropropane		U 1250	U 500	U 5.00	U 5.00	U 5.00
Dibromomethane		U 1250	U 500	U 5.00	U 5.00	U 5.00
1,2-Dichlorobenzene		U 1250	U 500	U 5.00	U 5.00	U 5.00

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Version: 1.9%

Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 394976

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

Project Name: 900 South Central Ave

Project Id: Roxana Quarterly/21562291.00009

Contact: Wendy Pennington

Project Location: Roxana, IL



Date Received in Lab: Wed Oct-27-10 09:15 am

Report Date: 10-NOV-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	394976-001	394976-002	394976-003	394976-004	394976-005
	Field Id:	P93A-102610	P93B-102610	P93C-102610	P93D-102610	TB-102610
	Depth:					
	Matrix:	WATER	WATER	WATER	WATER	WATER
	Sampled:	Oct-26-10 09:50	Oct-26-10 11:15	Oct-26-10 10:15	Oct-26-10 11:20	Oct-26-10 00:00
VOAs by SW-846 8260B	Extracted:	Nov-06-10 19:49	Nov-06-10 19:51	Nov-06-10 19:42	Nov-06-10 19:46	Nov-06-10 19:40
	Analyzed:	Nov-07-10 00:52	Nov-07-10 01:38	Nov-06-10 22:11	Nov-06-10 22:34	Nov-06-10 21:26
	Units/RL:	ug/L RL	ug/L RL	ug/L RL	ug/L RL	ug/L RL
	1,3-Dichlorobenzene	U 1250	U 500	U 5.00	U 5.00	U 5.00
	1,4-Dichlorobenzene	U 1250	U 500	U 5.00	U 5.00	U 5.00
	Dichlorodifluoromethane	U 1250	U 500	U 5.00	U 5.00	U 5.00
	1,1-Dichloroethane	U 1250	U 500	U 5.00	U 5.00	U 5.00
	1,2-Dichloroethane	U 1250	U 500	U 5.00	U 5.00	U 5.00
	1,1-Dichloroethene	U 1250	U 500	U 5.00	U 5.00	U 5.00
	cis-1,2-Dichloroethene	U 1250	U 500	U 5.00	U 5.00	U 5.00
	trans-1,2-dichloroethene	U 1250	U 500	U 5.00	U 5.00	U 5.00
	1,2-Dichloropropane	U 1250	U 500	U 5.00	U 5.00	U 5.00
	1,3-Dichloropropane	U 1250	U 500	U 5.00	U 5.00	U 5.00
	2,2-Dichloropropane	U 1250	U 500	U 5.00	U 5.00	U 5.00
	1,1-Dichloropropene	U 1250	U 500	U 5.00	U 5.00	U 5.00
	cis-1,3-Dichloropropene	U 1250	U 500	U 5.00	U 5.00	U 5.00
	trans-1,3-dichloropropene	U 1250	U 500	U 5.00	U 5.00	U 5.00
	Ethylbenzene	320 J 1250	U 500	U 5.00	U 5.00	U 5.00
	Hexachlorobutadiene	U 1250	U 500	U 5.00	U 5.00	U 5.00
	isopropylbenzene	U 1250	U 500	U 5.00	U 5.00	U 5.00
	Methylene Chloride	U 1250	U 500	U 5.00	U 5.00	U 5.00
	n-Propylbenzene	U 1250	U 500	U 5.00	U 5.00	U 5.00
	Styrene	U 1250	U 500	U 5.00	U 5.00	U 5.00
	1,1,1,2-Tetrachloroethane	U 1250	U 500	U 5.00	U 5.00	U 5.00
	1,1,2,2-Tetrachloroethane	U 1250	U 500	U 5.00	U 5.00	U 5.00
	Tetrachloroethylene	U 1250	U 500	U 5.00	U 5.00	U 5.00
	Toluene	U 1250	U 500	U 5.00	U 5.00	U 5.00
	1,2,3-Trichlorobenzene	U 1250	U 500	U 5.00	U 5.00	U 5.00

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Managing Director, Texas



Certificate of Analysis Summary 394976

URS Corporation-St. Louis, St. Louis, MO
Project Name: 900 South Central Ave



Project Id: Roxana Quarterly/21562291.00009

Contact: Wendy Pennington

Project Location: Roxana, IL

Date Received in Lab: Wed Oct-27-10 09:15 am

Report Date: 10-NOV-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	394976-001	394976-002	394976-003	394976-004	394976-005
	Field Id:	P93A-102610	P93B-102610	P93C-102610	P93D-102610	TB-102610
	Depth:					
	Matrix:	WATER	WATER	WATER	WATER	WATER
	Sampled:	Oct-26-10 09:50	Oct-26-10 11:15	Oct-26-10 10:15	Oct-26-10 11:20	Oct-26-10 00:00
VOAs by SW-846 8260B	Extracted:	Nov-06-10 19:49	Nov-06-10 19:51	Nov-06-10 19:42	Nov-06-10 19:46	Nov-06-10 19:40
	Analyzed:	Nov-07-10 00:52	Nov-07-10 01:38	Nov-06-10 22:11	Nov-06-10 22:34	Nov-06-10 21:26
	Units/RL:	ug/L RL	ug/L RL	ug/L RL	ug/L RL	ug/L RL
	1,2,4-Trichlorobenzene	U 1250	U 500	U 5.00	U 5.00	U 5.00
	1,1,1-Trichloroethane	U 1250	U 500	U 5.00	U 5.00	U 5.00
	1,1,2-Trichloroethane	U 1250	U 500	U 5.00	U 5.00	U 5.00
	Trichloroethene	U 1250	U 500	U 5.00	U 5.00	U 5.00
	Trichlorofluoromethane	U 1250	U 500	U 5.00	U 5.00	U 5.00
	1,2,3-Trichloropropane	U 1250	U 500	U 5.00	U 5.00	U 5.00
	1,2,4-Trimethylbenzene	U 1250	U 500	U 5.00	U 5.00	U 5.00
	1,3,5-Trimethylbenzene	U 1250	U 500	U 5.00	U 5.00	U 5.00
	o-Xylene	U 1250	U 500	U 5.00	U 5.00	U 5.00
	m,p-Xylenes	543 J 2500	U 1000	U 10.0	U 10.0	U 10.0
Vinyl Chloride		U 12500	U 5000	U 50.0	U 50.0	U 50.0
		U 500	U 200	U 2.00	U 2.00	U 2.00

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Carlos Castro
Managing Director, Texas



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : VOAs by SW-846 8260B

Client : URS Corporation-St. Louis

Work Order #: 394976

Project ID: Roxana Quarterly/21562291.0

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
P93B-102610	Oct. 26, 2010	Oct. 27, 2010				Nov.7, 2010	14	12	P
P93D-102610	Oct. 26, 2010	Oct. 27, 2010				Nov.6, 2010	14	11	P
P93C-102610	Oct. 26, 2010	Oct. 27, 2010				Nov.6, 2010	14	11	P
P93A-102610	Oct. 26, 2010	Oct. 27, 2010				Nov.7, 2010	14	12	P
TB-102610	Oct. 26, 2010	Oct. 27, 2010				Nov.6, 2010	14	11	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : SVOAs by SW-846 8270C

Client : URS Corporation-St. Louis

Work Order #: 394976

Project ID: Roxana Quarterly/21562291.0

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
P93C-102610	Oct. 26, 2010	Oct. 27, 2010	Oct. 28, 2010	7	2	Nov.10, 2010	40	13	P
P93D-102610	Oct. 26, 2010	Oct. 27, 2010	Oct. 28, 2010	7	2	Nov.10, 2010	40	13	P
P93A-102610	Oct. 26, 2010	Oct. 27, 2010	Oct. 28, 2010	7	2	Nov.10, 2010	40	13	P
P93B-102610	Oct. 26, 2010	Oct. 27, 2010	Oct. 28, 2010	7	2	Nov.10, 2010	40	13	P

F = These samples were analyzed outside the recommended holding time.

P = Samples analyzed within the recommended holding time.

Flagging Criteria

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

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5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



Form 2 - Surrogate Recoveries

Project Name: 900 South Central Ave

Work Orders : 394976,

Project ID: Roxana Quarterly/21562291.00009

Lab Batch #: 829867

Sample: 577290-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/01/10 11:24

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.028	0.050	56	43-116	
2-Fluorophenol	0.030	0.050	60	21-100	
Nitrobenzene-d5	0.028	0.050	56	35-114	
Phenol-d6	0.020	0.050	40	10-94	
Terphenyl-D14	0.033	0.050	66	33-141	
2,4,6-Tribromophenol	0.049	0.050	98	10-123	

Lab Batch #: 829867

Sample: 577290-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/01/10 11:48

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.029	0.050	58	43-116	
2-Fluorophenol	0.032	0.050	64	21-100	
Nitrobenzene-d5	0.028	0.050	56	35-114	
Phenol-d6	0.024	0.050	48	10-94	
Terphenyl-D14	0.031	0.050	62	33-141	
2,4,6-Tribromophenol	0.056	0.050	112	10-123	

Lab Batch #: 829867

Sample: 577290-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/01/10 12:12

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.029	0.050	58	43-116	
2-Fluorophenol	0.031	0.050	62	21-100	
Nitrobenzene-d5	0.028	0.050	56	35-114	
Phenol-d6	0.024	0.050	48	10-94	
Terphenyl-D14	0.031	0.050	62	33-141	
2,4,6-Tribromophenol	0.057	0.050	114	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 South Central Ave

Work Orders : 394976,

Project ID: Roxana Quarterly/21562291.00009

Lab Batch #: 829867

Sample: 394976-002 / DL

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/03/10 17:41

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.029	0.047	62	43-116	
2-Fluorophenol	0.026	0.047	55	21-100	
Nitrobenzene-d5	0.028	0.047	60	35-114	
Phenol-d6	0.019	0.047	40	10-94	
Terphenyl-D14	0.032	0.047	68	33-141	
2,4,6-Tribromophenol	0.060	0.047	128	10-123	***

Lab Batch #: 829867

Sample: 394976-001 / DL

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/09/10 13:56

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.037	0.047	79	43-116	
2-Fluorophenol	0.035	0.047	74	21-100	
Nitrobenzene-d5	0.038	0.047	81	35-114	
Phenol-d6	0.020	0.047	43	10-94	
Terphenyl-D14	0.040	0.047	85	33-141	
2,4,6-Tribromophenol	0.024	0.047	51	10-123	

Lab Batch #: 829867

Sample: 394976-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/10/10 13:25

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.022	0.047	47	43-116	
2-Fluorophenol	0.027	0.047	57	21-100	
Nitrobenzene-d5	0.021	0.047	45	35-114	
Phenol-d6	0.019	0.047	40	10-94	
Terphenyl-D14	0.024	0.047	51	33-141	
2,4,6-Tribromophenol	0.043	0.047	91	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 South Central Ave

Work Orders : 394976,

Project ID: Roxana Quarterly/21562291.00009

Lab Batch #: 829867

Sample: 394976-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/10/10 13:25

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.026	0.047	55	43-116	
2-Fluorophenol	0.023	0.047	49	21-100	
Nitrobenzene-d5	0.025	0.047	53	35-114	
Phenol-d6	0.017	0.047	36	10-94	
Terphenyl-D14	0.030	0.047	64	33-141	
2,4,6-Tribromophenol	0.055	0.047	117	10-123	

Lab Batch #: 829867

Sample: 394976-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/10/10 13:25

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.033	0.047	70	43-116	
2-Fluorophenol	0.027	0.047	57	21-100	
Nitrobenzene-d5	0.031	0.047	66	35-114	
Phenol-d6	0.018	0.047	38	10-94	
Terphenyl-D14	0.038	0.047	81	33-141	
2,4,6-Tribromophenol	0.064	0.047	136	10-123	**

Lab Batch #: 829867

Sample: 394976-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/10/10 13:25

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.025	0.048	52	43-116	
2-Fluorophenol	0.020	0.048	42	21-100	
Nitrobenzene-d5	0.023	0.048	48	35-114	
Phenol-d6	0.010	0.048	21	10-94	
Terphenyl-D14	0.027	0.048	56	33-141	
2,4,6-Tribromophenol	0.047	0.048	98	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 South Central Ave

Work Orders : 394976,

Project ID: Roxana Quarterly/21562291.00009

Lab Batch #: 831101

Sample: 578196-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/06/10 19:51

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0482	0.0500	96	74-124	
Dibromofluoromethane	0.0469	0.0500	94	75-131	
1,2-Dichloroethane-D4	0.0466	0.0500	93	63-144	
Toluene-D8	0.0510	0.0500	102	80-117	

Lab Batch #: 831101

Sample: 578196-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/06/10 21:03

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0466	0.0500	93	74-124	
Dibromofluoromethane	0.0467	0.0500	93	75-131	
1,2-Dichloroethane-D4	0.0474	0.0500	95	63-144	
Toluene-D8	0.0509	0.0500	102	80-117	

Lab Batch #: 831101

Sample: 394976-005 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/06/10 21:26

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0471	0.0500	94	74-124	
Dibromofluoromethane	0.0481	0.0500	96	75-131	
1,2-Dichloroethane-D4	0.0472	0.0500	94	63-144	
Toluene-D8	0.0512	0.0500	102	80-117	

Lab Batch #: 831101

Sample: 394976-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/06/10 22:11

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0474	0.0500	95	74-124	
Dibromofluoromethane	0.0473	0.0500	95	75-131	
1,2-Dichloroethane-D4	0.0475	0.0500	95	63-144	
Toluene-D8	0.0509	0.0500	102	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 South Central Ave

Work Orders : 394976,

Project ID: Roxana Quarterly/21562291.00009

Lab Batch #: 831101

Sample: 394976-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/06/10 22:34

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0484	0.0500	97	74-124	
Dibromofluoromethane	0.0481	0.0500	96	75-131	
1,2-Dichloroethane-D4	0.0508	0.0500	102	63-144	
Toluene-D8	0.0514	0.0500	103	80-117	

Lab Batch #: 831101

Sample: 394976-003 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/06/10 22:57

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0484	0.0500	97	74-124	
Dibromofluoromethane	0.0480	0.0500	96	75-131	
1,2-Dichloroethane-D4	0.0500	0.0500	100	63-144	
Toluene-D8	0.0502	0.0500	100	80-117	

Lab Batch #: 831101

Sample: 394976-003 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/06/10 23:20

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0485	0.0500	97	74-124	
Dibromofluoromethane	0.0479	0.0500	96	75-131	
1,2-Dichloroethane-D4	0.0485	0.0500	97	63-144	
Toluene-D8	0.0509	0.0500	102	80-117	

Lab Batch #: 831101

Sample: 394976-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/07/10 00:52

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0477	0.0500	95	74-124	
Dibromofluoromethane	0.0472	0.0500	94	75-131	
1,2-Dichloroethane-D4	0.0522	0.0500	104	63-144	
Toluene-D8	0.0496	0.0500	99	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: 900 South Central Ave

Work Orders : 394976,

Project ID: Roxana Quarterly/21562291.00009

Lab Batch #: 831101

Sample: 394976-001 / DL

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/07/10 01:15

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0476	0.0500	95	74-124	
Dibromofluoromethane	0.0490	0.0500	98	75-131	
1,2-Dichloroethane-D4	0.0488	0.0500	98	63-144	
Toluene-D8	0.0499	0.0500	100	80-117	

Lab Batch #: 831101

Sample: 394976-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/07/10 01:38

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0473	0.0500	95	74-124	
Dibromofluoromethane	0.0487	0.0500	97	75-131	
1,2-Dichloroethane-D4	0.0490	0.0500	98	63-144	
Toluene-D8	0.0497	0.0500	99	80-117	

Lab Batch #: 831101

Sample: 394976-002 / DL

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/07/10 02:01

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0473	0.0500	95	74-124	
Dibromofluoromethane	0.0492	0.0500	98	75-131	
1,2-Dichloroethane-D4	0.0516	0.0500	103	63-144	
Toluene-D8	0.0507	0.0500	101	80-117	

Lab Batch #: 831119

Sample: 578202-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/07/10 16:23

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0491	0.0500	98	74-124	
Dibromofluoromethane	0.0477	0.0500	95	75-131	
1,2-Dichloroethane-D4	0.0479	0.0500	96	63-144	
Toluene-D8	0.0501	0.0500	100	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \cdot A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 South Central Ave

Work Orders : 394976,

Project ID: Roxana Quarterly/21562291.00009

Lab Batch #: 831119

Sample: 578202-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/07/10 17:12

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0489	0.0500	98	74-124	
Dibromofluoromethane	0.0456	0.0500	91	75-131	
1,2-Dichloroethane-D4	0.0486	0.0500	97	63-144	
Toluene-D8	0.0510	0.0500	102	80-117	

Lab Batch #: 831119

Sample: 395119-004 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/07/10 17:58

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0493	0.0500	99	74-124	
Dibromofluoromethane	0.0468	0.0500	94	75-131	
1,2-Dichloroethane-D4	0.0484	0.0500	97	63-144	
Toluene-D8	0.0511	0.0500	102	80-117	

Lab Batch #: 831119

Sample: 395119-004 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/07/10 18:21

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0487	0.0500	97	74-124	
Dibromofluoromethane	0.0466	0.0500	93	75-131	
1,2-Dichloroethane-D4	0.0501	0.0500	100	63-144	
Toluene-D8	0.0504	0.0500	101	80-117	

Lab Batch #: 831119

Sample: 394976-001 / DL

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/07/10 19:07

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0478	0.0500	96	74-124	
Dibromofluoromethane	0.0471	0.0500	94	75-131	
1,2-Dichloroethane-D4	0.0482	0.0500	96	63-144	
Toluene-D8	0.0506	0.0500	101	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 South Central Ave

Work Orders : 394976,

Project ID: Roxana Quarterly/21562291.00009

Lab Batch #: 831119

Sample: 394976-002 / DL

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/07/10 19:30

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0484	0.0500	97	74-124	
Dibromofluoromethane	0.0485	0.0500	97	75-131	
1,2-Dichloroethane-D4	0.0485	0.0500	97	63-144	
Toluene-D8	0.0499	0.0500	100	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Blank Spike Recovery



Project Name: 900 South Central Ave

Work Order #: 394976

Project ID: Roxana Quarterly/21562291.00009

Lab Batch #: 831101

Sample: 578196-1-BKS

Matrix: Water

Date Analyzed: 11/06/2010

Date Prepared: 11/06/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Acetone	<20.0	100	87.0	87	60-140	
Benzene	<1.00	50.0	47.3	95	66-142	
Bromobenzene	<1.00	50.0	47.1	94	75-125	
Bromochloromethane	<1.00	50.0	44.5	89	73-125	
Bromodichloromethane	<1.00	50.0	46.5	93	75-125	
Bromoform	<1.00	50.0	43.7	87	75-125	
Bromomethane	<1.00	50.0	45.8	92	70-130	
2-Butanone	<10.0	100	87.3	87	60-140	
MTBE	<1.00	50.0	42.2	84	65-135	
n-Butylbenzene	<1.00	50.0	46.1	92	75-125	
Sec-Butylbenzene	<1.00	50.0	47.6	95	75-125	
tert-Butylbenzene	<1.00	50.0	47.7	95	75-125	
Carbon Disulfide	<10.0	50.0	39.6	79	60-140	
Carbon Tetrachloride	<1.00	50.0	44.7	89	62-125	
Chlorobenzene	<1.00	50.0	47.1	94	60-133	
Chloroethane	<2.00	50.0	46.5	93	70-130	
Chloroform	<1.00	50.0	43.9	88	74-125	
Chloromethane	<2.00	50.0	47.4	95	70-130	
2-Chlorotoluene	<1.00	50.0	47.8	96	73-125	
4-Chlorotoluene	<1.00	50.0	45.8	92	74-125	
p-Cymene (p-Isopropyltoluene)	<1.00	50.0	48.3	97	75-125	
Dibromochloromethane	<1.00	50.0	44.5	89	73-125	
1,2-Dibromo-3-Chloropropane	<1.00	50.0	43.7	87	59-125	
Dibromomethane	<1.00	50.0	49.3	99	69-127	
1,2-Dichlorobenzene	<1.00	50.0	48.1	96	75-125	
1,3-Dichlorobenzene	<1.00	50.0	48.5	97	75-125	
1,4-Dichlorobenzene	<1.00	50.0	47.2	94	75-125	
Dichlorodifluoromethane	<1.00	50.0	47.1	94	70-130	
1,1-Dichloroethane	<1.00	50.0	46.9	94	72-125	
1,2-Dichloroethane	<1.00	50.0	47.0	94	68-127	
1,1-Dichloroethene	<1.00	50.0	44.0	88	59-172	
cis-1,2-Dichloroethene	<1.00	50.0	45.4	91	75-125	
trans-1,2-dichloroethene	<1.00	50.0	44.2	88	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 South Central Ave

Work Order #: 394976

Project ID: Roxana Quarterly/21562291.00009

Lab Batch #: 831101

Sample: 578196-1-BKS

Matrix: Water

Date Analyzed: 11/06/2010

Date Prepared: 11/06/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK/BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,2-Dichloropropane	<1.00	50.0	48.5	97	74-125	
1,3-Dichloropropane	<1.00	50.0	46.5	93	75-125	
2,2-Dichloropropane	<1.00	50.0	47.0	94	75-125	
1,1-Dichloropropene	<1.00	50.0	40.1	80	75-125	
cis-1,3-Dichloropropene	<1.00	50.0	48.5	97	74-125	
trans-1,3-dichloropropene	<1.00	50.0	46.9	94	66-125	
Ethylbenzene	<1.00	50.0	47.8	96	75-125	
Hexachlorobutadiene	<1.00	50.0	49.4	99	75-125	
isopropylbenzene	<1.00	50.0	45.1	90	75-125	
Methylene Chloride	<1.00	50.0	44.4	89	75-125	
n-Propylbenzene	<1.00	50.0	48.5	97	75-125	
Styrene	<1.00	50.0	48.7	97	75-125	
1,1,1,2-Tetrachloroethane	<1.00	50.0	45.9	92	72-125	
1,1,2,2-Tetrachloroethane	<1.00	50.0	46.8	94	74-125	
Tetrachloroethylene	<1.00	50.0	49.5	99	71-125	
Toluene	<1.00	50.0	47.6	95	59-139	
1,2,3-Trichlorobenzene	<1.00	50.0	49.2	98	75-137	
1,2,4-Trichlorobenzene	<1.00	50.0	50.0	100	75-135	
1,1,1-Trichloroethane	<1.00	50.0	43.9	88	75-125	
1,1,2-Trichloroethane	<1.00	50.0	48.8	98	75-127	
Trichloroethene	<1.00	50.0	46.8	94	62-137	
Trichlorofluoromethane	<1.00	50.0	50.1	100	67-125	
1,2,3-Trichloropropane	<1.00	50.0	48.6	97	75-125	
1,2,4-Trimethylbenzene	<1.00	50.0	46.6	93	75-125	
1,3,5-Trimethylbenzene	<1.00	50.0	47.3	95	70-125	
o-Xylene	<1.00	50.0	50.8	102	75-125	
m,p-Xylenes	<2.00	100	96.9	97	75-125	
Vinyl Acetate	<10.0	100	96.5	97	60-140	
Vinyl Chloride	<0.400	50.0	51.0	102	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 South Central Ave

Work Order #: 394976

Project ID: Roxana Quarterly/21562291.00009

Lab Batch #: 831119

Sample: 578202-1-BKS

Matrix: Water

Date Analyzed: 11/07/2010

Date Prepared: 11/07/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Acetone	<20.0	100	88.9	89	60-140	
Benzene	<1.00	50.0	45.0	90	66-142	
Bromobenzene	<1.00	50.0	47.3	95	75-125	
Bromochloromethane	<1.00	50.0	45.1	90	73-125	
Bromodichloromethane	<1.00	50.0	44.7	89	75-125	
Bromoform	<1.00	50.0	41.7	83	75-125	
Bromomethane	<1.00	50.0	43.2	86	70-130	
2-Butanone	<10.0	100	94.0	94	60-140	
MTBE	<1.00	50.0	42.8	86	65-135	
n-Butylbenzene	<1.00	50.0	43.7	87	75-125	
Sec-Butylbenzene	<1.00	50.0	46.5	93	75-125	
tert-Butylbenzene	<1.00	50.0	47.0	94	75-125	
Carbon Disulfide	<10.0	50.0	35.7	71	60-140	
Carbon Tetrachloride	<1.00	50.0	41.9	84	62-125	
Chlorobenzene	<1.00	50.0	44.8	90	60-133	
Chloroethane	<2.00	50.0	43.8	88	70-130	
Chloroform	<1.00	50.0	43.3	87	74-125	
Chloromethane	<2.00	50.0	42.8	86	70-130	
2-Chlorotoluene	<1.00	50.0	46.0	92	73-125	
4-Chlorotoluene	<1.00	50.0	44.3	89	74-125	
p-Cymene (p-Isopropyltoluene)	<1.00	50.0	47.1	94	75-125	
Dibromochloromethane	<1.00	50.0	43.7	87	73-125	
1,2-Dibromo-3-Chloropropane	<1.00	50.0	45.2	90	59-125	
Dibromomethane	<1.00	50.0	46.4	93	69-127	
1,2-Dichlorobenzene	<1.00	50.0	47.5	95	75-125	
1,3-Dichlorobenzene	<1.00	50.0	47.9	96	75-125	
1,4-Dichlorobenzene	<1.00	50.0	46.5	93	75-125	
Dichlorodifluoromethane	<1.00	50.0	42.4	85	70-130	
1,1-Dichloroethane	<1.00	50.0	45.9	92	72-125	
1,2-Dichloroethane	<1.00	50.0	45.9	92	68-127	
1,1-Dichloroethene	<1.00	50.0	41.8	84	59-172	
cis-1,2-Dichloroethene	<1.00	50.0	44.1	88	75-125	
trans-1,2-dichloroethene	<1.00	50.0	42.7	85	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit



Blank Spike Recovery



Project Name: 900 South Central Ave

Work Order #: 394976

Project ID: Roxana Quarterly/21562291.00009

Lab Batch #: 831119

Sample: 578202-1-BKS

Matrix: Water

Date Analyzed: 11/07/2010

Date Prepared: 11/07/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,2-Dichloropropane	<1.00	50.0	46.4	93	74-125	
1,3-Dichloropropane	<1.00	50.0	46.0	92	75-125	
2,2-Dichloropropane	<1.00	50.0	44.7	89	75-125	
1,1-Dichloropropene	<1.00	50.0	37.9	76	75-125	
cis-1,3-Dichloropropene	<1.00	50.0	46.8	94	74-125	
trans-1,3-dichloropropene	<1.00	50.0	46.1	92	66-125	
Ethylbenzene	<1.00	50.0	45.7	91	75-125	
Hexachlorobutadiene	<1.00	50.0	45.8	92	75-125	
isopropylbenzene	<1.00	50.0	44.5	89	75-125	
Methylene Chloride	<1.00	50.0	42.0	84	75-125	
n-Propylbenzene	<1.00	50.0	48.0	96	75-125	
Styrene	<1.00	50.0	46.3	93	75-125	
1,1,1,2-Tetrachloroethane	<1.00	50.0	44.2	88	72-125	
1,1,2,2-Tetrachloroethane	<1.00	50.0	49.1	98	74-125	
Tetrachloroethylene	<1.00	50.0	47.7	95	71-125	
Toluene	<1.00	50.0	45.9	92	59-139	
1,2,3-Trichlorobenzene	<1.00	50.0	46.0	92	75-137	
1,2,4-Trichlorobenzene	<1.00	50.0	46.4	93	75-135	
1,1,1-Trichloroethane	<1.00	50.0	41.9	84	75-125	
1,1,2-Trichloroethane	<1.00	50.0	47.7	95	75-127	
Trichloroethene	<1.00	50.0	44.2	88	62-137	
Trichlorofluoromethane	<1.00	50.0	46.4	93	67-125	
1,2,3-Trichloropropane	<1.00	50.0	50.5	101	75-125	
1,2,4-Trimethylbenzene	<1.00	50.0	45.5	91	75-125	
1,3,5-Trimethylbenzene	<1.00	50.0	46.7	93	70-125	
o-Xylene	<1.00	50.0	47.1	94	75-125	
m,p-Xylenes	<2.00	100	92.0	92	75-125	
Vinyl Acetate	<10.0	100	95.0	95	60-140	
Vinyl Chloride	<0.400	50.0	46.5	93	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 South Central Ave

Work Order #: 394976

Analyst: DAE

Lab Batch ID: 829867

Sample: 577290-1-BKS

Date Prepared: 10/28/2010

Batch #: 1

Project ID: Roxana Quarterly/21562291.00009

Date Analyzed: 11/01/2010

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/L											
SVOAs by SW-846 8270C	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Acenaphthene	<0.001	0.050	0.047	94	0.05	0.048	96	2	27-132	31	
Acenaphthylene	<0.003	0.050	0.047	94	0.05	0.048	96	2	46-108	25	
Aniline (Phenylamine, Aminobenzene)	<0.001	0.050	0.038	76	0.05	0.037	74	3	5-115	25	
Anthracene	<0.001	0.050	0.048	96	0.05	0.051	102	6	47-145	25	
Benzo(a)anthracene	<0.001	0.050	0.050	100	0.05	0.052	104	4	33-143	25	
Benzo(a)pyrene	<0.001	0.050	0.053	106	0.05	0.055	110	4	65-135	25	
Benzo(b)fluoranthene	<0.001	0.050	0.051	102	0.05	0.053	106	4	24-159	25	
Benzo(k)fluoranthene	<0.001	0.050	0.054	108	0.05	0.056	112	4	25-125	25	
Benzo(g,h,i)perylene	<0.001	0.050	0.054	108	0.05	0.055	110	2	65-135	25	
Benzoic Acid	<0.012	0.150	0.123	82	0.15	0.142	95	14	30-115	40	
Benzyl Butyl Phthalate	<0.001	0.050	0.049	98	0.05	0.051	102	4	65-135	25	
bis(2-chloroethoxy) methane	<0.001	0.050	0.041	82	0.05	0.041	82	0	54-188	25	
bis(2-chloroethyl) ether	<0.001	0.050	0.042	84	0.05	0.042	84	0	65-135	25	
bis(2-chloroisopropyl) ether	<0.001	0.050	0.039	78	0.05	0.039	78	0	65-135	25	
bis(2-ethylhexyl) phthalate	0.001	0.050	0.051	102	0.05	0.052	104	2	8-158	25	
4-Bromophenyl-phenylether	<0.001	0.050	0.051	102	0.05	0.054	108	6	65-135	25	
4-chloro-3-methylphenol	<0.001	0.050	0.048	96	0.05	0.050	100	4	16-129	33	
4-Chloroaniline	<0.004	0.050	0.048	96	0.05	0.049	98	2	9-128	25	
2-Chloronaphthalene	<0.003	0.050	0.046	92	0.05	0.046	92	0	65-135	25	
2-Chlorophenol	<0.002	0.050	0.043	86	0.05	0.045	90	5	16-116	40	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C/[B])$
Blank Spike Duplicate Recovery [G] = $100 * (F/[E])$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 South Central Ave

Work Order #: 394976

Analyst: DAE

Lab Batch ID: 829867

Sample: 577290-1-BKS

Units: mg/L

Date Prepared: 10/28/2010

Batch #: 1

Project ID: Roxana Quarterly/21562291.00009

Date Analyzed: 11/01/2010

Matrix: Water

SVOAs by SW-846 8270C		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
4-Chlorophenyl Phenyl Ether		<0.001	0.050	0.048	96	0.05	0.050	100	4	65-135	25	
Chrysene		<0.001	0.050	0.050	100	0.05	0.052	104	4	65-135	25	
Dibenz(a,h)anthracene		<0.001	0.050	0.054	108	0.05	0.056	112	4	50-125	25	
Dibenzofuran		<0.003	0.050	0.048	96	0.05	0.050	100	4	52-125	25	
di-n-Butyl Phthalate		<0.001	0.050	0.051	102	0.05	0.053	106	4	49-135	50	
3,3-Dichlorobenzidine		<0.003	0.050	0.049	98	0.05	0.048	96	2	12-147	25	
2,4-Dichlorophenol		<0.001	0.050	0.049	98	0.05	0.051	102	4	65-135	25	
Diethyl Phthalate		<0.001	0.050	0.049	98	0.05	0.051	102	4	37-125	50	
Dimethyl Phthalate		<0.001	0.050	0.049	98	0.05	0.051	102	4	25-175	50	
2,4-Dimethylphenol		<0.003	0.050	0.046	92	0.05	0.047	94	2	32-119	25	
4,6-dinitro-2-methyl phenol		<0.003	0.050	0.048	96	0.05	0.051	102	6	2-181	25	
2,4-Dinitrophenol		<0.002	0.050	0.053	106	0.05	0.058	116	9	65-135	25	
2,4-Dinitrotoluene		<0.003	0.050	0.052	104	0.05	0.054	108	4	22-135	38	
2,6-Dinitrotoluene		<0.001	0.050	0.050	100	0.05	0.052	104	4	49-122	38	
di-n-Octyl Phthalate		<0.001	0.050	0.053	106	0.05	0.054	108	2	43-134	50	
Fluoranthene		<0.001	0.050	0.052	104	0.05	0.054	108	4	47-125	25	
Fluorene		<0.001	0.050	0.049	98	0.05	0.050	100	2	48-139	25	
Hexachlorobenzene		<0.001	0.050	0.050	100	0.05	0.051	102	2	46-133	25	
Hexachlorocyclopentadiene		<0.003	0.050	0.033	66	0.05	0.034	68	3	41-125	25	
Hexachloroethane		<0.003	0.050	0.041	82	0.05	0.042	84	2	25-153	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
 Blank Spike Recovery [D] = $100 * (C)/[B]$
 Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$
 All results are based on MDL and Validated for QC Purposes

Project Name: 900 South Central Ave

Work Order #: 394976

Analyst: DAE

Lab Batch ID: 829867

Sample: 577290-1-BKS

Units: mg/L

Date Prepared: 10/28/2010

Batch #: 1

Project ID: Roxana Quarterly/21562291.00009

Date Analyzed: 11/01/2010

Matrix: Water

SVOAs by SW-846 8270C		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
Indeno(1,2,3-c,d)Pyrene		<0.001	0.050	0.053	106	0.05	0.055	110	4	27-160	25	
Isophorone		<0.001	0.050	0.044	88	0.05	0.046	92	4	26-175	25	
2-Methylnaphthalene		<0.003	0.050	0.044	88	0.05	0.058	116	27	25-175	25	(F)
2-methylphenol		<0.003	0.050	0.051	102	0.05	0.048	96	6	14-176	25	
3&4-Methylphenol		<0.002	0.100	0.042	42	0.1	0.043	43	2	14-176	25	
Naphthalene		<0.002	0.050	0.044	88	0.05	0.044	88	0	26-175	25	
2-Nitroaniline		<0.001	0.050	0.046	92	0.05	0.047	94	2	65-135	25	
3-Nitroaniline		<0.006	0.050	0.050	100	0.05	0.051	102	2	65-135	25	
4-Nitroaniline		<0.004	0.050	0.049	98	0.05	0.051	102	4	65-135	25	
Nitrobenzene		<0.001	0.050	0.042	84	0.05	0.048	96	13	65-135	25	
2-Nitrophenol		<0.001	0.050	0.047	94	0.05	0.047	94	0	65-135	25	
4-Nitrophenol		<0.001	0.050	0.046	92	0.05	0.047	94	2	10-80	50	(H)
N-Nitrosodi-n-Propylamine		<0.001	0.050	0.041	82	0.05	0.042	84	2	22-134	38	
N-Nitrosodiphenylamine		<0.003	0.050	0.048	96	0.05	0.051	102	6	2-196	25	
Pentachlorophenol		<0.003	0.050	0.022	44	0.05	0.037	74	51	17-117	50	(F)
Phenanthrene		<0.001	0.050	0.048	96	0.05	0.051	102	6	65-135	25	
Phenol		<0.001	0.050	0.025	50	0.05	0.025	50	0	12-110	25	
Pyrene		<0.001	0.050	0.050	100	0.05	0.052	104	4	23-152	31	
Pyridine		<0.006	0.050	0.020	40	0.05	0.019	38	5	16-86	28	
2,4,5-Trichlorophenol		<0.001	0.050	0.058	116	0.05	0.062	124	7	65-135	25	

Relative Percent Difference RPD = $200 \times [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 \times (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 \times (F)/[E]$
All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: 900 South Central Ave

Work Order #: 394976

Analyst: DAE

Lab Batch ID: 829867

Sample: 577290-1-BKS

Units: mg/L

Date Prepared: 10/28/2010

Batch #: 1

Project ID: Roxana Quarterly/21562291.00009

Date Analyzed: 11/01/2010

Matrix: Water

SVOAs by SW-846 8270C		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
2,4,6-Trichlorophenol		<0.002	0.050	0.053	106	0.05	0.055	110	4	65-135	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$
All results are based on MDL and Validated for QC Purposes

Work Order #: 394976

Lab Batch ID: 831101

Date Analyzed: 11/06/2010

Reporting Units: ug/L

Project ID: Roxana Quarterly/21562291.00009

QC-Sample ID: 394976-003 S

Date Prepared: 11/06/2010

Batch #: 1

Analyst: EZB

Matrix: Water

Reporting Units: ug/L	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
VOAs by SW-846 8260B Analytes	Acetone	<100	100	101	101	100	91.0	91	10	60-140	21	
	Benzene	<5.00	50.0	50.6	101	50.0	46.2	92	9	66-142	21	
	Bromobenzene	<5.00	50.0	51.7	103	50.0	47.3	95	9	75-125	20	
	Bromochloromethane	<5.00	50.0	51.0	102	50.0	45.3	91	12	73-125	20	
	Bromodichloromethane	<5.00	50.0	52.3	105	50.0	47.2	94	10	75-125	20	
	Bromoform	<5.00	50.0	51.5	103	50.0	46.3	93	11	75-125	20	
	Bromomethane	<5.00	50.0	39.2	78	50.0	38.5	77	2	70-130	20	
	2-Butanone	<50.0	100	103	103	100	92.9	93	10	60-140	20	
	MTBE	1.36	50.0	49.6	96	50.0	44.7	87	10	65-135	20	
	n-Butylbenzene	<5.00	50.0	47.7	95	50.0	42.8	86	11	75-125	20	
	Sec-Butylbenzene	<5.00	50.0	50.2	100	50.0	45.4	91	10	75-125	20	
	tert-Butylbenzene	<5.00	50.0	50.5	101	50.0	46.7	93	8	75-125	20	
	Carbon Disulfide	<50.0	50.0	42.9	86	50.0	37.7	75	13	60-140	20	
	Carbon Tetrachloride	<5.00	50.0	50.1	100	50.0	44.0	88	13	62-125	20	
	Chlorobenzene	<5.00	50.0	51.2	102	50.0	44.8	90	13	60-133	21	
	Chloroethane	<10.0	50.0	39.7	79	50.0	39.6	79	0	70-130	20	
	Chloroform	<5.00	50.0	48.5	97	50.0	43.6	87	11	74-125	20	
	Chloromethane	<10.0	50.0	40.2	80	50.0	38.9	78	3	70-130	20	
	2-Chlorotoluene	<5.00	50.0	49.3	99	50.0	45.9	92	7	73-125	20	
4-Chlorotoluene	<5.00	50.0	48.1	96	50.0	43.9	88	9	74-125	20		
p-Cymene (p-Isopropyltoluene)	<5.00	50.0	50.4	101	50.0	46.0	92	9	75-125	20		
Dibromochloromethane	<5.00	50.0	52.1	104	50.0	46.9	94	11	73-125	20		
1,2-Dibromo-3-Chloropropane	<5.00	50.0	56.1	112	50.0	49.7	99	12	59-125	28		

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Project Name: 900 South Central Ave

Work Order #: 394976

Lab Batch ID: 831101

Date Analyzed: 11/06/2010

Reporting Units: ug/L

Project ID: Roxana Quarterly/21562291.00009

QC- Sample ID: 394976-003 S

Date Prepared: 11/06/2010

Batch #: 1

Analyst: EZB

Matrix: Water

VOAs by SW-846 8260B		Analytes									
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Dibromomethane	<5.00	50.0	55.0	110	50.0	50.0	100	10	69-127	23	
1,2-Dichlorobenzene	<5.00	50.0	52.2	104	50.0	47.7	95	9	75-125	20	
1,3-Dichlorobenzene	<5.00	50.0	51.6	103	50.0	47.3	95	9	75-125	20	
1,4-Dichlorobenzene	<5.00	50.0	51.1	102	50.0	45.6	91	11	75-125	20	
Dichlorodifluoromethane	<5.00	50.0	40.7	81	50.0	40.2	80	1	70-130	23	
1,1-Dichloroethane	<5.00	50.0	51.0	102	50.0	46.2	92	10	72-125	20	
1,2-Dichloroethane	<5.00	50.0	51.2	102	50.0	47.1	94	8	68-127	20	
1,1-Dichloroethene	<5.00	50.0	47.4	95	50.0	41.4	83	14	59-172	22	
cis-1,2-Dichloroethene	<5.00	50.0	49.5	99	50.0	44.2	88	11	75-125	20	
trans-1,2-dichloroethene	<5.00	50.0	48.7	97	50.0	42.1	84	15	75-125	20	
1,2-Dichloropropane	<5.00	50.0	52.4	105	50.0	46.8	94	11	74-125	20	
1,3-Dichloropropane	<5.00	50.0	52.4	105	50.0	46.9	94	11	75-125	20	
2,2-Dichloropropane	<5.00	50.0	48.3	97	50.0	43.6	87	10	75-125	20	
1,1-Dichloropropene	<5.00	50.0	43.4	87	50.0	38.6	77	12	75-125	20	
cis-1,3-Dichloropropene	<5.00	50.0	53.1	106	50.0	47.9	96	10	74-125	20	
trans-1,3-dichloropropene	<5.00	50.0	52.4	105	50.0	47.7	95	9	66-125	20	
Ethylbenzene	<5.00	50.0	50.9	102	50.0	45.1	90	12	75-125	20	
Hexachlorobutadiene	<5.00	50.0	53.6	107	50.0	47.0	94	13	75-125	20	
isopropylbenzene	<5.00	50.0	47.8	96	50.0	44.1	88	8	75-125	20	
Methylene Chloride	<5.00	50.0	47.6	95	50.0	43.1	86	10	75-125	35	
n-Propylbenzene	<5.00	50.0	51.4	103	50.0	46.0	92	11	75-125	20	
Styrene	<5.00	50.0	52.4	105	50.0	41.0	82	24	75-125	51	
1,1,1,2-Tetrachloroethane	<5.00	50.0	49.0	98	50.0	44.9	90	9	72-125	20	

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Project Name: 900 South Central Ave

Work Order #: 394976

Lab Batch ID: 831101

Date Analyzed: 11/06/2010

Reporting Units: ug/L

Project ID: Roxana Quarterly/21562291.00009

QC- Sample ID: 394976-003 S

Date Prepared: 11/06/2010

Batch #: 1 Matrix: Water

Analyst: EZB

VOAs by SW-846 8260B											
Analytes											
Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag	
1,1,2,2-Tetrachloroethane	<5.00	54.3	109	50.0	49.5	99	9	74-125	31		
Tetrachloroethylene	<5.00	52.2	104	50.0	46.3	93	12	71-125	20		
Toluene	<5.00	51.5	103	50.0	45.4	91	13	59-139	21		
1,2,3-Trichlorobenzene	<5.00	54.7	109	50.0	49.8	100	9	75-137	20		
1,2,4-Trichlorobenzene	<5.00	53.3	107	50.0	48.2	96	10	75-135	20		
1,1,1-Trichloroethane	<5.00	47.3	95	50.0	42.6	85	10	75-125	20		
1,1,2-Trichloroethane	<5.00	54.6	109	50.0	50.1	100	9	75-127	20		
Trichloroethene	<5.00	48.7	97	50.0	45.2	90	7	62-137	24		
Trichlorofluoromethane	<5.00	45.0	90	50.0	43.2	86	4	67-125	20		
1,2,3-Trichloropropane	<5.00	55.7	111	50.0	51.5	103	8	75-125	20		
1,2,4-Trimethylbenzene	<5.00	49.2	98	50.0	43.5	87	12	75-125	20		
1,3,5-Trimethylbenzene	<5.00	49.8	100	50.0	44.4	89	11	70-125	20		
o-Xylene	<5.00	53.1	106	50.0	47.9	96	10	75-125	20		
m,p-Xylenes	<10.0	104	104	100	90.7	91	14	75-125	20		
Vinyl Acetate	<50.0	103	103	100	92.7	93	11	60-140	20		
Vinyl Chloride	<2.00	42.7	85	50.0	41.7	83	2	75-125	20		

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Work Order #: 394976

Lab Batch ID: 831119

Date Analyzed: 11/07/2010

Reporting Units: ug/L

Project ID: Roxana Quarterly/21562291.00009

QC- Sample ID: 395119-004 S

Date Prepared: 11/07/2010

Batch #: 1
Analyst: EZB

Matrix: Water

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
VOAs by SW-846 8260B Analytes	Acetone	<100	100	110	110	100	106	106	4	60-140	21
	Benzene	<5.00	50.0	48.1	96	50.0	47.6	95	1	66-142	21
	Bromobenzene	<5.00	50.0	50.4	101	50.0	50.3	101	0	75-125	20
	Bromochloromethane	<5.00	50.0	47.7	95	50.0	47.0	94	1	73-125	20
	Bromodichloromethane	<5.00	50.0	48.8	98	50.0	48.2	96	1	75-125	20
	Bromoform	<5.00	50.0	47.9	96	50.0	47.5	95	1	75-125	20
	Bromomethane	<5.00	50.0	35.7	71	50.0	36.7	73	3	70-130	20
	2-Butanone	<50.0	100	105	105	100	98.6	99	6	60-140	20
	MTBE	2.59	50.0	48.4	92	50.0	47.0	89	3	65-135	20
	n-Butylbenzene	<5.00	50.0	45.9	92	50.0	46.1	92	0	75-125	20
	Sec-Butylbenzene	<5.00	50.0	48.5	97	50.0	48.6	97	0	75-125	20
	tert-Butylbenzene	<5.00	50.0	49.3	99	50.0	49.3	99	0	75-125	20
	Carbon Disulfide	<50.0	50.0	37.2	74	50.0	37.8	76	2	60-140	20
	Carbon Tetrachloride	<5.00	50.0	45.5	91	50.0	46.3	93	2	62-125	20
	Chlorobenzene	<5.00	50.0	47.1	94	50.0	46.9	94	0	60-133	21
	Chloroethane	<10.0	50.0	35.7	71	50.0	36.9	74	3	70-130	20
	Chloroform	<5.00	50.0	45.9	92	50.0	45.6	91	1	74-125	20
	Chloromethane	<10.0	50.0	35.0	70	50.0	35.9	72	3	70-130	20
	2-Chlorotoluene	<5.00	50.0	48.6	97	50.0	48.4	97	0	73-125	20
4-Chlorotoluene	<5.00	50.0	46.4	93	50.0	46.6	93	0	74-125	20	
p-Cymene (p-Isopropyltoluene)	<5.00	50.0	48.6	97	50.0	48.8	98	0	75-125	20	
Dibromochloromethane	<5.00	50.0	47.9	96	50.0	48.3	97	1	73-125	20	
1,2-Dibromo-3-Chloropropane	<5.00	50.0	51.1	102	50.0	49.2	98	4	59-125	28	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Work Order #: 394976

Lab Batch ID: 831119

Date Analyzed: 11/07/2010

Reporting Units: ug/L

Project ID: Roxana Quarterly/21562291.00009

QC-Sample ID: 395119-004 S

Date Prepared: 11/07/2010

Batch #: 1
Analyst: EZB

Matrix: Water

VOAs by SW-846 8260B										
Analytes										
Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	50.0	51.7	103	50.0	49.2	98	5	69-127	23	
Dibromomethane										
1,2-Dichlorobenzene	50.0	49.4	99	50.0	49.9	100	1	75-125	20	
1,3-Dichlorobenzene	50.0	50.4	101	50.0	49.6	99	2	75-125	20	
1,4-Dichlorobenzene	50.0	48.7	97	50.0	48.5	97	0	75-125	20	
Dichlorodifluoromethane	50.0	36.0	72	50.0	37.0	74	3	70-130	23	
1,1-Dichloroethane	50.0	48.5	97	50.0	48.7	97	0	72-125	20	
1,2-Dichloroethane	50.0	48.3	97	50.0	47.0	94	3	68-127	20	
1,1-Dichloroethene	50.0	43.8	88	50.0	42.8	86	2	59-172	22	
cis-1,2-Dichloroethene	50.0	45.9	92	50.0	47.2	94	3	75-125	20	
trans-1,2-dichloroethene	50.0	44.5	89	50.0	44.2	88	1	75-125	20	
1,2-Dichloropropane	50.0	50.0	100	50.0	49.4	99	1	74-125	20	
1,3-Dichloropropane	50.0	47.9	96	50.0	47.9	96	0	75-125	20	
2,2-Dichloropropane	50.0	46.3	93	50.0	47.0	94	2	75-125	20	
1,1-Dichloropropene	50.0	40.0	80	50.0	40.3	81	1	75-125	20	
cis-1,3-Dichloropropene	50.0	50.4	101	50.0	50.1	100	1	74-125	20	
trans-1,3-dichloropropene	50.0	49.8	100	50.0	49.5	99	1	66-125	20	
Ethylbenzene	50.0	47.7	95	50.0	48.0	96	1	75-125	20	
Hexachlorobutadiene	50.0	49.1	98	50.0	48.7	97	1	75-125	20	
isopropylbenzene	50.0	46.4	93	50.0	47.1	94	1	75-125	20	
Methylene Chloride	50.0	44.2	88	50.0	44.7	89	1	75-125	35	
n-Propylbenzene	50.0	49.1	98	50.0	50.0	100	2	75-125	20	
Styrene	50.0	47.9	96	50.0	48.3	97	1	75-125	51	
1,1,1,2-Tetrachloroethane	50.0	46.8	94	50.0	47.3	95	1	72-125	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Project Name: 900 South Central Ave

Work Order #: 394976

Lab Batch ID: 831119

Date Analyzed: 11/07/2010

Reporting Units: ug/L

Project ID: Roxana Quarterly/21562291.00009

QC-Sample ID: 395119-004 S

Date Prepared: 11/07/2010

Batch #: 1

Analyst: EZB

Matrix: Water

VOAs by SW-846 8260B		Analytes									
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	1,1,2,2-Tetrachloroethane	<5.00	50.0	52.4	105	50.0	48.4	97	8	74-125	31
	Tetrachloroethylene	<5.00	50.0	49.1	98	50.0	48.2	96	2	71-125	20
	Toluene	<5.00	50.0	48.2	96	50.0	48.8	98	1	59-139	21
	1,2,3-Trichlorobenzene	<5.00	50.0	51.7	103	50.0	50.9	102	2	75-137	20
	1,2,4-Trichlorobenzene	<5.00	50.0	50.3	101	50.0	49.2	98	2	75-135	20
	1,1,1-Trichloroethane	<5.00	50.0	43.7	87	50.0	44.5	89	2	75-125	20
	1,1,2-Trichloroethane	<5.00	50.0	53.0	106	50.0	52.1	104	2	75-127	20
	Trichloroethene	<5.00	50.0	47.2	94	50.0	47.2	94	0	62-137	24
	Trichlorofluoromethane	<5.00	50.0	40.2	80	50.0	40.8	82	1	67-125	20
	1,2,3-Trichloropropane	<5.00	50.0	54.3	109	50.0	51.3	103	6	75-125	20
	1,2,4-Trimethylbenzene	<5.00	50.0	47.8	96	50.0	47.6	95	0	75-125	20
	1,3,5-Trimethylbenzene	<5.00	50.0	48.7	97	50.0	48.3	97	1	70-125	20
	o-Xylene	<5.00	50.0	49.8	100	50.0	50.4	101	1	75-125	20
	m,p-Xylenes	<10.0	100	95.0	95	100	95.0	95	0	75-125	20
	Vinyl Acetate	<50.0	100	141	141	100	138	138	2	60-140	20
	Vinyl Chloride	<2.00	50.0	38.2	76	50.0	39.8	80	4	75-125	20

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times [(C-F)/(C+F)]$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Shell Oil Products Chain Of Custody Record



LAB (LOCATION)

☒ XENCO 4143 Greenbrier Dr., Stafford, TX 77477
 PH: 281-240-4200; FAX: 281-240-4280

☐ CALSCIENCE
☐ OTHER
☐ SFL

Lab Vendor # 1428776 (Xenoco)
 Lab Vendor # _____

Lab Vendor # 1428776 (Xenoco)

LAB AND COMPANY:

URS CORPORATION

1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110

PROJECT CONTACT (Quarantary or POC Report log)

WENDY PENNINGTON

TELEPHONE: 314-743-4168 or 314-452-8822

FAX: 314-452-8822

TURNAROUND TIME (CALENDAR DAYS):

☒ STANDARD (14 DAY)

☐ 5 DAYS

☐ 3 DAYS

☐ 2 DAYS

☐ 24 HOURS

☐ RESULTS NEEDED ON WEEKEND

☐ LA - RIVQCS REPORT FORMAT

☐ LEVEL 1

☐ LEVEL 2

☐ LEVEL 3

☒ LEVEL 4

☐ OTHER (SPECIFY) _____

EDD _____

COOLER #2 _____

COOLER #3 _____

TEMPERATURE ON RECEIPT C° _____

SPECIAL INSTRUCTIONS OR NOTES:

* Dissolved metals are field filtered.

* Please provide sample receipt upon login.

* Provide (5) values

* Provide (5) values

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INCIDENT # (ENV SERVICES):

DATE: 10/26/10

PAGE: 1 of 1

PRINT BILL TO CONTACT NAME:

WENDY PENNINGTON

PO #

SAP #

GLOBAL ID #

STATE

IL

PHONE NO.

800 SOUTH CENTRAL AVE - ROXANA

EDP DELIVERABLE TO: (Name, Company, Other Location)

SAMPLER NAME(S) (P/N):

K. Hurdet IM Eversmann

LAB VRS ONLY

215-222-1111

394497611

REQUESTED ANALYSIS

FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Noise

PID (ppm)

VOC 8260B

VOC (RHCL) 8260

BTEX 8260

SVOC 8270

SVOC (RHCL) 8270

Dissolved Metals 8010

NO. OF CONT.

PRESERVATIVE

HCL

HNO3

H2SO4

NONE

OTHER

MATRIX

DATE

TIME

10/26/10

0950

Water

3

1

1

1

1

1

1

1

1

1

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Requisitioned by: (Signature)

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Prelogin/Nonconformance Report- Sample Log-In

Client: VRS CORPORATION

Date/ Time Received: 10/27/10 9:15

WO ID #: 394976

Initials of Sample Receipt Person: _____

Checklist completed by, date/time: A.M. 10/27/10

Checklist reviewed by, date/time: _____

Acceptable Temperature Range: 0-6° C

Acceptable pH Range(s):

<2 for samples preserved with HNO₃, HCL, H₂SO₄

>10 for samples preserved with NaAsO₂+NaOH, ZnAc+NaOH

Temperature Measuring device used: R29

Sample Receipt Checklist

Cooler Number: 63 / / /

Weight of Cooler: 46 / / /

#1 *Temperature of cooler(s)?

2.7 / / / °C

#2 *Shipping container in good condition?

YES No None

#3 *Samples received on ice?

YES No N/A Blue/Water

#4 *Custody Seals intact on shipping container/ cooler?

YES No N/A

#5 Custody Seals intact on sample bottles/ container?

YES No N/A

#6 *Custody Seals Signed and dated for Containers/coolers

YES No N/A

#7 *Chain of Custody present?

YES No

#8 Sample instructions complete on Chain of Custody?

YES No

#9 Any missing/extra samples?

Yes NO

#10 Chain of Custody signed when relinquished/ received?

YES No

#11 Chain of Custody agrees with sample label(s)?

YES No

#12 Container label(s) legible and intact?

YES No

#13 Sample matrix/ properties agree with Chain of Custody?

YES No

#14 Samples in proper container/ bottle?

YES No

#15 Samples properly preserved?

YES No N/A See Notes below

#16 Sample container(s) intact?

YES No

#17 Sufficient sample amount for indicated test(s)?

YES No

#18 All samples received within hold time?

YES No

#19 Subcontract of sample(s)?

Yes NO

#20 VOC samples have zero headspace (less than 1/4 inch bubble)? YES No N/A

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Notes on pH check: ph OKAY

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

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

Signature:

Date:

Kelly D.
10/24/10

1 From Please print and press hard.

Date 10/24/10

Sender's FedEx
Account Number

Sender's Name W. Pennington

Phone 314 429 0100

Company URS Corp

Address 1001 Highlands Plaza Dr W #300

City St. Louis State MO ZIP 63100

2 Your Internal Billing Reference

First 24 characters will appear on invoice.

3 To
Recipient's Name Samplers Receiving

Phone 281 240-4200

Company XENCO LABORATORIES INC

Address 4143 GREENBRIAR DR

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City STAFFORD State TX ZIP 77477

☐ **HOLD Weekday**
FedEx location address
REQUIRED. NOT available for
FedEx First Overnight.

☐ **HOLD Saturday**
FedEx location address
REQUIRED. Available ONLY for
FedEx Priority Overnight and
FedEx 2Day to select locations.

0423009527



Ship and track packages at fedex.com

Simplify your shipping. Manage your account. Access all the tools you need.

4a Express Package Service

* To most locations.

Packages up to 150 lbs.

☐ FedEx Priority Overnight

Next business morning. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☒ FedEx Standard Overnight

Next business afternoon. Saturday Delivery NOT available.

☐ FedEx First Overnight

Earliest next business morning delivery to select locations.

☐ FedEx 2Day

Second business day. Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☐ FedEx Express Saver

Third business day. Saturday Delivery NOT available.

4b Express Freight Service

** To most locations.

Packages over 150 lbs.

☐ FedEx 1Day Freight

Next business day. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

FedEx 1Day Freight Booking No.

☐ FedEx 2Day Freight

Second business day. Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☐ FedEx 3Day Freight

Third business day. Saturday Delivery NOT available.

5 Packaging

* Declared value limit \$500.

☐ FedEx Envelope*

☐ FedEx Pak*

Includes FedEx Small Pak and FedEx Large Pak.

☐ FedEx Box

☐ FedEx Tube

☒ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery

NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.

☐ No Signature Required

Package may be left without obtaining a signature for delivery.

☐ Direct Signature

Someone at recipient's address may sign for delivery. See applies.

☐ Indirect Signature

If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. See applies.

Does this shipment contain dangerous goods?

One box must be checked.

☒ No

☐ Yes

As per attached Shipper's Declaration.

☐ Yes

Shipper's Declaration not required.

☐ Dry Ice

Dry Ice, 3, UN 1845

☐ Cargo Aircraft Only

7 Payment Bill to:

☐ Sender

☐ Recipient

☐ Third Party

☐ Credit Card

☐ Cash/Check

FedEx Acct. No. 1380-7599-1

Credit Card No.

Total Packages

Total Weight

Total Declared Value*

4 lbs. \$ 00

*Our liability is limited to \$100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

605

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Roxana Groundwater Quarterly – 4th Quarter 2010

Laboratory SDG: 397190

Reviewer: Elizabeth Kunkel

Date Reviewed: 12/9/2010

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

Sample Identification	Sample Identification
TB-110910	MW-6A-110910
MW-10-111010	MW-2-111010
MW-1-111110	MW-1-111110DUP
MW-5-111210EB	MW-5-111210
MW-3-111210	MW-4-111210

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated that VOC LCS recoveries were outside evaluation criteria. The SVOC LCS/LCSD recoveries and one LCS/LCSD RPD were outside evaluation criteria. MS recovery for the compound 4-nitrophenol was outside evaluation criteria in sample MW-10-111010. Additionally, methylene chloride was detected in the trip blank. Sample MW-2-111010 was diluted due to high levels of VOCs. Professional judgment was used to qualify bis (2-ethylhexyl) phthalate in sample MW-2-111010. These issues are addressed further in the appropriate sections below.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

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

Yes

Blank ID	Parameter	Analyte	Concentration/Amount
TB-110910	VOCs	Methylene chloride	1.01 µg/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
589261-1-BKS	VOCs	Dichlorodifluoromethane	134	NA	70-130
589261-1-BKS	VOCs	Trichlorofluoromethane	129	NA	67-125
578740-1-BKS	SVOCs	Benzoic Acid	123/89	32	30-115/40
578740-1-BKS	SVOCs	4-Nitrophenol	100/98	2	10-80/50
578740-1-BKS	SVOCs	Pyridine	42/58	32	16-86/28

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.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

Yes, sample MW-10-111010 was spiked and analyzed for VOCs and SVOCs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD Criteria
MW-10-111010	SVOCs	4-Nitrophenol	85/77	11	10-80/50

Analytical data reported as non-detect and associated with MS/MSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. No qualification of data was required.

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
MW-1-111110	MW-1-111110DUP

Were field duplicates within evaluation criteria?

Yes

10.0 Sample Dilutions

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

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

Yes, professional judgment was used to qualify common plasticizer, bis (2-ethylhexyl) phthalate reported at a concentration less than two times (2X) the reporting limit (RL). The compound bis (2-ethylhexyl) phthalate is found in extraction thimbles.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualifier	Comment
MW-2-111010	SVOCs	bis (2-ethylhexyl) phthalate	-	U	Professional Judgment

Analytical Report 397190

for

URS Corporation-St. Louis

Project Manager: Wendy Pennington

900 S. Central Avenue

Roxana-Route 111/21562291.00009

23-NOV-10



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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

Reviewed
on
12/9/2010

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AAL11), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)

Xenco-Boca Raton (EPA Lab Code: FL01273):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



23-NOV-10

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

Reference: XENCO Report No: **397190**
900 S. Central Avenue
Project Address: Roxana, IL

Wendy Pennington:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 397190. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 397190 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Carlos Castro

Managing Director, Texas

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Sample Cross Reference 397190



URS Corporation-St. Louis, St. Louis, MO
900 S. Central Avenue

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TB-110910 ✓	W	Nov-09-10 00:00		397190-001
MW-6A-110910 ✓	W	Nov-09-10 12:30		397190-002
MW-10-111010 ✓	W	Nov-10-10 15:30		397190-003
MW-2-111010 ✓	W	Nov-11-10 11:15		397190-004
MW-1-111110 ✓	W	Nov-11-10 15:20		397190-005
MW-1-111110DUP ✓	W	Nov-11-10 15:20		397190-006
MW-5-111210EB ✓	W	Nov-12-10 13:00		397190-007
MW-5-111210 ✓	W	Nov-12-10 14:25		397190-008
MW-3-111210 ✓	W	Nov-12-10 10:19		397190-009
MW-4-111210 ✓	W	Nov-12-10 12:21		397190-010



CASE NARRATIVE

Client Name: URS Corporation-St. Louis
Project Name: 900 S. Central Avenue



Project ID: Roxana-Route 111/215622
Work Order Number: 397190

Report Date: 23-NOV-10
Date Received: 11/13/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-832325 SVOAs by SW-846 8270C

Pyridine RPD was outside laboratory control limits.

Samples affected are: 397190-008, -009, -007, -002, -003, -004, -006, -005, -010

Benzoic Acid recovered above QC limits in the Blank Spike. 4-Nitrophenol recovered above QC limits in the Blank Spike and Duplicate.

Samples affected are: 397190-008, -009, -007, -002, -003, -004, -006, -005, -010.

4-Nitrophenol recovered above QC limits in the Matrix Spike.

Samples affected are: 397190-008, -009, -007, -002, -003, -004, -006, -005, -010.

Batch: LBA-832793 VOAs by SW-846 8260B

Dichlorodifluoromethane, Trichlorofluoromethane recovered above QC limits in the laboratory control sample. No samples reporting hits for these analytes.

Samples affected are: 397190-008, -009, -007, -002, -003, -004, -006, -001, -005, -010.



Certificate of Analysis Summary 397190

URS Corporation-St. Louis, St. Louis, MO
Project Name: 900 S. Central Avenue



Project Id: Roxana-Route 111/21562291.00009

Contact: Wendy Pennington

Project Location: Roxana, IL

Date Received in Lab: Sat Nov-13-10 09:05 am

Report Date: 23-NOV-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	397190-001	397190-002	397190-003	397190-004	397190-005	397190-006
	Field Id:	TB-110910	MW-6A-110910	MW-10-111010	MW-2-111010	MW-1-111110	MW-1-111110DUP
	Depth:						
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	Sampled:	Nov-09-10 00:00	Nov-09-10 12:30	Nov-10-10 15:30	Nov-11-10 11:15	Nov-11-10 15:20	Nov-11-10 15:20
SVOAs by SW-846 8270C	Extracted:		Nov-15-10 12:59	Nov-15-10 13:02	Nov-15-10 13:11	Nov-15-10 13:14	Nov-15-10 13:17
	Analyzed:		Nov-16-10 15:20	Nov-16-10 15:43	Nov-16-10 16:54	Nov-16-10 17:18	Nov-16-10 17:41
	Units/RL:		mg/L RL	mg/L RL	mg/L RL	mg/L RL	mg/L RL
Acenaphthene			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Acenaphthylene			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Aniline (Phenylamine, Aminobenzene)			U 0.019	U 0.019	U 0.019	U 0.019	U 0.019
Anthracene			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Benzo(a)anthracene			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Benzo(a)pyrene			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Benzo(b)fluoranthene			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Benzo(k)fluoranthene			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Benzo(g,h,i)perylene			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Benzoic Acid			U 0.048	U 0.048	U 0.048	U 0.048	U 0.049
Benzyl Butyl Phthalate			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
bis(2-chloroethoxy) methane			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
bis(2-chloroethyl) ether			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
bis(2-chloroisopropyl) ether			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
bis(2-ethylhexyl) phthalate			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
4-Bromophenyl-phenylether			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
4-chloro-3-methylphenol			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
4-Chloroaniline			U 0.019	U 0.019	U 0.019	U 0.019	U 0.019
2-Chloronaphthalene			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
2-Chlorophenol			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
4-Chlorophenyl Phenyl Ether			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Chrysene			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Dibenz(a,h)anthracene			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Dibenzofuran			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
di-n-Butyl Phthalate			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 397190

URS Corporation-St. Louis, St. Louis, MO
Project Name: 900 S. Central Avenue



Project Id: Roxana-Route 111/21562291.00009
Contact: Wendy Pennington
Project Location: Roxana, IL

Date Received in Lab: Sat Nov-13-10 09:05 am
Report Date: 23-NOV-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	397190-001	397190-002	397190-003	397190-004	397190-005	397190-006
	Field Id:	TB-110910	MW-6A-110910	MW-10-111010	MW-2-111010	MW-1-111110	MW-1-111110DUP
	Depth:						
	Matrx:	WATER	WATER	WATER	WATER	WATER	WATER
	Sampled:	Nov-09-10 00:00	Nov-09-10 12:30	Nov-10-10 15:30	Nov-11-10 11:15	Nov-11-10 15:20	Nov-11-10 15:20
SVOAs by SW-846 8270C	Extracted:		Nov-15-10 12:59	Nov-15-10 13:02	Nov-15-10 13:11	Nov-15-10 13:14	Nov-15-10 13:17
	Analyzed:		Nov-16-10 15:20	Nov-16-10 15:43	Nov-16-10 16:54	Nov-16-10 17:18	Nov-16-10 17:41
	Units/RL:		mg/L RL	mg/L RL	mg/L RL	mg/L RL	mg/L RL
	3,3-Dichlorobenzidine		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	2,4-Dichlorophenol		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	Diethyl Phthalate		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	Dimethyl Phthalate		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	2,4-Dimethylphenol		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	4,6-dinitro-2-methyl phenol		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	2,4-Dinitrophenol		U 0.019	U 0.019	U 0.019	U 0.019	U 0.019
	2,4-Dinitrotoluene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	2,6-Dinitrotoluene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	di-n-Octyl Phthalate		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	Fluoranthene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	Fluorene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	Hexachlorobenzene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	Hexachlorocyclopentadiene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	Hexachloroethane		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	Indeno(1,2,3-c,d)Pyrene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	Isophorone		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	2-Methylnaphthalene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	2-methylphenol		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	3&4-Methylphenol		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	Naphthalene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	2-Nitroaniline		U 0.019	U 0.019	U 0.019	U 0.019	U 0.019
	3-Nitroaniline		U 0.019	U 0.019	U 0.019	U 0.019	U 0.019
	4-Nitroaniline		U 0.019	U 0.019	U 0.019	U 0.019	U 0.019
	Nitrobenzene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 397190

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



Project Id: Roxana-Route 111/21562291.00009
Contact: Wendy Pennington
Project Location: Roxana, IL

Date Received in Lab: Sat Nov-13-10 09:05 am
Report Date: 23-NOV-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	397190-001	397190-002	397190-003	397190-004	397190-005	397190-006
	Field Id:	TB-110910	MW-6A-110910	MW-10-111010	MW-2-111010	MW-1-111110	MW-1-111110DUP
	Depth:						
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	Sampled:	Nov-09-10 00:00	Nov-09-10 12:30	Nov-10-10 15:30	Nov-11-10 11:15	Nov-11-10 15:20	Nov-11-10 15:20
SVOAs by SW-846 8270C	Extracted:		Nov-15-10 12:59	Nov-15-10 13:02	Nov-15-10 13:11	Nov-15-10 13:14	Nov-15-10 13:17
	Analyzed:		Nov-16-10 15:20	Nov-16-10 15:43	Nov-16-10 16:54	Nov-16-10 17:18	Nov-16-10 17:41
	Units/RL:		mg/L	mg/L	mg/L	mg/L	mg/L
			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
			U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
2-Nitrophenol							
4-Nitrophenol							
N-Nitrosodi-n-Propylamine							
N-Nitrosodiphenylamine							
Pentachlorophenol							
Phenanthrene							
Phenol							
Pyrene							
Pyridine							
2,4,5-Trichlorophenol							
2,4,6-Trichlorophenol							

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 397190

URS Corporation-St. Louis, St. Louis, MO
Project Name: 900 S. Central Avenue



Project Id: Roxana-Route 111/21562291.00009

Contact: Wendy Pennington

Project Location: Roxana, IL

Date Received in Lab: Sat Nov-13-10 09:05 am

Report Date: 23-NOV-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	397190-001	397190-002	397190-003	397190-004	397190-005	397190-006
	Extracted:	Analyzed:	Units/RL:	ug/L	RL	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
VOAs by SW-846 8260B	Nov-18-10 19:10	Nov-18-10 21:40	U	U	100	U	U	U	U	U	U
Acetone			U	U	100	U	U	U	U	U	U
Benzene			U	U	5.00	U	U	U	U	U	U
Bromobenzene			U	U	5.00	U	U	U	U	U	U
Bromochloromethane			U	U	5.00	U	U	U	U	U	U
Bromodichloromethane			U	U	5.00	U	U	U	U	U	U
Bromoform			U	U	5.00	U	U	U	U	U	U
Bromomethane			U	U	5.00	U	U	U	U	U	U
2-Butanone			U	U	50.0	U	U	U	U	U	U
MTBE			U	U	5.00	20.3	U	U	U	U	U
n-Butylbenzene			U	U	5.00	U	U	U	U	U	U
Sec-Butylbenzene			U	U	5.00	U	U	U	U	U	U
tert-Butylbenzene			U	U	5.00	U	U	U	U	U	U
Carbon Disulfide			U	U	50.0	U	U	U	U	U	U
Carbon Tetrachloride			U	U	5.00	U	U	U	U	U	U
Chlorobenzene			U	U	5.00	U	U	U	U	U	U
Chloroethane			U	U	10.0	U	U	U	U	U	U
Chloroform			U	U	5.00	U	U	U	U	U	U
Chloromethane			U	U	10.0	U	U	U	U	U	U
2-Chlorotoluene			U	U	5.00	U	U	U	U	U	U
4-Chlorotoluene			U	U	5.00	U	U	U	U	U	U
p-Cymene (p-Isopropyltoluene)			U	U	5.00	U	U	U	U	U	U
Dibromochloromethane			U	U	5.00	U	U	U	U	U	U
1,2-Dibromo-3-Chloropropane			U	U	5.00	U	U	U	U	U	U
Dibromomethane			U	U	5.00	U	U	U	U	U	U
1,2-Dichlorobenzene			U	U	5.00	U	U	U	U	U	U

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Carlos Castro

Managing Director, Texas



Certificate of Analysis Summary 397190

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



Project Id: Roxana-Route 111/21562291.00009

Contact: Wendy Pennington

Project Location: Roxana, IL

Project Name: 900 S. Central Avenue

Date Received in Lab: Sat Nov-13-10 09:05 am

Report Date: 23-NOV-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	397190-001	397190-002	397190-003	397190-004	397190-005	397190-006
	Field Id: Depth: Matrix: Sampled: Extracted: Analyzed: Units/RL:	TB-110910 Nov-09-10 00:00 WATER Nov-09-10 19:10 Nov-18-10 21:40 ug/L RL U 5.00	MW-6A-110910 Nov-09-10 12:30 WATER Nov-09-10 19:11 Nov-18-10 22:06 ug/L RL U 5.00	MW-10-111010 Nov-10-10 15:30 WATER Nov-10-10 19:12 Nov-18-10 19:55 ug/L RL U 5.00	MW-2-111010 Nov-11-10 11:15 WATER Nov-11-10 19:15 Nov-18-10 19:17 Nov-18-10 22:32 ug/L RL U 5.00	MW-1-111110 Nov-11-10 15:20 WATER Nov-11-10 19:18 Nov-18-10 22:58 ug/L RL U 5.00	MW-1-111110DUP Nov-11-10 15:20 WATER Nov-18-10 19:18 Nov-18-10 22:58 ug/L RL U 5.00
VOAs by SW-846 8260B							
1,3-Dichlorobenzene		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
1,4-Dichlorobenzene		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
Dichlorodifluoromethane		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
1,1-Dichloroethane		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
1,2-Dichloroethane		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
1,1,1-Dichloroethane		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
cis-1,2-Dichloroethene		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
trans-1,2-dichloroethene		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
1,2-Dichloropropane		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
1,3-Dichloropropane		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
2,2-Dichloropropane		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
1,1,1-Dichloropropene		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
cis-1,3-Dichloropropene		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
trans-1,3-dichloropropene		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
Ethylbenzene		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
Hexachlorobutadiene		U 5.00	U 5.00	U 5.00	641	U 5.00	U 5.00
isopropylbenzene		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
Methylene Chloride		1.00	U 5.00	U 5.00	23.61	U 5.00	U 5.00
n-Propylbenzene		U 5.00	U 5.00	U 5.00	35.4	U 5.00	U 5.00
Styrene		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
1,1,1,2-Tetrachloroethane		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
1,1,2,2-Tetrachloroethane		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
Tetrachloroethylene		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
Toluene		U 5.00	U 5.00	U 5.00	1220 D	U 5.00	U 5.00
1,2,3-Trichlorobenzene		U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 397190

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



Project Id: Roxana-Route 111/21562291.00009
Contact: Wendy Pennington
Project Location: Roxana, IL

Date Received in Lab: Sat Nov-13-10 09:05 am
Report Date: 23-NOV-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	397190-001	397190-002	397190-003	397190-004	397190-005	397190-006
	Field Id:	TB-110910	MW-6A-110910	MW-10-111010	MW-2-111010	MW-1-111110	MW-1-111110DUP
	Depth:						
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	Sampled:	Nov-09-10 00:00	Nov-09-10 12:30	Nov-10-10 15:30	Nov-11-10 11:15	Nov-11-10 15:20	Nov-11-10 15:20
VOAs by SW-846 8260B	Extracted:	Nov-18-10 19:10	Nov-18-10 19:11	Nov-18-10 19:12	Nov-18-10 19:15	Nov-18-10 19:17	Nov-18-10 19:18
	Analyzed:	Nov-18-10 21:40	Nov-18-10 22:06	Nov-18-10 19:55	Nov-19-10 03:19	Nov-18-10 22:32	Nov-18-10 22:58
	Units/RL:	ug/L RL	ug/L RL	ug/L RL	ug/L RL	ug/L RL	ug/L RL
	1,2,4-Trichlorobenzene	U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
	1,1,1-Trichloroethane	U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
	1,1,2-Trichloroethane	U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
	Trichloroethene	U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
	Trichlorofluoromethane	U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
	1,2,3-Trichloropropane	U 5.00	U 5.00	U 5.00	U 25.0	U 5.00	U 5.00
	1,2,4-Trimethylbenzene	U 5.00	U 5.00	U 5.00	273 25.0	U 5.00	U 5.00
	1,3,5-Trimethylbenzene	U 5.00	U 5.00	U 5.00	61.8 25.0	U 5.00	U 5.00
	o-Xylene	U 5.00	U 5.00	U 5.00	318 25.0	U 5.00	U 5.00
	m,p-Xylenes	U 10.0	U 10.0	U 10.0	1140 50.0	U 10.0	U 10.0
	Vinyl Acetate	U 50.0	U 50.0	U 50.0	U 250	U 50.0	U 50.0
	Vinyl Chloride	U 2.00	U 2.00	U 2.00	U 10.0	U 2.00	U 2.00

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Carlos Castro
Managing Director, Texas

Certificate of Analysis Summary 397190 URS Corporation-St. Louis, St. Louis, MO Project Name: 900 S. Central Avenue

Project Id: Roxana-Route 111/21562291.00009
 Contact: Wendy Pennington
 Project Location: Roxana, IL



Date Received in Lab: Sat Nov-13-10 09:05 am
 Report Date: 23-NOV-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id: Field Id: Depth: Matrix: Sampled:	397190-007 MW-5-111210EB WATER Nov-12-10 13:00	397190-008 MW-5-111210 WATER Nov-12-10 14:25	397190-009 MW-3-111210 WATER Nov-12-10 10:19	397190-010 MW-4-111210 WATER Nov-12-10 12:21
SVOAs by SW-846 8270C	Extracted:	Nov-15-10 13:20	Nov-15-10 13:23	Nov-15-10 13:26	Nov-15-10 13:29
	Analyzed:	Nov-16-10 18:05	Nov-16-10 18:28	Nov-16-10 18:52	Nov-16-10 19:15
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL
	Acenaphthene	U 0.009	U 0.010	U 0.010	U 0.009
	Acenaphthylene	U 0.009	U 0.010	U 0.010	U 0.009
	Aniline (Phenylamine, Aminobenzene)	U 0.019	U 0.019	U 0.019	U 0.019
	Anthracene	U 0.009	U 0.010	U 0.010	U 0.009
	Benzo(a)anthracene	U 0.009	U 0.010	U 0.010	U 0.009
	Benzo(a)pyrene	U 0.009	U 0.010	U 0.010	U 0.009
	Benzo(b)fluoranthene	U 0.009	U 0.010	U 0.010	U 0.009
	Benzo(k)fluoranthene	U 0.009	U 0.010	U 0.010	U 0.009
	Benzo(g,h,i)perylene	U 0.009	U 0.010	U 0.010	U 0.009
	Benzoic Acid	U 0.047	U 0.048	U 0.048	U 0.047
	Benzyl Butyl Phthalate	U 0.009	U 0.010	U 0.010	U 0.009
	bis(2-chloroethoxy) methane	U 0.009	U 0.010	U 0.010	U 0.009
	bis(2-chloroethyl) ether	U 0.009	U 0.010	U 0.010	U 0.009
	bis(2-chloroisopropyl) ether	U 0.009	U 0.010	U 0.010	U 0.009
	bis(2-ethylhexyl) phthalate	U 0.009	U 0.010	U 0.010	U 0.009
	4-Bromophenyl-phenylether	U 0.009	U 0.010	U 0.010	U 0.009
	4-chloro-3-methylphenol	U 0.009	U 0.010	U 0.010	U 0.009
	4-Chloroaniline	U 0.019	U 0.019	U 0.019	U 0.019
	2-Chloronaphthalene	U 0.009	U 0.010	U 0.010	U 0.009
	2-Chlorophenol	U 0.009	U 0.010	U 0.010	U 0.009
	4-Chlorophenyl Phenyl Ether	U 0.009	U 0.010	U 0.010	U 0.009
	Chrysene	U 0.009	U 0.010	U 0.010	U 0.009
	Dibenz(a,h)anthracene	U 0.009	U 0.010	U 0.010	U 0.009
	Dibenzofuran	U 0.009	U 0.010	U 0.010	U 0.009
	di-n-Butyl Phthalate	U 0.009	U 0.010	U 0.010	U 0.009

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Carlos Castro
 Managing Director, Texas



Certificate of Analysis Summary 397190

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



Project Id: Roxana-Route 111/21562291.00009

Contact: Wendy Pennington

Project Location: Roxana, IL

Project Name: 900 S. Central Avenue

Date Received in Lab: Sat Nov-13-10 09:05 am

Report Date: 23-NOV-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	397190-007	397190-008	397190-009	397190-010
	Field Id:	MW-5-111210EB	MW-5-111210	MW-3-111210	MW-4-111210
	Depth:				
	Matrix:	WATER	WATER	WATER	WATER
	Sampled:	Nov-12-10 13:00	Nov-12-10 14:25	Nov-12-10 10:19	Nov-12-10 12:21
SVOAs by SW-846 8270C	Extracted:	Nov-15-10 13:20	Nov-15-10 13:23	Nov-15-10 13:26	Nov-15-10 13:29
	Analyzed:	Nov-16-10 18:05	Nov-16-10 18:28	Nov-16-10 18:52	Nov-16-10 19:15
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL
	3,3-Dichlorobenzidine	U 0.009	U 0.010	U 0.010	U 0.009
	2,4-Dichlorophenol	U 0.009	U 0.010	U 0.010	U 0.009
	Diethyl Phthalate	U 0.009	U 0.010	U 0.010	U 0.009
	Dimethyl Phthalate	U 0.009	U 0.010	U 0.010	U 0.009
	2,4-Dimethylphenol	U 0.009	U 0.010	U 0.010	U 0.009
	4,6-dinitro-2-methyl phenol	U 0.009	U 0.010	U 0.010	U 0.009
	2,4-Dinitrophenol	U 0.019	U 0.019	U 0.019	U 0.019
	2,4-Dinitrotoluene	U 0.009	U 0.010	U 0.010	U 0.009
	2,6-Dinitrotoluene	U 0.009	U 0.010	U 0.010	U 0.009
	di-n-Octyl Phthalate	U 0.009	U 0.010	U 0.010	U 0.009
	Fluoranthene	U 0.009	U 0.010	U 0.010	U 0.009
	Fluorene	U 0.009	U 0.010	U 0.010	U 0.009
	Hexachlorobenzene	U 0.009	U 0.010	U 0.010	U 0.009
	Hexachlorocyclopentadiene	U 0.009	U 0.010	U 0.010	U 0.009
	Hexachloroethane	U 0.009	U 0.010	U 0.010	U 0.009
	Indeno(1,2,3-c,d)Pyrene	U 0.009	U 0.010	U 0.010	U 0.009
	Isophorone	U 0.009	U 0.010	U 0.010	U 0.009
	2-Methylnaphthalene	U 0.009	U 0.010	U 0.010	U 0.009
	2-methylphenol	U 0.009	U 0.010	U 0.010	U 0.009
	3&4-Methylphenol	U 0.009	U 0.010	U 0.010	U 0.009
	Naphthalene	U 0.009	U 0.010	U 0.010	U 0.009
	2-Nitroaniline	U 0.019	U 0.019	U 0.019	U 0.019
	3-Nitroaniline	U 0.019	U 0.019	U 0.019	U 0.019
	4-Nitroaniline	U 0.019	U 0.019	U 0.019	U 0.019
	Nitrobenzene	U 0.009	U 0.010	U 0.010	U 0.009

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Version: 1 %

Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 397190

URS Corporation-St. Louis, St. Louis, MO
Project Name: 900 S. Central Avenue

Project Id: Roxana-Route 111/21562291.00009

Contact: Wendy Pennington

Project Location: Roxana, IL

Date Received in Lab: Sat Nov-13-10 09:05 am

Report Date: 23-NOV-10

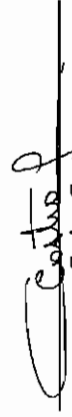
Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	397190-007	397190-008	397190-009	397190-010	
	Field Id:	MW-5-111210EB	MW-5-111210	MW-3-111210	MW-4-111210	
	Depth:					
	Matrx:	WATER	WATER	WATER	WATER	
	Sampled:	Nov-12-10 13:00	Nov-12-10 14:25	Nov-12-10 10:19	Nov-12-10 12:21	
SVOAs by SW-846 8270C	Extracted:	Nov-15-10 13:20	Nov-15-10 13:23	Nov-15-10 13:26	Nov-15-10 13:29	
	Analyzed:	Nov-16-10 18:05	Nov-16-10 18:28	Nov-16-10 18:52	Nov-16-10 19:15	
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL	
	2-Nitrophenol	U 0.009	U 0.010	U 0.010	U 0.009	
	4-Nitrophenol	U 0.009	U 0.010	U 0.010	U 0.009	
N-Nitrosodi-n-Propylamine		U 0.009	U 0.010	U 0.010	U 0.009	
	N-Nitrosodiphenylamine	U 0.009	U 0.010	U 0.010	U 0.009	
	Pentachlorophenol	U 0.009	U 0.010	U 0.010	U 0.009	
	Phenanthrene	U 0.009	U 0.010	U 0.010	U 0.009	
	Phenol	U 0.009	U 0.010	U 0.010	U 0.009	
Pyrene		U 0.009	U 0.010	U 0.010	U 0.009	
	Pyridine	U 0.019	U 0.019	U 0.019	U 0.019	
	2,4,5-Trichlorophenol	U 0.009	U 0.010	U 0.010	U 0.009	
	2,4,6-Trichlorophenol	U 0.009	U 0.010	U 0.010	U 0.009	

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 397190

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



Project Id: Roxana-Route 111/21562291.00009

Contact: Wendy Pennington

Project Location: Roxana, IL

Project Name: 900 S. Central Avenue

Date Received in Lab: Sat Nov-13-10 09:05 am

Report Date: 23-NOV-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id: Field Id: Depth: Matrix: Sampled:	397190-007 MW-5-111210EB Nov-12-10 13:00 Nov-18-10 19:19 Nov-18-10 23:24 ug/L RL	397190-008 MW-5-111210 Nov-12-10 14:25 Nov-18-10 19:20 Nov-18-10 23:50 ug/L RL	397190-009 MW-3-111210 Nov-12-10 10:19 Nov-18-10 19:21 Nov-19-10 00:16 ug/L RL	397190-010 MW-4-111210 Nov-12-10 12:21 Nov-18-10 19:22 Nov-19-10 00:42 ug/L RL
VOAs by SW-846 8260B					
Acetone		U 100	U 100	U 100	U 100
Benzene		U 5.00	U 5.00	U 5.00	75.2 5.00
Bromobenzene		U 5.00	U 5.00	U 5.00	U 5.00
Bromochloromethane		U 5.00	U 5.00	U 5.00	U 5.00
Bromodichloromethane		U 5.00	U 5.00	U 5.00	U 5.00
Bromoform		U 5.00	U 5.00	U 5.00	U 5.00
Bromomethane		U 5.00	U 5.00	U 5.00	U 5.00
2-Butanone		U 50.0	U 50.0	U 50.0	U 50.0
MTBE		U 5.00	5.56 5.00	U 5.00	5.08 5.00
n-Butylbenzene		U 5.00	U 5.00	U 5.00	U 5.00
Sec-Butylbenzene		U 5.00	U 5.00	U 5.00	1.00 J 5.00
tert-Butylbenzene		U 5.00	U 5.00	U 5.00	U 5.00
Carbon Disulfide		U 50.0	U 50.0	U 50.0	U 50.0
Carbon Tetrachloride		U 5.00	U 5.00	U 5.00	U 5.00
Chlorobenzene		U 5.00	U 5.00	U 5.00	U 5.00
Chloroethane		U 10.0	U 10.0	U 10.0	U 10.0
Chloroform		U 5.00	U 5.00	U 5.00	U 5.00
Chloromethane		U 10.0	U 10.0	U 10.0	U 10.0
2-Chlorotoluene		U 5.00	U 5.00	U 5.00	U 5.00
4-Chlorotoluene		U 5.00	U 5.00	U 5.00	U 5.00
p-Cymene (p-Isopropyltoluene)		U 5.00	U 5.00	U 5.00	U 5.00
Dibromochloromethane		U 5.00	U 5.00	U 5.00	U 5.00
1,2-Dibromo-3-Chloropropane		U 5.00	U 5.00	U 5.00	U 5.00
Dibromomethane		U 5.00	U 5.00	U 5.00	U 5.00
1,2-Dichlorobenzene		U 5.00	U 5.00	U 5.00	U 5.00

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Version: 1 %

Carlos Castro
Managing Director, Texas

Certificate of Analysis Summary 397190 URS Corporation-St. Louis, St. Louis, MO Project Name: 900 S. Central Avenue

Project Id: Roxana-Route 111/21562291.00009
 Contact: Wendy Pennington
 Project Location: Roxana, IL



Date Received in Lab: Sat Nov-13-10 09:05 am
 Report Date: 23-NOV-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	397190-007	397190-008	397190-009	397190-010
	Field Id:	MW-5-111210EB	MW-5-111210	MW-4-111210	MW-4-111210
	Depth:				
	Matrix:	WATER	WATER	WATER	WATER
	Sampled:	Nov-12-10 13:00	Nov-12-10 14:25	Nov-12-10 10:19	Nov-12-10 12:21
VOAs by SW-846 8260B	Extracted:	Nov-18-10 19:19	Nov-18-10 19:20	Nov-18-10 19:21	Nov-18-10 19:22
	Analyzed:	Nov-18-10 23:24	Nov-18-10 23:50	Nov-19-10 00:16	Nov-19-10 00:42
	Units/RL:	ug/L RL	ug/L RL	ug/L RL	ug/L RL
	1,3-Dichlorobenzene	U 5.00	U 5.00	U 5.00	U 5.00
	1,4-Dichlorobenzene	U 5.00	U 5.00	U 5.00	U 5.00
	Dichlorodifluoromethane	U 5.00	U 5.00	U 5.00	U 5.00
	1,1-Dichloroethane	U 5.00	U 5.00	U 5.00	U 5.00
	1,2-Dichloroethane	U 5.00	U 5.00	U 5.00	U 5.00
	1,1-Dichloroethene	U 5.00	U 5.00	U 5.00	U 5.00
	cis-1,2-Dichloroethene	U 5.00	U 5.00	U 5.00	U 5.00
	trans-1,2-dichloroethene	U 5.00	U 5.00	U 5.00	U 5.00
	1,2-Dichloropropane	U 5.00	U 5.00	U 5.00	U 5.00
	1,3-Dichloropropane	U 5.00	U 5.00	U 5.00	U 5.00
	2,2-Dichloropropane	U 5.00	U 5.00	U 5.00	U 5.00
	1,1-Dichloropropene	U 5.00	U 5.00	U 5.00	U 5.00
	cis-1,3-Dichloropropene	U 5.00	U 5.00	U 5.00	U 5.00
	trans-1,3-dichloropropene	U 5.00	U 5.00	U 5.00	U 5.00
	Ethylbenzene	U 5.00	U 5.00	U 5.00	U 5.00
	Hexachlorobutadiene	U 5.00	U 5.00	U 5.00	U 5.00
	isopropylbenzene	U 5.00	U 5.00	1.60 J 5.00	2.71 J 5.00
	Methylene Chloride	U 5.00	U 5.00	U 5.00	U 5.00
	n-Propylbenzene	U 5.00	U 5.00	6.22 5.00	3.95 J 5.00
	Styrene	U 5.00	U 5.00	U 5.00	U 5.00
	1,1,1,2-Tetrachloroethane	U 5.00	U 5.00	U 5.00	U 5.00
	1,1,2,2-Tetrachloroethane	U 5.00	U 5.00	U 5.00	U 5.00
	Tetrachloroethylene	U 5.00	U 5.00	U 5.00	U 5.00
	Toluene	U 5.00	U 5.00	2.57 J 5.00	15.7 5.00
	1,2,3-Trichlorobenzene	U 5.00	U 5.00	U 5.00	U 5.00

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Carlos Castro
 Managing Director, Texas



Certificate of Analysis Summary 397190

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



Project Id: Roxana-Route 111/21562291.00009
Contact: Wendy Pennington
Project Location: Roxana, IL

Date Received in Lab: Sat Nov-13-10 09:05 am
Report Date: 23-NOV-10
Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	397190-007	397190-008	397190-009	397190-010
	Field Id:	MW-5-111210EB	MW-5-111210	MW-3-111210	MW-4-111210
	Depth:				
	Matrix:				
	Sampled:	Nov-12-10 13:00	Nov-12-10 14:25	Nov-12-10 10:19	Nov-12-10 12:21
	Extracted:	Nov-18-10 19:19	Nov-18-10 19:20	Nov-18-10 19:21	Nov-18-10 19:22
	Analyzed:	Nov-18-10 23:24	Nov-18-10 23:50	Nov-19-10 00:16	Nov-19-10 00:42
	Units/RL:	ug/L RL	ug/L RL	ug/L RL	ug/L RL
1,2,4-Trichlorobenzene		U 5.00	U 5.00	U 5.00	U 5.00
1,1,1-Trichloroethane		U 5.00	U 5.00	U 5.00	U 5.00
1,1,2-Trichloroethane		U 5.00	U 5.00	U 5.00	U 5.00
Trichloroethene		U 5.00	U 5.00	U 5.00	U 5.00
Trichlorofluoromethane		U 5.00	U 5.00	U 5.00	U 5.00
1,2,3-Trichloropropane		U 5.00	U 5.00	U 5.00	U 5.00
1,2,4-Trimethylbenzene		U 5.00	U 5.00	U 5.00	U 5.00
1,3,5-Trimethylbenzene		U 5.00	U 5.00	U 5.00	U 5.00
o-Xylene		U 5.00	U 5.00	U 5.00	U 5.00
m,p-Xylenes		U 10.0	2.77 J 10.0	6.53 J 10.0	6.99 J 10.0
Vinyl Acetate		U 50.0	U 50.0	U 50.0	U 50.0
Vinyl Chloride		U 2.00	U 2.00	U 2.00	U 2.00

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Carlos Castro
Managing Director, Texas



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : VOAs by SW-846 8260B

Client : URS Corporation-St. Louis

Work Order #: 397190

Project ID: Roxana-Route 111/21562291

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
TB-110910	Nov. 9, 2010	Nov. 13, 2010				Nov.18, 2010	14	9	P
MW-5-111210	Nov. 12, 2010	Nov. 13, 2010				Nov.18, 2010	14	6	P
MW-5-111210EB	Nov. 12, 2010	Nov. 13, 2010				Nov.18, 2010	14	6	P
MW-1-111110	Nov. 11, 2010	Nov. 13, 2010				Nov.18, 2010	14	7	P
MW-6A-110910	Nov. 9, 2010	Nov. 13, 2010				Nov.18, 2010	14	9	P
MW-2-111010	Nov. 11, 2010	Nov. 13, 2010				Nov.19, 2010	14	8	P
MW-10-111010	Nov. 10, 2010	Nov. 13, 2010				Nov.18, 2010	14	8	P
MW-3-111210	Nov. 12, 2010	Nov. 13, 2010				Nov.19, 2010	14	7	P
MW-1-111110DUP	Nov. 11, 2010	Nov. 13, 2010				Nov.18, 2010	14	7	P
MW-4-111210	Nov. 12, 2010	Nov. 13, 2010				Nov.19, 2010	14	7	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : SVOAs by SW-846 8270C

Client : URS Corporation-St. Louis

Work Order #: 397190

Project ID: Roxana-Route 111/21562291

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
MW-1-111110	Nov. 11, 2010	Nov. 13, 2010	Nov. 15, 2010	7	4	Nov.16, 2010	40	1	P
MW-6A-110910	Nov. 9, 2010	Nov. 13, 2010	Nov. 15, 2010	7	6	Nov.16, 2010	40	1	P
MW-5-111210	Nov. 12, 2010	Nov. 13, 2010	Nov. 15, 2010	7	3	Nov.16, 2010	40	1	P
MW-10-111010	Nov. 10, 2010	Nov. 13, 2010	Nov. 15, 2010	7	5	Nov.16, 2010	40	1	P
MW-3-111210	Nov. 12, 2010	Nov. 13, 2010	Nov. 15, 2010	7	3	Nov.16, 2010	40	1	P
MW-5-111210EB	Nov. 12, 2010	Nov. 13, 2010	Nov. 15, 2010	7	3	Nov.16, 2010	40	1	P
MW-1-111110DUP	Nov. 11, 2010	Nov. 13, 2010	Nov. 15, 2010	7	4	Nov.16, 2010	40	1	P
MW-4-111210	Nov. 12, 2010	Nov. 13, 2010	Nov. 15, 2010	7	3	Nov.16, 2010	40	1	P
MW-2-111010	Nov. 11, 2010	Nov. 13, 2010	Nov. 15, 2010	7	4	Nov.16, 2010	40	1	P

F = These samples were analyzed outside the recommended holding time.

P = Samples analyzed within the recommended holding time.

Flagging Criteria

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

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842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397190,

Project ID: Roxana-Route 111/21562291.00009

Lab Batch #: 832325

Sample: 578740-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 13:20

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.080	0.100	80	43-116	
2-Fluorophenol	0.031	0.050	62	21-100	
Nitrobenzene-d5	0.079	0.100	79	35-114	
Phenol-d6	0.027	0.050	54	10-94	
Terphenyl-D14	0.087	0.100	87	33-141	
2,4,6-Tribromophenol	0.046	0.050	92	10-123	

Lab Batch #: 832325

Sample: 578740-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 13:43

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.078	0.100	78	43-116	
2-Fluorophenol	0.033	0.050	66	21-100	
Nitrobenzene-d5	0.077	0.100	77	35-114	
Phenol-d6	0.029	0.050	58	10-94	
Terphenyl-D14	0.085	0.100	85	33-141	
2,4,6-Tribromophenol	0.045	0.050	90	10-123	

Lab Batch #: 832325

Sample: 397190-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 15:20

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.060	0.096	63	43-116	
2-Fluorophenol	0.016	0.048	33	21-100	
Nitrobenzene-d5	0.061	0.096	64	35-114	
Phenol-d6	0.012	0.048	25	10-94	
Terphenyl-D14	0.074	0.096	77	33-141	
2,4,6-Tribromophenol	0.035	0.048	73	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \cdot A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397190,

Project ID: Roxana-Route 111/21562291.00009

Lab Batch #: 832325

Sample: 397190-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 15:43

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.059	0.095	62	43-116	
2-Fluorophenol	0.017	0.048	35	21-100	
Nitrobenzene-d5	0.061	0.095	64	35-114	
Phenol-d6	0.011	0.048	23	10-94	
Terphenyl-D14	0.072	0.095	76	33-141	
2,4,6-Tribromophenol	0.030	0.048	63	10-123	

Lab Batch #: 832325

Sample: 397190-003 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 16:07

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.061	0.094	65	43-116	
2-Fluorophenol	0.018	0.047	38	21-100	
Nitrobenzene-d5	0.060	0.094	64	35-114	
Phenol-d6	0.015	0.047	32	10-94	
Terphenyl-D14	0.069	0.094	73	33-141	
2,4,6-Tribromophenol	0.035	0.047	74	10-123	

Lab Batch #: 832325

Sample: 397190-003 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 16:30

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.056	0.094	60	43-116	
2-Fluorophenol	0.016	0.047	34	21-100	
Nitrobenzene-d5	0.055	0.094	59	35-114	
Phenol-d6	0.011	0.047	23	10-94	
Terphenyl-D14	0.063	0.094	67	33-141	
2,4,6-Tribromophenol	0.033	0.047	70	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397190,

Project ID: Roxana-Route 111/21562291.00009

Lab Batch #: 832325

Sample: 397190-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 16:54

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.064	0.096	67	43-116	
2-Fluorophenol	0.016	0.048	33	21-100	
Nitrobenzene-d5	0.064	0.096	67	35-114	
Phenol-d6	0.014	0.048	29	10-94	
Terphenyl-D14	0.079	0.096	82	33-141	
2,4,6-Tribromophenol	0.038	0.048	79	10-123	

Lab Batch #: 832325

Sample: 397190-005 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 17:18

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.062	0.096	65	43-116	
2-Fluorophenol	0.010	0.048	21	21-100	
Nitrobenzene-d5	0.061	0.096	64	35-114	
Phenol-d6	0.007	0.048	15	10-94	
Terphenyl-D14	0.072	0.096	75	33-141	
2,4,6-Tribromophenol	0.026	0.048	54	10-123	

Lab Batch #: 832325

Sample: 397190-006 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 17:41

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.070	0.097	72	43-116	
2-Fluorophenol	0.013	0.049	27	21-100	
Nitrobenzene-d5	0.069	0.097	71	35-114	
Phenol-d6	0.007	0.049	14	10-94	
Terphenyl-D14	0.084	0.097	87	33-141	
2,4,6-Tribromophenol	0.032	0.049	65	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397190,

Project ID: Roxana-Route 111/21562291.00009

Lab Batch #: 832325

Sample: 397190-007 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 18:05

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.054	0.095	57	43-116	
2-Fluorophenol	0.014	0.047	30	21-100	
Nitrobenzene-d5	0.055	0.095	58	35-114	
Phenol-d6	0.010	0.047	21	10-94	
Terphenyl-D14	0.072	0.095	76	33-141	
2,4,6-Tribromophenol	0.028	0.047	60	10-123	

Lab Batch #: 832325

Sample: 397190-008 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 18:28

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.060	0.095	63	43-116	
2-Fluorophenol	0.016	0.048	33	21-100	
Nitrobenzene-d5	0.060	0.095	63	35-114	
Phenol-d6	0.012	0.048	25	10-94	
Terphenyl-D14	0.074	0.095	78	33-141	
2,4,6-Tribromophenol	0.034	0.048	71	10-123	

Lab Batch #: 832325

Sample: 397190-009 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 18:52

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.062	0.095	65	43-116	
2-Fluorophenol	0.019	0.048	40	21-100	
Nitrobenzene-d5	0.062	0.095	65	35-114	
Phenol-d6	0.014	0.048	29	10-94	
Terphenyl-D14	0.077	0.095	81	33-141	
2,4,6-Tribromophenol	0.034	0.048	71	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397190,

Project ID: Roxana-Route 111/21562291.00009

Lab Batch #: 832325

Sample: 397190-010 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 19:15

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.063	0.094	67	43-116	
2-Fluorophenol	0.025	0.047	53	21-100	
Nitrobenzene-d5	0.063	0.094	67	35-114	
Phenol-d6	0.024	0.047	51	10-94	
Terphenyl-D14	0.078	0.094	83	33-141	
2,4,6-Tribromophenol	0.037	0.047	79	10-123	

Lab Batch #: 832325

Sample: 578740-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/16/10 19:39

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.057	0.100	57	43-116	
2-Fluorophenol	0.022	0.050	44	21-100	
Nitrobenzene-d5	0.059	0.100	59	35-114	
Phenol-d6	0.022	0.050	44	10-94	
Terphenyl-D14	0.070	0.100	70	33-141	
2,4,6-Tribromophenol	0.030	0.050	60	10-123	

Lab Batch #: 832793

Sample: 589261-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/18/10 16:59

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0482	0.0500	96	74-124	
Dibromofluoromethane	0.0493	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0472	0.0500	94	63-144	
Toluene-D8	0.0498	0.0500	100	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397190,

Project ID: Roxana-Route 111/21562291.00009

Lab Batch #: 832793

Sample: 589261-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/18/10 17:54

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0490	0.0500	98	74-124	
Dibromofluoromethane	0.0495	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0485	0.0500	97	63-144	
Toluene-D8	0.0479	0.0500	96	80-117	

Lab Batch #: 832793

Sample: 397190-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/18/10 19:55

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0493	0.0500	99	74-124	
Dibromofluoromethane	0.0493	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0493	0.0500	99	63-144	
Toluene-D8	0.0482	0.0500	96	80-117	

Lab Batch #: 832793

Sample: 397190-003 S / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/18/10 20:21

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0490	0.0500	98	74-124	
Dibromofluoromethane	0.0505	0.0500	101	75-131	
1,2-Dichloroethane-D4	0.0499	0.0500	100	63-144	
Toluene-D8	0.0503	0.0500	101	80-117	

Lab Batch #: 832793

Sample: 397190-003 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/18/10 20:47

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0492	0.0500	98	74-124	
Dibromofluoromethane	0.0496	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0481	0.0500	96	63-144	
Toluene-D8	0.0500	0.0500	100	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \cdot A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397190,

Project ID: Roxana-Route 111/21562291.00009

Lab Batch #: 832793

Sample: 397190-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/18/10 21:40

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0495	0.0500	99	74-124	
Dibromofluoromethane	0.0505	0.0500	101	75-131	
1,2-Dichloroethane-D4	0.0492	0.0500	98	63-144	
Toluene-D8	0.0488	0.0500	98	80-117	

Lab Batch #: 832793

Sample: 397190-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/18/10 22:06

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0493	0.0500	99	74-124	
Dibromofluoromethane	0.0500	0.0500	100	75-131	
1,2-Dichloroethane-D4	0.0481	0.0500	96	63-144	
Toluene-D8	0.0485	0.0500	97	80-117	

Lab Batch #: 832793

Sample: 397190-005 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/18/10 22:32

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0502	0.0500	100	74-124	
Dibromofluoromethane	0.0491	0.0500	98	75-131	
1,2-Dichloroethane-D4	0.0492	0.0500	98	63-144	
Toluene-D8	0.0491	0.0500	98	80-117	

Lab Batch #: 832793

Sample: 397190-006 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/18/10 22:58

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0491	0.0500	98	74-124	
Dibromofluoromethane	0.0515	0.0500	103	75-131	
1,2-Dichloroethane-D4	0.0518	0.0500	104	63-144	
Toluene-D8	0.0489	0.0500	98	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \cdot A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397190,

Project ID: Roxana-Route 111/21562291.00009

Lab Batch #: 832793

Sample: 397190-007 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/18/10 23:24

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0501	0.0500	100	74-124	
Dibromofluoromethane	0.0505	0.0500	101	75-131	
1,2-Dichloroethane-D4	0.0500	0.0500	100	63-144	
Toluene-D8	0.0494	0.0500	99	80-117	

Lab Batch #: 832793

Sample: 397190-008 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/18/10 23:50

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0505	0.0500	101	74-124	
Dibromofluoromethane	0.0495	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0515	0.0500	103	63-144	
Toluene-D8	0.0494	0.0500	99	80-117	

Lab Batch #: 832793

Sample: 397190-009 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/19/10 00:16

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0502	0.0500	100	74-124	
Dibromofluoromethane	0.0501	0.0500	100	75-131	
1,2-Dichloroethane-D4	0.0501	0.0500	100	63-144	
Toluene-D8	0.0494	0.0500	99	80-117	

Lab Batch #: 832793

Sample: 397190-010 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/19/10 00:42

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0512	0.0500	102	74-124	
Dibromofluoromethane	0.0499	0.0500	100	75-131	
1,2-Dichloroethane-D4	0.0506	0.0500	101	63-144	
Toluene-D8	0.0501	0.0500	100	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397190,

Project ID: Roxana-Route 111/21562291.00009

Lab Batch #: 832793

Sample: 397190-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/19/10 03:19

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0478	0.0500	96	74-124	
Dibromofluoromethane	0.0501	0.0500	100	75-131	
1,2-Dichloroethane-D4	0.0511	0.0500	102	63-144	
Toluene-D8	0.0502	0.0500	100	80-117	

Lab Batch #: 832793

Sample: 397190-004 / DL

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/19/10 03:45

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0501	0.0500	100	74-124	
Dibromofluoromethane	0.0502	0.0500	100	75-131	
1,2-Dichloroethane-D4	0.0508	0.0500	102	63-144	
Toluene-D8	0.0491	0.0500	98	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Blank Spike Recovery

Project Name: 900 S. Central Avenue

Work Order #: 397190

Project ID: Roxana-Route 111/21562291.00009

Lab Batch #: 832793

Sample: 589261-1-BKS

Matrix: Water

Date Analyzed: 11/18/2010

Date Prepared: 11/18/2010

Analyst: ZHO

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Acetone	<20.0	100	85.6	86	60-140	
Benzene	<1.00	50.0	47.8	96	66-142	
Bromobenzene	<1.00	50.0	50.1	100	75-125	
Bromochloromethane	<1.00	50.0	49.2	98	73-125	
Bromodichloromethane	<1.00	50.0	48.3	97	75-125	
Bromoform	<1.00	50.0	39.4	79	75-125	
Bromomethane	<1.00	50.0	56.6	113	70-130	
2-Butanone	<10.0	100	76.4	76	60-140	
MTBE	<1.00	50.0	44.8	90	65-135	
n-Butylbenzene	<1.00	50.0	53.5	107	75-125	
Sec-Butylbenzene	<1.00	50.0	56.0	112	75-125	
tert-Butylbenzene	<1.00	50.0	56.3	113	75-125	
Carbon Disulfide	<10.0	50.0	52.3	105	60-140	
Carbon Tetrachloride	<1.00	50.0	54.5	109	62-125	
Chlorobenzene	<1.00	50.0	49.6	99	60-133	
Chloroethane	<2.00	50.0	54.0	108	70-130	
Chloroform	<1.00	50.0	47.1	94	74-125	
Chloromethane	<2.00	50.0	54.9	110	70-130	
2-Chlorotoluene	<1.00	50.0	51.3	103	73-125	
4-Chlorotoluene	<1.00	50.0	50.1	100	74-125	
p-Cymene (p-Isopropyltoluene)	<1.00	50.0	57.3	115	75-125	
Dibromochloromethane	<1.00	50.0	48.8	98	73-125	
1,2-Dibromo-3-Chloropropane	<1.00	50.0	43.0	86	59-125	
Dibromomethane	<1.00	50.0	46.8	94	69-127	
1,2-Dichlorobenzene	<1.00	50.0	50.3	101	75-125	
1,3-Dichlorobenzene	<1.00	50.0	52.7	105	75-125	
1,4-Dichlorobenzene	<1.00	50.0	49.0	98	75-125	
Dichlorodifluoromethane	<1.00	50.0	66.8	134	70-130	H
1,1-Dichloroethane	<1.00	50.0	53.0	106	72-125	
1,2-Dichloroethane	<1.00	50.0	44.3	89	68-127	
1,1-Dichloroethene	<1.00	50.0	54.0	108	59-172	
cis-1,2-Dichloroethene	<1.00	50.0	50.2	100	75-125	
trans-1,2-dichloroethene	<1.00	50.0	51.1	102	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 S. Central Avenue

Work Order #: 397190

Project ID: Roxana-Route 111/21562291.00009

Lab Batch #: 832793

Sample: 589261-1-BKS

Matrix: Water

Date Analyzed: 11/18/2010

Date Prepared: 11/18/2010

Analyst: ZHO

Reporting Units: ug/L

Batch #: 1

BLANK/BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,2-Dichloropropane	<1.00	50.0	47.5	95	74-125	
1,3-Dichloropropane	<1.00	50.0	45.6	91	75-125	
2,2-Dichloropropane	<1.00	50.0	57.7	115	75-125	
1,1-Dichloropropene	<1.00	50.0	44.2	88	75-125	
cis-1,3-Dichloropropene	<1.00	50.0	50.8	102	74-125	
trans-1,3-dichloropropene	<1.00	50.0	41.7	83	66-125	
Ethylbenzene	<1.00	50.0	51.1	102	75-125	
Hexachlorobutadiene	<1.00	50.0	57.6	115	75-125	
isopropylbenzene	<1.00	50.0	52.0	104	75-125	
Methylene Chloride	<1.00	50.0	47.6	95	75-125	
n-Propylbenzene	<1.00	50.0	53.4	107	75-125	
Styrene	<1.00	50.0	45.4	91	75-125	
1,1,1,2-Tetrachloroethane	<1.00	50.0	53.0	106	72-125	
1,1,2,2-Tetrachloroethane	<1.00	50.0	44.1	88	74-125	
Tetrachloroethylene	<1.00	50.0	53.7	107	71-125	
Toluene	<1.00	50.0	47.8	96	59-139	
1,2,3-Trichlorobenzene	<1.00	50.0	51.7	103	75-137	
1,2,4-Trichlorobenzene	<1.00	50.0	55.5	111	75-135	
1,1,1-Trichloroethane	<1.00	50.0	52.4	105	75-125	
1,1,2-Trichloroethane	<1.00	50.0	45.8	92	75-127	
Trichloroethene	<1.00	50.0	50.3	101	62-137	
Trichlorofluoromethane	<1.00	50.0	64.3	129	67-125	H
1,2,3-Trichloropropane	<1.00	50.0	47.5	95	75-125	
1,2,4-Trimethylbenzene	<1.00	50.0	53.6	107	75-125	
1,3,5-Trimethylbenzene	<1.00	50.0	55.2	110	70-125	
o-Xylene	<1.00	50.0	53.5	107	75-125	
m,p-Xylenes	<2.00	100	105	105	75-125	
Vinyl Acetate	<10.0	100	88.5	89	60-140	
Vinyl Chloride	<0.400	50.0	59.6	119	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 S. Central Avenue

Work Order #: 397190

Analyst: DAE

Lab Batch ID: 832325

Sample: 578740-1-BKS

Date Prepared: 11/15/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00009

Date Analyzed: 11/16/2010

Matrix: Water

Units: mg/L

BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk. Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
SVOAs by SW-846 8270C											
Acenaphthene	<0.004	0.050	0.048	96	0.05	0.047	94	2	27-132	31	
Acenaphthylene	<0.014	0.050	0.048	96	0.05	0.047	94	2	46-108	25	
Aniline (Phenylamine, Aminobenzene)	<0.005	0.050	0.041	82	0.05	0.044	88	7	5-115	25	
Anthracene	<0.004	0.050	0.050	100	0.05	0.049	98	2	47-145	25	
Benzo(a)anthracene	<0.004	0.050	0.049	98	0.05	0.048	96	2	33-143	25	
Benzo(a)pyrene	<0.004	0.050	0.052	104	0.05	0.052	104	0	65-135	25	
Benzo(b)fluoranthene	<0.004	0.050	0.055	110	0.05	0.053	106	4	24-159	25	
Benzo(k)fluoranthene	<0.004	0.050	0.050	100	0.05	0.052	104	4	25-125	25	
Benzo(g,h,i)perylene	<0.004	0.050	0.050	100	0.05	0.050	100	0	65-135	25	
Benzoic Acid	<0.061	0.150	0.185	123	0.15	0.134	89	32	30-115	40	H
Benzyl Butyl Phthalate	<0.005	0.050	0.050	100	0.05	0.049	98	2	65-135	25	
bis(2-chloroethoxy) methane	<0.004	0.050	0.050	100	0.05	0.049	98	2	54-188	25	
bis(2-chloroethyl) ether	<0.004	0.050	0.046	92	0.05	0.046	92	0	65-135	25	
bis(2-chloroisopropyl) ether	<0.004	0.050	0.051	102	0.05	0.051	102	0	65-135	25	
bis(2-ethylhexyl) phthalate	<0.006	0.050	0.052	104	0.05	0.051	102	2	8-158	25	
4-Bromophenyl-phenylether	<0.003	0.050	0.050	100	0.05	0.050	100	0	65-135	25	
4-chloro-3-methylphenol	<0.006	0.050	0.050	100	0.05	0.050	100	0	16-129	33	
4-Chloroaniline	<0.019	0.050	0.046	92	0.05	0.047	94	2	9-128	25	
2-Chloronaphthalene	<0.013	0.050	0.052	104	0.05	0.051	102	2	65-135	25	
2-Chlorophenol	<0.012	0.050	0.046	92	0.05	0.046	92	0	16-116	40	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C/B)$
Blank Spike Duplicate Recovery [G] = $100 * (F/E)$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 397190

Analyst: DAE

Lab Batch ID: 832325

Sample: 578740-1-BKS

Units: mg/L

Date Prepared: 11/15/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00009

Date Analyzed: 11/16/2010

Matrix: Water

SVOAs by SW-846 8270C											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
4-Chlorophenyl Phenyl Ether	<0.003	0.050	0.048	96	0.05	0.047	94	2	65-135	25	
Chrysene	<0.004	0.050	0.049	98	0.05	0.049	98	0	65-135	25	
Dibenz(a,h)anthracene	<0.004	0.050	0.051	102	0.05	0.051	102	0	50-125	25	
Dibenzo(furan	<0.014	0.050	0.048	96	0.05	0.047	94	2	52-125	25	
di-n-Butyl Phthalate	<0.005	0.050	0.052	104	0.05	0.051	102	2	49-135	50	
3,3-Dichlorobenzidine	<0.016	0.050	0.049	98	0.05	0.050	100	2	12-147	25	
2,4-Dichlorophenol	<0.007	0.050	0.049	98	0.05	0.048	96	2	65-135	25	
Diethyl Phthalate	<0.004	0.050	0.050	100	0.05	0.048	96	4	37-125	50	
Dimethyl Phthalate	<0.004	0.050	0.049	98	0.05	0.048	96	2	25-175	50	
2,4-Dimethylphenol	<0.015	0.050	0.049	98	0.05	0.048	96	2	32-119	25	
4,6-dinitro-2-methyl phenol	<0.014	0.050	0.045	90	0.05	0.044	88	2	2-181	25	
2,4-Dinitrophenol	<0.010	0.050	0.047	94	0.05	0.042	84	11	65-135	25	
2,4-Dinitrotoluene	<0.015	0.050	0.052	104	0.05	0.051	102	2	22-135	38	
2,6-Dinitrotoluene	<0.004	0.050	0.050	100	0.05	0.049	98	2	49-122	38	
di-n-Octyl Phthalate	<0.007	0.050	0.055	110	0.05	0.056	112	2	43-134	50	
Fluoranthene	<0.004	0.050	0.051	102	0.05	0.050	100	2	47-125	25	
Fluorene	<0.004	0.050	0.049	98	0.05	0.048	96	2	48-139	25	
Hexachlorobenzene	<0.003	0.050	0.049	98	0.05	0.049	98	0	46-133	25	
Hexachlorocyclopentadiene	<0.016	0.050	0.039	78	0.05	0.038	76	3	41-125	25	
Hexachloroethane	<0.015	0.050	0.046	92	0.05	0.046	92	0	25-153	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C/B)$
Blank Spike Duplicate Recovery [G] = $100 * (F/E)$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 397190

Analyst: DAE

Lab Batch ID: 832325

Sample: 578740-1-BKS

Units: mg/L

Date Prepared: 11/15/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00009

Date Analyzed: 11/16/2010

Matrix: Water

SVOAs by SW-846 8270C											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Indeno(1,2,3-c,d)Pyrene	<0.004	0.050	0.051	102	0.05	0.051	102	0	27-160	25	
Isophorone	<0.004	0.050	0.050	100	0.05	0.049	98	2	26-175	25	
2-Methylnaphthalene	<0.014	0.050	0.050	100	0.05	0.050	100	0	25-175	25	
2-methylphenol	<0.013	0.050	0.047	94	0.05	0.044	88	7	14-176	25	
3&4-Methylphenol	<0.008	0.100	0.042	42	0.1	0.044	44	5	14-176	25	
Naphthalene	<0.012	0.050	0.046	92	0.05	0.046	92	0	26-175	25	
2-Nitroaniline	<0.003	0.050	0.051	102	0.05	0.051	102	0	65-135	25	
3-Nitroaniline	<0.031	0.050	0.049	98	0.05	0.049	98	0	65-135	25	
4-Nitroaniline	<0.019	0.050	0.048	96	0.05	0.046	92	4	65-135	25	
Nitrobenzene	<0.004	0.050	0.045	90	0.05	0.044	88	2	65-135	25	
2-Nitrophenol	<0.007	0.050	0.048	96	0.05	0.048	96	0	65-135	25	
4-Nitrophenol	<0.002	0.050	0.050	100	0.05	0.049	98	2	10-80	50	(H)
N-Nitrosodi-n-Propylamine	<0.004	0.050	0.049	98	0.05	0.049	98	0	22-134	38	
N-Nitrosodiphenylamine	<0.016	0.050	0.050	100	0.05	0.050	100	0	2-196	25	
Pentachlorophenol	<0.015	0.050	0.056	112	0.05	0.041	82	31	17-117	50	
Phenanthrene	<0.004	0.050	0.050	100	0.05	0.049	98	2	65-135	25	
Phenol	<0.005	0.050	0.030	60	0.05	0.032	64	6	12-110	25	
Pyrene	<0.004	0.050	0.051	102	0.05	0.050	100	2	23-152	31	
Pyridine	<0.032	0.050	0.021	42	0.05	0.029	58	32	16-86	28	(F)
2,4,5-Trichlorophenol	<0.007	0.050	0.051	102	0.05	0.048	96	6	65-135	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C/[B])$
Blank Spike Duplicate Recovery [G] = $100 * (F/[E])$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 397190

Analyst: DAE

Lab Batch ID: 832325

Sample: 578740-1-BKS

Units: mg/L

Date Prepared: 11/15/2010

Batch #: 1

Project ID: Roxana-Route 111/21562291.00009
Date Analyzed: 11/16/2010

Matrix: Water

SVOAs by SW-846 8270C		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
2,4,6-Trichlorophenol		<0.008	0.050	0.052	104	0.05	0.050	100	4	65-135	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C)/(B)$
Blank Spike Duplicate Recovery [G] = $100 * (F)/(E)$
All results are based on MDL and Validated for QC Purposes

Work Order #: 397190

Lab Batch ID: 832325

Date Analyzed: 11/16/2010

Reporting Units: mg/L

Project ID: Roxana-Route 111/21562291.00009

QC- Sample ID: 397190-003 S Batch #: 1 Matrix: Water

Date Prepared: 11/15/2010 Analyst: DAE

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: mg/L	SVOAs by SW-846 8270C Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Acenaphthene	<0.010	0.047	0.037	79	0.047	0.034	72	8	27-132	31	
	Acenaphthylene	<0.010	0.047	0.037	79	0.047	0.033	70	11	46-108	25	
	Aniline (Phenylamine, Aminobenzene)	<0.019	0.047	0.033	70	0.047	0.030	64	10	5-115	25	
	Anthracene	<0.010	0.047	0.039	83	0.047	0.036	77	8	47-145	25	
	Benzo(a)anthracene	<0.010	0.047	0.038	81	0.047	0.036	77	5	33-143	25	
	Benzo(a)pyrene	<0.010	0.047	0.041	87	0.047	0.038	81	8	65-135	25	
	Benzo(b)fluoranthene	<0.010	0.047	0.041	87	0.047	0.038	81	8	24-159	25	
	Benzo(k)fluoranthene	<0.010	0.047	0.042	89	0.047	0.039	83	7	25-125	25	
	Benzo(g,h,i)perylene	<0.010	0.047	0.039	83	0.047	0.036	77	8	65-135	25	
	Benzoic Acid	<0.048	0.141	0.126	89	0.141	0.099	70	24	30-115	40	
	Benzyl Butyl Phthalate	<0.010	0.047	0.040	85	0.047	0.037	79	8	65-135	25	
	bis(2-chloroethoxy) methane	<0.010	0.047	0.039	83	0.047	0.035	74	11	54-188	25	
	bis(2-chloroethyl) ether	<0.010	0.047	0.036	77	0.047	0.033	70	9	65-135	25	
	bis(2-chloroisopropyl) ether	<0.010	0.047	0.041	87	0.047	0.036	77	13	65-135	25	
	bis(2-ethylhexyl) phthalate	<0.010	0.047	0.042	89	0.047	0.039	83	7	8-158	25	
	4-Bromophenyl-phenylether	<0.010	0.047	0.038	81	0.047	0.035	74	8	65-135	25	
	4-chloro-3-methylphenol	<0.010	0.047	0.038	81	0.047	0.035	74	8	16-129	33	
	4-Chloroaniline	<0.019	0.047	0.035	74	0.047	0.033	70	6	9-128	25	
	2-Chloronaphthalene	<0.010	0.047	0.040	85	0.047	0.034	72	16	65-135	25	
	2-Chlorophenol	<0.010	0.047	0.036	77	0.047	0.032	68	12	16-116	40	
	4-Chlorophenyl Phenyl Ether	<0.010	0.047	0.036	77	0.047	0.034	72	6	65-135	25	
	Chrysene	<0.010	0.047	0.039	83	0.047	0.036	77	8	65-135	25	
	Dibenz(a,h)anthracene	<0.010	0.047	0.040	85	0.047	0.036	77	11	50-125	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Work Order #: 397190

Lab Batch ID: 832325

Date Analyzed: 11/16/2010

Reporting Units: mg/L

Project ID: Roxana-Route 111/21562291.00009

QC- Sample ID: 397190-003 S Batch #: 1 Matrix: Water

Date Prepared: 11/15/2010 Analyst: DAE

SVOAs by SW-846 8270C	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Dibenzofuran	<0.010	0.047	0.037	79	0.047	0.033	70	11	52-125	25	
di-n-Butyl Phthalate	<0.010	0.047	0.041	87	0.047	0.038	81	8	49-135	50	
3,3-Dichlorobenzidine	<0.010	0.047	0.037	79	0.047	0.034	72	8	12-147	25	
2,4-Dichlorophenol	<0.010	0.047	0.036	77	0.047	0.034	72	6	65-135	25	
Diethyl Phthalate	<0.010	0.047	0.039	83	0.047	0.036	77	8	37-125	50	
Dimethyl Phthalate	<0.010	0.047	0.038	81	0.047	0.036	77	5	25-175	50	
2,4-Dimethylphenol	<0.010	0.047	0.037	79	0.047	0.034	72	8	32-119	25	
4,6-dinitro-2-methyl phenol	<0.010	0.047	0.034	72	0.047	0.033	70	3	2-181	25	
2,4-Dinitrophenol	<0.019	0.047	0.036	77	0.047	0.033	70	9	65-135	25	
2,4-Dinitrotoluene	<0.010	0.047	0.039	83	0.047	0.036	77	8	22-135	38	
2,6-Dinitrotoluene	<0.010	0.047	0.038	81	0.047	0.035	74	8	49-122	38	
di-n-Octyl Phthalate	<0.010	0.047	0.045	96	0.047	0.042	89	7	43-134	50	
Fluoranthene	<0.010	0.047	0.039	83	0.047	0.036	77	8	47-125	25	
Fluorene	<0.010	0.047	0.037	79	0.047	0.034	72	8	48-139	25	
Hexachlorobenzene	<0.010	0.047	0.038	81	0.047	0.036	77	5	46-133	25	
Hexachlorocyclopentadiene	<0.010	0.047	0.022	47	0.047	0.021	45	5	41-125	25	
Hexachloroethane	<0.010	0.047	0.036	77	0.047	0.033	70	9	25-153	25	
Indeno(1,2,3-c,d)Pyrene	<0.010	0.047	0.039	83	0.047	0.036	77	8	27-160	25	
Isophorone	<0.010	0.047	0.038	81	0.047	0.035	74	8	26-175	25	
2-Methylnaphthalene	<0.010	0.047	0.038	81	0.047	0.035	74	8	25-175	25	
2-methylphenol	<0.010	0.047	0.034	72	0.047	0.032	68	6	14-176	25	
3&4-Methylphenol	<0.010	0.094	0.030	32	0.094	0.026	28	14	14-176	25	
Naphthalene	<0.010	0.047	0.035	74	0.047	0.032	68	9	26-175	25	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times (C-F)/(C+F)$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Project Name: 900 S. Central Avenue

Work Order #: 397190

Lab Batch ID: 832325

Date Analyzed: 11/16/2010

Reporting Units: mg/L

Project ID: Roxana-Route 111/21562291.00009

QC- Sample ID: 397190-003 S Batch #: 1 Matrix: Water

Date Prepared: 11/15/2010 Analyst: DAE

SVOAs by SW-846 8270C										
Analytes										
Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
2-Nitroaniline	0.047	0.040	85	0.047	0.037	79	8	65-135	25	
3-Nitroaniline	0.047	0.038	81	0.047	0.035	74	8	65-135	25	
4-Nitroaniline	0.047	0.038	81	0.047	0.034	72	11	65-135	25	
Nitrobenzene	0.047	0.034	72	0.047	0.032	68	6	65-135	25	
2-Nitrophenol	0.047	0.036	77	0.047	0.033	70	9	65-135	25	
4-Nitrophenol	0.047	0.040	85	0.047	0.036	77	11	10-80	50	X
N-Nitrosodi-n-Propylamine	0.047	0.039	83	0.047	0.035	74	11	22-134	38	
N-Nitrosodiphenylamine	0.047	0.039	83	0.047	0.036	77	8	2-196	25	
Pentachlorophenol	0.047	0.040	85	0.047	0.030	64	29	17-117	50	
Phenanthrene	0.047	0.038	81	0.047	0.035	74	8	65-135	25	
Phenol	0.047	0.014	30	0.047	0.013	28	7	12-110	25	
Pyrene	0.047	0.039	83	0.047	0.037	79	5	23-152	31	
Pyridine	0.047	0.020	43	0.047	0.019	40	5	16-86	28	
2,4,5-Trichlorophenol	0.047	0.041	87	0.047	0.037	79	10	65-135	25	
2,4,6-Trichlorophenol	0.047	0.040	85	0.047	0.037	79	8	65-135	25	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times (C-F)/(C+F)$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Work Order #: 397190

Lab Batch ID: 832793

Date Analyzed: 11/18/2010

Reporting Units: ug/L

QC- Sample ID: 397190-003 S

Date Prepared: 11/18/2010

Batch #: 1 Matrix: Water

Analyst: ZHO

Project ID: Roxana-Route 111/21562291.00009

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
VOAs by SW-846 8260B											
Acetone	<100	100	102	102	100	96.4	96	6	60-140	21	
Benzene	<5.00	50.0	50.7	101	50.0	46.9	94	8	66-142	21	
Bromobenzene	<5.00	50.0	53.7	107	50.0	50.9	102	5	75-125	20	
Bromochloromethane	<5.00	50.0	54.1	108	50.0	50.3	101	7	73-125	20	
Bromodichloromethane	<5.00	50.0	52.8	106	50.0	49.6	99	6	75-125	20	
Bromoform	<5.00	50.0	43.8	88	50.0	41.0	82	7	75-125	20	
Bromomethane	<5.00	50.0	52.7	105	50.0	45.5	91	15	70-130	20	
2-Butanone	<50.0	100	88.6	89	100	81.7	82	8	60-140	20	
MTBE	<5.00	50.0	51.2	102	50.0	46.1	92	10	65-135	20	
n-Butylbenzene	<5.00	50.0	54.5	109	50.0	49.2	98	10	75-125	20	
Sec-Butylbenzene	<5.00	50.0	56.9	114	50.0	51.9	104	9	75-125	20	
tert-Butylbenzene	<5.00	50.0	58.3	117	50.0	53.3	107	9	75-125	20	
Carbon Disulfide	<50.0	50.0	53.1	106	50.0	47.8	96	11	60-140	20	
Carbon Tetrachloride	<5.00	50.0	54.7	109	50.0	49.8	100	9	62-125	20	
Chlorobenzene	<5.00	50.0	52.3	105	50.0	48.6	97	7	60-133	21	
Chloroethane	<10.0	50.0	51.3	103	50.0	44.8	90	14	70-130	20	
Chloroform	<5.00	50.0	50.8	102	50.0	46.8	94	8	74-125	20	
Chloromethane	<10.0	50.0	48.4	97	50.0	42.1	84	14	70-130	20	
2-Chlorotoluene	<5.00	50.0	53.9	108	50.0	50.3	101	7	73-125	20	
4-Chlorotoluene	<5.00	50.0	52.6	105	50.0	49.4	99	6	74-125	20	
p-Cymene (p-Isopropyltoluene)	<5.00	50.0	58.5	117	50.0	53.5	107	9	75-125	20	
Dibromochloromethane	<5.00	50.0	53.8	108	50.0	49.9	100	8	73-125	20	
1,2-Dibromo-3-Chloropropane	<5.00	50.0	48.3	97	50.0	44.2	88	9	59-125	28	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Project Name: 900 S. Central Avenue

Work Order #: 397190

Lab Batch ID: 832793

Date Analyzed: 11/18/2010

Reporting Units: ug/L

QC- Sample ID: 397190-003 S

Date Prepared: 11/18/2010

Batch #: 1 Matrix: Water

Analyst: ZHO

Project ID: Roxana-Route 111/21562291.00009

VOAs by SW-846 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Dibromomethane	<5.00	50.0	52.3	105	50.0	49.3	99	6	69-127	23	
1,2-Dichlorobenzene	<5.00	50.0	53.7	107	50.0	50.4	101	6	75-125	20	
1,3-Dichlorobenzene	<5.00	50.0	55.5	111	50.0	51.6	103	7	75-125	20	
1,4-Dichlorobenzene	<5.00	50.0	52.3	105	50.0	48.7	97	7	75-125	20	
Dichlorodifluoromethane	<5.00	50.0	60.4	121	50.0	52.8	106	13	70-130	23	
1,1-Dichloroethane	<5.00	50.0	57.0	114	50.0	52.1	104	9	72-125	20	
1,2-Dichloroethane	<5.00	50.0	49.8	100	50.0	46.6	93	7	68-127	20	
1,1-Dichloroethene	<5.00	50.0	54.0	108	50.0	49.1	98	10	59-172	22	
cis-1,2-Dichloroethene	<5.00	50.0	54.3	109	50.0	50.0	100	8	75-125	20	
trans-1,2-dichloroethene	<5.00	50.0	53.2	106	50.0	48.4	97	9	75-125	20	
1,2-Dichloropropane	<5.00	50.0	52.4	105	50.0	48.8	98	7	74-125	20	
1,3-Dichloropropane	<5.00	50.0	51.0	102	50.0	47.0	94	8	75-125	20	
2,2-Dichloropropane	<5.00	50.0	59.0	118	50.0	52.1	104	12	75-125	20	
1,1-Dichloropropene	<5.00	50.0	45.4	91	50.0	41.9	84	8	75-125	20	
cis-1,3-Dichloropropene	<5.00	50.0	55.8	112	50.0	52.0	104	7	74-125	20	
trans-1,3-dichloropropene	<5.00	50.0	46.4	93	50.0	43.5	87	6	66-125	20	
Ethylbenzene	<5.00	50.0	52.5	105	50.0	48.7	97	8	75-125	20	
Hexachlorobutadiene	<5.00	50.0	56.0	112	50.0	50.4	101	11	75-125	20	
isopropylbenzene	<5.00	50.0	53.6	107	50.0	49.3	99	8	75-125	20	
Methylene Chloride	<5.00	50.0	51.8	104	50.0	47.3	95	9	75-125	35	
n-Propylbenzene	<5.00	50.0	55.1	110	50.0	51.4	103	7	75-125	20	
Styrene	<5.00	50.0	48.2	96	50.0	44.1	88	9	75-125	51	
1,1,1,2-Tetrachloroethane	<5.00	50.0	55.9	112	50.0	51.4	103	8	72-125	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Work Order #: 397190

Lab Batch ID: 832793

Date Analyzed: 11/18/2010

Reporting Units: ug/L

Project ID: Roxana-Route 111/21562291.00009

QC- Sample ID: 397190-003 S

Date Prepared: 11/18/2010

Batch #: 1 Matrix: Water

Analyst: ZHO

VOAs by SW-846 8260B		Analytes									
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	1,1,2,2-Tetrachloroethane	<5.00	50.0	50.6	101	50.0	47.4	95	7	74-125	31
	Tetrachloroethylene	<5.00	50.0	53.3	107	50.0	49.1	98	8	71-125	20
	Toluene	<5.00	50.0	50.9	102	50.0	46.7	93	9	59-139	21
	1,2,3-Trichlorobenzene	<5.00	50.0	54.2	108	50.0	49.7	99	9	75-137	20
	1,2,4-Trichlorobenzene	<5.00	50.0	56.1	112	50.0	51.4	103	9	75-135	20
	1,1,1-Trichloroethane	<5.00	50.0	54.6	109	50.0	48.5	97	12	75-125	20
	1,1,2-Trichloroethane	<5.00	50.0	51.6	103	50.0	48.6	97	6	75-127	20
	Trichloroethene	<5.00	50.0	52.1	104	50.0	47.9	96	8	62-137	24
	Trichlorofluoromethane	<5.00	50.0	58.6	117	50.0	50.7	101	14	67-125	20
	1,2,3-Trichloropropane	<5.00	50.0	53.0	106	50.0	49.9	100	6	75-125	20
	1,2,4-Trimethylbenzene	<5.00	50.0	55.9	112	50.0	51.5	103	8	75-125	20
	1,3,5-Trimethylbenzene	<5.00	50.0	57.4	115	50.0	52.3	105	9	70-125	20
	o-Xylene	<5.00	50.0	55.2	110	50.0	50.9	102	8	75-125	20
	m,p-Xylenes	<10.0	100	109	109	100	99.3	99	9	75-125	20
	Vinyl Acetate	<50.0	100	103	103	100	94.9	95	8	60-140	20
	Vinyl Chloride	<2.00	50.0	54.9	110	50.0	47.0	94	16	75-125	20

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times [(C-F)/(C+F)]$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$



Shell Oil Products Chain Of Custody Record

LAB (LOCATION)

4143 Greenleaf Dr., Stafford, TX 77477
XENCO (L) BH: 281-240-4200 FAX: 281-240-4280

- ☐ CALSCIENCE ()
☐ TEST AMERICA ()
☐ SPL ()
☐ OTHER ()

Please Check Appropriate Box:

- ☒ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA S&B&M ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name:

Wendy Pennington

PO #

INCIDENT # (ENV SERVICES)

9 7 2 1 6 6 4 0

DATE: 11/11/10

PAGE: 1 of 2

CONSULTANT COMPANY

URS CORPORATION - FIELD OFFICE

170 E. RAND AVENUE

HARTFORD, ILLINOIS 62048

ST. LOUIS, MISSOURI 63110

TELEPHONE OFF: 314-743-4166

CELL: 314-452-8920

TURNAROUND TIME (CALENDAR DAYS):

☒ STANDARD (10 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

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

TEMPERATURE ON RECEIPT C° Cooler #1 21°C Cooler #2 30°C Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:

Please include all required information on Laboratory Reports.

Please provide sample receipt upon login.

☒ SHELL CONTRACT RATE APPLIES

LAB USE ONLY

Field Sample Identification

DATE

TIME

MATRIX

PRESERVATIVE

HCL HNO3 H2SO4 NONE OTHER

NO. OF CONT.

VOC

SVOC

PID (ppm)

Laboratory Notes

Relinquished by (Signature)

Relinquished by (Signature)

Relinquished by (Signature)

Relinquished by (Signature)

Relinquished by (Signature)

Relinquished by (Signature)

Relinquished by (Signature)

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Relinquished by (Signature)

Relinquished by (Signature)



Shell Oil Products Chain Of Custody Record

LAB (LOCATION)

- ☒ XENCO (1111) 231-240-4200, FAX: 261-240-4200
☐ CALSUSCENCE (1111) 231-240-4200
☐ TEST AMERICA (1111) 231-240-4200
☐ SFL (1111) 231-240-4200
☐ OTHER (1111) 231-240-4200

Please Check Appropriate Box:

- ☒ ENV. SERVICES ☐ HOTWATER RETAIL ☐ SHELL RETAIL
☐ MOTIVA SOXON ☐ CONSULTANT ☐ LUMES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name:

Wendy Pennington

INCIDENT # (ENV SERVICES)

9 7 2 1 6 6 4 0

CHECK IF NO INCIDENT # APPLIES

DATE: 11/12/10
PAGE: 2 of 2

URS CORPORATION 170 E. RAND AVENUE HARTFORD, ILLINOIS 62048

1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300 ST. LOUIS, MISSOURI 63110

OFF: 314-743-1166 OFF: 314-743-1166 OFF: 314-452-8929 OFF: 314-452-8929

TURNAROUND TIME (CALENDAR DAYS): 5 DAYS 3 DAYS 2 DAYS 21 HOURS

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

TEMPERATURE ON RECEIPT C° Cooler #1 Cooler #2

SPECIAL INSTRUCTIONS OR NOTES:

PLEASE INCLUDE 3 VOLUMES AT LEVEL 4 INQUIRY

Please provide sample receipt upon login.

REQUESTED ANALYSIS

LAB USE ONLY

LABORATORY NOTES

DATE: 11/12/10

TIME: 1600

DATE: 11/13/10

TIME: 0905

DATE: 11/12/10

TIME: 1600

DATE: 11/13/10

TIME: 0905

DATE: 11/12/10

TIME: 1600

DATE: 11/13/10

TIME: 0905

DATE: 11/12/10

TIME: 1600

DATE: 11/13/10

TIME: 0905

DATE: 11/12/10

TIME: 1600

DATE: 11/13/10

TIME: 0905

DATE: 11/12/10

TIME: 1600

DATE: 11/13/10

TIME: 0905

DATE: 11/12/10

TIME: 1600

DATE: 11/13/10

TIME: 0905

DATE: 11/12/10

TIME: 1600

DATE: 11/13/10

TIME: 0905

DATE: 11/12/10

TIME: 1600

DATE: 11/13/10

TIME: 0905

DATE: 11/12/10

TIME: 1600

DATE: 11/13/10

TIME: 0905



Prelogin/Nonconformance Report- Sample Log-In

Client: URS Corp
Date/Time Received: 11/13/10 9:05
WO ID #: 397190
Initials of Sample Receipt Person: JA
Checklist completed by, date/time: Am 11/13/10

Acceptable Temperature Range: 2-6° C

Acceptable pH Range(s):

<2 for samples preserved with HNO₃, HCL, H₂SO₄

>10 for samples preserved with NaAsO₂+NaOH, ZnAc+NaOH

Temperature Measuring device used: _____

Sample Receipt Checklist

#	*Temperature of cooler(s)?	Coolers ID	21, 3.0, 1 °C	Comments
#2	*Shipping container in good condition?	☒ YES	No	None
#3	*Samples received on ice?	☒ YES	No	N/A Blue / Water
#4	*Custody Seals intact on shipping container/ cooler?	☒ Yes	No	N/A
#5	Custody Seals intact on sample bottles/ container?	☒ Yes	No	N/A
#6	*Custody Seals Signed and dated for Containers/coolers	☒ Yes	No	N/A
#7	*Chain of Custody present?	☒ YES	No	
#8	Sample instructions complete on Chain of Custody?	☒ YES	No	
#9	Any missing/extra samples?	Yes	☒ NO	
#10	Chain of Custody signed when relinquished/ received?	☒ YES	No	
#11	Chain of Custody agrees with sample label(s)?	☒ YES	No	
#12	Container label(s) legible and intact?	☒ YES	No	
#13	Sample matrix/ properties agree with Chain of Custody?	☒ YES	No	
#14	Samples in proper container/ bottle?	☒ YES	No	
#15	Samples properly preserved?	☒ YES	No	N/A See Attached Preservation Sheet If NO
#16	Sample container(s) intact?	☒ YES	No	
#17	Sufficient sample amount for indicated test(s)?	☒ YES	No	
#18	All samples received within hold time?	☒ YES	No	
#19	Subcontract of sample(s)?	Yes	NO	
#20	VOC samples have zero headspace (less than 1/4 inch bubble)?	☒ YES	No	N/A

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

pH Check: 10 Date/Time: 11/17/10 10:00 Analyst: JA pH Device/Lot Number: H 6875211
6203- BOTTLES.

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____
Regarding: _____

Corrective Action Taken: _____

Roxana Groundwater Quarterly – 4th Quarter 2010

Laboratory SDG: 397708

Reviewer: Elizabeth Kunkel

Date Reviewed: 12/17/2010

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

Sample Identification	Sample Identification
MW-12-111510	MW-9-111510
TB-111510	MW-6D-111510EB
MW-6C-111610	MW-6B-111610
MW-6D-111610	P-54-111710
MW-11-111710	MW-7-111710
MW-7-111710D	MW-8-111710

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 LCS/LCSD recoveries for the compound 4-nitrophenol were outside evaluation criteria. Laboratory review of SVOC spectra indicated that the laboratory had inadvertently switched SVOC laboratory sample IDs 397708-001 with 397708-010. These laboratory IDs correspond to the URS IDs MW-12-111510 and MW-7-111710. Results were reported using the sample IDs whose SVOC spectra correspond with the VOC results; therefore, no qualification of data was required. Additionally, methylene chloride was detected in the trip blank. Samples were diluted due to high levels of VOCs. Professional judgment was used to qualify bis (2-ethylhexyl) phthalate in samples MW-12-111510, MW-9-111510, P-54-111710, MW-11-111710, MW-7-111710, MW-7-111710D, and MW-8-111710. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated that samples were received by the laboratory at 1.8°C which is outside the 4°C ± 2°C criteria. Samples were received in good condition and not frozen; 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
TB-111510	VOCs	Methylene chloride	1.06 µg/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
589252-1-BKS	SVOCs	4-Nitrophenol	106/106	0	10-80/50

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.

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 MW-6B-111610 was spiked and analyzed for VOCs.

Were MS/MSD recoveries within evaluation criteria?

Yes

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
MW-7-111710	MW-7-111710D

Were field duplicates within evaluation criteria?

Yes

10.0 Sample Dilutions

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

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

Yes, professional judgment was used to qualify common plasticizer, bis (2-ethylhexyl) phthalate reported at a concentration less than two times (2X) the reporting limit (RL). The compound bis (2-ethylhexyl) phthalate is found in extraction thimbles.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualifier	Comment
MW-12-111510	SVOCs	bis (2-ethylhexyl) phthalate	-	U	Professional Judgment
MW-9-111510	SVOCs	bis (2-ethylhexyl) phthalate	-	U	Professional Judgment
P-54-111710	SVOCs	bis (2-ethylhexyl) phthalate	-	U	Professional Judgment
MW-11-111710	SVOCs	bis (2-ethylhexyl) phthalate	-	U	Professional Judgment
MW-7-111710	SVOCs	bis (2-ethylhexyl) phthalate	-	U	Professional Judgment
MW-7-111710D	SVOCs	bis (2-ethylhexyl) phthalate	-	U	Professional Judgment
MW-8-111710	SVOCs	bis (2-ethylhexyl) phthalate	-	U	Professional Judgment

Analytical Report 397708

for

URS Corporation-St. Louis

Project Manager: Wendy Pennington

900 S. Central Avenue

Roxana Route 111/21562291.00009

15-DEC-10



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



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Reviewed
on
12/17/2010

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370)

Xenco-Boca Raton (EPA Lab Code: FL01273):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)
North Carolina(444), Texas(T104704468-TX), Illinois(002295), Florida(E86349)

Xenco Phoenix (EPA Lab Code: AZ00901):

Arizona(AZ0757), California(06244CA), Texas(104704435-10-2), Nevada(NAC-445A), DoD(65816)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



15-DEC-10

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

Reference: XENCO Report No: **397708**
900 S. Central Avenue
Project Address: Roxana, Illinois 62084

Wendy Pennington:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 397708. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 397708 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Carlos Castro

Managing Director, Texas

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Sample Cross Reference 397708



URS Corporation-St. Louis, St. Louis, MO
900 S. Central Avenue

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-12-111510 ✓	W	Nov-15-10 10:50		397708-001
MW-9-111510 ✓	W	Nov-15-10 15:25		397708-002
TB-111510 ✓	W	Nov-15-10 00:00		397708-003
MW-6D-111510EB ✓	W	Nov-15-10 16:30		397708-004
MW-6C-111610 ✓	W	Nov-16-10 15:05		397708-005
MW-6B-111610 ✓	W	Nov-16-10 13:15		397708-006
MW-6D-111610 ✓	W	Nov-16-10 10:35		397708-007
P-54-111710 ✓	W	Nov-17-10 08:30		397708-008
MW-11-111710 ✓	W	Nov-17-10 10:25		397708-009
MW-7-111710 ✓	W	Nov-17-10 11:50		397708-010
MW-7-111710D ✓	W	Nov-17-10 11:50		397708-011
MW-8-111710 ✓	W	Nov-17-10 13:50		397708-012



CASE NARRATIVE

Client Name: URS Corporation-St. Louis
Project Name: 900 S. Central Avenue



Project ID: Roxana Route 111/215622
Work Order Number: 397708

Report Date: 15-DEC-10
Date Received: 11/18/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-832905 TCLP SVOCs by SW-846 8270C
SW8270C

Batch 832905, 4-Nitrophenol, Pentachlorophenol recovered above QC limits in the Matrix Spike. Samples affected are: 397708-002, -005, -007, -006, -012, -010, -001, -004, -008, -011, -009. The Laboratory Control Sample for Pentachlorophenol is within laboratory Control Limits

SW8270C

Batch 832905, 4-Nitrophenol recovered above QC limits in the Blank Spike and Duplicate. Samples affected are: 397708-002, -005, -007, -006, -012, -010, -001, -004, -008, -011, -009.

According to the additional Semi-Volatiles spectra attached to this report, fractions 001 and 011 both show ethyl benzene, m&p xylene and o-xylene. These compounds are usually present when a sample also has benzene.

A comparison of the spectra for ions 91 and 106 on the three fractions (001, 010, 011) indicates that samples labeled 001 and 011 are duplicates. However; Volatiles data shows clearly that samples 010 and 011 are duplicates. All of these indicate that semi-volatile samples 001 and 010 were accidentally switched either during the extraction process or in sample custody while the aliquots were being labeled.

Additionally, the presence of similar phenol concentrations on fractions labeled 397708- 001 (result 0.034 mg/L) and 397708-011 (result 0.032 mg/L) also support this scenario.

Therefore, for all reporting purposes we are switching the original semi-volatiles data for samples 001 and 010.

Batch: LBA-833522 VOAs by SW-846 8260B

Batch: LBA-833682 VOAs by SW-846 8260B



CASE NARRATIVE

Client Name: URS Corporation-St. Louis

Project Name: 900 S. Central Avenue



Project ID: Roxana Route 111/215622

Report Date: 15-DEC-10

Work Order Number: 397708

Date Received: 11/18/2010

Certificate of Analysis Summary 397708

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



Project Id: Roxana Route 111/1562291.00009

Contact: Wendy Pennington

Project Location: Roxana, Illinois 62084

Project Name: 900 S. Central Avenue

Date Received in Lab: Thu Nov-18-10 09:00 am

Report Date: 15-DEC-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id: Field Id: Depth: Matrix: Sampled:	397708-001 MW-12-111510 WATER Nov-15-10 10:50	397708-002 MW-9-111510 WATER Nov-15-10 15:25	397708-003 TB-111510 WATER Nov-15-10 00:00	397708-004 MW-6D-111510EB WATER Nov-15-10 16:30	397708-005 MW-6C-111610 WATER Nov-16-10 15:05	397708-006 MW-6B-111610 WATER Nov-16-10 13:15
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SVOAs by SW-846 8270C	Acenaphthene	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	Acenaphthylene	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	Aniline (Phenylamine, Aminobenzene)	U 0.019	U 0.019		U 0.021	U 0.020	U 0.020
	Anthracene	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	Benzo(a)anthracene	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	Benzo(a)pyrene	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	Benzo(b)fluoranthene	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	Benzo(k)fluoranthene	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	Benzo(g,h,i)perylene	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	Benzoic Acid	U 0.048	U 0.048		U 0.052	U 0.050	U 0.050
	Benzyl Butyl Phthalate	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	bis(2-chloroethoxy) methane	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	bis(2-chloroethyl) ether	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	bis(2-chloroisopropyl) ether	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	bis(2-ethylhexyl) phthalate	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
C.O.S.D. 0.00572 0.010 0.010 0.010	4-Bromophenyl-phenylether	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	4-chloro-3-methylphenol	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	4-Chloroaniline	U 0.019	U 0.019		U 0.021	U 0.020	U 0.020
	2-Chloronaphthalene	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	2-Chlorophenol	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	4-Chlorophenyl Phenyl Ether	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	Chrysene	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	Dibenz(a,h)anthracene	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	Dibenzofuran	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010
	di-n-Butyl Phthalate	U 0.010	U 0.010		U 0.010	U 0.010	U 0.010

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Carlos Castro

Managing Director, Texas

Certificate of Analysis Summary 397708

URS Corporation-St. Louis, St. Louis, MO
Project Name: 900 S. Central Avenue

Project Id: Roxana Route 111/21562291.00009

Contact: Wendy Pennington

Project Location: Roxana, Illinois 62084

Date Received in Lab: Thu Nov-18-10 09:00 am

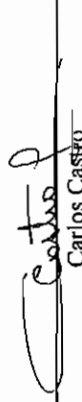
Report Date: 15-DEC-10

Project Manager: Debbie Simmons

Analysis Requested		Lab Id:	397708-001	397708-002	397708-003	397708-004	397708-005	397708-006
		Field Id:	MW-12-111510	MW-9-111510	TB-111510	MW-6D-111510EB	MW-6C-111610	MW-6B-111610
		Depth:						
		Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
		Sampled:	Nov-15-10 10:50	Nov-15-10 15:25	Nov-15-10 00:00	Nov-15-10 16:30	Nov-16-10 15:05	Nov-16-10 13:15
SVOAs by SW-846 8270C	Extracted:	Nov-19-10 08:31	Nov-19-10 08:11	Nov-19-10 08:14	Nov-19-10 08:17	Nov-19-10 08:17	Nov-19-10 08:20	Nov-19-10 08:20
	Analyzed:	Nov-20-10 17:12	Nov-20-10 14:27	Nov-20-10 14:50	Nov-20-10 15:14	Nov-20-10 15:14	Nov-20-10 15:38	Nov-20-10 15:38
	Units/RL:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		RL	RL	RL	RL	RL	RL	RL
		U	U	U	U	U	U	U
3,3-Dichlorobenzidine			0.010	0.010		0.010	0.010	0.010
2,4-Dichlorophenol			U	U		U	U	U
Diethyl Phthalate			U	U		U	U	U
Dimethyl Phthalate			U	U		U	U	U
2,4-Dimethylphenol			U	U		U	U	U
4,6-dinitro-2-methyl phenol			U	U		U	U	U
2,4-Dinitrophenol			U	U		U	U	U
2,4-Dinitrotoluene			U	U		U	U	U
2,6-Dinitrotoluene			U	U		U	U	U
di-n-Octyl Phthalate			U	U		U	U	U
Fluoranthene			U	U		U	U	U
Fluorene			U	U		U	U	U
Hexachlorobenzene			U	U		U	U	U
Hexachlorocyclopentadiene			U	U		U	U	U
Hexachloroethane			U	U		U	U	U
Indeno(1,2,3-c,d)Pyrene			U	U		U	U	U
Isophorone			U	U		U	U	U
2-Methylnaphthalene			U	U		U	U	U
2-methylphenol			U	U		U	U	U
3&4-Methylphenol			U	U		U	U	U
Naphthalene			U	U		U	U	U
2-Nitroaniline			U	U		U	U	U
3-Nitroaniline			U	U		U	U	U
4-Nitroaniline			U	U		U	U	U
Nitrobenzene			U	U		U	U	U

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 397708

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



Project Id: Roxana Route 111/21562291.00009

Contact: Wendy Pennington

Project Location: Roxana, Illinois 62084

Date Received in Lab: Thu Nov-18-10 09:00 am

Report Date: 15-DEC-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	397708-001	397708-002	397708-003	397708-004	397708-005	397708-006
	Extracted:	Analyzed:	Units/RL:			Nov-15-10 10:50	Nov-15-10 15:25	Nov-15-10 00:00	Nov-15-10 16:30	Nov-16-10 15:05	Nov-16-10 13:15
SVOAs by SW-846 8270C						Nov-19-10 08:31	Nov-19-10 08:11		Nov-19-10 08:14	Nov-19-10 08:17	Nov-19-10 08:20
						Nov-20-10 17:12	Nov-20-10 14:27		Nov-20-10 14:50	Nov-20-10 15:14	Nov-20-10 15:38
2-Nitrophenol						mg/L	RL		mg/L	RL	mg/L
4-Nitrophenol						U	0.010		U	0.010	U
N-Nitrosodi-n-Propylamine						U	0.010		U	0.010	U
N-Nitrosodiphenylamine						U	0.010		U	0.010	U
Pentachlorophenol						U	0.010		U	0.010	U
Phenanthrene						U	0.010		U	0.010	U
Phenol						U	0.010		U	0.010	U
Pyrene						U	0.010		U	0.010	U
Pyridine						U	0.010		U	0.010	U
2,4,5-Trichlorophenol						U	0.019		U	0.021	U
2,4,6-Trichlorophenol						U	0.010		U	0.010	U
						U	0.010		U	0.010	U

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Carlos Castro
Managing Director, Texas

Date Received in Lab: Thu Nov-18-10 09:00 am

Report Date: 15-DEC-10

Project Manager: Debbie Simmons

Analysis Requested		Lab Id:	397708-001	397708-002	397708-003	397708-004	397708-005	397708-006
		Field Id:	MW-12-111510	MW-9-111510	TB-111510	MW-6D-111510EB	MW-6C-111610	MW-6B-111610
		Depth:						
		Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
		Sampled:	Nov-15-10 10:50	Nov-15-10 15:25	Nov-15-10 00:00	Nov-15-10 16:30	Nov-16-10 15:05	Nov-16-10 13:15
VOAs by SW-846 8260B		Extracted:	Nov-23-10 08:52	Nov-23-10 08:54	Nov-23-10 08:50	Nov-23-10 08:56	Nov-23-10 08:58	Nov-26-10 16:30
		Analyzed:	Nov-23-10 09:35	Nov-23-10 09:57	Nov-23-10 09:12	Nov-23-10 10:20	Nov-23-10 10:42	Nov-26-10 17:22
		Units/RL:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
	Acetone		U 100	U 100	U 100	U 100	U 100	U 100
	Benzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Bromobenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Bromochloromethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Bromodichloromethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Bromoform		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Bromomethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	2-Butanone		U 50.0	U 50.0	U 50.0	U 50.0	U 50.0	U 50.0
	MTBE		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	2.04 J 5.00
	n-Butylbenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Sec-Butylbenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	tert-Butylbenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Carbon Disulfide		U 50.0	U 50.0	U 50.0	U 50.0	U 50.0	U 50.0
	Carbon Tetrachloride		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Chlorobenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Chloroethane		U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
	Chloroform		1.61 J 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Chloromethane		U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
	2-Chlorotoluene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	4-Chlorotoluene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	p-Cymene (p-Isopropyltoluene)		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Dibromochloromethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	1,2-Dibromo-3-Chloropropane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	Dibromomethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	1,2-Dichlorobenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00

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Carlos
Carlos Castro

Managing Director, Texas

Certificate of Analysis Summary 397708

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

Project Name: 900 S. Central Avenue

Project Id: Roxana Route 111/21562291.00009

Contact: Wendy Pennington

Project Location: Roxana, Illinois 62084

Date Received in Lab: Thu Nov-18-10 09:00 am

Report Date: 15-DEC-10

Project Manager: Debbie Simmons



Analysis Requested	Lab Id:	397708-001	397708-002	397708-003	397708-004	397708-005	397708-006
	Field Id:	MW-12-111510	MW-9-111510	TB-111510	MW-6D-111510EB	MW-6C-111610	MW-6B-111610
	Depth:						
	Matrix:						
	Sampled:						
VOAs by SW-846 8260B	Extracted:	Nov-23-10 08:52	Nov-23-10 08:54	Nov-23-10 08:50	Nov-23-10 08:56	Nov-23-10 08:58	Nov-26-10 16:30
	Analyzed:	Nov-23-10 09:35	Nov-23-10 09:57	Nov-23-10 09:12	Nov-23-10 10:20	Nov-23-10 10:42	Nov-26-10 17:22
	Units/RL:	ug/L RL	ug/L RL	ug/L RL	ug/L RL	ug/L RL	ug/L RL
		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
1,3-Dichlorobenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
1,4-Dichlorobenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Dichlorodifluoromethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
1,1-Dichloroethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
1,2-Dichloroethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
1,1-Dichloroethene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
cis-1,2-Dichloroethene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
trans-1,2-dichloroethene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
1,2-Dichloropropane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
1,3-Dichloropropane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
2,2-Dichloropropane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
1,1-Dichloropropene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
cis-1,3-Dichloropropene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
trans-1,3-dichloropropene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Ethylbenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Hexachlorobutadiene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
isopropylbenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Methylene Chloride		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
n-Propylbenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Styrene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
1,1,1,2-Tetrachloroethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
1,1,2,2-Tetrachloroethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Tetrachloroethylene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Toluene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
1,2,3-Trichlorobenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 397708

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

Project Name: 900 S. Central Avenue

Project Id: Roxana Route 111/21562291.00009

Contact: Wendy Pennington

Project Location: Roxana, Illinois 62084



Date Received in Lab: Thu Nov-18-10 09:00 am

Report Date: 15-DEC-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	397708-001	397708-002	397708-003	397708-004	397708-005	397708-006
	Field Id: Depth: Matrix: Sampled:	MW-12-111510 Nov-15-10 10:50 WATER	MW-9-111510 Nov-15-10 15:25 WATER	TB-111510 Nov-15-10 00:00 WATER	MW-6D-111510EB Nov-15-10 16:30 WATER	MW-6C-111610 Nov-16-10 15:05 WATER	MW-6B-111610 Nov-16-10 13:15 WATER
VOAs by SW-846 8260B	Extracted: Analyzed: Units/RL:	Nov-23-10 08:52 Nov-23-10 09:35 ug/L RL	Nov-23-10 08:54 Nov-23-10 09:57 ug/L RL	Nov-23-10 08:50 Nov-23-10 09:12 ug/L RL	Nov-23-10 08:56 Nov-23-10 10:20 ug/L RL	Nov-23-10 08:58 Nov-23-10 10:42 ug/L RL	Nov-26-10 16:30 Nov-26-10 17:22 ug/L RL
1,2,4-Trichlorobenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
1,1,1-Trichloroethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
1,1,2-Trichloroethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Trichloroethene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
Trichlorofluoromethane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
1,2,3-Trichloropropane		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
1,2,4-Trimethylbenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
1,3,5-Trimethylbenzene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
o-Xylene		U 5.00	U 5.00	U 5.00	U 5.00	U 5.00	U 5.00
m,p-Xylenes		U 10.0	U 10.0	U 10.0	U 10.0	U 10.0	U 10.0
Vinyl Acetate		U 50.0	U 50.0	U 50.0	U 50.0	U 50.0	U 50.0
Vinyl Chloride		U 2.00	U 2.00	U 2.00	U 2.00	U 2.00	U 2.00

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Carlos Castro

Managing Director, Texas

Certificate of Analysis Summary 397708

URS Corporation-St. Louis, St. Louis, MO
Project Name: 900 S. Central Avenue



Project Id: Roxana Route 111/21562291.00009
Contact: Wendy Pennington
Project Location: Roxana, Illinois 62084

Date Received in Lab: Thu Nov-18-10 09:00 am
Report Date: 15-DEC-10
Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	397708-007	397708-008	397708-009	397708-010	397708-011	397708-012
	Field Id:	MW-6D-111610	P-54-111710	MW-11-111710	MW-7-111710	MW-7-111710D	MW-8-111710
	Depth:						
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	Sampled:	Nov-16-10 10:35	Nov-17-10 08:30	Nov-17-10 10:25	Nov-17-10 11:50	Nov-17-10 11:50	Nov-17-10 13:50
VOAs by SW-846 8260B	Extracted:	Nov-26-10 16:39	Nov-26-10 16:40	Nov-26-10 16:41	Nov-23-10 10:20	Nov-23-10 10:24	Nov-23-10 10:28
	Analyzed:	Nov-26-10 20:44	Nov-26-10 21:07	Nov-26-10 21:29	Nov-23-10 11:05	Nov-23-10 11:50	Nov-23-10 12:35
	Units/RL:	ug/L RL	ug/L RL	ug/L RL	ug/L RL	ug/L RL	ug/L RL
	Acetone	U 100	U 100	U 100	U 25000	U 25000	U 25000
	Benzene	U 5.00	U 5.00	U 5.00	928000 D 50000	876000 D 50000	965000 D 50000
	Bromobenzene	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	Bromochloromethane	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	Bromodichloromethane	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	Bromoform	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	Bromomethane	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	2-Butanone	U 50.0	U 50.0	U 50.0	U 12500	U 12500	U 12500
	MTBE	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	n-Butylbenzene	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	Sec-Butylbenzene	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	tert-Butylbenzene	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	Carbon Disulfide	U 50.0	U 50.0	U 50.0	U 12500	U 12500	U 12500
	Carbon Tetrachloride	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	Chlorobenzene	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	Chloroethane	U 10.0	U 10.0	U 10.0	U 2500	U 2500	U 2500
	Chloroform	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	Chloromethane	U 10.0	U 10.0	U 10.0	U 2500	U 2500	U 2500
	2-Chlorotoluene	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	4-Chlorotoluene	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	p-Cymene (p-Isopropyltoluene)	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	Dibromochloromethane	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	1,2-Dibromo-3-Chloropropane	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	Dibromomethane	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	1,2-Dichlorobenzene	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250

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Carlos Casero
Managing Director, Texas

Certificate of Analysis Summary 397708

URS Corporation-St. Louis, St. Louis, MO
Project Name: 900 S. Central Avenue



Project Id: Roxana Route 111/21562291.00009
Contact: Wendy Pennington
Project Location: Roxana, Illinois 62084

Date Received in Lab: Thu Nov-18-10 09:00 am
Report Date: 15-DEC-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	397708-007	397708-008	397708-009	397708-010	397708-011	397708-012
						MW-6D-111610	P-54-111710	MW-11-111710	MW-7-111710	MW-7-111710D	MW-8-111710
						WATER	WATER	WATER	WATER	WATER	WATER
						Nov-16-10 10:35	Nov-17-10 08:30	Nov-17-10 10:25	Nov-17-10 11:50	Nov-17-10 11:50	Nov-17-10 13:50
VOAs by SW-846 8260B	Extracted:	Analyzed:	Units/RL:			Nov-26-10 16:39	Nov-26-10 16:40	Nov-26-10 16:41	Nov-23-10 10:20	Nov-23-10 10:24	Nov-23-10 10:28
						Nov-26-10 20:44	Nov-26-10 21:07	Nov-26-10 21:29	Nov-23-10 11:05	Nov-23-10 11:50	Nov-23-10 12:35
						ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
						RL	RL	RL	RL	RL	RL
1,3-Dichlorobenzene						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
1,4-Dichlorobenzene						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
Dichlorodifluoromethane						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
1,1-Dichloroethane						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
1,2-Dichloroethane						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
1,1-Dichloroethene						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
cis-1,2-Dichloroethene						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
trans-1,2-dichloroethene						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
1,2-Dichloropropane						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
1,3-Dichloropropane						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
2,2-Dichloropropane						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
1,1-Dichloropropene						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
cis-1,3-Dichloropropene						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
trans-1,3-dichloropropene						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
Ethylbenzene						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
Hexachlorobutadiene						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
Isopropylbenzene						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
Methylene Chloride						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
n-Propylbenzene						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
Styrene						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
1,1,1,2-Tetrachloroethane						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
1,1,2,2-Tetrachloroethane						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
Tetrachloroethylene						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
Toluene						U 5.00	U 5.00	U 5.00	U 1250	U 1250	328 J 1250
1,2,3-Trichlorobenzene						U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 397708

URS Corporation-St. Louis, St. Louis, MO
Project Name: 900 S. Central Avenue



Project Id: Roxana Route 111/21562291.00009

Contact: Wendy Pennington

Project Location: Roxana, Illinois 62084

Date Received in Lab: Thu Nov-18-10 09:00 am

Report Date: 15-DEC-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	397708-007	397708-008	397708-009	397708-010	397708-011	397708-012
	Field Id:	MW-6D-111610	P-54-111710	MW-11-111710	MW-7-111710	MW-7-111710D	MW-8-111710
	Depth:						
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	Sampled:	Nov-16-10 10:35	Nov-17-10 08:30	Nov-17-10 10:25	Nov-17-10 11:50	Nov-17-10 11:50	Nov-17-10 13:50
VOAs by SW-846 8260B	Extracted:	Nov-26-10 16:39	Nov-26-10 16:40	Nov-26-10 16:41	Nov-23-10 10:20	Nov-23-10 10:24	Nov-23-10 10:28
	Analyzed:	Nov-26-10 20:44	Nov-26-10 21:07	Nov-26-10 21:29	Nov-23-10 11:05	Nov-23-10 11:50	Nov-23-10 12:35
	Units/RL:	ug/L RL	ug/L RL	ug/L RL	ug/L RL	ug/L RL	ug/L RL
	1,2,4-Trichlorobenzene	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	1,1,1-Trichloroethane	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	1,1,2-Trichloroethane	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	Trichloroethene	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	Trichlorofluoromethane	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	1,2,3-Trichloropropane	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	1,2,4-Trimethylbenzene	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
o-Xylene	1,3,5-Trimethylbenzene	U 5.00	U 5.00	U 5.00	U 1250	U 1250	U 1250
	m,p-Xylenes	U 10.0	U 10.0	U 10.0	U 2500	U 2500	U 2500
	Vinyl Acetate	U 50.0	U 50.0	U 50.0	U 12500	U 12500	U 12500
	Vinyl Chloride	U 2.00	U 2.00	U 2.00	U 500	U 500	U 500

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Carlos Castro
Managing Director, Texas

Certificate of Analysis Summary 397708

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

Project Name: 900 S. Central Avenue

Project Id: Roxana Route 111/21562291.00009

Contact: Wendy Pennington

Project Location: Roxana, Illinois 62084

Date Received in Lab: Thu Nov-18-10 09:00 am

Report Date: 15-DEC-10

Project Manager: Debbie Simmons



Analysis Requested	Lab Id:	397708-007	397708-008	397708-009	397708-010	397708-011	397708-012
	Field Id:	MW-6D-111610	P-54-111710	MW-11-111710	MW-7-111710	MW-7-111710D	MW-8-111710
Depth:							
Matrix:							
Sampled:		Nov-16-10 10:35	Nov-17-10 08:30	Nov-17-10 10:25	Nov-17-10 11:50	Nov-17-10 11:50	Nov-17-10 13:50
Extracted:		Nov-19-10 08:23	Nov-19-10 08:26	Nov-19-10 08:29	Nov-19-10 08:08	Nov-19-10 11:00	Nov-19-10 11:03
Analyzed:		Nov-20-10 16:01	Nov-20-10 16:25	Nov-20-10 16:48	Nov-20-10 14:03	Nov-20-10 17:35	Nov-20-10 17:59
Units/RL:		mg/L RL	mg/L RL	mg/L RL	mg/L RL	mg/L RL	mg/L RL
Acenaphthene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Acenaphthylene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Aniline (Phenylamine, Aminobenzene)		U 0.020	U 0.019	U 0.019	U 0.019	U 0.020	U 0.019
Anthracene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Benzo(a)anthracene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Benzo(a)pyrene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Benzo(b)fluoranthene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Benzo(k)fluoranthene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Benzo(g,h,i)perylene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Benzoic Acid		U 0.051	U 0.048	U 0.048	U 0.048	U 0.050	U 0.048
Benzyl Butyl Phthalate		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
bis(2-chloroethoxy) methane		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
bis(2-chloroethyl) ether		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
bis(2-chloroisopropyl) ether		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
bis(2-ethylhexyl) phthalate		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
4-Bromophenyl-phenylether		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
4-chloro-3-methylphenol		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
4-Chloroaniline		U 0.020	U 0.019	U 0.019	U 0.019	U 0.020	U 0.019
2-Chloronaphthalene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
2-Chlorophenol		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
4-Chlorophenyl Phenyl Ether		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Chrysene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Dibenz(a,h)anthracene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Dibenzofuran		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
di-n-Butyl Phthalate		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010

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Carlos Castro

Managing Director, Texas



Certificate of Analysis Summary 397708

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

Project Id: Roxana Route 111/21562291.00009

Contact: Wendy Pennington

Project Location: Roxana, Illinois 62084

Project Name: 900 S. Central Avenue

Date Received in Lab: Thu Nov-18-10 09:00 am

Report Date: 15-DEC-10

Project Manager: Debbie Simmons



Analysis Requested	Lab Id:	397708-007	397708-008	397708-009	397708-010	397708-011	397708-012
	Field Id:	MW-6D-111610	P-54-111710	MW-11-111710	MW-7-111710	MW-7-111710D	MW-8-111710
	Depth:						
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	Sampled:	Nov-16-10 10:35	Nov-17-10 08:30	Nov-17-10 10:25	Nov-17-10 11:50	Nov-17-10 11:50	Nov-17-10 13:50
SVOAs by SW-846 8270C	Extracted:	Nov-19-10 08:23	Nov-19-10 08:26	Nov-19-10 08:29	Nov-19-10 08:08	Nov-19-10 11:00	Nov-19-10 11:03
	Analyzed:	Nov-20-10 16:01	Nov-20-10 16:25	Nov-20-10 16:48	Nov-20-10 14:03	Nov-20-10 17:35	Nov-20-10 17:59
	Units/RL:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		RL	RL	RL	RL	RL	RL
		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
3,3-Dichlorobenzidine		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
2,4-Dichlorophenol		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Diethyl Phthalate		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Dimethyl Phthalate		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
2,4-Dimethylphenol		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	0.018 0.010
4,6-dinitro-2-methyl phenol		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
2,4-Dinitrophenol		U 0.020	U 0.019	U 0.019	U 0.019	U 0.020	U 0.019
2,4-Dinitrotoluene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
2,6-Dinitrotoluene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
di-n-Octyl Phthalate		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Fluoranthene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Fluorene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Hexachlorobenzene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Hexachlorocyclopentadiene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Hexachloroethane		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Indeno(1,2,3-c,d)Pyrene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
Isophorone		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
2-Methylnaphthalene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	0.005 0.010
2-methylphenol		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
3&4-Methylphenol		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	0.023 0.010
Naphthalene		U 0.010	U 0.010	U 0.010	0.004 0.010	0.005 0.010	0.023 0.010
2-Nitroaniline		U 0.020	U 0.019	U 0.019	U 0.019	U 0.020	U 0.019
3-Nitroaniline		U 0.020	U 0.019	U 0.019	U 0.019	U 0.020	U 0.019
4-Nitroaniline		U 0.020	U 0.019	U 0.019	U 0.019	U 0.020	U 0.019
Nitrobenzene		U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010

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Carlos Castro

Managing Director, Texas



Certificate of Analysis Summary 397708

URS Corporation-St. Louis, St. Louis, MO
Project Name: 900 S. Central Avenue



Project Id: Roxana Route 111/21562291.00009

Contact: Wendy Pennington

Project Location: Roxana, Illinois 62084

Date Received in Lab: Thu Nov-18-10 09:00 am

Report Date: 15-DEC-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	397708-007	397708-008	397708-009	397708-010	397708-011	397708-012
	Field Id: Depth: Matrix: Sampled:	MW-5D-1111610 Nov-16-10 10:35 WATER	P-54-1111710 Nov-17-10 08:30 WATER	MW-11-1111710 Nov-17-10 10:25 WATER	MW-7-1111710 Nov-17-10 11:50 WATER	MW-7-1111710D Nov-17-10 11:50 WATER	MW-8-1111710 Nov-17-10 13:50 WATER
SVOAs by SW-846 8270C	Extracted:	Nov-19-10 08:23	Nov-19-10 08:26	Nov-19-10 08:29	Nov-19-10 08:08	Nov-19-10 11:00	Nov-19-10 11:03
	Analyzed:	Nov-20-10 16:01	Nov-20-10 16:25	Nov-20-10 16:48	Nov-20-10 14:03	Nov-20-10 17:35	Nov-20-10 17:59
	Units/RL:	mg/L RL	mg/L RL	mg/L RL	mg/L RL	mg/L RL	mg/L RL
	2-Nitrophenol	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	4-Nitrophenol	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	N-Nitrosodi-n-Propylamine	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	N-Nitrosodiphenylamine	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	Pentachlorophenol	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	Phenanthrene	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
	Phenol	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
2,4,6-Trichlorophenol	Pyrene	U 0.010	U 0.010	U 0.010	0.034 0.010	0.032 0.010	0.053 0.010
	Pyridine	U 0.020	U 0.019	U 0.019	U 0.010	U 0.010	U 0.010
	2,4,5-Trichlorophenol	U 0.010	U 0.019	U 0.019	U 0.019	U 0.020	U 0.019
	2,4,6-Trichlorophenol	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010

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Carlos Castro
Managing Director, Texas



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : VOAs by SW-846 8260B

Client : URS Corporation-St. Louis

Work Order #: 397708

Project ID: Roxana Route 111/21562291

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
MW-9-111510	Nov. 15, 2010	Nov. 18, 2010				Nov.23, 2010	14	8	P
MW-6D-111510EB	Nov. 15, 2010	Nov. 18, 2010				Nov.23, 2010	14	8	P
MW-12-111510	Nov. 15, 2010	Nov. 18, 2010				Nov.23, 2010	14	8	P
MW-8-111710	Nov. 17, 2010	Nov. 18, 2010				Nov.23, 2010	14	6	P
MW-7-111710	Nov. 17, 2010	Nov. 18, 2010				Nov.23, 2010	14	6	P
MW-6C-111610	Nov. 16, 2010	Nov. 18, 2010				Nov.23, 2010	14	7	P
MW-6D-111610	Nov. 16, 2010	Nov. 18, 2010				Nov.26, 2010	14	10	P
MW-7-111710D	Nov. 17, 2010	Nov. 18, 2010				Nov.23, 2010	14	6	P
TB-111510	Nov. 15, 2010	Nov. 18, 2010				Nov.23, 2010	14	8	P
P-54-111710	Nov. 17, 2010	Nov. 18, 2010				Nov.26, 2010	14	9	P
MW-6B-111610	Nov. 16, 2010	Nov. 18, 2010				Nov.26, 2010	14	10	P
MW-11-111710	Nov. 17, 2010	Nov. 18, 2010				Nov.26, 2010	14	9	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : SVOAs by SW-846 8270C

Client : URS Corporation-St. Louis

Work Order #: 397708

Project ID: Roxana Route 111/21562291

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
MW-7-111710D	Nov. 17, 2010	Nov. 18, 2010	Nov. 19, 2010	7	2	Nov.20, 2010	40	1	P
MW-6C-111610	Nov. 16, 2010	Nov. 18, 2010	Nov. 19, 2010	7	3	Nov.20, 2010	40	1	P
MW-8-111710	Nov. 17, 2010	Nov. 18, 2010	Nov. 19, 2010	7	2	Nov.20, 2010	40	1	P
MW-6D-111510EB	Nov. 15, 2010	Nov. 18, 2010	Nov. 19, 2010	7	4	Nov.20, 2010	40	1	P
MW-12-111510	Nov. 15, 2010	Nov. 18, 2010	Nov. 19, 2010	7	4	Nov.20, 2010	40	1	P
MW-6B-111610	Nov. 16, 2010	Nov. 18, 2010	Nov. 19, 2010	7	3	Nov.20, 2010	40	1	P
MW-7-111710	Nov. 17, 2010	Nov. 18, 2010	Nov. 19, 2010	7	2	Nov.20, 2010	40	1	P
MW-11-111710	Nov. 17, 2010	Nov. 18, 2010	Nov. 19, 2010	7	2	Nov.20, 2010	40	1	P
MW-9-111510	Nov. 15, 2010	Nov. 18, 2010	Nov. 19, 2010	7	4	Nov.20, 2010	40	1	P
MW-6D-111610	Nov. 16, 2010	Nov. 18, 2010	Nov. 19, 2010	7	3	Nov.20, 2010	40	1	P
P-54-111710	Nov. 17, 2010	Nov. 18, 2010	Nov. 19, 2010	7	2	Nov.20, 2010	40	1	P

F = These samples were analyzed outside the recommended holding time.

P = Samples analyzed within the recommended holding time.

Flagging Criteria

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

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
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12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116

Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397708,

Project ID: Roxana Route 111/21562291.00009

Lab Batch #: 832905

Sample: 589252-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/20/10 11:41

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.077	0.100	77	43-116	
2-Fluorophenol	0.026	0.050	52	21-100	
Nitrobenzene-d5	0.080	0.100	80	35-114	
Phenol-d6	0.021	0.050	42	10-94	
Terphenyl-D14	0.093	0.100	93	33-141	
2,4,6-Tribromophenol	0.036	0.050	72	10-123	

Lab Batch #: 832905

Sample: 589252-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/20/10 12:05

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.083	0.100	83	43-116	
2-Fluorophenol	0.029	0.050	58	21-100	
Nitrobenzene-d5	0.084	0.100	84	35-114	
Phenol-d6	0.024	0.050	48	10-94	
Terphenyl-D14	0.092	0.100	92	33-141	
2,4,6-Tribromophenol	0.045	0.050	90	10-123	

Lab Batch #: 832905

Sample: 589252-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/20/10 12:28

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.084	0.100	84	43-116	
2-Fluorophenol	0.028	0.050	56	21-100	
Nitrobenzene-d5	0.083	0.100	83	35-114	
Phenol-d6	0.023	0.050	46	10-94	
Terphenyl-D14	0.092	0.100	92	33-141	
2,4,6-Tribromophenol	0.045	0.050	90	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397708,

Project ID: Roxana Route 111/21562291.00009

Lab Batch #: 832905

Sample: 397459-001 S / MS

Batch: 1 Matrix: Sludge

Units: mg/L

Date Analyzed: 11/20/10 13:39

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.411	0.500	82	43-116	
2-Fluorophenol	0.185	0.250	74	21-100	
Nitrobenzene-d5	0.418	0.500	84	35-114	
Phenol-d6	0.188	0.250	75	10-94	
Terphenyl-D14	0.452	0.500	90	33-141	
2,4,6-Tribromophenol	0.236	0.250	94	10-123	

Lab Batch #: 832905

Sample: 397708-010 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/20/10 14:03

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.072	0.095	76	43-116	
2-Fluorophenol	0.017	0.048	35	21-100	
Nitrobenzene-d5	0.074	0.095	78	35-114	
Phenol-d6	0.012	0.048	25	10-94	
Terphenyl-D14	0.088	0.095	93	33-141	
2,4,6-Tribromophenol	0.040	0.048	83	10-123	

Lab Batch #: 832905

Sample: 397708-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/20/10 14:27

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.072	0.096	75	43-116	
2-Fluorophenol	0.017	0.048	35	21-100	
Nitrobenzene-d5	0.074	0.096	77	35-114	
Phenol-d6	0.008	0.048	17	10-94	
Terphenyl-D14	0.091	0.096	95	33-141	
2,4,6-Tribromophenol	0.038	0.048	79	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \cdot A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397708,

Project ID: Roxana Route 111/21562291.00009

Lab Batch #: 832905

Sample: 397708-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/20/10 14:50

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.073	0.104	70	43-116	
2-Fluorophenol	0.017	0.052	33	21-100	
Nitrobenzene-d5	0.075	0.104	72	35-114	
Phenol-d6	0.009	0.052	17	10-94	
Terphenyl-D14	0.098	0.104	94	33-141	
2,4,6-Tribromophenol	0.040	0.052	77	10-123	

Lab Batch #: 832905

Sample: 397708-005 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/20/10 15:14

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.079	0.100	79	43-116	
2-Fluorophenol	0.019	0.050	38	21-100	
Nitrobenzene-d5	0.079	0.100	79	35-114	
Phenol-d6	0.013	0.050	26	10-94	
Terphenyl-D14	0.094	0.100	94	33-141	
2,4,6-Tribromophenol	0.041	0.050	82	10-123	

Lab Batch #: 832905

Sample: 397708-006 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/20/10 15:38

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.083	0.101	82	43-116	
2-Fluorophenol	0.018	0.050	36	21-100	
Nitrobenzene-d5	0.078	0.101	77	35-114	
Phenol-d6	0.012	0.050	24	10-94	
Terphenyl-D14	0.097	0.101	96	33-141	
2,4,6-Tribromophenol	0.043	0.050	86	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 \times A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397708,

Project ID: Roxana Route 111/21562291.00009

Lab Batch #: 832905

Sample: 397708-007 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/20/10 16:01

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.080	0.102	78	43-116	
2-Fluorophenol	0.018	0.051	35	21-100	
Nitrobenzene-d5	0.082	0.102	80	35-114	
Phenol-d6	0.011	0.051	22	10-94	
Terphenyl-D14	0.099	0.102	97	33-141	
2,4,6-Tribromophenol	0.040	0.051	78	10-123	

Lab Batch #: 832905

Sample: 397708-008 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/20/10 16:25

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.079	0.096	82	43-116	
2-Fluorophenol	0.018	0.048	38	21-100	
Nitrobenzene-d5	0.080	0.096	83	35-114	
Phenol-d6	0.010	0.048	21	10-94	
Terphenyl-D14	0.099	0.096	103	33-141	
2,4,6-Tribromophenol	0.043	0.048	90	10-123	

Lab Batch #: 832905

Sample: 397708-009 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/20/10 16:48

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.071	0.096	74	43-116	
2-Fluorophenol	0.013	0.048	27	21-100	
Nitrobenzene-d5	0.072	0.096	75	35-114	
Phenol-d6	0.009	0.048	19	10-94	
Terphenyl-D14	0.090	0.096	94	33-141	
2,4,6-Tribromophenol	0.033	0.048	69	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397708,

Project ID: Roxana Route 111/21562291.00009

Lab Batch #: 832905

Sample: 397708-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/20/10 17:12

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.070	0.095	74	43-116	
2-Fluorophenol	0.017	0.048	35	21-100	
Nitrobenzene-d5	0.074	0.095	78	35-114	
Phenol-d6	0.010	0.048	21	10-94	
Terphenyl-D14	0.093	0.095	98	33-141	
2,4,6-Tribromophenol	0.041	0.048	85	10-123	

Lab Batch #: 832905

Sample: 397708-011 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/20/10 17:35

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.085	0.100	85	43-116	
2-Fluorophenol	0.021	0.050	42	21-100	
Nitrobenzene-d5	0.086	0.100	86	35-114	
Phenol-d6	0.015	0.050	30	10-94	
Terphenyl-D14	0.102	0.100	102	33-141	
2,4,6-Tribromophenol	0.045	0.050	90	10-123	

Lab Batch #: 832905

Sample: 397708-012 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/20/10 17:59

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.081	0.095	85	43-116	
2-Fluorophenol	0.018	0.048	38	21-100	
Nitrobenzene-d5	0.078	0.095	82	35-114	
Phenol-d6	0.014	0.048	29	10-94	
Terphenyl-D14	0.099	0.095	104	33-141	
2,4,6-Tribromophenol	0.049	0.048	102	10-123	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397708,

Project ID: Roxana Route 111/21562291.00009

Lab Batch #: 833389

Sample: CBLK-01 / ICB

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/22/10 18:17

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0490	0.0500	98	74-124	
Dibromofluoromethane	0.0529	0.0500	106	75-131	
1,2-Dichloroethane-D4	0.0527	0.0500	105	63-144	
Toluene-D8	0.0491	0.0500	98	80-117	

Lab Batch #: 833522

Sample: 589717-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/23/10 04:06

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0492	0.0500	98	74-124	
Dibromofluoromethane	0.0522	0.0500	104	75-131	
1,2-Dichloroethane-D4	0.0531	0.0500	106	63-144	
Toluene-D8	0.0494	0.0500	99	80-117	

Lab Batch #: 833522

Sample: 589717-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/23/10 07:41

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0493	0.0500	99	74-124	
Dibromofluoromethane	0.0517	0.0500	103	75-131	
1,2-Dichloroethane-D4	0.0481	0.0500	96	63-144	
Toluene-D8	0.0512	0.0500	102	80-117	

Lab Batch #: 833522

Sample: 397916-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/23/10 08:04

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0497	0.0500	99	74-124	
Dibromofluoromethane	0.0525	0.0500	105	75-131	
1,2-Dichloroethane-D4	0.0501	0.0500	100	63-144	
Toluene-D8	0.0510	0.0500	102	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397708,

Project ID: Roxana Route 111/21562291.00009

Lab Batch #: 833522

Sample: 397916-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/23/10 08:26

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0498	0.0500	100	74-124	
Dibromofluoromethane	0.0526	0.0500	105	75-131	
1,2-Dichloroethane-D4	0.0503	0.0500	101	63-144	
Toluene-D8	0.0499	0.0500	100	80-117	

Lab Batch #: 833522

Sample: 397708-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/23/10 09:12

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0496	0.0500	99	74-124	
Dibromofluoromethane	0.0520	0.0500	104	75-131	
1,2-Dichloroethane-D4	0.0529	0.0500	106	63-144	
Toluene-D8	0.0488	0.0500	98	80-117	

Lab Batch #: 833522

Sample: 397708-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/23/10 09:35

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0492	0.0500	98	74-124	
Dibromofluoromethane	0.0567	0.0500	113	75-131	
1,2-Dichloroethane-D4	0.0565	0.0500	113	63-144	
Toluene-D8	0.0494	0.0500	99	80-117	

Lab Batch #: 833522

Sample: 397708-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/23/10 09:57

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0497	0.0500	99	74-124	
Dibromofluoromethane	0.0534	0.0500	107	75-131	
1,2-Dichloroethane-D4	0.0532	0.0500	106	63-144	
Toluene-D8	0.0490	0.0500	98	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397708,

Project ID: Roxana Route 111/21562291.00009

Lab Batch #: 833522

Sample: 397708-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/23/10 10:20

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0500	0.0500	100	74-124	
Dibromofluoromethane	0.0552	0.0500	110	75-131	
1,2-Dichloroethane-D4	0.0520	0.0500	104	63-144	
Toluene-D8	0.0492	0.0500	98	80-117	

Lab Batch #: 833522

Sample: 397708-005 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/23/10 10:42

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0526	0.0500	105	74-124	
Dibromofluoromethane	0.0543	0.0500	109	75-131	
1,2-Dichloroethane-D4	0.0506	0.0500	101	63-144	
Toluene-D8	0.0494	0.0500	99	80-117	

Lab Batch #: 833522

Sample: 397708-010 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/23/10 11:05

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0502	0.0500	100	74-124	
Dibromofluoromethane	0.0530	0.0500	106	75-131	
1,2-Dichloroethane-D4	0.0483	0.0500	97	63-144	
Toluene-D8	0.0487	0.0500	97	80-117	

Lab Batch #: 833522

Sample: 397708-011 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/23/10 11:50

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0509	0.0500	102	74-124	
Dibromofluoromethane	0.0526	0.0500	105	75-131	
1,2-Dichloroethane-D4	0.0511	0.0500	102	63-144	
Toluene-D8	0.0492	0.0500	98	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397708,

Project ID: Roxana Route 111/21562291.00009

Lab Batch #: 833522

Sample: 397708-012 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/23/10 12:35

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0498	0.0500	100	74-124	
Dibromofluoromethane	0.0532	0.0500	106	75-131	
1,2-Dichloroethane-D4	0.0515	0.0500	103	63-144	
Toluene-D8	0.0485	0.0500	97	80-117	

Lab Batch #: 833522

Sample: 397708-010 / DL

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/23/10 13:20

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0493	0.0500	99	74-124	
Dibromofluoromethane	0.0544	0.0500	109	75-131	
1,2-Dichloroethane-D4	0.0531	0.0500	106	63-144	
Toluene-D8	0.0496	0.0500	99	80-117	

Lab Batch #: 833522

Sample: 397708-011 / DL

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/23/10 13:42

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0494	0.0500	99	74-124	
Dibromofluoromethane	0.0547	0.0500	109	75-131	
1,2-Dichloroethane-D4	0.0527	0.0500	105	63-144	
Toluene-D8	0.0494	0.0500	99	80-117	

Lab Batch #: 833682

Sample: 589842-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/26/10 15:29

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0478	0.0500	96	74-124	
Dibromofluoromethane	0.0515	0.0500	103	75-131	
1,2-Dichloroethane-D4	0.0497	0.0500	99	63-144	
Toluene-D8	0.0507	0.0500	101	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397708,

Project ID: Roxana Route 111/21562291.00009

Lab Batch #: 833682

Sample: 589842-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/26/10 16:59

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0468	0.0500	94	74-124	
Dibromofluoromethane	0.0538	0.0500	108	75-131	
1,2-Dichloroethane-D4	0.0515	0.0500	103	63-144	
Toluene-D8	0.0506	0.0500	101	80-117	

Lab Batch #: 833682

Sample: 397708-006 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/26/10 17:22

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0474	0.0500	95	74-124	
Dibromofluoromethane	0.0551	0.0500	110	75-131	
1,2-Dichloroethane-D4	0.0490	0.0500	98	63-144	
Toluene-D8	0.0490	0.0500	98	80-117	

Lab Batch #: 833682

Sample: 397708-006 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/26/10 17:44

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0471	0.0500	94	74-124	
Dibromofluoromethane	0.0542	0.0500	108	75-131	
1,2-Dichloroethane-D4	0.0513	0.0500	103	63-144	
Toluene-D8	0.0510	0.0500	102	80-117	

Lab Batch #: 833682

Sample: 397708-006 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/26/10 18:07

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0477	0.0500	95	74-124	
Dibromofluoromethane	0.0540	0.0500	108	75-131	
1,2-Dichloroethane-D4	0.0509	0.0500	102	63-144	
Toluene-D8	0.0514	0.0500	103	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Avenue

Work Orders : 397708,

Project ID: Roxana Route 111/21562291.00009

Lab Batch #: 833682

Sample: 397708-012 / DL

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/26/10 19:37

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0490	0.0500	98	74-124	
Dibromofluoromethane	0.0514	0.0500	103	75-131	
1,2-Dichloroethane-D4	0.0511	0.0500	102	63-144	
Toluene-D8	0.0498	0.0500	100	80-117	

Lab Batch #: 833682

Sample: 397708-007 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/26/10 20:44

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0478	0.0500	96	74-124	
Dibromofluoromethane	0.0526	0.0500	105	75-131	
1,2-Dichloroethane-D4	0.0468	0.0500	94	63-144	
Toluene-D8	0.0500	0.0500	100	80-117	

Lab Batch #: 833682

Sample: 397708-008 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/26/10 21:07

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0484	0.0500	97	74-124	
Dibromofluoromethane	0.0537	0.0500	107	75-131	
1,2-Dichloroethane-D4	0.0503	0.0500	101	63-144	
Toluene-D8	0.0497	0.0500	99	80-117	

Lab Batch #: 833682

Sample: 397708-009 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/26/10 21:29

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0476	0.0500	95	74-124	
Dibromofluoromethane	0.0529	0.0500	106	75-131	
1,2-Dichloroethane-D4	0.0504	0.0500	101	63-144	
Toluene-D8	0.0504	0.0500	101	80-117	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = $100 * A / B$

All results are based on MDL and validated for QC purposes.



Blank Spike Recovery



Project Name: 900 S. Central Avenue

Work Order #: 397708

Project ID: Roxana Route 111/21562291.00009

Lab Batch #: 833522

Sample: 589717-1-BKS

Matrix: Water

Date Analyzed: 11/23/2010

Date Prepared: 11/22/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Acetone	<20.0	100	109	109	60-140	
Benzene	<1.00	50.0	49.1	98	66-142	
Bromobenzene	<1.00	50.0	49.2	98	75-125	
Bromochloromethane	<1.00	50.0	50.6	101	73-125	
Bromodichloromethane	<1.00	50.0	54.1	108	75-125	
Bromoform	<1.00	50.0	55.9	112	75-125	
Bromomethane	<1.00	50.0	48.1	96	70-130	
2-Butanone	<10.0	100	106	106	60-140	
MTBE	<1.00	50.0	54.0	108	65-135	
n-Butylbenzene	<1.00	50.0	50.4	101	75-125	
Sec-Butylbenzene	<1.00	50.0	49.3	99	75-125	
tert-Butylbenzene	<1.00	50.0	50.4	101	75-125	
Carbon Disulfide	<10.0	50.0	47.4	95	60-140	
Carbon Tetrachloride	<1.00	50.0	54.7	109	62-125	
Chlorobenzene	<1.00	50.0	47.3	95	60-133	
Chloroethane	<2.00	50.0	47.8	96	70-130	
Chloroform	<1.00	50.0	49.5	99	74-125	
Chloromethane	<2.00	50.0	48.2	96	70-130	
2-Chlorotoluene	<1.00	50.0	49.1	98	73-125	
4-Chlorotoluene	<1.00	50.0	48.8	98	74-125	
p-Cymene (p-Isopropyltoluene)	<1.00	50.0	50.4	101	75-125	
Dibromochloromethane	<1.00	50.0	54.9	110	73-125	
1,2-Dibromo-3-Chloropropane	<1.00	50.0	60.9	122	59-125	
Dibromomethane	<1.00	50.0	52.9	106	69-127	
1,2-Dichlorobenzene	<1.00	50.0	50.5	101	75-125	
1,3-Dichlorobenzene	<1.00	50.0	49.2	98	75-125	
1,4-Dichlorobenzene	<1.00	50.0	49.6	99	75-125	
Dichlorodifluoromethane	<1.00	50.0	48.9	98	70-130	
1,1-Dichloroethane	<1.00	50.0	48.8	98	72-125	
1,2-Dichloroethane	<1.00	50.0	53.0	106	68-127	
1,1-Dichloroethene	<1.00	50.0	47.9	96	59-172	
cis-1,2-Dichloroethene	<1.00	50.0	49.5	99	75-125	
trans-1,2-dichloroethene	<1.00	50.0	49.7	99	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit



Blank Spike Recovery



Project Name: 900 S. Central Avenue

Work Order #: 397708

Project ID: Roxana Route 111/21562291.00009

Lab Batch #: 833522

Sample: 589717-1-BKS

Matrix: Water

Date Analyzed: 11/23/2010

Date Prepared: 11/22/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,2-Dichloropropane	<1.00	50.0	50.1	100	74-125	
1,3-Dichloropropane	<1.00	50.0	48.4	97	75-125	
2,2-Dichloropropane	<1.00	50.0	50.1	100	75-125	
1,1-Dichloropropene	<1.00	50.0	49.3	99	75-125	
cis-1,3-Dichloropropene	<1.00	50.0	50.7	101	74-125	
trans-1,3-dichloropropene	<1.00	50.0	50.7	101	66-125	
Ethylbenzene	<1.00	50.0	49.3	99	75-125	
Hexachlorobutadiene	<1.00	50.0	49.9	100	75-125	
isopropylbenzene	<1.00	50.0	50.8	102	75-125	
Methylene Chloride	<1.00	50.0	48.1	96	75-125	
n-Propylbenzene	<1.00	50.0	48.1	96	75-125	
Styrene	<1.00	50.0	49.0	98	75-125	
1,1,1,2-Tetrachloroethane	<1.00	50.0	56.0	112	72-125	
1,1,2,2-Tetrachloroethane	<1.00	50.0	53.8	108	74-125	
Tetrachloroethylene	<1.00	50.0	46.3	93	71-125	
Toluene	<1.00	50.0	48.4	97	59-139	
1,2,3-Trichlorobenzene	<1.00	50.0	53.1	106	75-137	
1,2,4-Trichlorobenzene	<1.00	50.0	53.8	108	75-135	
1,1,1-Trichloroethane	<1.00	50.0	50.5	101	75-125	
1,1,2-Trichloroethane	<1.00	50.0	50.4	101	75-127	
Trichloroethene	<1.00	50.0	49.6	99	62-137	
Trichlorofluoromethane	<1.00	50.0	49.6	99	67-125	
1,2,3-Trichloropropane	<1.00	50.0	52.4	105	75-125	
1,2,4-Trimethylbenzene	<1.00	50.0	50.7	101	75-125	
1,3,5-Trimethylbenzene	<1.00	50.0	50.6	101	70-125	
o-Xylene	<1.00	50.0	49.6	99	75-125	
m,p-Xylenes	<2.00	100	97.8	98	75-125	
Vinyl Acetate	<10.0	100	106	106	60-140	
Vinyl Chloride	<0.400	50.0	48.6	97	75-125	

Blank Spike Recovery [D] = $100 \times [C]/[B]$

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 S. Central Avenue

Work Order #: 397708

Project ID: Roxana Route 111/21562291.00009

Lab Batch #: 833682

Sample: 589842-1-BKS

Matrix: Water

Date Analyzed: 11/26/2010

Date Prepared: 11/26/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Acetone	<20.0	100	107	107	60-140	
Benzene	<1.00	50.0	49.8	100	66-142	
Bromobenzene	<1.00	50.0	51.0	102	75-125	
Bromochloromethane	<1.00	50.0	50.8	102	73-125	
Bromodichloromethane	<1.00	50.0	54.2	108	75-125	
Bromoform	<1.00	50.0	52.7	105	75-125	
Bromomethane	<1.00	50.0	46.7	93	70-130	
2-Butanone	<10.0	100	101	101	60-140	
MTBE	<1.00	50.0	52.0	104	65-135	
n-Butylbenzene	<1.00	50.0	49.8	100	75-125	
Sec-Butylbenzene	<1.00	50.0	49.0	98	75-125	
tert-Butylbenzene	<1.00	50.0	49.7	99	75-125	
Carbon Disulfide	<10.0	50.0	42.0	84	60-140	
Carbon Tetrachloride	<1.00	50.0	53.8	108	62-125	
Chlorobenzene	<1.00	50.0	50.0	100	60-133	
Chloroethane	<2.00	50.0	43.3	87	70-130	
Chloroform	<1.00	50.0	51.9	104	74-125	
Chloromethane	<2.00	50.0	43.7	87	70-130	
2-Chlorotoluene	<1.00	50.0	48.3	97	73-125	
4-Chlorotoluene	<1.00	50.0	48.9	98	74-125	
p-Cymene (p-Isopropyltoluene)	<1.00	50.0	50.0	100	75-125	
Dibromochloromethane	<1.00	50.0	51.8	104	73-125	
1,2-Dibromo-3-Chloropropane	<1.00	50.0	50.5	101	59-125	
Dibromomethane	<1.00	50.0	54.2	108	69-127	
1,2-Dichlorobenzene	<1.00	50.0	50.8	102	75-125	
1,3-Dichlorobenzene	<1.00	50.0	50.6	101	75-125	
1,4-Dichlorobenzene	<1.00	50.0	51.3	103	75-125	
Dichlorodifluoromethane	<1.00	50.0	46.3	93	70-130	
1,1-Dichloroethane	<1.00	50.0	49.2	98	72-125	
1,2-Dichloroethane	<1.00	50.0	56.3	113	68-127	
1,1-Dichloroethene	<1.00	50.0	46.4	93	59-172	
cis-1,2-Dichloroethene	<1.00	50.0	50.1	100	75-125	
trans-1,2-dichloroethene	<1.00	50.0	47.4	95	75-125	

Blank Spike Recovery [D] = $100 \times [C]/[B]$

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 S. Central Avenue

Work Order #: 397708

Project ID: Roxana Route 111/21562291.00009

Lab Batch #: 833682

Sample: 589842-1-BKS

Matrix: Water

Date Analyzed: 11/26/2010

Date Prepared: 11/26/2010

Analyst: EZB

Reporting Units: ug/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,2-Dichloropropane	<1.00	50.0	51.2	102	74-125	
1,3-Dichloropropane	<1.00	50.0	49.9	100	75-125	
2,2-Dichloropropane	<1.00	50.0	51.7	103	75-125	
1,1-Dichloropropene	<1.00	50.0	50.4	101	75-125	
cis-1,3-Dichloropropene	<1.00	50.0	51.5	103	74-125	
trans-1,3-dichloropropene	<1.00	50.0	52.2	104	66-125	
Ethylbenzene	<1.00	50.0	51.1	102	75-125	
Hexachlorobutadiene	<1.00	50.0	54.2	108	75-125	
isopropylbenzene	<1.00	50.0	48.4	97	75-125	
Methylene Chloride	<1.00	50.0	47.1	94	75-125	
n-Propylbenzene	<1.00	50.0	48.1	96	75-125	
Styrene	<1.00	50.0	51.1	102	75-125	
1,1,1,2-Tetrachloroethane	<1.00	50.0	56.4	113	72-125	
1,1,2,2-Tetrachloroethane	<1.00	50.0	50.2	100	74-125	
Tetrachloroethylene	<1.00	50.0	52.2	104	71-125	
Toluene	<1.00	50.0	50.8	102	59-139	
1,2,3-Trichlorobenzene	<1.00	50.0	55.7	111	75-137	
1,2,4-Trichlorobenzene	<1.00	50.0	55.8	112	75-135	
1,1,1-Trichloroethane	<1.00	50.0	52.2	104	75-125	
1,1,2-Trichloroethane	<1.00	50.0	53.6	107	75-127	
Trichloroethene	<1.00	50.0	52.0	104	62-137	
Trichlorofluoromethane	<1.00	50.0	50.9	102	67-125	
1,2,3-Trichloropropane	<1.00	50.0	49.2	98	75-125	
1,2,4-Trimethylbenzene	<1.00	50.0	48.8	98	75-125	
1,3,5-Trimethylbenzene	<1.00	50.0	49.3	99	70-125	
o-Xylene	<1.00	50.0	50.4	101	75-125	
m,p-Xylenes	<2.00	100	102	102	75-125	
Vinyl Acetate	<10.0	100	99.5	100	60-140	
Vinyl Chloride	<0.400	50.0	44.7	89	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Project Name: 900 S. Central Avenue

Work Order #: 397708

Analyst: DAE

Lab Batch ID: 832905

Sample: 589252-1-BKS

Date Prepared: 11/19/2010

Batch #: 1

Project ID: Roxana Route 111/21562291.00009

Date Analyzed: 11/20/2010

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Units: mg/L	SVOAs by SW-846 8270C										
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Acenaphthene	<0.001	0.050	0.051	102	0.05	0.052	104	2	27-132	31	
Acenaphthylene	<0.003	0.050	0.051	102	0.05	0.051	102	0	46-108	25	
Aniline (Phenylamine, Aminobenzene)	<0.001	0.050	0.044	88	0.05	0.046	92	4	5-115	25	
Anthracene	<0.001	0.050	0.052	104	0.05	0.054	108	4	47-145	25	
Benzo(a)anthracene	<0.001	0.050	0.052	104	0.05	0.053	106	2	33-143	25	
Benzo(a)pyrene	<0.001	0.050	0.055	110	0.05	0.057	114	4	65-135	25	
Benzo(b)fluoranthene	<0.001	0.050	0.056	112	0.05	0.056	112	0	24-159	25	
Benzo(k)fluoranthene	<0.001	0.050	0.056	112	0.05	0.059	118	5	25-125	25	
Benzo(g,h,i)perylene	<0.001	0.050	0.052	104	0.05	0.053	106	2	65-135	25	
Benzoic Acid	<0.012	0.150	0.144	96	0.15	0.104	69	32	30-115	40	
Benzyl Butyl Phthalate	<0.001	0.050	0.055	110	0.05	0.055	110	0	65-135	25	
bis(2-chloroethoxy) methane	<0.001	0.050	0.054	108	0.05	0.054	108	0	54-188	25	
bis(2-chloroethyl) ether	<0.001	0.050	0.049	98	0.05	0.050	100	2	65-135	25	
bis(2-chloroisopropyl) ether	<0.001	0.050	0.055	110	0.05	0.056	112	2	65-135	25	
bis(2-ethylhexyl) phthalate	<0.001	0.050	0.056	112	0.05	0.056	112	0	8-158	25	
4-Bromophenyl-phenylether	<0.001	0.050	0.050	100	0.05	0.054	108	8	65-135	25	
4-chloro-3-methylphenol	<0.001	0.050	0.053	106	0.05	0.053	106	0	16-129	33	
4-Chloroaniline	<0.004	0.050	0.048	96	0.05	0.048	96	0	9-128	25	
2-Chloronaphthalene	<0.003	0.050	0.051	102	0.05	0.053	106	4	65-135	25	
2-Chlorophenol	<0.002	0.050	0.049	98	0.05	0.049	98	0	16-116	40	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 397708

Analyst: DAE

Lab Batch ID: 832905

Sample: 589252-1-BKS

Units: mg/L

Date Prepared: 11/19/2010

Batch #: 1

Project ID: Roxana Route 111/21562291.00009

Date Analyzed: 11/20/2010

Matrix: Water

SVOAs by SW-846 8270C											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
4-Chlorophenyl Phenyl Ether	<0.001	0.050	0.050	100	0.05	0.051	102	2	65-135	25	
Chrysene	<0.001	0.050	0.053	106	0.05	0.053	106	0	65-135	25	
Dibenz(a,h)anthracene	<0.001	0.050	0.054	108	0.05	0.056	112	4	50-125	25	
Dibenzofuran	<0.003	0.050	0.050	100	0.05	0.052	104	4	52-125	25	
di-n-Butyl Phthalate	<0.001	0.050	0.054	108	0.05	0.056	112	4	49-135	50	
3,3-Dichlorobenzidine	<0.003	0.050	0.052	104	0.05	0.053	106	2	12-147	25	
2,4-Dichlorophenol	<0.001	0.050	0.049	98	0.05	0.051	102	4	65-135	25	
Diethyl Phthalate	<0.001	0.050	0.052	104	0.05	0.053	106	2	37-125	50	
Dimethyl Phthalate	<0.001	0.050	0.052	104	0.05	0.052	104	0	25-175	50	
2,4-Dimethylphenol	<0.003	0.050	0.051	102	0.05	0.052	104	2	32-119	25	
4,6-dinitro-2-methyl phenol	<0.003	0.050	0.045	90	0.05	0.047	94	4	2-181	25	
2,4-Dinitrophenol	<0.002	0.050	0.041	82	0.05	0.041	82	0	65-135	25	
2,4-Dinitrotoluene	<0.003	0.050	0.054	108	0.05	0.054	108	0	22-135	38	
2,6-Dinitrotoluene	<0.001	0.050	0.054	108	0.05	0.054	108	0	49-122	38	
di-n-Octyl Phthalate	<0.001	0.050	0.061	122	0.05	0.061	122	0	43-134	50	
Fluoranthene	<0.001	0.050	0.053	106	0.05	0.054	108	2	47-125	25	
Fluorene	<0.001	0.050	0.052	104	0.05	0.053	106	2	48-139	25	
Hexachlorobenzene	<0.001	0.050	0.051	102	0.05	0.053	106	4	46-133	25	
Hexachlorocyclopentadiene	<0.003	0.050	0.038	76	0.05	0.040	80	5	41-125	25	
Hexachloroethane	<0.003	0.050	0.048	96	0.05	0.049	98	2	25-153	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C/B)$
Blank Spike Duplicate Recovery [G] = $100 * (F/E)$
All results are based on MDL and Validated for QC Purposes

Project Name: 900 S. Central Avenue

Work Order #: 397708

Analyst: DAE

Lab Batch ID: 832905

Sample: 589252-1-BKS

Units: mg/L

Date Prepared: 11/19/2010

Batch #: 1

Project ID: Roxana Route 111/21562291.00009

Date Analyzed: 11/20/2010

Matrix: Water

SVOAs by SW-846 8270C											
Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Indeno(1,2,3-c,d)Pyrene	<0.001	0.050	0.054	108	0.05	0.055	110	2	27-160	25	
Isophorone	<0.001	0.050	0.052	104	0.05	0.053	106	2	26-175	25	
2-Methylnaphthalene	<0.003	0.050	0.052	104	0.05	0.053	106	2	25-175	25	
2-methylphenol	<0.003	0.050	0.043	86	0.05	0.051	102	17	14-176	25	
3&4-Methylphenol	<0.002	0.100	0.045	45	0.1	0.045	45	0	14-176	25	
Naphthalene	<0.002	0.050	0.048	96	0.05	0.049	98	2	26-175	25	
2-Nitroaniline	<0.001	0.050	0.055	110	0.05	0.055	110	0	65-135	25	
3-Nitroaniline	<0.006	0.050	0.053	106	0.05	0.052	104	2	65-135	25	
4-Nitroaniline	<0.004	0.050	0.051	102	0.05	0.050	100	2	65-135	25	
Nitrobenzene	<0.001	0.050	0.046	92	0.05	0.048	96	4	65-135	25	
2-Nitrophenol	<0.001	0.050	0.050	100	0.05	0.051	102	2	65-135	25	
4-Nitrophenol	<0.001	0.050	0.053	106	0.05	0.053	106	0	10-80	50	H
N-Nitrosodi-n-Propylamine	<0.001	0.050	0.053	106	0.05	0.055	110	4	22-134	38	
N-Nitrosodiphenylamine	<0.003	0.050	0.052	104	0.05	0.054	108	4	2-196	25	
Pentachlorophenol	<0.003	0.050	0.036	72	0.05	0.043	86	18	17-117	50	
Phenanthrene	<0.001	0.050	0.051	102	0.05	0.053	106	4	65-135	25	
Phenol	<0.001	0.050	0.028	56	0.05	0.026	52	7	12-110	25	
Pyrene	<0.001	0.050	0.054	108	0.05	0.055	110	2	23-152	31	
Pyridine	<0.006	0.050	0.020	40	0.05	0.024	48	18	16-86	28	
2,4,5-Trichlorophenol	<0.001	0.050	0.052	104	0.05	0.052	104	0	65-135	25	

Relative Percent Difference RPD = $200 * [(C-F)/(C+F)]$
Blank Spike Recovery [D] = $100 * (C)/[B]$
Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$
All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: 900 S. Central Avenue

Work Order #: 397708

Analyst: DAE

Lab Batch ID: 832905

Sample: 589252-1-BKS

Units: mg/L

Date Prepared: 11/19/2010

Batch #: 1

Project ID: Roxana Route 111/21562291.00009

Date Analyzed: 11/20/2010

Matrix: Water

SVOAs by SW-846 8270C		Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes												
2,4,6-Trichlorophenol		<0.002	0.050	0.053	106	0.05	0.053	106	0	65-135	25	

Relative Percent Difference $RPD = 200 * [(C-F)/(C+F)]$
Blank Spike Recovery $[D] = 100 * (C)/[B]$
Blank Spike Duplicate Recovery $[G] = 100 * (F)/[E]$
All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries

Project Name: 900 S. Central Avenue



Work Order #: 397708

Lab Batch #: 832905

Date Analyzed: 11/20/2010

Date Prepared: 11/19/2010

Project ID: Roxana Route 111/21562291.00009

Analyst: DAE

QC- Sample ID: 397459-001 S

Batch #: 1

Matrix: Sludge

Reporting Units: mg/L

MATRIX / MATRIX SPIKE RECOVERY STUDY						
SVOAs by SW-846 8270C	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Acenaphthene	<0.004	0.250	0.258	103	27-132	
Acenaphthylene	<0.014	0.250	0.253	101	46-108	
Aniline (Phenylamine, Aminobenzene)	<0.005	0.250	0.249	100	5-115	
Anthracene	<0.004	0.250	0.267	107	47-145	
Benzo(a)anthracene	<0.004	0.250	0.258	103	33-143	
Benzo(a)pyrene	<0.004	0.250	0.273	109	65-135	
Benzo(b)fluoranthene	<0.004	0.250	0.281	112	24-159	
Benzo(k)fluoranthene	<0.004	0.250	0.277	111	25-125	
Benzo(g,h,i)perylene	<0.004	0.250	0.264	106	65-135	
Benzoic Acid	<0.061	0.750	0.605	81	30-115	
Benzyl Butyl Phthalate	<0.005	0.250	0.270	108	65-135	
bis(2-chloroethoxy) methane	<0.004	0.250	0.264	106	54-188	
bis(2-chloroethyl) ether	<0.004	0.250	0.253	101	65-135	
bis(2-chloroisopropyl) ether	<0.004	0.250	0.281	112	65-135	
bis(2-ethylhexyl) phthalate	<0.006	0.250	0.282	113	8-158	
4-Bromophenyl-phenylether	<0.003	0.250	0.257	103	65-135	
4-chloro-3-methylphenol	<0.006	0.250	0.268	107	16-129	
4-Chloroaniline	<0.019	0.250	0.237	95	9-128	
2-Chloronaphthalene	<0.013	0.250	0.258	103	65-135	
2-Chlorophenol	<0.012	0.250	0.253	101	16-116	
4-Chlorophenyl Phenyl Ether	<0.003	0.250	0.254	102	65-135	
Chrysene	<0.004	0.250	0.261	104	65-135	
Dibenz(a,h)anthracene	<0.004	0.250	0.271	108	50-125	
Dibenzofuran	<0.014	0.250	0.254	102	52-125	
di-n-Butyl Phthalate	0.006	0.250	0.278	109	49-135	
3,3-Dichlorobenzidine	<0.016	0.250	0.228	91	12-147	
2,4-Dichlorophenol	<0.007	0.250	0.248	99	65-135	
Diethyl Phthalate	<0.004	0.250	0.265	106	37-125	
Dimethyl Phthalate	<0.004	0.250	0.257	103	25-175	
2,4-Dimethylphenol	<0.015	0.250	0.267	107	32-119	
4,6-dinitro-2-methyl phenol	<0.014	0.250	0.239	96	2-181	
2,4-Dinitrophenol	<0.010	0.250	0.240	96	65-135	
2,4-Dinitrotoluene	<0.015	0.250	0.267	107	22-135	
2,6-Dinitrotoluene	<0.004	0.250	0.261	104	49-122	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference [E] = 200*(C-A)/(C+B)

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS Recoveries

Project Name: 900 S. Central Avenue



Work Order #: 397708

Lab Batch #: 832905

Date Analyzed: 11/20/2010

QC- Sample ID: 397459-001 S

Reporting Units: mg/L

Date Prepared: 11/19/2010

Batch #: 1

Project ID: Roxana Route 111/21562291.00009

Analyst: DAE

Matrix: Sludge

MATRIX / MATRIX SPIKE RECOVERY STUDY						
SVOAs by SW-846 8270C		Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
di-n-Octyl Phthalate	<0.007	0.250	0.303	121	43-134	
Fluoranthene	<0.004	0.250	0.257	103	47-125	
Fluorene	<0.004	0.250	0.261	104	48-139	
Hexachlorobenzene	<0.003	0.250	0.261	104	46-133	
Hexachlorocyclopentadiene	<0.016	0.250	0.178	71	41-125	
Hexachloroethane	<0.015	0.250	0.247	99	25-153	
Indeno(1,2,3-c,d)Pyrene	<0.004	0.250	0.265	106	27-160	
Isophorone	<0.004	0.250	0.262	105	26-175	
2-Methylnaphthalene	<0.014	0.250	0.266	106	25-175	
2-methylphenol	<0.013	0.250	0.277	111	14-176	
3&4-Methylphenol	<0.008	0.500	0.245	49	14-176	
Naphthalene	<0.012	0.250	0.248	99	26-175	
2-Nitroaniline	<0.003	0.250	0.287	115	65-135	
3-Nitroaniline	<0.031	0.250	0.257	103	65-135	
4-Nitroaniline	<0.019	0.250	0.258	103	65-135	
Nitrobenzene	<0.004	0.250	0.242	97	65-135	
2-Nitrophenol	<0.007	0.250	0.248	99	65-135	
4-Nitrophenol	<0.002	0.250	0.277	111	10-80	X
N-Nitrosodi-n-Propylamine	<0.004	0.250	0.275	110	22-134	
N-Nitrosodiphenylamine	<0.016	0.250	0.268	107	2-196	
Pentachlorophenol	<0.015	0.250	0.300	120	17-117	X
Phenanthrene	<0.004	0.250	0.260	104	65-135	
Phenol	<0.005	0.250	0.217	87	12-110	
Pyrene	<0.004	0.250	0.261	104	23-152	
Pyridine	<0.032	0.250	0.212	85	16-86	
2,4,5-Trichlorophenol	<0.007	0.250	0.256	102	65-135	
2,4,6-Trichlorophenol	<0.008	0.250	0.267	107	65-135	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference [E] = 200*(C-A)/(C+B)

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

Work Order #: 397708

Lab Batch ID: 833522

Date Analyzed: 11/23/2010

Reporting Units: ug/L

QC- Sample ID: 397916-001 S

Date Prepared: 11/23/2010

Project ID: Roxana Route 111/21562291.00009

Batch #: 1 Matrix: Water

Analyst: EZB

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
VOAs by SW-846 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Acetone	<100	100	96.6	97	100	98.2	98	2	60-140	21	
Benzene	<5.00	50.0	48.7	97	50.0	50.0	100	3	66-142	21	
Bromobenzene	<5.00	50.0	47.7	95	50.0	48.2	96	1	75-125	20	
Bromochloromethane	<5.00	50.0	48.8	98	50.0	51.5	103	5	73-125	20	
Bromodichloromethane	<5.00	50.0	51.8	104	50.0	54.5	109	5	75-125	20	
Bromoform	<5.00	50.0	52.8	106	50.0	53.8	108	2	75-125	20	
Bromomethane	<5.00	50.0	49.1	98	50.0	51.1	102	4	70-130	20	
2-Butanone	<50.0	100	92.5	93	100	99.3	99	7	60-140	20	
MTBE	<5.00	50.0	51.9	104	50.0	54.0	108	4	65-135	20	
n-Butylbenzene	<5.00	50.0	49.9	100	50.0	50.8	102	2	75-125	20	
Sec-Butylbenzene	<5.00	50.0	49.1	98	50.0	49.6	99	1	75-125	20	
tert-Butylbenzene	<5.00	50.0	49.3	99	50.0	50.8	102	3	75-125	20	
Carbon Disulfide	<50.0	50.0	50.1	100	50.0	52.4	105	4	60-140	20	
Carbon Tetrachloride	<5.00	50.0	54.7	109	50.0	55.5	111	1	62-125	20	
Chlorobenzene	<5.00	50.0	48.9	98	50.0	49.5	99	1	60-133	21	
Chloroethane	<10.0	50.0	47.7	95	50.0	51.3	103	7	70-130	20	
Chloroform	<5.00	50.0	49.9	100	50.0	52.1	104	4	74-125	20	
Chloromethane	<10.0	50.0	48.0	96	50.0	49.3	99	3	70-130	20	
2-Chlorotoluene	<5.00	50.0	47.1	94	50.0	47.7	95	1	73-125	20	
4-Chlorotoluene	<5.00	50.0	46.8	94	50.0	48.2	96	3	74-125	20	
p-Cymene (p-Isopropyltoluene)	<5.00	50.0	49.2	98	50.0	49.5	99	1	75-125	20	
Dibromochloromethane	<5.00	50.0	52.0	104	50.0	54.0	108	4	73-125	20	
1,2-Dibromo-3-Chloropropane	<5.00	50.0	55.6	111	50.0	55.0	110	1	59-125	28	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$

Relative Percent Difference $RPD = 200 \times [(C-F)/(C+F)]$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

Applicable N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Work Order #: 397708

Lab Batch ID: 833522

Date Analyzed: 11/23/2010

Reporting Units: ug/L

Project ID: Roxana Route 111/21562291.00009

QC- Sample ID: 397916-001 S

Date Prepared: 11/23/2010

Batch #: 1

Analyst: EZB

Matrix: Water

VOAs by SW-846 8260B		Analytes									
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Dibromomethane	<5.00	50.0	50.9	102	50.0	50.0	100	2	69-127	23	
1,2-Dichlorobenzene	<5.00	50.0	48.6	97	50.0	50.5	101	4	75-125	20	
1,3-Dichlorobenzene	<5.00	50.0	48.2	96	50.0	50.1	100	4	75-125	20	
1,4-Dichlorobenzene	<5.00	50.0	48.0	96	50.0	50.1	100	4	75-125	20	
Dichlorodifluoromethane	<5.00	50.0	52.4	105	50.0	52.7	105	1	70-130	23	
1,1-Dichloroethane	<5.00	50.0	49.8	100	50.0	51.5	103	3	72-125	20	
1,2-Dichloroethane	<5.00	50.0	50.0	100	50.0	51.0	102	2	68-127	20	
1,1,1-Dichloroethene	<5.00	50.0	47.8	96	50.0	51.6	103	8	59-172	22	
cis-1,2-Dichloroethene	<5.00	50.0	49.4	99	50.0	50.8	102	3	75-125	20	
trans-1,2-dichloroethene	<5.00	50.0	50.5	101	50.0	52.9	106	5	75-125	20	
1,2-Dichloropropane	<5.00	50.0	47.9	96	50.0	49.1	98	2	74-125	20	
1,3-Dichloropropane	<5.00	50.0	47.3	95	50.0	48.3	97	2	75-125	20	
2,2-Dichloropropane	<5.00	50.0	53.0	106	50.0	54.5	109	3	75-125	20	
1,1-Dichloropropene	<5.00	50.0	48.6	97	50.0	49.7	99	2	75-125	20	
cis-1,3-Dichloropropene	<5.00	50.0	50.0	100	50.0	50.4	101	1	74-125	20	
trans-1,3-dichloropropene	<5.00	50.0	50.1	100	50.0	50.1	100	0	66-125	20	
Ethylbenzene	<5.00	50.0	48.9	98	50.0	50.5	101	3	75-125	20	
Hexachlorobutadiene	<5.00	50.0	51.9	104	50.0	53.6	107	3	75-125	20	
isopropylbenzene	<5.00	50.0	48.2	96	50.0	49.4	99	2	75-125	20	
Methylene Chloride	<5.00	50.0	47.9	96	50.0	50.5	101	5	75-125	35	
n-Propylbenzene	<5.00	50.0	47.7	95	50.0	48.9	98	2	75-125	20	
Styrene	<5.00	50.0	39.3	79	50.0	40.3	81	3	75-125	51	
1,1,1,2-Tetrachloroethane	<5.00	50.0	55.0	110	50.0	56.8	114	3	72-125	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Project Name: 900 S. Central Avenue

Work Order #: 397708

Lab Batch ID: 833522

Date Analyzed: 11/23/2010

Reporting Units: ug/L

Project ID: Roxana Route 111/21562291.00009

QC-Sample ID: 397916-001 S

Batch #: 1 Matrix: Water

Date Prepared: 11/23/2010

Analyst: EZB

VOAs by SW-846 8260B											
Analytes											
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	1,1,2,2-Tetrachloroethane	<5.00	50.0	49.2	98	50.0	49.8	100	74-125	31	
	Tetrachloroethylene	<5.00	50.0	48.2	96	50.0	50.5	101	71-125	20	
	Toluene	<5.00	50.0	48.4	97	50.0	48.3	97	59-139	21	
	1,2,3-Trichlorobenzene	<5.00	50.0	51.9	104	50.0	55.3	111	75-137	20	
	1,2,4-Trichlorobenzene	<5.00	50.0	54.5	109	50.0	56.5	113	75-135	20	
	1,1,1-Trichloroethane	<5.00	50.0	52.3	105	50.0	54.7	109	75-125	20	
	1,1,2-Trichloroethane	<5.00	50.0	47.2	94	50.0	48.0	96	75-127	20	
	Trichloroethene	<5.00	50.0	49.3	99	50.0	49.3	99	62-137	24	
	Trichlorofluoromethane	<5.00	50.0	51.4	103	50.0	53.6	107	67-125	20	
	1,2,3-Trichloropropane	<5.00	50.0	46.2	92	50.0	48.2	96	75-125	20	
	1,2,4-Trimethylbenzene	<5.00	50.0	44.3	89	50.0	45.3	91	75-125	20	
	1,3,5-Trimethylbenzene	<5.00	50.0	45.0	90	50.0	46.2	92	70-125	20	
	o-Xylene	<5.00	50.0	48.6	97	50.0	49.3	99	75-125	20	
	m,p-Xylenes	<10.0	100	95.6	96	100	97.1	97	75-125	20	
	Vinyl Acetate	<50.0	100	101	101	100	104	104	60-140	20	
	Vinyl Chloride	<2.00	50.0	49.8	100	50.0	53.1	106	75-125	20	

 Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
 Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

 ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
 N = See Narrative, EQL = Estimated Quantitation Limit

 Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

Project Name: 900 S. Central Avenue

Work Order #: 397708

Lab Batch ID: 833682

Date Analyzed: 11/26/2010

Reporting Units: ug/L

Project ID: Roxana Route 111/21562291.00009

QC- Sample ID: 397708-006 S

Date Prepared: 11/26/2010

Batch #: 1

Analyst: EZB

Matrix: Water

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY												
Reporting Units: ug/L	VOAs by SW-846 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	Acetone	<100	100	101	101	100	105	105	4	60-140	21	
	Benzene	<5.00	50.0	48.6	97	50.0	47.3	95	3	66-142	21	
	Bromobenzene	<5.00	50.0	46.2	92	50.0	47.8	96	3	75-125	20	
	Bromochloromethane	<5.00	50.0	51.4	103	50.0	51.5	103	0	73-125	20	
	Bromodichloromethane	<5.00	50.0	53.0	106	50.0	54.0	108	2	75-125	20	
	Bromoform	<5.00	50.0	49.1	98	50.0	52.2	104	6	75-125	20	
	Bromomethane	<5.00	50.0	48.5	97	50.0	46.2	92	5	70-130	20	
	2-Butanone	<50.0	100	96.3	96	100	93.6	94	3	60-140	20	
	MTBE	2.04	50.0	54.6	105	50.0	55.6	107	2	65-135	20	
	n-Butylbenzene	<5.00	50.0	45.8	92	50.0	46.5	93	2	75-125	20	
	Sec-Butylbenzene	<5.00	50.0	46.1	92	50.0	46.1	92	0	75-125	20	
	tert-Butylbenzene	<5.00	50.0	45.7	91	50.0	47.2	94	3	75-125	20	
	Carbon Disulfide	<50.0	50.0	42.8	86	50.0	42.5	85	1	60-140	20	
	Carbon Tetrachloride	<5.00	50.0	57.0	114	50.0	55.9	112	2	62-125	20	
	Chlorobenzene	<5.00	50.0	45.8	92	50.0	46.3	93	1	60-133	21	
	Chloroethane	<10.0	50.0	46.9	94	50.0	45.4	91	3	70-130	20	
	Chloroform	<5.00	50.0	53.3	107	50.0	52.3	105	2	74-125	20	
	Chloromethane	<10.0	50.0	43.2	86	50.0	42.4	85	2	70-130	20	
	2-Chlorotoluene	<5.00	50.0	45.1	90	50.0	45.0	90	0	73-125	20	
	4-Chlorotoluene	<5.00	50.0	45.0	90	50.0	45.0	90	0	74-125	20	
	p-Cymene (p-Isopropyltoluene)	<5.00	50.0	46.7	93	50.0	46.7	93	0	75-125	20	
	Dibromochloromethane	<5.00	50.0	49.9	100	50.0	51.8	104	4	73-125	20	
	1,2-Dibromo-3-Chloropropane	<5.00	50.0	47.6	95	50.0	53.1	106	11	59-125	28	

Matrix Spike Percent Recovery $[D] = 100 \cdot (C-A)/B$

Relative Percent Difference $RPD = 200 \cdot [(C-F)/(C+F)]$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \cdot (F-A)/E$

Project Name: 900 S. Central Avenue

Work Order #: 397708

Lab Batch ID: 833682

Date Analyzed: 11/26/2010

Reporting Units: ug/L

Project ID: Roxana Route 111/21562291.00009

QC-Sample ID: 397708-006 S

Date Prepared: 11/26/2010

Batch #: 1

Analyst: EZB

Matrix: Water

VOAs by SW-846 8260B Analytes		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Dibromomethane		<5.00	50.0	51.5	103	50.0	50.8	102	1	69-127	23	
1,2-Dichlorobenzene		<5.00	50.0	48.8	98	50.0	48.0	96	2	75-125	20	
1,3-Dichlorobenzene		<5.00	50.0	46.7	93	50.0	47.5	95	2	75-125	20	
1,4-Dichlorobenzene		<5.00	50.0	46.8	94	50.0	47.2	94	1	75-125	20	
Dichlorodifluoromethane		<5.00	50.0	49.2	98	50.0	47.6	95	3	70-130	23	
1,1-Dichloroethane		<5.00	50.0	48.7	97	50.0	49.5	99	2	72-125	20	
1,2-Dichloroethane		<5.00	50.0	53.5	107	50.0	53.1	106	1	68-127	20	
1,1-Dichloroethene		<5.00	50.0	47.9	96	50.0	48.2	96	1	59-172	22	
cis-1,2-Dichloroethene		<5.00	50.0	49.2	98	50.0	49.0	98	0	75-125	20	
trans-1,2-dichloroethene		<5.00	50.0	48.6	97	50.0	49.1	98	1	75-125	20	
1,2-Dichloropropane		<5.00	50.0	47.7	95	50.0	47.2	94	1	74-125	20	
1,3-Dichloropropane		<5.00	50.0	44.7	89	50.0	45.4	91	2	75-125	20	
2,2-Dichloropropane		<5.00	50.0	54.0	108	50.0	52.6	105	3	75-125	20	
1,1-Dichloropropene		<5.00	50.0	48.4	97	50.0	47.1	94	3	75-125	20	
cis-1,3-Dichloropropene		<5.00	50.0	46.6	93	50.0	48.4	97	4	74-125	20	
trans-1,3-dichloropropene		<5.00	50.0	47.2	94	50.0	48.4	97	3	66-125	20	
Ethylbenzene		<5.00	50.0	46.6	93	50.0	46.7	93	0	75-125	20	
Hexachlorobutadiene		<5.00	50.0	50.1	100	50.0	50.5	101	1	75-125	20	
isopropylbenzene		<5.00	50.0	45.5	91	50.0	45.8	92	1	75-125	20	
Methylene Chloride		<5.00	50.0	48.6	97	50.0	48.6	97	0	75-125	35	
n-Propylbenzene		<5.00	50.0	45.7	91	50.0	45.8	92	0	75-125	20	
Styrene		<5.00	50.0	44.0	88	50.0	41.8	84	5	75-125	51	
1,1,1,2-Tetrachloroethane		<5.00	50.0	53.8	108	50.0	54.0	108	0	72-125	20	

Matrix Spike Percent Recovery $[D] = 100\%(C-A)/B$

Relative Percent Difference $RPD = 200\%(C-F)/(C+F)$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not

ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100\%(F-A)/E$

Project Name: 900 S. Central Avenue

Work Order #: 397708

Lab Batch ID: 833682

Date Analyzed: 11/26/2010

Reporting Units: ug/L

Project ID: Roxana Route 111/21562291.00009

QC-Sample ID: 397708-006 S

Date Prepared: 11/26/2010

Batch #: 1

Analyst: EZB

Matrix: Water

VOAs by SW-846 8260B											
Analytes											
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
1,1,2,2-Tetrachloroethane	<5.00	50.0	47.1	94	50.0	48.2	96	2	74-125	31	
Tetrachloroethylene	<5.00	50.0	46.5	93	50.0	46.5	93	0	71-125	20	
Toluene	<5.00	50.0	48.0	96	50.0	46.6	93	3	59-139	21	
1,2,3-Trichlorobenzene	<5.00	50.0	48.9	98	50.0	49.6	99	1	75-137	20	
1,2,4-Trichlorobenzene	<5.00	50.0	49.6	99	50.0	51.1	102	3	75-135	20	
1,1,1-Trichloroethane	<5.00	50.0	55.0	110	50.0	53.8	108	2	75-125	20	
1,1,2-Trichloroethane	<5.00	50.0	49.5	99	50.0	50.1	100	1	75-127	20	
Trichloroethane	<5.00	50.0	49.2	98	50.0	47.7	95	3	62-137	24	
Trichlorofluoromethane	<5.00	50.0	54.6	109	50.0	52.5	105	4	67-125	20	
1,2,3-Trichloropropane	<5.00	50.0	45.2	90	50.0	46.6	93	3	75-125	20	
1,2,4-Trimethylbenzene	<5.00	50.0	45.1	90	50.0	43.8	88	3	75-125	20	
1,3,5-Trimethylbenzene	<5.00	50.0	45.2	90	50.0	45.2	90	0	70-125	20	
o-Xylene	<5.00	50.0	47.7	95	50.0	47.3	95	1	75-125	20	
m,p-Xylenes	<10.0	100	92.6	93	100	90.6	91	2	75-125	20	
Vinyl Acetate	<50.0	100	94.5	95	100	95.7	96	1	60-140	20	
Vinyl Chloride	<2.00	50.0	45.9	92	50.0	45.3	91	1	75-125	20	

Matrix Spike Percent Recovery $[D] = 100 \times (C-A)/B$
Relative Percent Difference $RPD = 200 \times |(C-F)/(C+F)|$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit

Matrix Spike Duplicate Percent Recovery $[G] = 100 \times (F-A)/E$

LAB (LOCATION)

4143 Greenbrier Dr., Sheffield, TX 77477

XENCO () PH: 281-240-4200; FAX: 281-240-4280

CALSCIENCE ()

TEST AMERICA ()

SPL ()

OTHER ()



Shell Oil Products Chain Of Custody Record

Print Bill To Contact Name: Wendy Pennington

INCIDENT # (ENV SERVICES) 9 7 2 1 6 6 4 0

DATE: 11/17/10

PAGE: 1 of 2

Please Check Appropriate Box:

☒ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL

☐ MOTIVA SDCN ☐ CONSULTANT ☐ LUBES

☐ SHELL PIPELINE ☐ OTHER

SHIPMENT CONTRACT

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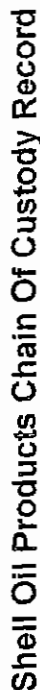
SHIPMENT CONTRACT

SHIPMENT CONTRACT

SHIPMENT CONTRACT

SHIPMENT CONTRACT

SHIPMENT CONTRACT



Shell Oil Products Chain Of Custody Record

Final 1.003



Prelogin/Nonconformance Report- Sample Log-In

Client: URS
Date/ Time Received: 11/18/10 9:00
WO ID #: 397708
Initials of Sample Receipt Person: [Signature]
Checklist completed by, date/time: [Signature]

Acceptable Temperature Range: 2-6° C

Acceptable pH Range(s):

<2 for samples preserved with HNO₃, HCL, H₂SO₄

>10 for samples preserved with NaAsO₂+NaOH, ZnAc+NaOH

Temperature Measuring device used: K29

Sample Receipt Checklist

#1	*Temperature of cooler(s)?	Coolers ID <u>28201</u> <u>1N/A1</u>	<u>1.4</u> <u>1.23</u> <u>1</u> °C	Comments
#2	*Shipping container in good condition?	<u>YES</u> No None		
#3	*Samples received on ice?	<u>YES</u> No N/A		Blue / Water
#4	*Custody Seals intact on shipping container/ cooler?	<u>Yes</u> No N/A		
#5	Custody Seals intact on sample bottles/ container?	<u>Yes</u> No N/A		
#6	*Custody Seals Signed and dated for Containers/coolers	<u>Yes</u> No N/A		
#7	*Chain of Custody present?	<u>YES</u> No		
#8	Sample instructions complete on Chain of Custody?	<u>YES</u> No		
#9	Any missing/extra samples?	Yes <u>NO</u>		
#10	Chain of Custody signed when relinquished/ received?	<u>YES</u> No		
#11	Chain of Custody agrees with sample label(s)?	<u>YES</u> No		
#12	Container label(s) legible and intact?	<u>YES</u> No		
#13	Sample matrix/ properties agree with Chain of Custody?	<u>YES</u> No		
#14	Samples in proper container/ bottle?	<u>YES</u> No		
#15	Samples properly preserved?	<u>YES</u> No N/A		See Attached Preservation Sheet If NO
#16	Sample container(s) intact?	<u>YES</u> No		
#17	Sufficient sample amount for indicated test(s)?	<u>YES</u> No		
#18	All samples received within hold time?	<u>YES</u> No		
#19	Subcontract of sample(s)?	Yes <u>NO</u>		
#20	VOC samples have zero headspace (less than 1/4 inch bubble)?	<u>YES</u> No N/A		

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

pH Check: - Date/Time: 11-18-10 11:15 Analyst: [Signature] pH Device/Lot Number: HCO 75211
11 bottles check pH

Nonconformance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____
Regarding: _____

Corrective Action Taken: _____

FedEx® US Airbill

Express

8709 8946 7421

1 From—This portion can be removed for Recipient's records.

Date 11/17/10 FedEx Tracking Number 870989467421

Sender's Name Wendy Pennington Phone 314 429-0100

Company URS Corp.

Address 1001 Highlands Plaza Dr. W #300

City St. Louis State MO ZIP 63110

2 Your Internal Billing Reference

3 To Recipient's Name Sample Receiving Phone 881 240-4700

Company XENCO LABORATORIES HOLD Weekday First FedEx location address below NOT available for FedEx Priority Overnight or FedEx 2Day to select locations.

Address 4143 GREENBRIAR DR We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address From FedEx location address above if H.O.D. option is selected.

City STAFFORD State TX ZIP 77477

0411377511



8709 8946 7421

Recipients Copy

4a Express Package Service ^{72-hour locations}
☐ FedEx Priority Overnight ☐ FedEx Standard Overnight ☐ FedEx First Overnight
 Packages up to 150 lbs. ☐ Standard Delivery (NOT available).
 Standard Delivery (NOT available).
 Standard Delivery (NOT available).

☐ FedEx 2Day ☐ FedEx Express Saver
 Packages over 150 lbs. ☐ Standard Delivery (NOT available).
 Standard Delivery (NOT available).
 Standard Delivery (NOT available).
4b Express Freight Service ^{** To most locations.}
☐ FedEx 1Day Freight ☐ FedEx 2Day Freight ☐ FedEx 3Day Freight
 Packages over 150 lbs. ☐ Standard Delivery (NOT available).
 Standard Delivery (NOT available).
 Standard Delivery (NOT available).
5 Packaging ^{* Declared value limit \$2K.}
☐ FedEx Envelope ☐ FedEx Tube ☐ Other
 Packages over 150 lbs. ☐ Standard Delivery (NOT available).
 Standard Delivery (NOT available).
 Standard Delivery (NOT available).

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery ☐ Indirect Signature
 Packages up to 150 lbs. ☐ Direct Signature
 Standard Delivery (NOT available).
 Standard Delivery (NOT available).
 Standard Delivery (NOT available).

☐ No Signature Required ☐ Signature Required
 Packages up to 150 lbs. ☐ Signature Required
 Standard Delivery (NOT available).
 Standard Delivery (NOT available).
 Standard Delivery (NOT available).

☐ Does this shipment contain dangerous goods?
 Yes ☐ No ☐ Yes ☐ No
 Packages up to 150 lbs. ☐ Standard Delivery (NOT available).
 Standard Delivery (NOT available).
 Standard Delivery (NOT available).

☐ Dry Ice ☐ Cargo Aircraft Only
 Packages up to 150 lbs. ☐ Standard Delivery (NOT available).
 Standard Delivery (NOT available).
 Standard Delivery (NOT available).

7 Payment Bill to:

☐ Sender ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check
 Packages up to 150 lbs. ☐ Standard Delivery (NOT available).
 Standard Delivery (NOT available).
 Standard Delivery (NOT available).

☐ Obtain Receipt ☐ Act No. ☐ Credit Card Auth.
 Packages up to 150 lbs. ☐ Standard Delivery (NOT available).
 Standard Delivery (NOT available).
 Standard Delivery (NOT available).

☐ Total Packages ☐ Total Weight
 Packages up to 150 lbs. ☐ Standard Delivery (NOT available).
 Standard Delivery (NOT available).
 Standard Delivery (NOT available).

553

URS

URS Corporation
1001 Highlands Plaza Drive West
Suite 300
St Louis, MO 63110

Signature:

Date:

[Signature]

11/17/10

URS

URS Corporation
1001 Highlands Plaza Drive West
Suite 300
St Louis, MO 63110

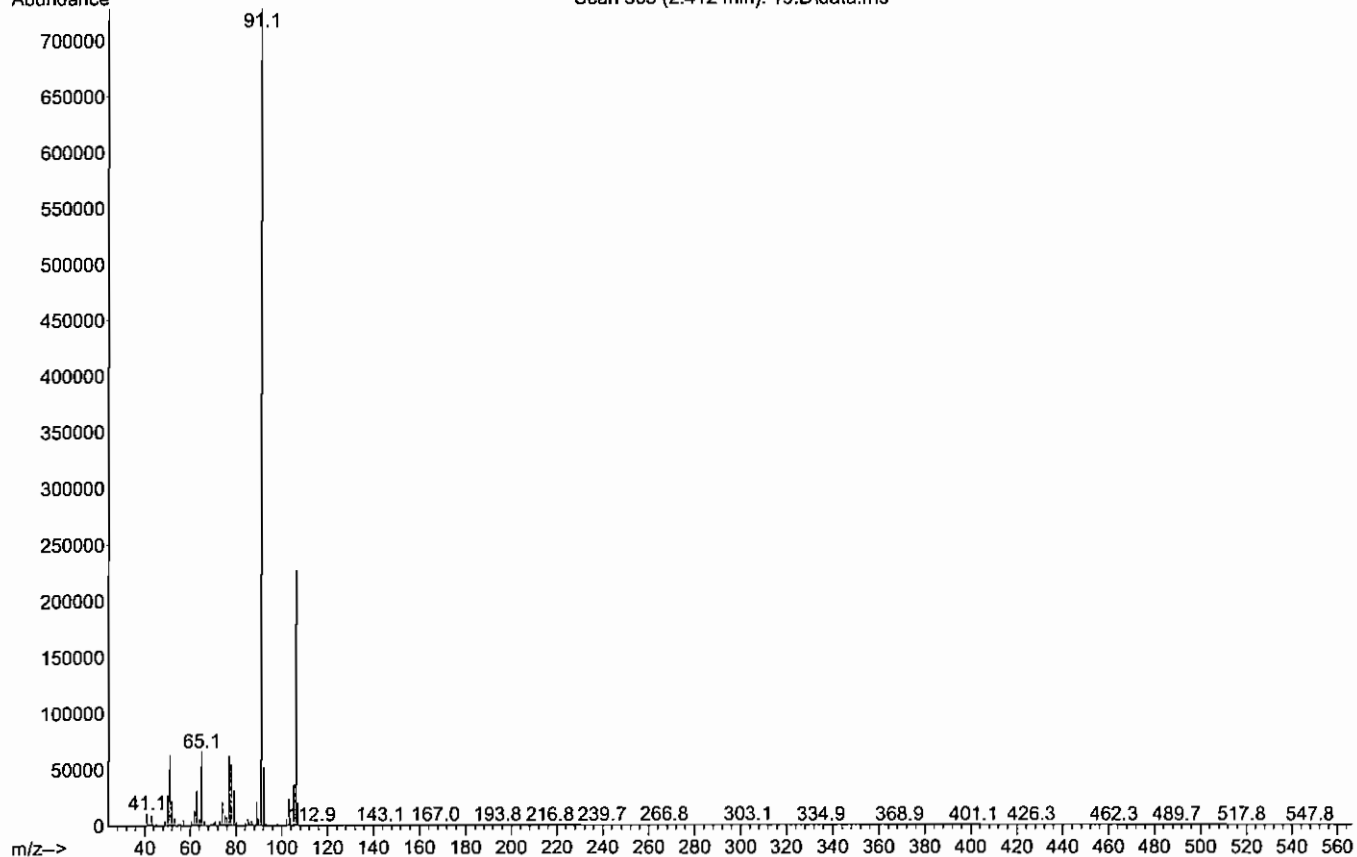
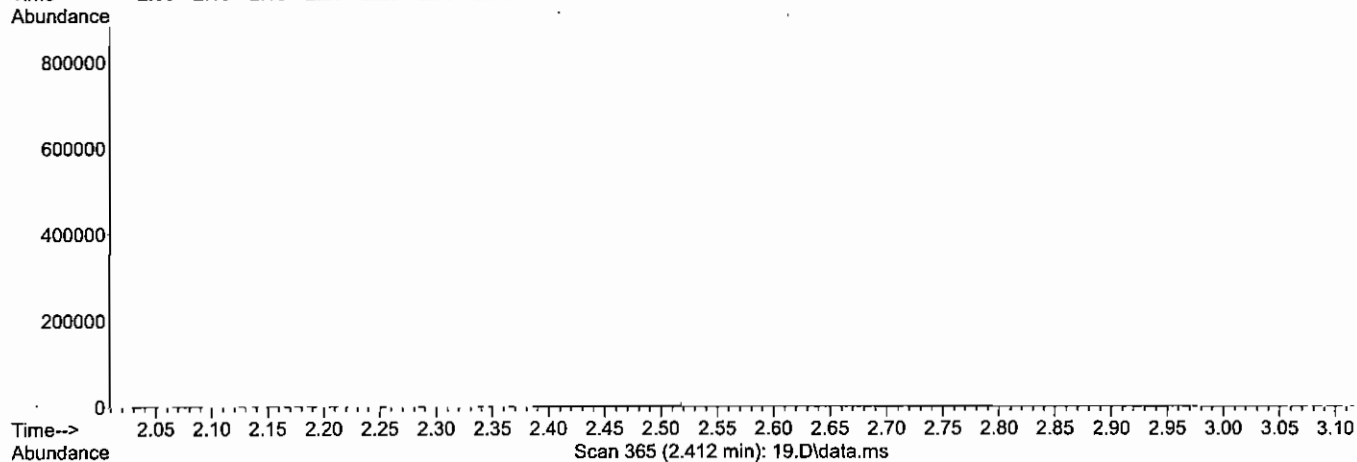
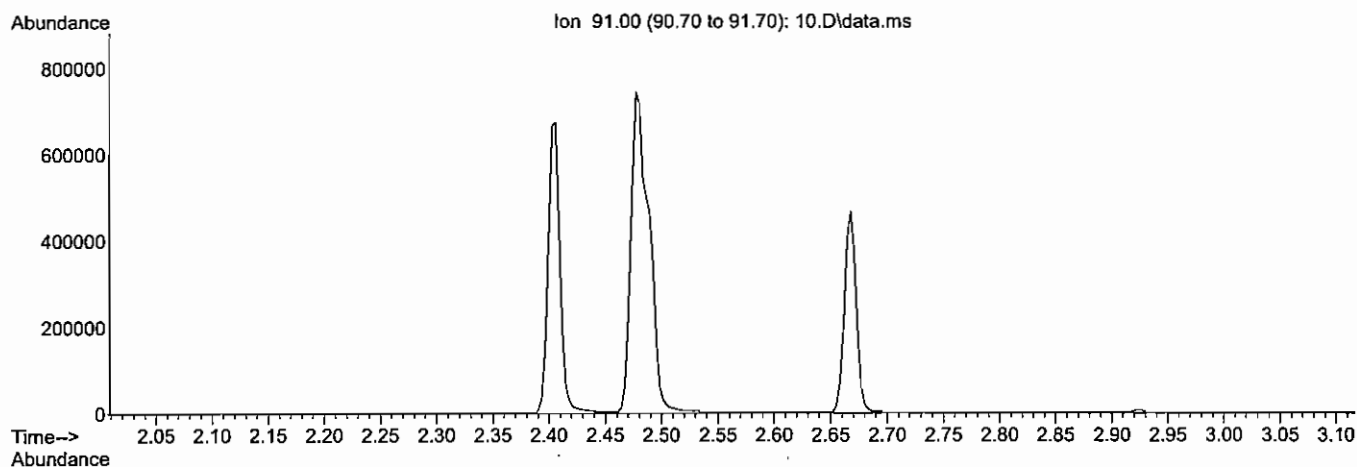
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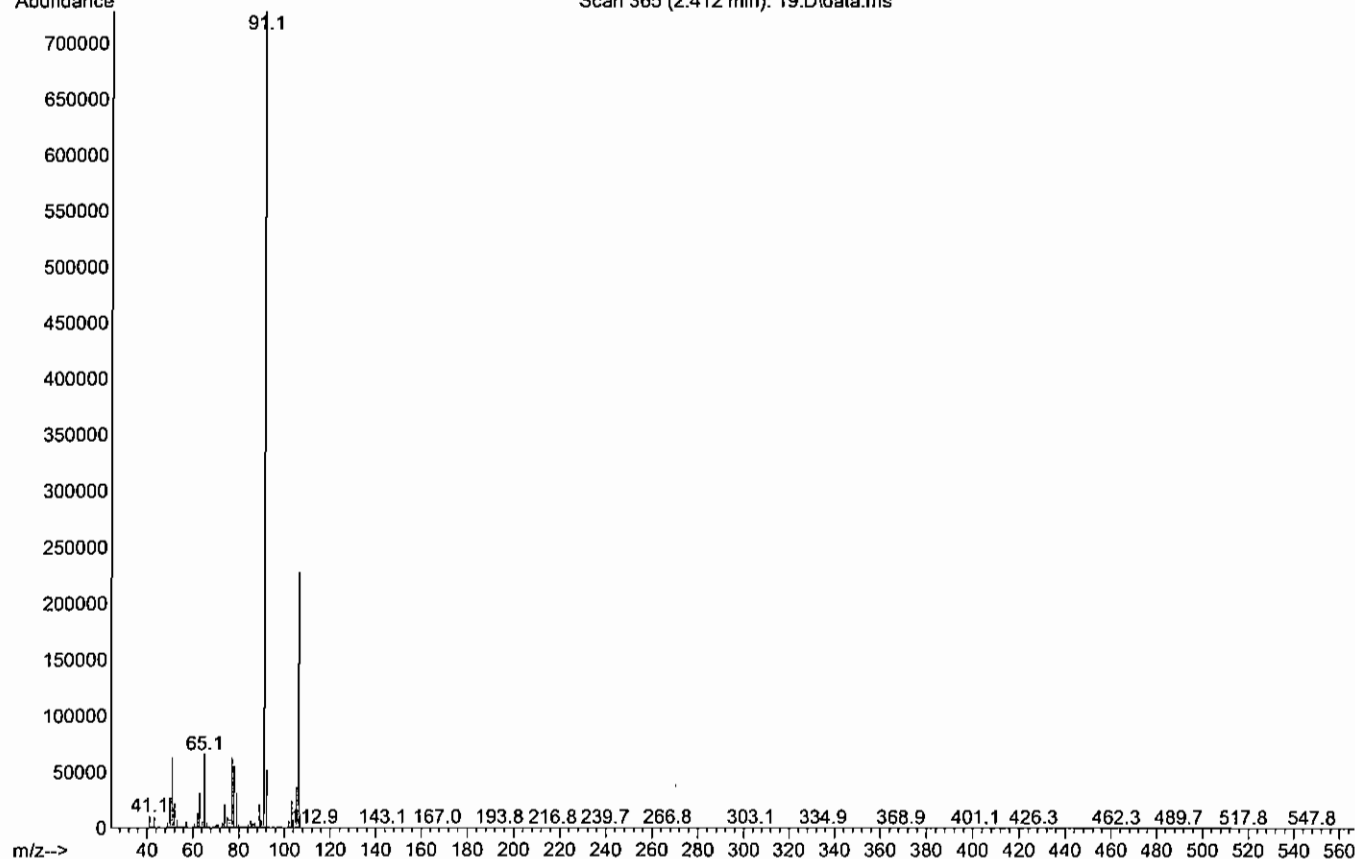
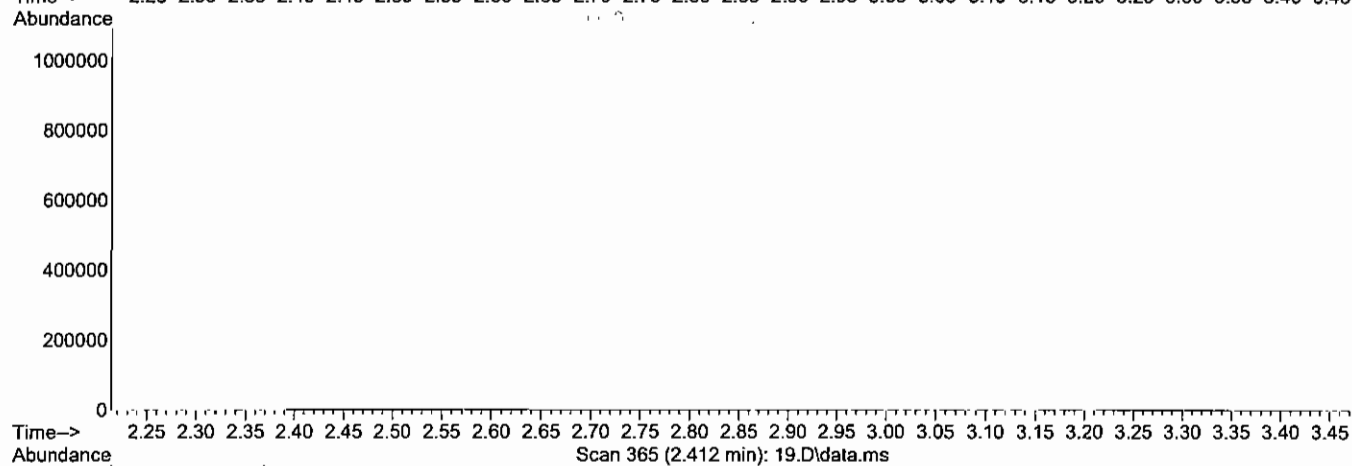
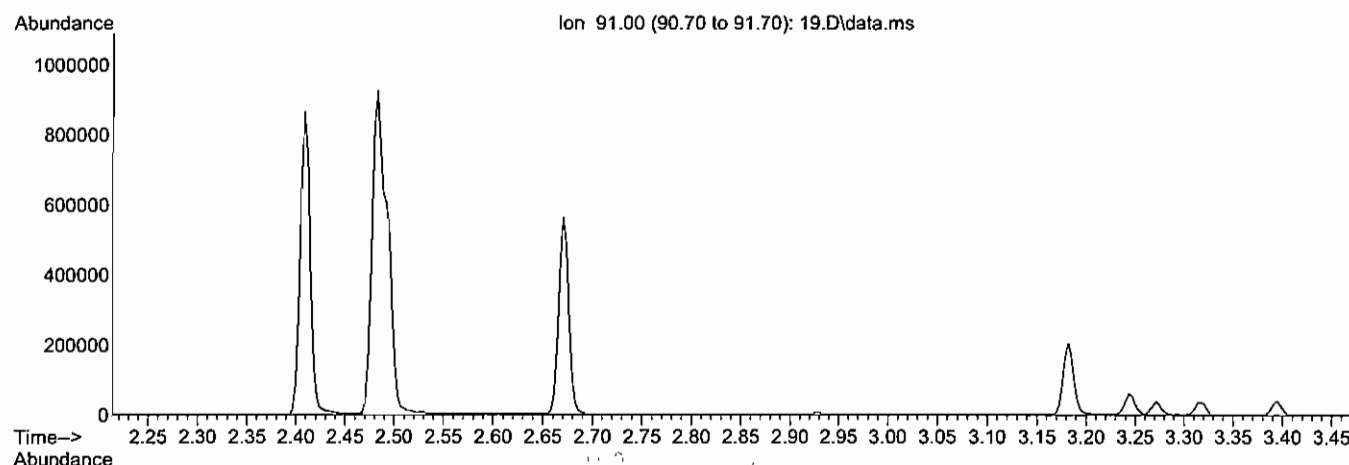
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11/17/10

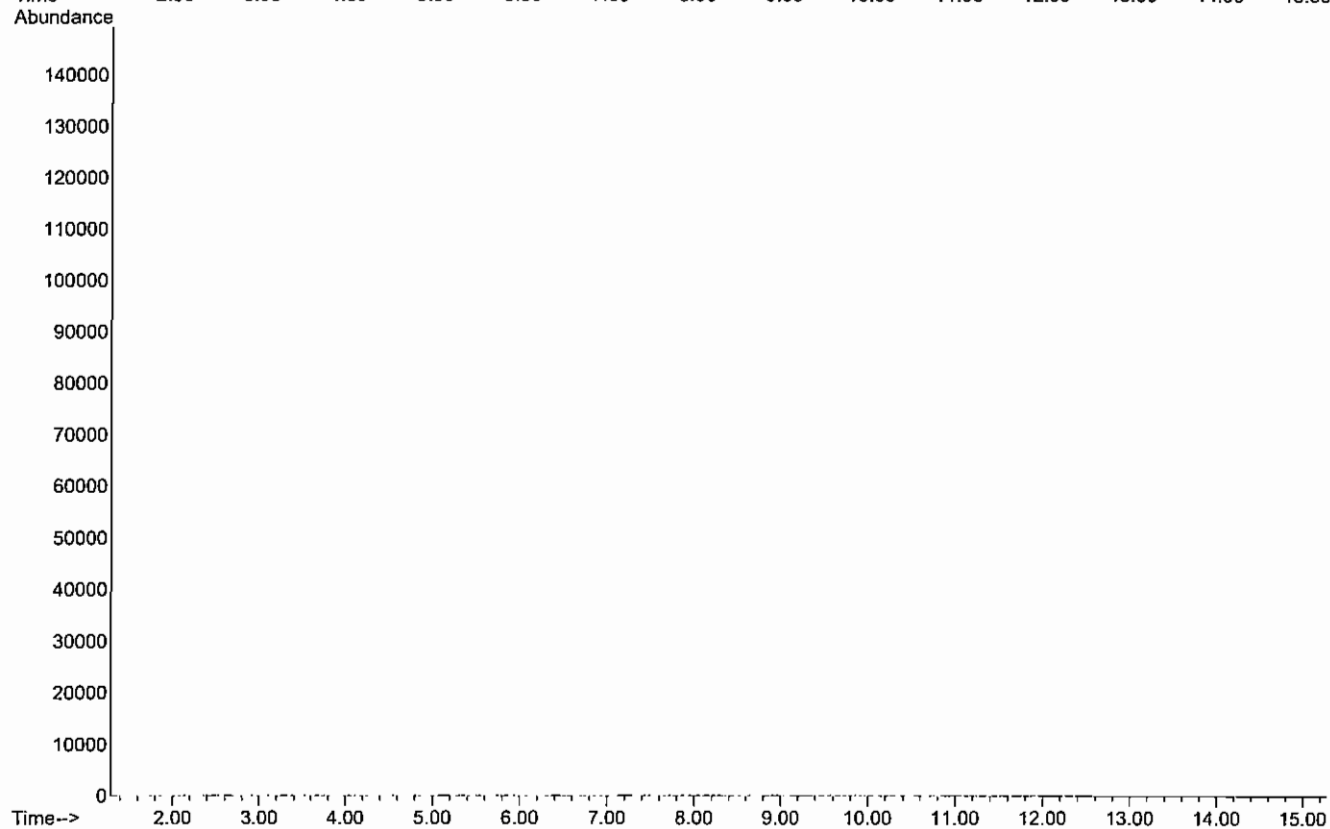
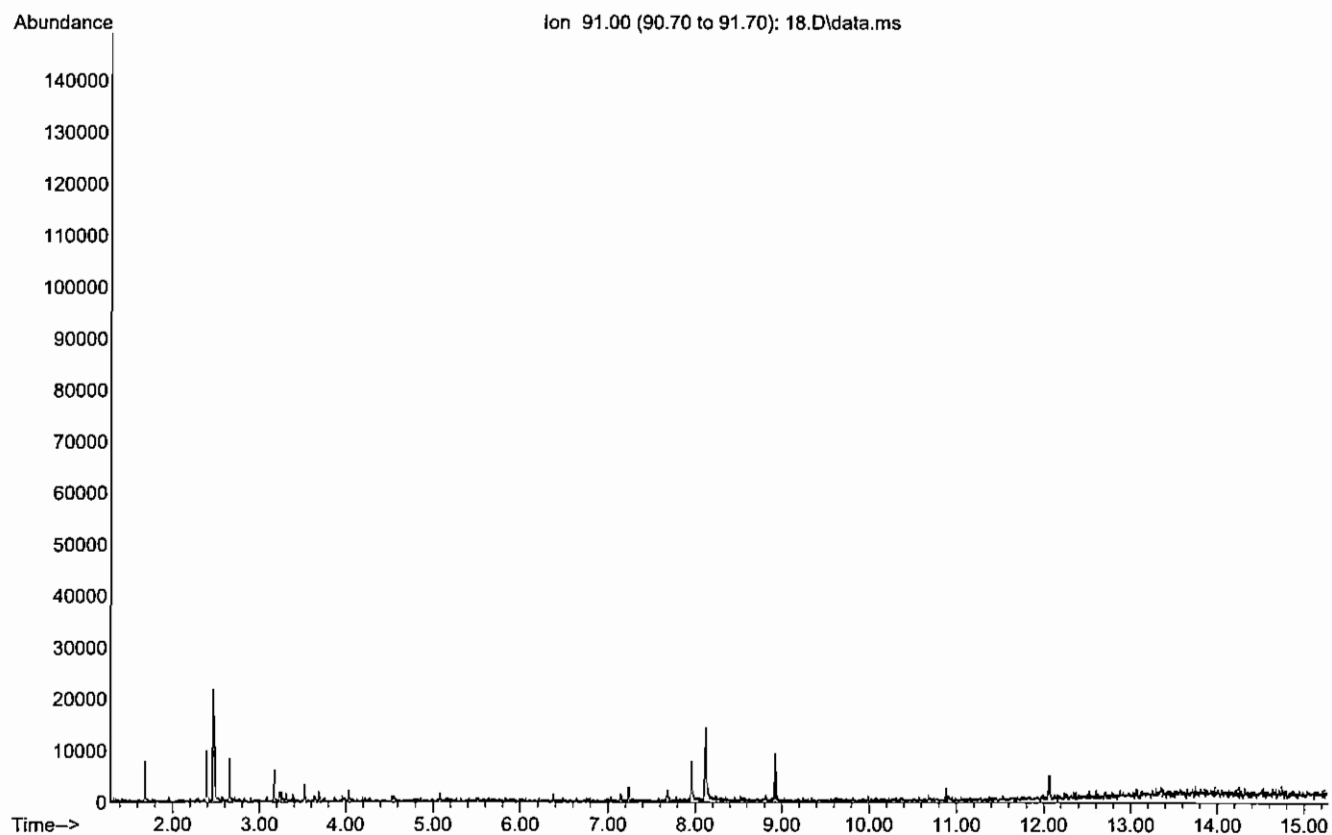
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Operator : DAE-A101
Acquired : 20 Nov 2010 14:03 using AcqMethod 8270RXI.M
Instrument : THSA101
Sample Name: 397708-001
Misc Info :
Vial Number: 9



File :D:\Data\2010\112010A\19.D
Operator : DAE-A101
Acquired : 20 Nov 2010 17:35 using AcqMethod 8270RXI.M
Instrument : THSA101
Sample Name: 397708-011
Misc Info :
Vial Number: 18



File :D:\Data\2010\112010A\18.D
Operator : DAE-A101
Acquired : 20 Nov 2010 17:12 using AcqMethod 8270RXI.M
Instrument : THSA101
Sample Name: 397708-010
Misc Info :
Vial Number: 17



Groundwater Profiling Field Sampling Sheets

GWP-22-61
GWP-22-81
GWP-22-112
GWP-23-37.5
GWP-23-45.5
GWP-25-68
GWP-25-81
GWP-25-103.85
GWP-26-63
GWP-26-81
GWP-26-106.3
GWP-27-28.5
GWP-27-36.5

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana / Route 111 PROJECT NUMBER: 21562291 FIELD PERSONNEL: N. Salame

DATE: 9/30/10 WEATHER: 60°F Sunny

MONITORING WELL ID: GWP-22-61 SAMPLE ID: GWP-22-61

INITIAL DATA

Well Diameter: 0.5 in
 Total Well Depth (bloc): 63.5 ft
 Depth to Water (bloc): 32.5 ft
 Depth to LNAPL/DNAPL (bloc): — ft
 Depth to Top of Screen (bloc): 58.5 ft
 Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): — ft bloc
 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 bloc
 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 bloc
 If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft bloc

Volume of Flow Through Cell: 800 mL
 Minimum Purge Volume = (3 x Flow Cell Volume): 2400 mL
 Ambient PID/FID Reading: 0.0 ppm
 Wellbore PID/FID Reading: 0.0 ppm

Intake point - 61'

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump Water

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
5500	0940	NA	Slightly hazy	None	7.21	20.80	1.345	1236	-0.04	-110
5625	0945				7.03	20.99	1.354	1210	-0.03	-140
5750	0950				6.88	19.55	1.234	1129	-0.03	-142
5875	0955				6.88	19.71	1.235	1324	-0.07	-144
6000	1000				6.91	19.99	1.253	1497	-0.08	-150
6125	1005				6.96	20.35	1.269	1368	-0.09	-164
6250	1010				6.98	20.26	1.270	1047	-0.09	-168
6375	1015				6.99	20.63	1.290	1103	-0.09	-172
6500	1020				6.98	20.43	1.285	901	-0.09	-143
6625	1025				6.98	20.31	1.289	850	-0.09	-173
6750	1030		Clearing		6.97	20.45	1.295	550	-0.09	-172
6875	1035				6.96	20.35	1.293	480	-0.09	-172
7000	1040				6.96	20.34	1.297	405	-0.09	-172

Start Time: 0920 Elapsed Time (min): 20 min 80 sec Water Quality Meter ID: R20132
 Stop Time: 1040 Average Purge Rate (mL/min): 250 mL/min Date Calibrated: 9/30/10

SAMPLING DATA

Sample Date: 9/30/10 Sample Time: 1040 Lab Analysis: VOC, SVOC
 Sample Method: Monsoon / Low Flow Troll 9500 Sample Flow Rate (mL/min): 250 mL/min QA/QC Samples: None
 VOA Vials, No Headspace ☐ Initials:

COMMENTS: Initial purge water very silty. Will allow water to clear prior to connecting to flow through cell. Initial flow rate 300 mL/min for 10 mins. Reduced to 250 mL/min.

Water level measurement post sampling - 33.25 ft
For headspace reading of purge water - 0.4 ppm

Total Purge Volume: 2000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Romana / Route 111 PROJECT NUMBER: 21562291 FIELD PERSONNEL: N. Salem

DATE: 9/29/10 WEATHER: 108°F, Sunny

MONITORING WELL ID: GWP-22-81 SAMPLE ID: GWP-22-81

INITIAL DATA

Well Diameter: 0.5 in
 Total Well Depth (btoc): 83.5 ft
 Depth to Water (btoc): 31.55 ft
 Depth to LNAPL/DNAPL (btoc): - ft
 Depth to Top of Screen (btoc): 78.5 ft
 Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): NA 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) = NA 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) = NA ft btoc
 If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = NA ft btoc

Volume of Flow Through Cell: 200 mL
 Minimum Purge Volume = (3 x Flow Cell Volume): - mL
 Ambient PID/FID Reading: 0.0 ppm
 Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump Intake point - 81

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
1000	1450	NA	light brown	None	6.85	26.64	1.224	700	-0.00	-131
2000	1455				7.04	22.84	1.244	716	-0.01	-130
3000	1500				7.05	22.85	1.233	793	-0.02	-138
4000	1505				7.06	22.27	1.266	823	-0.01	-166
5000	1510				7.02	23.48	1.256	671	-0.02	-165
6000	1513				7.03	22.90	1.225	820	-0.03	-169
7000	1520				7.02	22.10	1.223	560	-0.03	-168
8000	1525				7.01	22.02	1.219	523	-0.03	-168
9000	1530				6.99	22.08	1.225	450	-0.02	-164
10000	1535				6.95	22.03	1.227	320	-0.02	-165
11000	1540				6.94	21.92	1.225	362	-0.02	-162
12000	1545				6.95	21.65	1.219	636	-0.02	-163
13200	1550				6.95	21.67	1.222	253	-0.02	163

Start Time: 1440 Elapsed Time (min): 65 min Water Quality Meter ID: R20132
 Stop Time: 1550 Average Purge Rate (mL/min): 200 mL/min Date Calibrated: 9/29/10

SAMPLING DATA

Sample Date: 9/29/10 Sample Time: +550 1545 Lab Analysis: VOC, SVOC
 Sample Method: Monsoon / Low Flow Flow 9:00 Sample Flow Rate (mL/min): 200 mL/min QA/QC Samples: None
 VOA Vials, No Headspace ☒ Initials: NS

COMMENTS:

Water quality parameters not stable. Sample collected after 1 hr purge this was complete.

Total Purge Volume: 13200 mL

* PID - Jan headspace for purge water 0.0 ppm

* Water level steady at the end of sampling 31.85 ft

PROJECT NAME: Romana / Route 14 PROJECT NUMBER: 21562291 FIELD PERSONNEL: N. Salas

MONITORING WELL ID: GWP-22-112 SAMPLE ID: GWP-22-112

Well Diameter: 0.5 in
Total Well Depth (btoc): 114.5 ft
Depth to Water (btoc): 30.29 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 110.5 ft
Screen Length: 5 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 ≥ 4 ft,
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: 200 mL
Minimum Purge Volume = (3 x Flow Cell Volume): — mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

Pump Type: Monsoon Stainless Steel Submersible Pump Watters

[illegible]

Start Time: 1045 Elapsed Time (min): 85 min Water Quality Meter ID: R20132
Stop Time: 1200 Average Purge Rate (mL/min): 300 mL/min Date Calibrated: 9/29/10

Sample Date: 9/29/10 Sample Time: 8:50 am 11:50 Lab Analysis: VOC, SVOC

Sample Method:	Mettler / Low Flow	Sample Flow Rate (mL/min):	300 mL/min	QA/QCSamples:	NC / MSD

VOA Vials, No Headspace ☒ Initials: NLS Pump stopped working at lower section

COMMENTS: start purging at 0955. Purge water very silty. Watters stops working every 3-4 mins. and resumes pumping. Unable to get the pump to run at steady rate. Checked all connects. Start pumping/purging steadily at 1045. Will allow water to clear prior to collecting water quality readings. Sampled after over 1 hr purging uses done. Total Purge Volume: 3500 mL.

Samples collected
GWP- 22-112 MS
GWP- 22-112 MSD

* Water level ready at end of sampling 31.71
* PH Jar headspace for purge water - 0.0 ppm

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Route 111 PROJECT NUMBER: 21562291 FIELD PERSONNEL: N. Salem

DATE: 9/30/10 WEATHER: N 70°F Sunny

MONITORING WELL ID: GWP-23-37.5 SAMPLE ID: GWP-23-37.5

INITIAL DATA

Well Diameter: 6.5 in
 Total Well Depth (btoc): 40 ft
 Depth to Water (btoc): 35.75 ft
 Depth to LNAPL/DNAPL (btoc): — ft
 Depth to Top of Screen (btoc): 35 ft
 Screen Length: 5 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 ≥ 4 ft,
 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: 800 mL
 Minimum Purge Volume = (3 x Flow Cell Volume): — mL
 Ambient PID/FID Reading: 0.0 ppm
 Wellbore PID/FID Reading: 0.0 ppm

Intake point - 37.5 ft

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
3750	1540	N/A	Clear	none	6.67	23.45	1.578	161	0.05	-115
4250	1545				6.67	23.31	1.575	129	0.04	-115
5750	1550				23.67	23.23	1.573	130	0.03	-115
6750	1555				6.66	20.40	1.569	188	0.05	-125
7000	1600		Turbid		6.66	24.88	1.601	250	0.03	-124
8250	1605				6.68	25.09	1.581	580	0.04	-132
9500	1610				6.67	25.30	1.553	435	-0.08	-135
10750	1615				6.67	24.56	1.549	400	-0.08	-135
12000	1620				6.67	24.36	1.546	498	-0.07	-135
13250	1625				6.66	24.35	1.546	543	0.08	-135
14500	1630				6.66	24.29	1.546	411	0.08	-135

Start Time: 1530 ^W 1525 Elapsed Time (min): 65 Water Quality Meter ID: 74500 R20132
 Stop Time: 1630 Average Purge Rate (mL/min): 250 mL/min Date Calibrated: 9/30/10

SAMPLING DATA

Sample Date: 9/30 Sample Time: 1630 Lab Analysis: VOC, SVOC
 Sample Method: Monsoon / Low Flow Troll 9500 Sample Flow Rate (mL/min): 250 mL/min QA/QC Samples: Field Duplicate
 VOA Vials, No Headspace ☒ Initials: No

COMMENTS:

Initial purge creates salty well connect to
flow through after aeration clears

Total Purge Volume: 14500 mL

PID for Headspace - 0.0 ppm
Water level post sampling - 36.90 ft

PROJECT NAME: Route 111 PROJECT NUMBER: 2156291 FIELD PERSONNEL: N-Salazar

DATE: 10/01/10 WEATHER: 21.65° Sunny

MONITORING WELL ID: GWP-23-45.5 SAMPLE ID: GWP-23-45.5

Well Diameter): <u>0.5</u> in	Water Column Height (do not include LNAPL or DNAPL): <u>—</u> ft btoc	Volume of Flow Through Cell): <u>800</u> mL
Total Well Depth (btoc): <u>4.8</u> ft	If Depth to Top of Screen is > Depth to Water AND Screen Length is ≥ 4 feet,	Minimum Purge Volume = (3 x Flow Cell Volume): <u>1200</u> mL
Depth to Water (btoc): <u>3.4</u> ft	Place Pump at: Total Well Depth - 0.5 (Screen Length + DNAPL Column Height) = <u>—</u> ft btoc	Ambient PID/FID Reading: <u>0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>—</u> ft	If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ≥ 4 ft,	Wellbore PID/FID Reading: <u>0</u> ppm
Depth to Top of Screen (btoc): <u>3.7</u> ft	Place Pump at: Total Well Depth - (0.5 X Water Column Height + DNAPL Column Height) = <u>—</u> ft btoc	
Screen Length): <u>5</u> ft	If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = <u>—</u> ft btoc	

PURGE DATA Pump Type: Monsoon Stainless Steel Submersible Pump

[illegible]

Start Time: 0955 Elapsed Time (min): 65 Water Quality Meter ID: R2132
Stop Time: 100 Average Purge Rate (mL/min): 250 mL/min Date Calibrated: 10/01/10

Sample Date: 10/01/10 Sample Time: 1000 Lab Analysis: VOC, SVOC
Sample Method: Monsoon / Low Flow Troll 9500 Sample Flow Rate (mL/min): 250 mL/min QA/QC Samples: None Equipment - Black
VOA Vials, No Headspace ☒ Initials: NS GWP-23-45.5 ER

COMMENTS:

COMMENTS: Initial purg. water very Salty will allow water to clear prior to connecting to flow through cell.

Total Purge Volume: 6.572 ml

Total Purge Volume: 6.500 mL

PID - Bar headpar 0.0 ppm
Water level post sampling - ~~42.48~~ 35.80'

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Baxana PROJECT NUMBER: 21562291 FIELD PERSONNEL: C. Williams

DATE: 10/28/10 WEATHER: clear / cold

MONITORING WELL ID: GWUP-25-68 SAMPLE ID: GWUP-25-68

INITIAL DATA
 Well Diameter: 1 in
 Total Well Depth (ftoc): 73.8 ft
 Depth to Water (bioc): 39.92 ft
 Depth to LNAPL/DNAPL (bioc): N/A ft
 Depth to Top of Screen (ftoc): 63.8 ft
 Screen Length: 1 ft
 Water Column Height (do not include LNAPL or DNAPL): N/A ft bioc
 If Depth to Top of Screen is > Depth to Water AND Screen Length is < 4 ft,
 Place Pump at: Total Well Depth - 0.5 (Screen Length + DNAPL Column Height) = N/A ft bioc
 If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are < 4 ft,
 Place Pump at: Total Well Depth - (0.5 X Water Column Height + DNAPL Column Height) = N/A ft bioc
 If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = N/A ft bioc
 Volume of Flow Through Cell: 900 mL
 Minimum Purge Volume = (3 x Flow Cell Volume): 2700 mL
 Ambient PID/FID Reading: 0.0 ppm
 Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (µS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
1500	1645	N/A	Brown	None	7.01	14.90	895.9	1395.7	-0.03	-157
2500	1650		Brown	None	6.99	15.03	899.1	1406.5	-0.04	-171
3500	1655		Brown	None	6.99	15.07	901.0	862.2	-0.02	-179
4500	1700		Lt Brown	None	6.99	15.07	901.7	598.0	-0.03	-189
5500	1705		Lt Brown	None	6.99	14.68	894.1	650.2	-0.04	-190
6500	1710		Lt Brown	None	7.00	13.74	873.4	611.7	-0.04	-190
7500	1715		Lt Brown	None	6.97	14.54	885.9	588.0	-0.00	-189
8500	1720		Lt Brown	None	6.97	14.77	895.7	583.6	-0.03	-194
9500	1725		Lt Brown	None	6.95	14.84	897.2	477.0	-0.03	-199
10500	1730		Lt Brown	None	6.98	14.79	896.3	487.0	-0.03	-202
11500	1735		Lt Brown	None	6.98	14.77	896.3	486.1	-0.03	-204
12500	1740		Lt Brown	None	6.98	14.65	897.2	382.4	-0.03	-205
13500	1745		Lt Brown	None	6.97	14.80	896.3	419.4	-0.03	-206

Start Time: 1645 Elapsed Time (min): 100 Water Quality Meter ID: R21860

Stop Time: 1745 Average Purge Rate (mL/min): 200 Date Calibrated: 10/28/10

SAMPLING DATA

Sample Date: 10/28/10 Sample Time: 1745 Lab Analysis: VOC, SVOC

Sample Method: Monsoon Low Flow Water Sample Flow Rate (mL/min): 200 mL/min QW/QC Samples:

VOA Vial, No Headspace ☒ Initials: CW

COMMENTS:

Post recorded water level 39.75ft.
No drain down

Total Purge Volume: mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana PROJECT NUMBER: 21562291 FIELD PERSONNEL: C. Williams
 DATE: 10/28/10 WEATHER: Cloudy / cool
 MONITORING WELL ID: GWP-25-81 SAMPLE ID: GWP-25-81'

INITIAL DATA

Well Diameter: 1 in
 Total Well Depth (bloc): 36 ft
 Depth to Water (bloc): 39.70 ft
 Depth to LNAPL/DNAPL (bloc): N/A ft
 Depth to Top of Screen (bloc): 76 ft
 Screen Length: 1 ft
 Water Column Height (do not include LNAPL or DNAPL): N/A ft bloc
 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) = N/A ft bloc
 If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are < 4 ft,
 Place Pump at: Total Well Depth - (0.5 X Water Column Height + DNAPL Column Height) = N/A ft bloc
 If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = N/A ft bloc
 Volume of Flow Through Cell: 900 mL
 Minimum Purge Volume = (3 x Flow Cell Volume): 2700 mL
 Ambient PID/FID Reading: 0.0 ppm
 Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (µS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
1500	1030	N/A	Brown	None	6.94	14.26	872.8	552.7	0.07	-143
2500	1035		Brown	None	6.94	14.33	862.4	382.4	0.08	-151
3500	1040		Brown	None	6.94	14.23	854.8	226.5	0.07	-154
4500	1045		Lt. Brown	None	6.95	14.43	854.3	152.1	0.08	-156
5500	1050	↓	Lt. Brown	None	6.95	14.45	850.2	101.2	0.07	-158
6500	1055		Lt. Brown	None	6.95	14.44	848.7	87.7	0.07	-159
7500	1100		Clear	None	6.95	14.43	846.7	84.3	0.06	-160
8500	1105	↓	Clear	None	6.95	14.32	843.7	67.8	0.05	-160
9500	1110		Clear	None	6.95	14.39	842.1	59.6	0.04	-161
10500	1115		Clear	None	6.96	14.39	840.8	57.0	0.03	-162
11500	1120	↓	Clear	None	6.96	14.62	843.4	56.0	0.02	-162
12500	1125	↓	Clear	None	6.96	14.75	845.2	52.3	0.02	-163
13500	1130	N/A	Clear	None	6.96	15.01	848.4	46.3	0.01	-163

Start Time: 1020 Elapsed Time (min): 60 Water Quality Meter ID: R21860
 Stop Time: 1030 Average Purge Rate (mL/min): 220 Date Calibrated: 10/28/10

SAMPLING DATA

Sample Date: 10/28/10 Sample Time: 1130 Lab Analysis: VOC, SVOC
 Sample Method: Monsoon Low Flow Watterra Sample Flow Rate (mL/min): 200 mL/min QA/QC Samples: None
 VOA Vials, No Headspace ☒ Initials: CW

COMMENTS:

Water Level post 39.70 Ft.
sampling - No Draw Down

Total Purge Volume: 13500 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana PROJECT NUMBER: 21562291 FIELD PERSONNEL: C. Williams

DATE: 10/28/10 WEATHER: Cloudy / cold

MONITORING WELL ID: GWP-25-103.85 SAMPLE ID: GWP-25-103.85

INITIAL DATA

Well Diameter: 1 in
 Total Well Depth (htoc): 106 ft
 Depth to Water (htoc): 42.4 ft
 Depth to LNAPL/DNAPL (htoc): N/A ft
 Depth to Top of Screen (htoc): 96 ft
 Screen Length: 12 ft
 Water Column Height (do not include LNAPL or DNAPL): N/A ft htoe
 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) = N/A ft htoe
 If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are < 4 ft,
 Place Pump at: Total Well Depth - (0.5 X Water Column Height + DNAPL Column Height) = N/A ft htoe
 If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = N/A ft htoe
 Volume of Flow Through Cell: 900 mL
 Minimum Purge Volume = (3 x Flow Cell Volume): 2700 mL
 Ambient PID/FID Reading: 0. ppm
 Wellbore PID/FID Reading: ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (µS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
3000	1435	N/A	lt Brown	None	7.19	16.83	857.2	882.3	0.34	-158
4000	1440		lt Brown	None	7.19	16.87	856.8	804.3	0.33	-158
5000	1445		lt Brown	None	7.17	17.21	859.6	969.9	0.17	-162
6000	1450		Brown	None	7.16	17.43	863.0	738.9	0.06	-172
7000	1455		Brown	None	7.14	17.93	869.8	629.5	0.09	-173
8000	1455		lt Brown	None	7.14	17.00	849.2	427.5	0.08	-171
9000	1455		lt Brown	None	7.15	15.95	832.8	280.5	0.06	-173
10000	1455		lt Brown	None	7.16	15.41	822.1	264.4	0.08	-175
11000	1515		lt Brown	None	7.17	13.96	794.0	182.8	0.07	-175
12000	1520		lt Brown	None	7.17	14.12	799.3	150.6	0.05	-179
13000	1525		Clear	None	7.18	13.94	796.1	179.5	0.06	-181
14000	1530		Clear	None	7.17	14.31	803.5	113.9	0.05	-182
15000	1535		Clear	None	7.17	14.14	802.4	96.4	0.04	-184
16000										

Start Time: 1435 Elapsed Time (min): 60 Water Quality Meter ID: B21860

Stop Time: 1535 Average Purge Rate (mL/min): 200 mL/min Date Calibrated: 10/28/10

SAMPLING DATA

Sample Date: 10/28/10 Sample Time: 1535 Lab Analysis: VOC, SVOC

Sample Method: Monsoon Low Flow Water Sample Flow Rate (mL/min): 200 mL/min QA/QC Samples: None

VOA Vials, No Headspace ☒ Initials: CW

COMMENTS:

Total Purge Volume: 6000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana PROJECT NUMBER: 21562291 FIELD PERSONNEL: Craig Williams / N. Salati

DATE: 10/26/10 WEATHER: 26°C Overcast

MONITORING WELL ID: GWP-26-68 SAMPLE ID: GWP-26-681

INITIAL DATA

Well Diameter: 1 in
Total Well Depth (ftoc): 72.90 ft
Depth to Water (ftoc): 37.12 ft
Depth to LNAPL/DNAPL (ftoc): — ft
Depth to Top of Screen (ftoc): — ft
Screen Length: — ft
Water Column Height (do not include LNAPL or DNAPL): — ft
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
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are < 4 ft,
Place Pump at: Total Well Depth - (0.5 X Water Column Height + DNAPL Column Height) = — ft
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft

Volume of Flow Through Cell: 900 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2700 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 1.2 ppm

Intake point - 681

PURGE DATA Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (µmS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
3000 ~~15000~~	1015	NA	brown	None	6.74	17.25	1340	462.9	2.1	-142
4000 ~~25000~~	1020		brown	None	6.73	17.40	1348	463.1	1.8	-144
5000 ~~35000~~	1025		brown	None	6.74	17.59	1355	346.5	1.2	-149
6000 ~~45000~~	1030		brown	None	6.74	17.58	1350	258.7	0.09	-157
7000 ~~55000~~	1035		brown	None	6.75	17.52	1351	554.2	0.07	-159
8000 ~~65000~~	1040		brown	None	6.74	17.45	1348	752.2	0.06	-159
9000 ~~75000~~	1045		brown	None	6.74	17.54	1353	398.9	0.06	-156
10000 ~~85000~~	1050		brown	None	6.75	17.36	1347	426.4	0.02	-157
11000 ~~95000~~	1055		brown	None	6.74	17.33	1343	660.0	-0.04	-159
12000 ~~105000~~	1100		brown	None	6.75	17.36	1346	938.0	-0.02	-160
13000 ~~115000~~	1105		brown	None	6.75	17.40	1348	732.8	-0.05	-161
14000 ~~125000~~	1110		grey brown	None	6.74	17.43	1350	1092.3	-0.05	-161
15000 ~~135000~~	1115		grey brown	None	6.75	17.50	1354	729.6	-0.04	-162

Start Time: 1000 Elapsed Time (min): 75 7:05 am Water Quality Meter ID: R 21860

Stop Time: 1115 Average Purge Rate (mL/min): 200 mL Date Calibrated: 10/26/10

SAMPLING DATA

Sample Date: 10/26/10 Sample Time: 1115 Lab Analysis: VOC, SVOCs

Sample Method: Monsoon Low Flow Wattera Sample Flow Rate (mL/min): 200 mL QA/QC Samples: —

VOA Vials, No Headspace ☒ Initials: CW

COMMENTS:

Initial purge water silty - will allow to clear prior to connecting to flow through cell
Water level post - 37.11 ft 37.11 ft
Sampling No draw down
Total Purge Volume: 15000 mL

PROJECT NAME: Bokana PROJECT NUMBER: 21562291 FIELD PERSONNEL: N. Sotoy C. Williams

DATE: 10/26/10 WEATHER: clear windy

MONITORING WELL ID: GWP-26-81 SAMPLE ID: GWP-26-81

Well Diameter: 1 in
Total Well Depth (btoc): 72.40 ft
Depth to Water (btoc): 27.10 ft
Depth to LNAPL/DNAPL (btoc): NA ft
Depth to Top of Screen (btoc): 12.7 ft
Screen Length: 12 ft

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

Volume of Flow Through Cell: 900 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2700 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 1.5 ppm

Intake point 81'

Pump Type: Monsoon Stainless Steel Submersible Pump

[illegible]

Start Time: 12:00 Elapsed Time (min): ~~30:00~~ 60 Water Quality Meter ID: R-1860

Stop Time: 1300 Average Purge Rate (mL/min): 200 Date Calibrated: 10/26/10

Sample Date: 10/26/10 Sample Time: 1300 Lab Analysis: HSC SDCS

Sample Method: Monsoon / Low Flow Sample Flow Rate (mL/min): QA/QC Sample:

VOA Vials, No Headspace ☒ Infiltrate: _____

COMMENTS:

water level post 37.12 Ft
sampling - No draw down

Total Purge Volume: 12000 mL

48 hr
Sivori & K

MONITORING WELL ID: GWP-26-105.3 SAMPLE ID: GWP-26-105.3

Well Diameter: 1 in
Total Well Depth (btoc): 106 ft
Depth to Water (btoc): 85-10 ft
Depth to LNAPL/DNAPL (btoc): - ft
Depth to Top of Screen (btoc): 103 ft
Screen Length: 3 ft

Water Column Height (do not include LNAPL or DNAPL): - ft btoe
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 btoe
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 btoe
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = - ft btoe

Volumes of Flow Through Cell: 800 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 2400 mL
Ambient PID/FID Reading: 0-0 ppm
Wellbore PID/FID Reading: 0-0 ppm

Pump Type: Monsoon Stainless Steel Submersible Pump

[illegible]

Stop Time: 1200 Average Purge Rate (mL/min): 200mL Date Calibrated: 10/15/16

Sample Method: Monsoon / Low Flow Sample Flow Rate (mL/min): 2.00000 QA/QC Samples: 2/2/2

COMMENTS:

Comments: Pump stopped pumping prior to starting a continuous pump at 1045
Purge water very turbid.

Total Purge Volume: 17000 ml

Water level post sampling ~~46.20~~ 46.20 ft
For headspace of sample water - copper
Sample Submitted to the lab

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana Route 111 PROJECT NUMBER: 21562291 FIELD PERSONNEL: N. Salem

DATE: 10/29/30 WEATHER: ~50°F, Sunny

MONITORING WELL ID: GWP-27-28.5 SAMPLE ID: GWP-27-28.5

INITIAL DATA
 Well Diameter: 0.5 in
 Total Well Depth (ftoc): 31 ft
 Depth to Water (ftoc): 27.8 ft
 Depth to LNAPL/DNAPL (ftoc): - ft
 Depth to Top of Screen (ftoc): 26 ft
 Screen Length: 5 ft
 Water Column Height (do not include LNAPL or DNAPL): - ft bloc
 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 bloc
 If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are < 4 ft,
 Place Pump at: Total Well Depth - (0.5 x Water Column Height + DNAPL Column Height) = - ft bloc
 If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = - ft bloc
 Volume of Flow Through Cell: 900 mL
 Minimum Purge Volume = (3 x Flow Cell Volume): 2700 mL
 Ambient PID/FID Reading: 0.0 ppm
 Wellbore PID/FID Reading: 5.9 ppm

Intake point - 27.8

PURGE DATA		Pump Type: <u>Monsoon Stainless Steel Submersible Pump</u>								
Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (µS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
<u>1000</u>	<u>1325</u>	<u>NA</u>	<u>Cloudy</u>	<u>hydrocarbon</u>	<u>6.33</u>	<u>16.98</u>	<u>1062</u>	<u>5.90</u>	<u>-0.05</u>	<u>587</u>
<u>2000</u>	<u>1330</u>				<u>6.37</u>	<u>16.72</u>	<u>1050</u>	<u>5.80</u>	<u>-0.04</u>	<u>537</u>
<u>3000</u>	<u>1335</u>				<u>6.34</u>	<u>16.80</u>	<u>1059</u>	<u>6.10</u>	<u>-0.03</u>	<u>558</u>
<u>4000</u>	<u>1340</u>				<u>6.34</u>	<u>16.47</u>	<u>1049</u>	<u>5.32</u>	<u>-0.03</u>	<u>532</u>
<u>5000</u>	<u>1345</u>				<u>6.34</u>	<u>16.33</u>	<u>1044</u>	<u>5.05</u>	<u>-0.07</u>	<u>495</u>
<u>6000</u>	<u>1350</u>				<u>6.34</u>	<u>16.61</u>	<u>1035</u>	<u>6.37</u>	<u>-0.09</u>	<u>3182</u>
<u>7000</u>	<u>1355</u>				<u>6.33</u>	<u>16.88</u>	<u>1034</u>	<u>2864</u>	<u>-0.09</u>	<u>101</u>
<u>8000</u>	<u>1400</u>				<u>6.33</u>	<u>16.95</u>	<u>1037</u>	<u>2208</u>	<u>-0.08</u>	<u>-80</u>
<u>9000</u>	<u>1405</u>		<u>Clear</u>		<u>6.32</u>	<u>17.50</u>	<u>1050</u>	<u>10.1</u>	<u>-0.09</u>	<u>-122</u>
<u>10000</u>	<u>1410</u>				<u>6.31</u>	<u>18.14</u>	<u>1061</u>	<u>7.0</u>	<u>-0.09</u>	<u>-132</u>
<u>11000</u>	<u>1415</u>				<u>6.31</u>	<u>18.10</u>	<u>1057</u>	<u>4.0</u>	<u>0.09</u>	<u>-133</u>

Start Time: 1310 Elapsed Time (min): 65 Water Quality Meter ID: R20827

Stop Time: 1415 Average Purge Rate (mL/min): 200 mL/min Date Calibrated: 10/29/0

SAMPLING DATA
 Sample Date: 10/29/10 Sample Time: 1415 Lab Analysis: VOCS, SOVES
 Sample Method: Monsoon / Low Flow Sample Flow Rate (mL/min): 200 mL/min QVQC Sample: GWP-27-28.5 EB
 VOA Vials, No Headspace ☒ Initials: NS Sample time 1430

COMMENTS:

Cleared flow through cell at 1400 because turbidity readings were high although water in tubing appeared clear.
 Total Purge Volume: 1410.00 mL

Depth to water post sampling - 28.90m 28.90
Sample for headspace - 16 ppm

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Boxang PROJECT NUMBER: 21562291 FIELD PERSONNEL: N. Salem

DATE: 10/29/30 WEATHER: N 60° F, ~~00~~ Sunny

MONITORING WELL ID: GWP-27-36.5 SAMPLE ID: GWP-27-36.5

INITIAL DATA

Well Diameter: 0.5 in
 Total Well Depth (ftoc): 39 ft
 Depth to Water (ftoc): 30.01 ft
 Depth to LNAPL/DNAPL (ftoc): - ft
 Depth to Top of Screen (ftoc): 24 ft
 Screen Length: 5 ft

Water Column Height (do not include LNAPL or DNAPL): - ft btoe
 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 btoe
 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 btoe
 If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = - ft btoe

Volume of Flow Through Cell: 900 mL
 Minimum Purge Volume = (3 x Flow Cell Volume): 270 mL
 Ambient PID/FID Reading: 0.1 ppm
 Wellbore PID/FID Reading: 48 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

Intake port - 36.5

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (µS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
4000	1500	NA	Clear	hydrocarbon	6.60	17.29	1141	284	0.20	-50
5000	1505			more	6.61	17.54	1142	352	0.23	-78
6000	1510				6.60	17.86	1130	281	0.09	-86
7000	1515				6.59	17.24	1143	247	0.03	-92
8000	1520				6.53	18.00	1158	216	-0.02	-108
9000	1525				6.55	18.31	1161	180	-0.04	-110
10000	1530				6.59	18.66	1170	78	-0.09	-121
11000	1535				6.59	18.70	1178	82	-0.08	-124
12000	1540				6.60	18.75	1173	71	-0.08	-122
13000	1545				6.60	18.80	1177	70	-0.08	-123
14000	1550				6.60	18.96	1178	68	-0.08	-123

Start Time: 1550 1445 Elapsed Time (min): 200^M 65 Water Quality Meter ID: R20827

Stop Time: 1550 Average Purge Rate (mL/min): 15200 Date Calibrated: 10/29/10

SAMPLING DATA

Sample Date: 10/29/10 Sample Time: 1550 Lab Analysis: VOCs SOV3

Sample Method: Monsoon / Low Flow Wattlera Sample Flow Rate (mL/min): 200 QA/QC Samples: -

VOA Vials, No Headspace ☒ Initials: ms

COMMENTS:

Suspended fine sand in purge water

Total Purge Volume: 14000 mL

Depth to water post sampling - 29.65 ft
Sample San headspace - 3.5 ppm

Monitoring Well Development Field Sheets

MW-6B

MW-6C

MW-6D

MW-9

MW-10

MW-11

MW-12

MW-13

GROUNDWATER DEVELOPMENT/SAMPLING DATA SHEET

PROJECT NAME: West Fenceline Well DevelopmentPROJECT NUMBER: 21562291DATE: 11/3/10WEATHER: Sunny, 45°FFIELD PERSONNEL: KWH, MPEMONITORING WELL ID: MW-6B

INITIAL DATA

Well Diameter: 2 in.Total Depth of Well: 68.14 ftDepth to Water: 25.42 ftHeight of Water Column: 42.72 ft

10.163 gallons/ft for 2 inch well, 0.653 gallons/ft for 4-inch well

Gallons/Lin.Ft.: 0.163Vol. Of Water Column: 6.98 gallonsMin. Purge Volume: 34.80 gallons (5 volumes)Depth to Top of Screen: 65.05 ftWater Added during Drilling: 15 gallonsWater to be Removed: 75 gallons (5x added)Ambient PID/FID Reading: 1.7 ppWellbore PID/FID Reading: 0.0 pp

PURGE DATA

Purge Method: ~~AB~~ HydraulicStable: 0.2 0.2 3%

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (µmhos/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
75	14:02	25.45	Clear	None	7.98	18.39	1.236	17.9	3.89	-73
82	14:06	↓	↓	↓	7.29	18.53	1.153	15.7	3.89	-95
89	14:10	↓	↓	↓	7.23	18.54	1.148	11.3	4.74	-70
96	14:14	↓	↓	↓	7.12	18.51	1.145	9.0	3.68	-84
103	14:18	↓	↓	↓	7.22	18.66	1.149	12.2	4.17	-77
108	14:22	↓	↓	↓	7.22	18.59	1.147	14.2	4.06	-99

Start Time: (0938-0945) 1250Average Purge Rate (gallons/min): 1.5Purge Stop Time: 14:22Well Volumes Purged: 5Elapsed Time: 99 minWater Quality Meter ID: R20327Total Volume Purged: 108 gallonsCalibrated on: 11/3/10

SAMPLING DATA

Sampling Method: Sample Date: Sample Time: Analysis:

COMMENTS:

Well depth after development 69.05Bottom HardWell 6.5 in below ground surface

GROUNDWATER DEVELOPMENT/SAMPLING DATA SHEET

PROJECT NAME: West Fenceline Well DevelopmentPROJECT NUMBER: 21562291DATE: 11/4/10WEATHER: Sunny, 50° windyFIELD PERSONNEL: MPE/JCWMONITORING WELL ID: MW-6C

INITIAL DATA

Well Diameter: 2 in.Total Depth of Well: 89.98 ftDepth to Water: 25.15 ftHeight of Water Column: 64.83 ft

1 0.163 gallons/ft for 2 inch well, 0.653 gallons/ft for 4-inch well

Gallons/Lin.Ft.: 0.163Vol. Of Water Column: 10.57 gallonsMin. Purge Volume: 52.8 gallons (5 volumes)Depth to Top of Screen: 80 ftWater Added during Drilling: 30 gallonWater to be Removed: 150 gallons (5x added)Ambient PID/FID Reading: 2.5 ppWellbore PID/FID Reading: 0.0 pp

PURGE DATA

Purge Method: HumicaneStable: 0.2 0.2 3%

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (µmhos/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
150	1127	NG	Clear	None	7.46	19.16	1207	24.7	2.02	-62
160	1130		Clear		6.98	18.39	1166	11.9	3.44	-85
170	1134		Clear		7.12	17.85	1147	5.7	4.67	-78
180	1138		Clear		6.96	17.76	1146	10.5	3.64	-87
190	1142		Clear		6.98	17.71	1152	7.0	4.23	-78
200	1146	25.18	Clear		6.97	17.71	1146	7.1	3.73	-91

Start Time: 1030Average Purge Rate (gallons/min): 2.5Purge Stop Time: 1146Well Volumes Purged: 5Elapsed Time: 86Water Quality Meter ID: 020827Total Volume Purged: 800 gallonCalibrated on: 11/4/10

SAMPLING DATA

Sampling Method:

Sample Date:

Sample Time:

Analysis:

COMMENTS:

total depth to water = 25.17 ft
 Total depth to bottom = 89.95 ft
 Soft or Hard = 30 ft

GROUNDWATER DEVELOPMENT/SAMPLING DATA SHEET

PROJECT NAME: West Fenceline Well DevelopmentPROJECT NUMBER: 21542291DATE: 11/9/10WEATHER: Sunny, 45°FFIELD PERSONNEL: KWIMPEMONITORING WELL ID: MW-4D

INITIAL DATA

Well Diameter: 2 in.Total Depth of Well: 110.00 ftDepth to Water: 25.38 ftHeight of Water Column: 84.62 ft

1 0.163 gallons/ft for 2 inch well, 0.653 gallons/ft for 4-inch well

Gallons/Lin.Ft: 0.163Vol. Of Water Column: 13.79 gallonsMin. Purge Volume: 68.47 gallons (5 volumes)Depth to Top of Screen: 105.0 ftWater Added during Drilling: 258 gallonsWater to be Removed: 1750 gallons (5x added)Ambient PID/FID Reading: 0.0 ppWellbore PID/FID Reading: 0.2 pp

PURGE DATA

Purge Method: HurricaneStable: 0.2 0.2 3%

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (umhos/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
1250	1055	25.38	Clear	None	6.98	17.55	1.338	-4.4	5.84	18
1244	1101	↓	↓	↓	7.19	19.47	1.331	-5.2	5.57	-49
1278	1107	↓	↓	↓	7.32	19.76	1.318	11.4	5.05	-105
1292	1113	↓	↓	↓	7.30	18.04	1.220	-5.5	4.02	-83
1306	1119	↓	↓	↓	7.04	18.72	1.330	4.3	2.63	-92
1320	1125	↓	↓	↓	7.13	18.73	1.320	1.8	3.50	-108
1324	1139	↓	↓	↓	7.09	18.55	1.336	2.6	1.87	-109

Start Time: 1055Average Purge Rate (gallons/min): 2.5Purge Stop Time: 1139Well Volumes Purged: 10Elapsed Time: 44 minWater Quality Meter ID: R20827Total Volume Purged: 1324 gallonsCalibrated on: 11/9/10

SAMPLING DATA

Sampling Method: —Sample Date: —Sample Time: —Analysis: —

COMMENTS:

Top of well = 7.25 in btoeBottom = H2OTotal Depth of well = 109.72 ft

GROUNDWATER DEVELOPMENT/SAMPLING DATA SHEET

PROJECT NAME: West Fenceline Well DevelopmentPROJECT NUMBER: 21562291DATE: 11/2/10WEATHER: Sunny 58°FFIELD PERSONNEL: JCW, MPEMONITORING WELL ID: MW-9

INITIAL DATA

Well Diameter: 2 in. 56.22Total Depth of Well: 56.22 ftDepth to Water: 39.22 ftHeight of Water Column: 17 ft

10.163 gallons/ft for 2 inch well, 0.653 gallons/ft for 4 inch well

Gallons/Lin.Ft.: 0.163Vol. Of Water Column: 2.77 gallonsMin. Purge Volume: 13.8 gallons (5 volumes)Depth to Top of Screen: 46.5 ftWater Added during Drilling: 15 gallonsWater to be Removed: 75 gallons (5x added)Ambient PID/FID Reading: 0.0 ppWellbore PID/FID Reading: 0.0 pp

PURGE DATA

Purge Method: MonsoonStable: 0.2 0.2 3%

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (umhos/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
<u>75</u>	<u>1340</u>	<u>39.37</u>	<u>clear</u>	<u>None</u>	<u>8.15</u>	<u>15.88</u>	<u>904.1</u>	<u>20.6</u>	<u>5.94</u>	<u>-140</u>
<u>77.5</u>	<u>1342</u>		<u>clear</u>		<u>7.17</u>	<u>15.75</u>	<u>895.5</u>	<u>16.8</u>	<u>2.62</u>	<u>-167</u>
<u>80</u>	<u>1344</u>		<u>clear</u>		<u>7.03</u>	<u>15.96</u>	<u>898.8</u>	<u>10.5</u>	<u>4.87</u>	<u>-96</u>
<u>82.5</u>	<u>1346</u>		<u>clear</u>		<u>6.99</u>	<u>15.78</u>	<u>897.6</u>	<u>11.1</u>	<u>4.88</u>	<u>-87</u>
<u>85</u>	<u>1348</u>		<u>clear</u>		<u>7.00</u>	<u>15.61</u>	<u>895.9</u>	<u>6.6</u>	<u>4.41</u>	<u>-94</u>
<u>87.5</u>	<u>1350</u>		<u>clear</u>		<u>6.89</u>	<u>16.04</u>	<u>896.9</u>	<u>4.7</u>	<u>3.05</u>	<u>-80</u>
<u>90</u>	<u>1352</u>		<u>clear</u>		<u>6.90</u>	<u>16.35</u>	<u>896.8</u>	<u>8.6</u>	<u>3.18</u>	<u>-78</u>
<u>92.5</u>	<u>1354</u>		<u>clear</u>		<u>6.97</u>	<u>16.10</u>	<u>899.0</u>	<u>6.8</u>	<u>4.88</u>	<u>-80</u>

Start Time: 1220Average Purge Rate (gallons/min): 1.5Purge Stop Time: 1354Well Volumes Purged: 7Elapsed Time: 94 min.Water Quality Meter ID: R20837Total Volume Purged: 92.5 gallonsCalibrated on: 11/2/10

SAMPLING DATA

Sampling Method: —Sample Date: —Sample Time: —Analysis: —

COMMENTS:

Total Depth of well: 56.45Hard or Soft: Hardwell = 6 in below ground surface

GROUNDWATER DEVELOPMENT/SAMPLING DATA SHEET

PROJECT NAME: West Fenceline Well DevelopmentPROJECT NUMBER: 21562271DATE: 11/1/10WEATHER: Cloudy 50°FFIELD PERSONNEL: KWH/MPMONITORING WELL ID: MW-10

INITIAL DATA

Well Diameter: 2 in.Total Depth of Well: 54.36 ftDepth to Water: 39.34 ftHeight of Water Column: 15.02 ft

1 0.163 gallons/ft for 2 inch well, 0.653 gallons/ft for 4-inch well

Gallons/Lin.Ft: 0.163Vol. Of Water Column: 2.45 gallonsMin. Purge Volume: 12.2 gallons (5 volumes)Depth to Top of Screen: 44.5 ftWater Added during Drilling: 15 gallonsWater to be Removed: 75 gallons (5x added)Ambient PID/FID Reading: 0.0 ppWellbore PID/FID Reading: 212 pp

PURGE DATA

Purge Method: MonsoonStable: 0.2 0.2 3%

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (µmhos/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
<u>75</u>	<u>1137</u>	<u>39.59</u>	<u>Clear</u>	<u>None</u>	<u>6.48</u>	<u>16.27</u>	<u>1.075</u>	<u>2.9</u>	<u>1.04</u>	<u>43</u>
<u>77.5</u>	<u>1140</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>6.59</u>	<u>16.35</u>	<u>1.025</u>	<u>10.8</u>	<u>2.54</u>	<u>7</u>
<u>80</u>	<u>1142</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>6.67</u>	<u>15.78</u>	<u>1.007</u>	<u>7.4</u>	<u>1.38</u>	<u>4</u>
<u>82.5</u>	<u>1144</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>6.65</u>	<u>16.08</u>	<u>1.009</u>	<u>7.2</u>	<u>1.63</u>	<u>5</u>
<u>85</u>	<u>1146</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>6.64</u>	<u>16.23</u>	<u>1.020</u>	<u>6.3</u>	<u>0.87</u>	<u>3</u>
<u>87.5</u>	<u>1148</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>6.47</u>	<u>16.19</u>	<u>1.013</u>	<u>3.1</u>	<u>2.06</u>	<u>3.2</u>

Start Time: 1032Purge Stop Time: 1148Elapsed Time: 76 minTotal Volume Purged: 87.5 gallonsAverage Purge Rate (gallons/min): 2 gal/minWell Volumes Purged: 5Water Quality Meter ID: R20827Calibrated on: 8/1/10

SAMPLING DATA

Sampling Method:

Sample Date: NASample Time: NAAnalysis: NA

COMMENTS:

Final Depth of Well: 54.43Bottom: HARD OR SOFT - HARD+7 inches - elevation

GROUNDWATER DEVELOPMENT/SAMPLING DATA SHEET

PROJECT NAME: West Fenceline Well DevelopmentPROJECT NUMBER: 21562291DATE: 11/2/10WEATHER: Cloudy, 50°FFIELD PERSONNEL: KWH/MPEMONITORING WELL ID: MW-11

INITIAL DATA

Well Diameter: 2 in.
 Total Depth of Well: 51.63 ft
 Depth to Water: 36.80 ft
 Height of Water Column: 14.83 ft
 1 0.163 gallons/ft for 2 inch well, 0.653 gallons/ft for 4-inch well

Gallons/Lin.Ft: 0.163
 Vol. Of Water Column: 2.42 gallons
 Min. Purge Volume: 12.09 gallons (5 volumes)
 Depth to Top of Screen: 41.00 ft

Water Added during Drilling: 20 gallon
 Water to be Removed: 100 gallons (5x added)
 Ambient PID/FID Reading: 0.0 pp
 Wellbore PID/FID Reading: 17.3 pp

PURGE DATA

Purge Method: MONSOON

Stable: 0.2 0.2 3.0
X X X

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (µmhos/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
100	1034	36.89	clear	None	6.60	15.32	1108	7.4	0.06	-88
102.5	1037		clear	None	6.65	15.53	1031	1.3	0.06	-85
105	1039		clear	None	6.69	14.83	1040	4.0	0.56	-88
107.5	1041		clear	None	6.65	15.58	1035	4.1	0.66	-85
110	1043		clear	None	6.76	15.36	1028	2.7	2.61	-88
112.5	1045		clear	None	6.76	15.32	1021	0.7	3.72	-86
115	1048		clear	None	6.78	15.29	1027	2.4	0.76	-83

Start Time: 0848Average Purge Rate (gallons/min): 1.5Purge Stop Time: 1048Well Volumes Purged: 6Elapsed Time: 120 min.Water Quality Meter ID: R20927Total Volume Purged: 115 gallonCalibrated on: 11/2/10

SAMPLING DATA

Sampling Method: —Sample Date: —Sample Time: —Analysis: —

COMMENTS:

Total Depth of Well: 51.66HARD or Soft: HardWell = 6in below ground surface

GROUNDWATER DEVELOPMENT/SAMPLING DATA SHEET

PROJECT NAME: West Fenceline Well DevelopmentPROJECT NUMBER: 21562291DATE: 10/1/10WEATHER: Sunny, 65°FFIELD PERSONNEL: KWH/MPMONITORING WELL ID: MW-12

INITIAL DATA

Well Diameter: 2 in.
 Total Depth of Well: 51.83 ft
 Depth to Water: 36.88 ft
 Height of Water Column: 14.95 ft
 1 0.163 gallons/ft for 2 inch well, 0.653 gallons/ft for 4-inch well

Gallons/Lin.Ft: 0.163
 Vol. Of Water Column: 2.44 gallons
 Min. Purge Volume: 12.18 gallons (5 volumes)
 Depth to Top of Screen: 42.00 ft

Water Added during Drilling: 25 gallons
 Water to be Removed: 125 gallons (5x added)
 Ambient PID/FID Reading: 0.0 pp
 Wellbore PID/FID Reading: 0.0 pp

PURGE DATA

Purge Method: MONSOONStable: 0.2 0.2 3%

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (µmhos/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
125.0	1610	37.10 ft	Clear	None	7.20	17.23	1.070	10.0	2.90	181
127.5	1612				6.92	16.86	1.049	7.5	3.19	185
130.0	1614				7.06	16.27	1.047	4.0	5.25	184
132.5	1616				7.10	16.49	1.050	5.5	5.05	183
135.0	1618				7.04	16.29	1.049	2.7	3.88	191
137.5	1620				7.00	16.56	1.049	4.3	4.43	201
140.0	1622				6.83	16.45	1.049	1.9	4.57	202
142.5	1624				6.99	16.42	1.047	3.7	4.22	203

Start Time: 1652
 Average Purge Rate (gallons/min): 2.5

Purge Stop Time: 1624
 Well Volumes Purged: 7

Elapsed Time: 92 min
 Water Quality Meter ID: R20827

Total Volume Purged: 142.5 gallons
 Calibrated on: 11/1/10

SAMPLING DATA

Sampling Method:

Sample Date: NASample Time: NAAnalysis: NA

COMMENTS:

Final Depth of Well = 51.92 feet
 Bottom Hard

+ 6 1/2" elevation base

GROUNDWATER DEVELOPMENT/SAMPLING DATA SHEET

PROJECT NAME: West Fenceline - Route 111/Rand Avenue VicinityPROJECT NUMBER: 21562291.00007DATE: 12/7/10WEATHER: N 20°F SunnyFIELD PERSONNEL: N. Satam, M. MillerMONITORING WELL ID: MW-13

INITIAL DATA

Well Diameter: 2 in.Total Depth of Well: 35 (installed) ft bgsDepth to Water: 23.80 ft btocHeight of Water Column: 11.05 ft

1 0.163 gallons/ft for 2 inch well, 0.653 gallons/ft for 4-inch well

Gallons/Lin.Ft: 0.163Vol. Of Water Column: 4.80 gallonsMin. Purge Volume: 4.0 gallons (5 volumes)Depth to Top of Screen: 25 ft bgsWater Added during Drilling: 10 gallonsWater to be Removed: 50 gallons (5x added)Ambient PID/FID Reading: 0.0 ppm

Wellbore PID/FID Reading: _____ ppm

PURGE DATA

Purge Method: Monsoon Submersible Pump

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°F)	Cond. (µmhos/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
1.25	1221	23.80	Cloudy	Mmm	6.75	65.20	1126	173	1.95	-0.11
1.26	1223		↓		6.76	65.34	1126	70	2.27	-0.11
1.27	1224		clearing		6.75	66.58	1125	36	3.62	-0.11
1.28	1225		↓		6.75	66.46	1118	32	1.87	-0.10
1.29	1226	23.80	↓	↓	6.77	66.05	1140	29	2.40	-0.11

Start Time: 1207Average Purge Rate (gallons/min): 2Purge Stop Time: 1226Well Volumes Purged: 65Elapsed Time: 139 minWater Quality Meter ID: Troll 9500Total Volume Purged: 130 gallonCalibrated on: 12/7/10

SAMPLING DATA

Sampling Method: _____

Sample Date: N/ASample Time: N/AAnalysis: N/A

COMMENTS:

DTB = 34.85 ft btoc prior to developmentDTB = 35.30 ft btoc after development

4TH Quarter Groundwater Field Sampling Sheets

MW-1
MW-2
MW-3
MW-4
MW-5
MW-6A
MW-6B
MW-6C
MW-6D
MW-7
MW-8
MW-9
MW-10
MW-11
MW-12
MW-13
P-54

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q10 GW PROJECT NUMBER: 21562291.00007 FIELD PERSONNEL: N. Satam

DATE: 11/11/10 WEATHER: ~ 60°F, Sunny

MONITORING WELL ID: MW-1 SAMPLE ID: MW-1-11110

INITIAL DATA

Well Diameter: 0.75 in
 Total Well Depth (btoc): 58.41 ft
 Depth to Water (btoc): 36.84 ft
 Depth to LNAPL/DNAPL (btoc): - ft
 Depth to Top of Screen (btoc): 21.84 ft
 Screen Length: 15 ft

Water Column Height (do not include LNAPL or DNAPL): 21.43 ft btoc
 If Depth to Top of Screen is > Depth to Water AND Screen Length is ≥ 4 feet,
 Place Pump at: Total Well Depth - 0.5 (Screen Length + DNAPL Column Height) = 44.34 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: 800 ml
 Minimum Purge Volume = (3 x Flow Cell Volume): 2400 ml
 Ambient PID/FID Reading: 0.0 ppi
 Wellbore PID/FID Reading: 0.0 pp

PURGE DATA

Pump Type: SS Bladder Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (MS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
3000	1420	Clear NA	Clear	None	7.91	20.67	1431	13.0	9.28	73
3500	1425				7.93	20.48	1434	14.0	9.30	76
4000	1430				7.96	20.04	1422	3.5	9.34	73
4500	1435				7.98	19.90	1419	6.0	9.26	81
5000	1440				7.99	19.92	1421	6.0	9.33	84
5500	1445				8.01	19.84	1421	7.4	9.31	85
6000	1450				8.02	19.93	1423	5.8	9.23	86
6500	1455				8.03	20.08	1428	5.0	9.19	87
7000	1500				8.04	20.23	1430	3.1	9.13	88
7500	1505				8.04	20.46	1442	3.4	9.04	89
8000	1510				8.03	20.51	1446	3.8	9.02	91
8500	1515				8.04	20.49	1447	4.0	9.00	92
9000	1520				8.04	20.53	1449	3.9	8.99	93

Start Time: 1350 Elapsed Time (min): 1520 Water Quality Meter ID: TROLL 9500

Stop Time: 1520 Average Purge Rate (mL/min): 100 mL/min Date Calibrated: 11/11/10

SAMPLING DATA

Sample Date: 11/11/10 Sample Time: 1520 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 100 mL/min QA/QC Samples: MW-1-11110 Dup

VOA Vials, No Headspace ☒ Initials: NS Field Duplicate

COMMENTS:

Flow rate - 100 mL/min. Unable to adjust the control box to give a higher flow rate

Total Purge Volume: 9000 mL

Water level reading post sampling - 36.98'
No draw down
All water quality parameters stable

PROJECT NAME: Roxana 4Q10 GW PROJECT NUMBER: 21562291.00007 FIELD PERSONNEL: N. Satam

DATE: 11/11/10 WEATHER: 76° F

MONITORING WELL ID: MW-2 SAMPLE ID: MW-2 - 111110

Well Diameter: 0.75 in
Total Well Depth (btoc): 62.19 ft
Depth to Water (btoc): 38.27 ft
Depth to LNAPL/DNAPL (btoc): - ft
Depth to Top of Screen (btoc): 47.19 ft
Screen Length: 15 ft

Water Column Height (do not include LNAPL or DNAPL): 23.92 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) = - 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: 800 ml
Minimum Purge Volume = (3 x Flow Cell Volume): 2400 ml
Ambient PID/FID Reading: 0.0 ppi
Wellbore PID/FID Reading: 96 pp

Pump Type: SS Bladder Pump

[illegible]

Start Time: 10 0455 0450 Elapsed Time (min): 85 min Water Quality Meter ID: TROLL 9500
Stop Time: 1115 Average Purge Rate (mL/min): 250 mL/min Date Calibrated: 11/10/10

Sample Date: 11/11/10 Sample Time: 1115 Lab Analysis: VOC, SVOC
Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 250 mL/min QA/QC Samples: None
VOA Vials, No Headspace ☒ Initials: NS

Initial purge rate was 100 ml/min - Allowed to purge for 35 mins - Volume purged 3500 ml
Adjusted flow to 250 ml/min @ 1030
Unable to record water level due to small well diameter
1 Well vol - 0.9 - 3447 ml
3 Well vol - 2.9 g - 10341 ml
Water level - 38.27 ft - post sampling. All water quality parameters stable

PROJECT NAME: Roxana 4Q10 GW PROJECT NUMBER: 21562291.00007 FIELD PERSONNEL: N. Satam M. Enosmann, D. Ruyke

MONITORING WELL ID: MW-3 SAMPLE ID: MW-3-111210

Well Diameter: 0.75 in
Total Well Depth (btoc): 45.98 ft
Depth to Water (btoc): 24.11 ft
Depth to LNAPL/DNAPL (btoc): - ft
Depth to Top of Screen (btoc): 30.98 ft
Screen Length: 15 ft

Water Column Height (do not include LNAPL or DNAPL): 21.87 ft btoe
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) = 38.48 ft btoe
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 btoe
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = - ft btoe

Volume of Flow Through Cell: 300 ml
Minimum Purge Volume = (3 x Flow Cell Volume): 900 ml
Ambient PID/FID Reading: 0.8 ppb
Wellbore PID/FID Reading: 0.7 ppb

[illegible]

Start Time: 0925 Elapsed Time (min): 54 Water Quality Meter ID: TROLL 9500
Stop Time: 1019 Average Purge Rate (mL/min): 125 Date Calibrated: 11/12/10

Sample Date: 11/12/10 Sample Time: 1019 Lab Analysis: VOC, SVOC
Sample Method: Bladder Pump Low Flow Sample Flow Rate (mL/min): 125 QA/QC Samples: None
VOA Vials, No Headspace ☒ Initials: MS

Flow rate 125 mL/min

Total Purge Volume: 6300 mL

PROJECT NAME: Roxana 4Q10 GW PROJECT NUMBER: 21562291.00007 FIELD PERSONNEL: N. Satam M. Ewersmann, P. Bruch

DATE: 11/12/16 WEATHER: Sunny, 60s

MONITORING WELL ID: MW-4 SAMPLE ID: MW-4-111210

Well Diameter: 0.75 In
Total Well Depth (btoc): 57.63 ft
Depth to Water (btoc): 35.41 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 42.63 ft
Screen Length): 15 ft

Water Column Height (do not include LNAPL or DNAPL): 22.22 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) = 50.13 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ≥ 4ft,
Place Pump at: Total Well Depth - (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

Volume of Flow Through Cell: 900 ml
Minimum Purge Volume = (3 x Flow Cell Volume): 2700 ml
Ambient PID/FID Reading: 0.0 ppb
Wellbore PID/FID Reading: 0.1 ppb

Pump Type: SS Bladder Pump

[illegible]

Start Time: 11/10 Elapsed Time (min): 71 Water Quality Meter ID: TROLL 9500

Stop Time: 12:21 Average Purge Rate (mL/min): 125 Date Calibrated: 11/2/10

Sample Date: 11/12/10 Sample Time: 1221 Lab Analysis: VOC, SVOC

Sample Method: ~~Bladder Pump~~ Low Flow Sample Flow Rate (mL/min): 12.5 QA/QC Samples: N/A

VOA Vials, No Headspace ☒ Initials: MS

COMMENTS:

Total Purge Volume: 9000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q10 GW PROJECT NUMBER: 21562291.00007 FIELD PERSONNEL: N. Satam

DATE: 11/12/10 WEATHER: ~ 60° F Sunny

MONITORING WELL ID: MW-5 SAMPLE ID: MW-5-111210

INITIAL DATA

Well Diameter: 0.75 in Water Column Height (do not include LNAPL or DNAPL): 22.81 ft btoc Volume of Flow Through Cell: 800 ml
 Total Well Depth (btoc): 46.13 ft If Depth to Top of Screen is > Depth to Water AND Screen Length is ≥ 4 feet, Minimum Purge Volume = (3 x Flow Cell Volume): 2400 ml
 Depth to Water (btoc): 23.32 ft Place Pump at: Total Well Depth - 0.5 (Screen Length + DNAPL Column Height) = 38.63 ft btoc Ambient PID/FID Reading: 0.0 ppi
 Depth to LNAPL/DNAPL (btoc): — ft If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ≥ 4 ft, Wellbore PID/FID Reading: 0.2 pp
 Depth to Top of Screen (btoc): 31.13 ft Place Pump at: Total Well Depth - (0.5 X Water Column Height + DNAPL Column Height) = — ft btoc
 Screen Length: 15 ft If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoc

PURGE DATA

Pump Type: SS Bladder Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
1000	1405	23.31	Clear	Hydrocarbon	6.78	19.81	805.3	1.5	0.31	-106
2000	1410	↓	↓	↓	6.77	19.64	805.3	1.1	0.27	-108
3000	1415	↓	↓	↓	6.77	19.38	800.8	5.4	0.24	-109
4000	1420	↓	↓	↓	6.77	19.37	801.8	3.2	0.18	-111
5000	1425	↓	↓	↓	6.77	19.39	801.2	2.9	0.17	-112

Start Time: 1355 Elapsed Time (min): 30 min Water Quality Meter ID: TROLL 9500
 Stop Time: 1425 Average Purge Rate (mL/min): 200 mL/min Date Calibrated: 11/12/10

SAMPLING DATA

Sample Date: 11/12/10 Sample Time: 1425 Lab Analysis: VOC, SVOC
 Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 200 mL/min QA/QC Samples: Equipment Rinsate Blank
 VOA Vials, No Headspace ☒ Initials: MS DB MW-5-111210-EB

COMMENTS:

All water quality parameters stable
No draw down
 Total Purge Volume: 5000 mL

PROJECT NAME: Roxana 4Q10 GW PROJECT NUMBER: 21562291.00007 FIELD PERSONNEL: N. Satam

DATE: 11/9/10 WEATHER: ~60°F Sunny

MONITORING WELL ID: MW-6A SAMPLE ID: MW-6A-110910

Well Diameter: 0.75 In
Total Well Depth (btoc): 46.98 ft
Depth to Water (btoc): 25.57 ft
Depth to LNAPL/DNAPL (btoc): 0 ft
Depth to Top of Screen (btoc): 31.98 ft
Screen Length: 15 ft

Water Column Height (do not include LNAPL or DNAPL): 21.41 ft btoe
If Depth to Top of Screen is > Depth to Water AND Screen Length is ≥ 4 feet,
Place Pump at: Total Well Depth - 0.5 (Screen Length + DNAPL Column Height) = 39.48 ft btoe
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 btoe
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoe

Volume of Flow Through Cell: 900 mL
Minimum Purge Volume = (3 x Flow Cell Volume): — mL
Ambient PID/FID Reading: 0.0 ppb
Wellbore PID/FID Reading: 0.8 ppb

Pump Type: SS Bladder Pump

[illegible]

Start Time: 1045 Elapsed Time (min): 115 mins (1.75 hr) Water Quality Meter ID: TROLL 9500

Stop Time: 1230 Average Purge Rate (mL/min): 100 mL/min Date Calibrated: 11/09/10

Sample Date: 11/09/10 Sample Time: 1230 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 100 mL/min QA/QC Samples: 1000

VOA Vials, No Headspace ☒ Initials: NS

COMMENTS: Intake point - 39.48 ft
Allowed water to purge for 45 mins. Connected tubing to flow through
1 Well volume - 3307 ml
3 well volumes - 9921 ml
Total Purge Volume: 10,000 ml

.0408 gal

PROJECT NAME: Roxana 4Q10 GW PROJECT NUMBER: 21562291.00007 FIELD PERSONNEL: N. Satam

DATE: 11/16/10 WEATHER: 29 50°F Overcast

MONITORING WELL ID: MW-6B SAMPLE ID: MW-6B-111610

Well Diameter):	2	in	Water Column Height (do not include LNAPL or DNAPL):	16.68	ft btoc	Volume of Flow Through Cell):	800	ml
Total Well Depth (btoc):	69.0	ft	If Depth to Top of Screen is > Depth to Water AND Screen Length is ≥ 4 feet,			Minimum Purge Volume = (3 x Flow Cell Volume):	2400	ml
Depth to Water (btoc):	25.37	ft	Place Pump at: Total Well Depth - 0.5 (Screen Length + DNAPL Column Height) =	60.71	ft btoc	Ambient PID/FID Reading:	0.0	ppm
Depth to LNAPL/DNAPL (btoc):	—	ft	If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ≥ 4 ft,			Wellbore PID/FID Reading:	0.3	ppm
Depth to Top of Screen (btoc):	—	ft	Place Pump at: Total Well Depth - (0.5 X Water Column Height + DNAPL Column Height) =	—	ft btoc			
Screen Length):	5	ft	If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft =	—	ft btoc			

Pump Type: SS Bladder Pump

[illegible]

Start Time: 1200 N HSF 1215 Elapsed Time (min): 60 mins Water Quality Meter ID: TROLL 9500

Stop Time: 1315 Average Purge Rate (mL/min): 200mL/min Date Calibrated: 11/15/12

Sample Date: 11/6/10 Sample Time: 1315 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 300 mL/min QA/QC Samples: 1

VOA Vials, No Headspace ☒ Initials: Ex

Initial purge water salt. Allowed to purge well for water to clean
 Rugged hidden battery drained - Missed readings at 1235

Total Purge Volume: m

Total Purge Volume: m

PROJECT NAME: Roxana 4Q10 GW **PROJECT NUMBER:** 21562291.00007 **FIELD PERSONNEL:** N. Satam

DATE: 11/16/80 WEATHER: 25°f overcast

MONITORING WELL ID: MW-6C SAMPLE ID: MW-6C-11161D

Well Diameter: 2 in *ATD*
 Total Well Depth (btoc): 110 ft *25-12*
 Depth to Water (btoc): 25-8-4 ft
 Depth to LNAPL/DNAPL (btoc): — ft
 Depth to Top of Screen (btoc): 107-5 ft
 Screen Length: 5 ft *105*

Water Column Height (do not include LNAPL or DNAPL): 84-88 *107-5* ft btoe
 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) = 107-5 ft btoe
 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 btoe
 If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoe

Volume of Flow Through Cell: 800 ml
 Minimum Purge Volume = (3 x Flow Cell Volume): 2400 ml
 Ambient PID/FID Reading: 0-0 ppb
 Wellbore PID/FID Reading: 6-9 ppb

Pump Type: SS Bladder Pump

[illegible]

Start Time: 14:00 Elapsed Time (min): 65 Water Quality Meter ID: TROLL 9500
Stop Time: 1505 Average Purge Rate (mL/min): 200 mL/min Date Calibrated: 11/16/10

Sample Date: 11/16/10 Sample Time: 1505 Lab Analysis: VOC, SVOC
Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 200 mL/min QA/QC Samples: —
VOA Vials, No Headspace ☒ Initials: EA

COMMENTS:

Total Purge Volume: 1500 mL

PROJECT NAME: Roxana 4Q10 GW PROJECT NUMBER: 21562291.00007 FIELD PERSONNEL: N. Satam

MONITORING WELL ID: MW-6D SAMPLE ID: MW-6D-111610

Well Diameter): <u>2</u> in	Water Column Height (do not include LNAPL or DNAPL): <u>89.99</u> ft btoc	Volume of Flow Through Cell): <u>8060</u> ml
Total Well Depth (btoc): <u>110.05</u> ft	If Depth to Top of Screen is > Depth to Water AND Screen Length is ≥ 4 feet,	Minimum Purge Volume = (3 x Flow Cell Volume): <u>2400</u> ml
Depth to Water (btoc): <u>25.06</u> ft	Place Pump at: Total Well Depth - 0.5 (Screen Length + DNAPL Column Height) = <u>107.55</u> ft btoc	Ambient PID/FID Reading: <u>0</u> ppi
Depth to LNAPL/DNAPL (btoc): _____ ft	If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ≥ 4 ft,	Wellbore PID/FID Reading: <u>5.4</u> pp
Depth to Top of Screen (btoc): _____ ft	Place Pump at: Total Well Depth - (0.5 X Water Column Height + DNAPL Column Height) = _____ ft btoc	
Screen Length): <u>5</u> ft	If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = _____ ft btoc	

Pump Type: SS Bladder Pump

Start Time: 09:45 Elapsed Time (min): 50 min Water Quality Meter ID: TROLL 9500

Stop Time: 1035 Average Purge Rate (mL/min): 200 mL/min Date Calibrated: 11/16/10

Sample Date: 11/16/10 Sample Time: 1035 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 200mL/min QA/QC Samples: Equipment Recheck

VOA Vials, No Headspace ☒ Initials: EA Blank

COMMENTS:

Total Purge Volume: 10,000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q10 GW PROJECT NUMBER: 21562291.00007 FIELD PERSONNEL: N. Satam

DATE: 11/17/10 WEATHER: 25.0°F Sunny

MONITORING WELL ID: MW-7 SAMPLE ID: MW-7-111710

INITIAL DATA

Well Diameter: 2 in
 Total Well Depth (btoc): 52.92 ft
 Depth to Water (btoc): 37.12 ft
 Depth to LNAPL/DNAPL (btoc): - ft
 Depth to Top of Screen (btoc): - ft
 Screen Length: 10 ft

Water Column Height (do not include LNAPL or DNAPL): 15.8 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: 800 ml
 Minimum Purge Volume = (3 x Flow Cell Volume): 2400 ml
 Ambient PID/FID Reading: 0.0 ppb
 Wellbore PID/FID Reading: 12.5 ppb

PURGE DATA

Pump Type: SS Bladder Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
1000	11:25	37.12	S. Cloudy	None	6.60	17.51	1050	88.1	2.18	-16
2000	11:30	37.12	S. Cloudy	None	6.53	17.70	1053	92.7	0.88	-21
3000	11:35	37.12	S. Cloudy	None	6.49	17.70	1054	67.5	0.27	-26
4000	11:40	37.12	S. Cloudy	None	6.49	17.75	1068	57.3	0.11	-28
5000	11:45	37.12	S. Cloudy	None	6.48	17.89	1086	59.0	0.07	-31
6000	11:50	37.12	S. Cloudy	None	6.48	17.90	1097	59.9	0.05	-32

Start Time: 11:20 Elapsed Time (min): 30 Water Quality Meter ID: TROLL 9500

Stop Time: 11:50 Average Purge Rate (mL/min): 200 Date Calibrated: 11/17/10

SAMPLING DATA

Sample Date: 11/17/10 Sample Time: 1150 Lab Analysis: VOC, SVOC
 Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 200mL/min QA/QC Samples: Field Duplicate
 VOA Vials, No Headspace ☒ Initials: Ns MW-7-111710D

COMMENTS:

Total Purge Volume: 6000 mL

PROJECT NAME: Roxana 4Q10 GW **PROJECT NUMBER:** 21562291.00007 **FIELD PERSONNEL:** N. Satam

DATE: 11/2/10 WEATHER: 25°F Sunny

MONITORING WELL ID: MW-8	SAMPLE ID: MW-8-111710

Well Diameter): 2 in
Total Well Depth (btoc): 43.60 ft
Depth to Water (btoc): 28.04 ft
Depth to LNAPL/DNAPL (btoc): - ft
Depth to Top of Screen (btoc): 33.60 ft
Screen Length): 10 ft

Water Column Height (do not include LNAPL or DNAPL): 15.56 ~~38.6~~ 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) = 38.6 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ≥ 4 ft,
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): 800 ml
Minimum Purge Volume = (3 x Flow Cell Volume): 2400 ml
Ambient PID/FID Reading: 0.0 ppi
Wellbore PID/FID Reading: 10.3 pp

Pump Type: SS Bladder Pump

[illegible]

Start Time: 13:10 Elapsed Time (min): 40 Water Quality Meter ID: TROLL 9500

Stop Time: 13:50 Average Purge Rate (mL/min): 250 Date Calibrated: 11/17/10

Sample Date: 11/12/10 Sample Time: 1350 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 250 mL/min QA/QC Samples: 23-04-1

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

COMMENTS:

Total Purge Volume: 10.000 mL

PROJECT NAME: Roxana 4Q10 GW PROJECT NUMBER: 21562291.00007 FIELD PERSONNEL: N. Satam

DATE: 11/5/80 WEATHER: NSS F, Sunny

MONITORING WELL ID: MW-9 SAMPLE ID: MW-9-101510

Well Diameter):	2	In	Water Column Height (do not include LNAPL or DNAPL):	18.37	ft btoc	Volume of Flow Through Cell):	800	ml
Total Well Depth (btoc):	57.42	ft	If Depth to Top of Screen is > Depth to Water AND Screen Length is ≥ 4 feet,	52.42	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume):	2400	ml
Depth to Water (btoc):	39.05	ft	Place Pump at: Total Well Depth - 0.5 (Screen Length + DNAPL Column Height) =	34.05	ft btoc	Ambient PID/FID Reading:	0.0	ppm
Depth to LNAPL/DNAPL (btoc):	-	ft	If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ≥ 4 ft,	-	ft btoc	Wellbore PID/FID Reading:	0.0	ppm
Depth to Top of Screen (btoc):	47.42	ft	Place Pump at: Total Well Depth - (0.5 X Water Column Height + DNAPL Column Height) =	-	ft btoc			
Screen Length):	10	ft	If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft =	-	ft btoc			

Pump Type: SS Bladder Pump

[illegible]

Start Time: ~~12:35~~ 14:20 Elapsed Time (min): 65 min Water Quality Meter ID: TROLL 9500

Stop Time: 1525 Average Purge Rate (mL/min): 200mL/min Date Calibrated: 11/15/10

Sample Date: 11/15/10 Sample Time: 1525 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 200 mL/min QA/QC Samples: None

VOA Vials, No Headspace ☒ Initials: NS

All water quality parameters STABLE.
No flow down.

Total Purge Volume: 13000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 4Q10 GW

PROJECT NUMBER: 21562291.00007

FIELD PERSONNEL: N. Satam

DATE: 11/10/10

WEATHER: N 60°F, Sunny

MONITORING WELL ID: MW-10

SAMPLE ID: MW-10-111010

INITIAL DATA

Well Diameter: 2 in

Total Well Depth (btoc): 54.44 ft

Depth to Water (btoc): 39.01 ft

Depth to LNAPL/DNAPL (btoc): — ft

Depth to Top of Screen (btoc): 44.44 ft

Screen Length: 10 ft

Water Column Height (do not include LNAPL or DNAPL): 23.43 ft btoc

If Depth to Top of Screen is > Depth to Water AND Screen Length is ≥ 4 feet,

Place Pump at: Total Well Depth - 0.5 (Screen Length + DNAPL Column Height) = — ft btoc

If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ≥ 4 ft,

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: 800 ml

Minimum Purge Volume = (3 x Flow Cell Volume): 2400 ml

Ambient PID/FID Reading: 0.0 ppb

Wellbore PID/FID Reading: 73.0 ppb

PURGE DATA

Pump Type: SS Bladder Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
3000	1435	39.01	clear	None	6.81	19.85	1306	74	-0.08	-68
4250	1440	39.01	clear		6.81	19.42	1261	52	0.65	-77
5500	1445	39.01			6.79	19.21	1257	54	0.79	-76
6750	1450	39.01			6.78	19.19	1260	46	0.81	-76
8000	1455	39.01			6.78	19.12	1261	44	0.83	-76
9250	1500	39.01			6.77	19.09	1261	47	0.82	-76
10500	1505	39.01			6.75	18.88	1267	33	0.80	-76
11750	1510	39.01			6.74	18.83	1275	46	0.74	-77
13000	1515	39.01			6.74	18.82	1276	43	0.74	-77
14250	1520	39.01			6.73	18.82	1284	34	0.67	-78
15500	1525	39.01			6.72	18.82	1285	34	0.66	-78
16750	1530	39.01			6.72	18.75	1284	35	0.64	-78

Start Time: 1425

Elapsed Time (min): 65 mins

Water Quality Meter ID: TROLL 9500

Stop Time: 1430 1530

Average Purge Rate (mL/min): 250 mL/min

Date Calibrated: 11/10/10

SAMPLING DATA

Sample Date: 11/10/10

Sample Time: 1430 1530

Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow

Sample Flow Rate (mL/min): 250 mL/min

QA/QC Samples: MS - MW-10-111010-MS
MSD - MW-10-111010-MSD

VOA Vials, No Headspace ☒ Initials: NS

COMMENTS:

Initial flow rate - 300 mL/min - Adjusted flow rate to 250 mL/min after 10 minutes of initiating purge
* Water Quality parameters STABLE Total Purge Volume: 16750 mL

PROJECT NAME: Roxana 4Q10 GW PROJECT NUMBER: 21562291.00007 FIELD PERSONNEL: N. Satam

DATE: 11/7/10 WEATHER: NSC F. Sunny

MONITORING WELL ID: MW-11 SAMPLE ID: MW-11-11710

Well Diameter: 2 in
Total Well Depth (btoc): 51 ft
Depth to Water (btoc): 36.75 ft
Depth to LNAPL/DNAPL (btoc): — ft
Depth to Top of Screen (btoc): 41 ft
Screen Length: 10 ft

Water Column Height (do not include LNAPL or DNAPL): 14.25 ft btoe
If Depth to Top of Screen is > Depth to Water AND Screen Length is ≥ 4 feet,
Place Pump at: Total Well Depth - 0.5 (Screen Length + DNAPL Column Height) = 45 ft btoe
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 btoe
If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft = — ft btoe

Volume of Flow Through Cell: 800 ml
Minimum Purge Volume = (3 x Flow Cell Volume): 2400 ml
Ambient PID/FID Reading: 0.2 ppb
Wellbore PID/FID Reading: 0.2 ppb

Pump Type: SS Bladder Pump

[illegible]

Start Time: 9:45 Elapsed Time (min): 40 min Water Quality Meter ID: TROLL 9500

Stop Time: 1025 Average Purge Rate (mL/min): 200mL/min Date Calibrated: 11/13/15

Sample Date: 11/13/10 Sample Time: 1025 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 200.01 QA/QC Samples: ~~Mu-11-11510~~ NS

VOA Vials, No Headspace ☒ Initials: EA

COMMENTS:

Total Purge Volume: 80.0 mL

PROJECT NAME: Roxana 4Q10 GW **PROJECT NUMBER:** 21562291.00007 **FIELD PERSONNEL:** N. Satam

DATE: 11/15/10 WEATHER: 2 60°F Sunny

MONITORING WELL ID: MW-12 SAMPLE ID: MW-12-111510

Well Diameter):	2	in	Water Column Height (do not include LNAPL or DNAPL):	15.79	ft btoc	Volume of Flow Through Cell):	800	ml
Total Well Depth (btoc):	36.76	ft	If Depth to Top of Screen is > Depth to Water AND Screen Length is ≥ 4 feet,			Minimum Purge Volume = (3 x Flow Cell Volume):	2400	ml
Depth to Water (btoc):	22.55	ft	Place Pump at: Total Well Depth - 0.5 (Screen Length + DNAPL Column Height) =	47.55	ft btoc	Ambient PID/FID Reading:	0.7	ppm
Depth to LNAPL/DNAPL (btoc):	-	ft	If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ≥ 4 ft,			Wellbore PID/FID Reading:	0.1	ppm
Depth to Top of Screen (btoc):	42.55	ft	Place Pump at: Total Well Depth - (0.5 X Water Column Height + DNAPL Column Height) =	-	ft btoc			
Screen Length):	10	ft	If Screen Length and/or water column height is < 4 ft, Place Pump at: Total Well Depth - 2 ft =	-	ft btoc			

Pump Type: SS Bladder Pump

[illegible]

Start Time: 10:10 Elapsed Time (min): 30 min Water Quality Meter ID: TROLL 9500

Stop Time: 1050 Average Purge Rate (mL/min): 200 mL/min Date Calibrated: 11/15/10

Sample Date: 11/15/10 Sample Time: 1050 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 200 mL/min QA/QC Samples: N/A

VOA Vials, No Headspace ☒ Initials: NS

COMMENTS:

Initial flow rate 100ml/min @ 1000. Adjusted flow rate to 200ml/min @ 1010

Total Purge Volume: 10.000 mL

PROJECT NAME: Roxana 4Q10 GW PROJECT NUMBER: 21562291.00007 FIELD PERSONNEL: N. Satam

MONITORING WELL ID: P-54 SAMPLE ID: P-54-111710

Well Diameter): <u>2</u> in	Water Column Height (do not include LNAPL or DNAPL): <u>26.35</u> <u>50.</u> ft btoc	Volume of Flow Through Cell): <u>800</u> ml
Total Well Depth (btoc): <u>63.00</u> ft	If Depth to Top of Screen is > Depth to Water AND Screen Length is ≥ 4 feet,	Minimum Purge Volume = (3 x Flow Cell Volume): <u>2400</u> ml
Depth to Water (btoc): <u>36.66</u> ft	Place Pump at: Total Well Depth - 0.5 (Screen Length + DNAPL Column Height) = <u>50.5</u> ft btoc	Ambient PID/FID Reading: <u>0.0</u> ppb
Depth to LNAPL/DNAPL (btoc): <u>1</u> ft	If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are ≥ 4 ft,	Wellbore PID/FID Reading: <u>0.0</u> ppb
Depth to Top of Screen (btoc): <u>38</u> ft	Place Pump at: Total Well Depth - (0.5 X Water Column Height + DNAPL Column Height) = <u>—</u> ft btoc	
Screen Length): <u>25</u> ft	If Screen Length and/or water column height is < 4 ft. Place Pump at: Total Well Depth - 2 ft = <u>—</u> ft btoc	

Pump Type: SS Bladder Pump

[illegible]

Stop Time: 0830 Average Purge Rate (mL/min): 200 mL/min Date Calibrated: 11/13/10

Sample Date: 11/17/10 Sample Time: 0830 Lab Analysis: VOC, SVOC

Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: 1

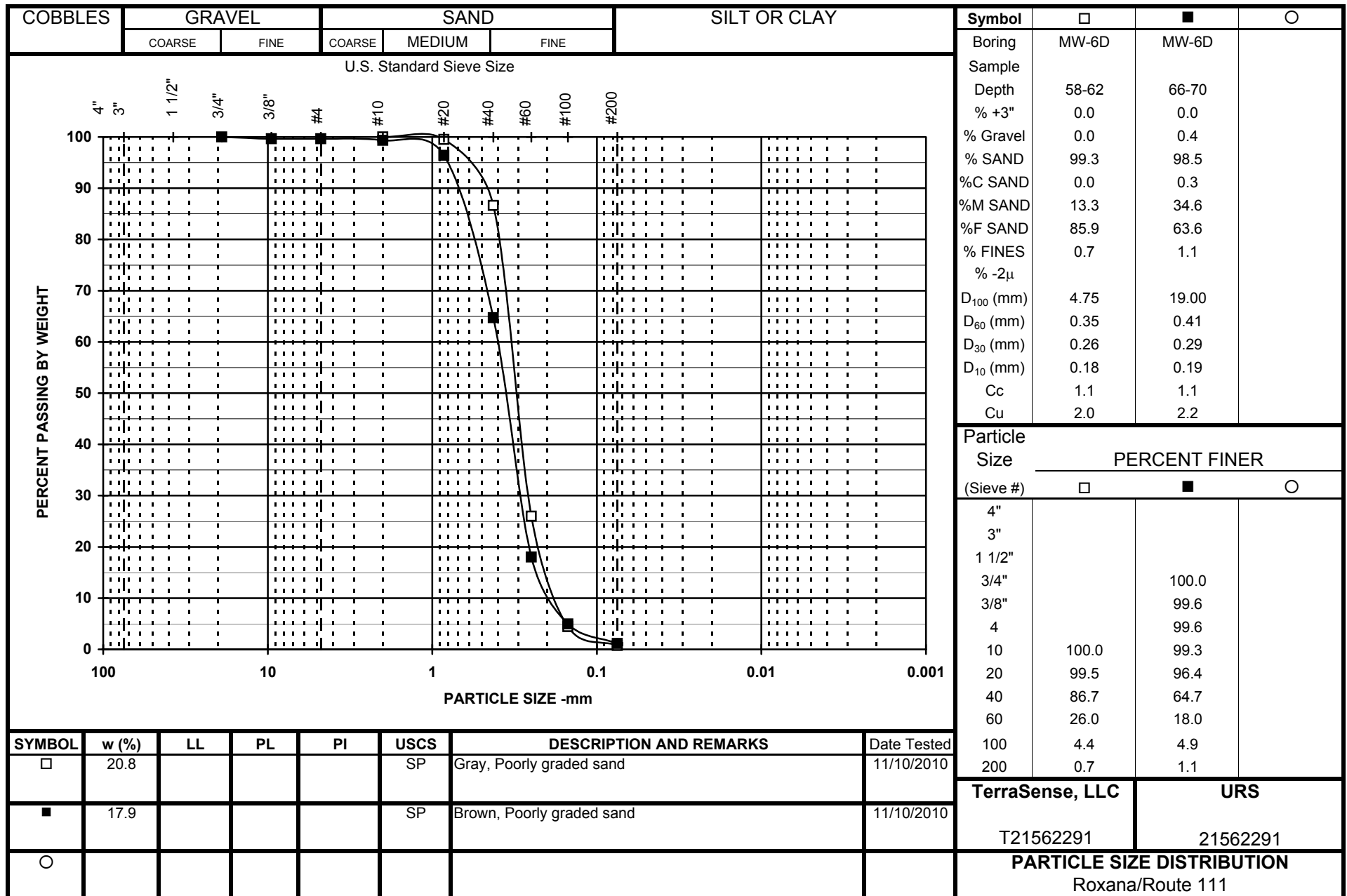
VOA Vials, No Headspace ☒ Initials: EA

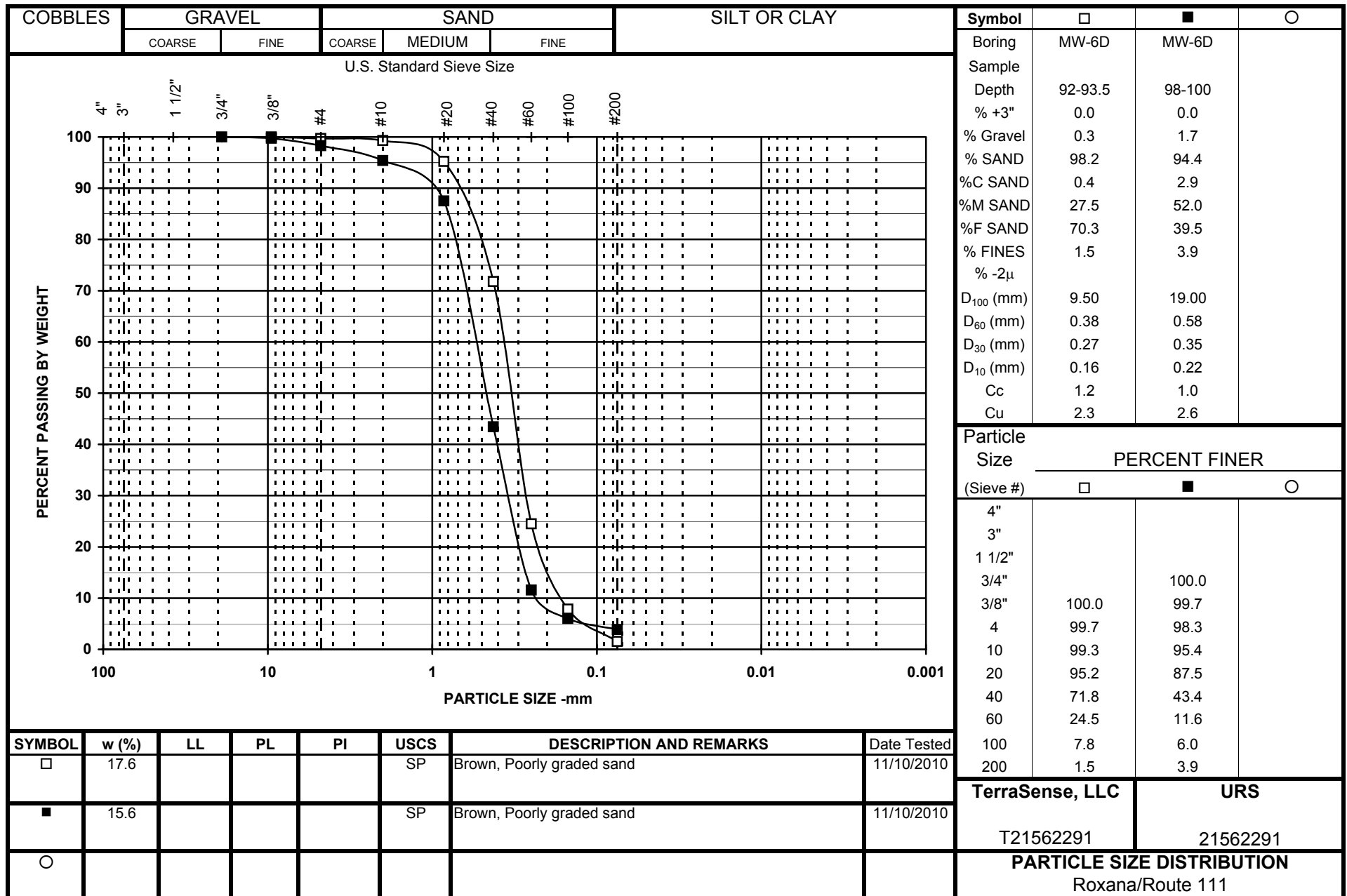
Total Purge Volume: 500.0 m

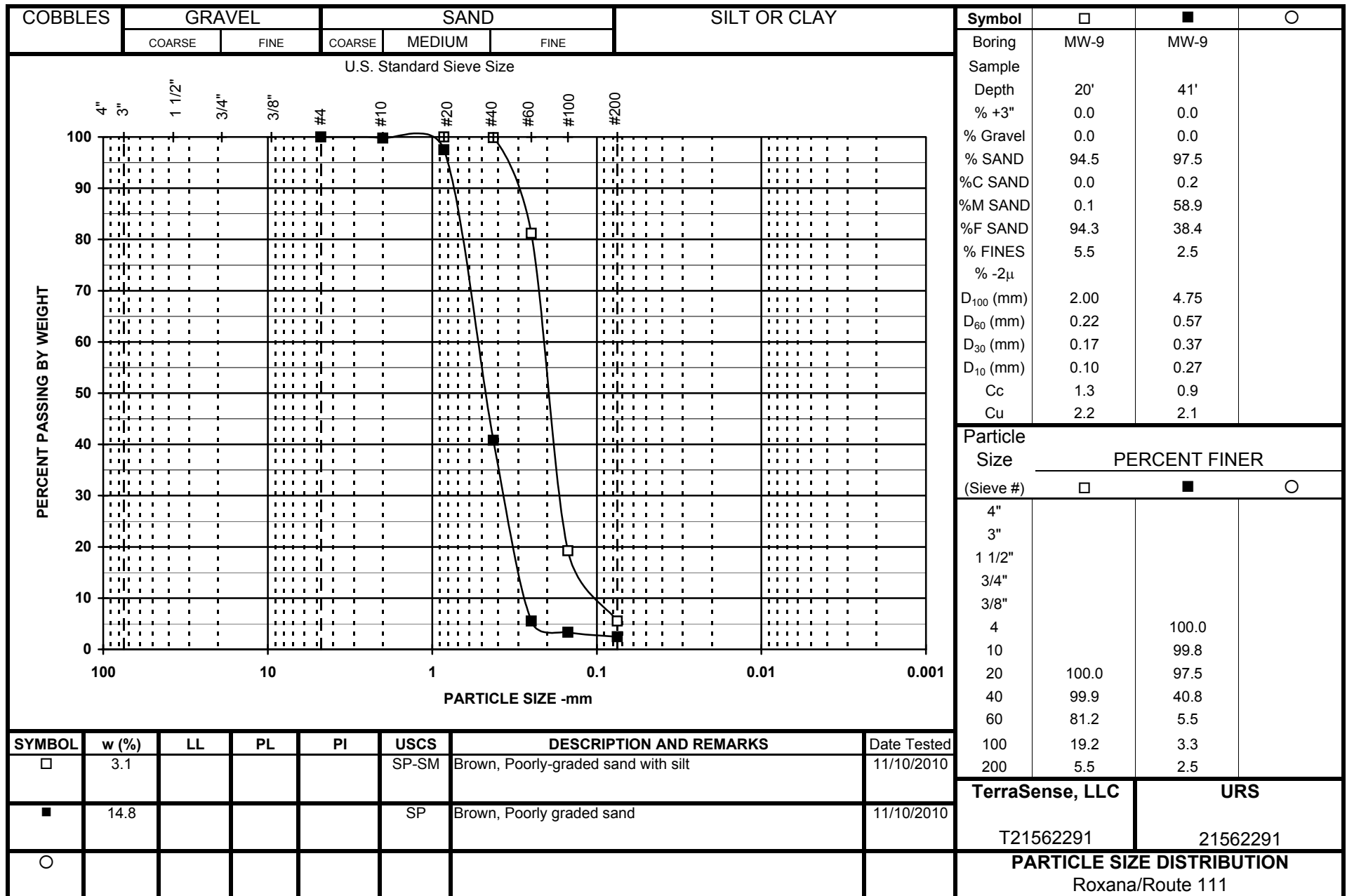
URS #21562291
Roxana/Route 111
LABORATORY TESTING DATA SUMMARY

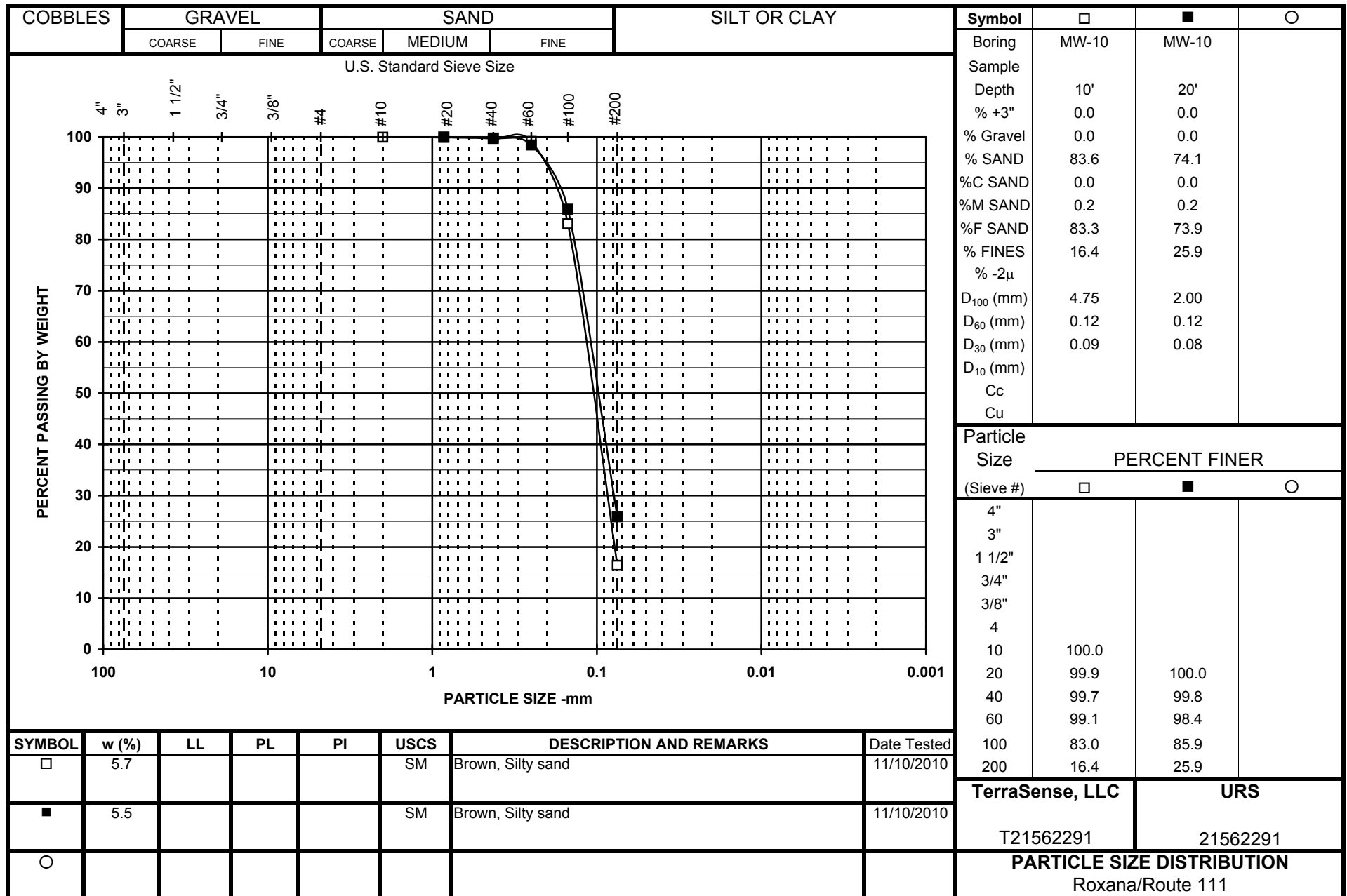
BORING NO.	SAMPLE NO.	DEPTH (ft)	IDENTIFICATION TESTS			REMARKS
			WATER CONTENT (%)	USCS SYMB. (1)	SIEVE MINUS NO. 200 (%)	
MW-6D		58-62	20.8	SP	0.7	
MW-6D		66-70	17.9	SP	1.1	
MW-6D		92-93.5	17.6	SP	1.5	
MW-6D		98-100	15.6	SP	3.9	
MW-9		20'	3.1	SP-SM	5.5	
MW-9		41'	14.8	SP	2.5	
MW-10		10'	5.7	SM	16.4	
MW-10		20'	5.5	SM	25.9	
MW-10		30'	3.1	SP	2.1	
MW-10		40'	4.8	SP	1.8	

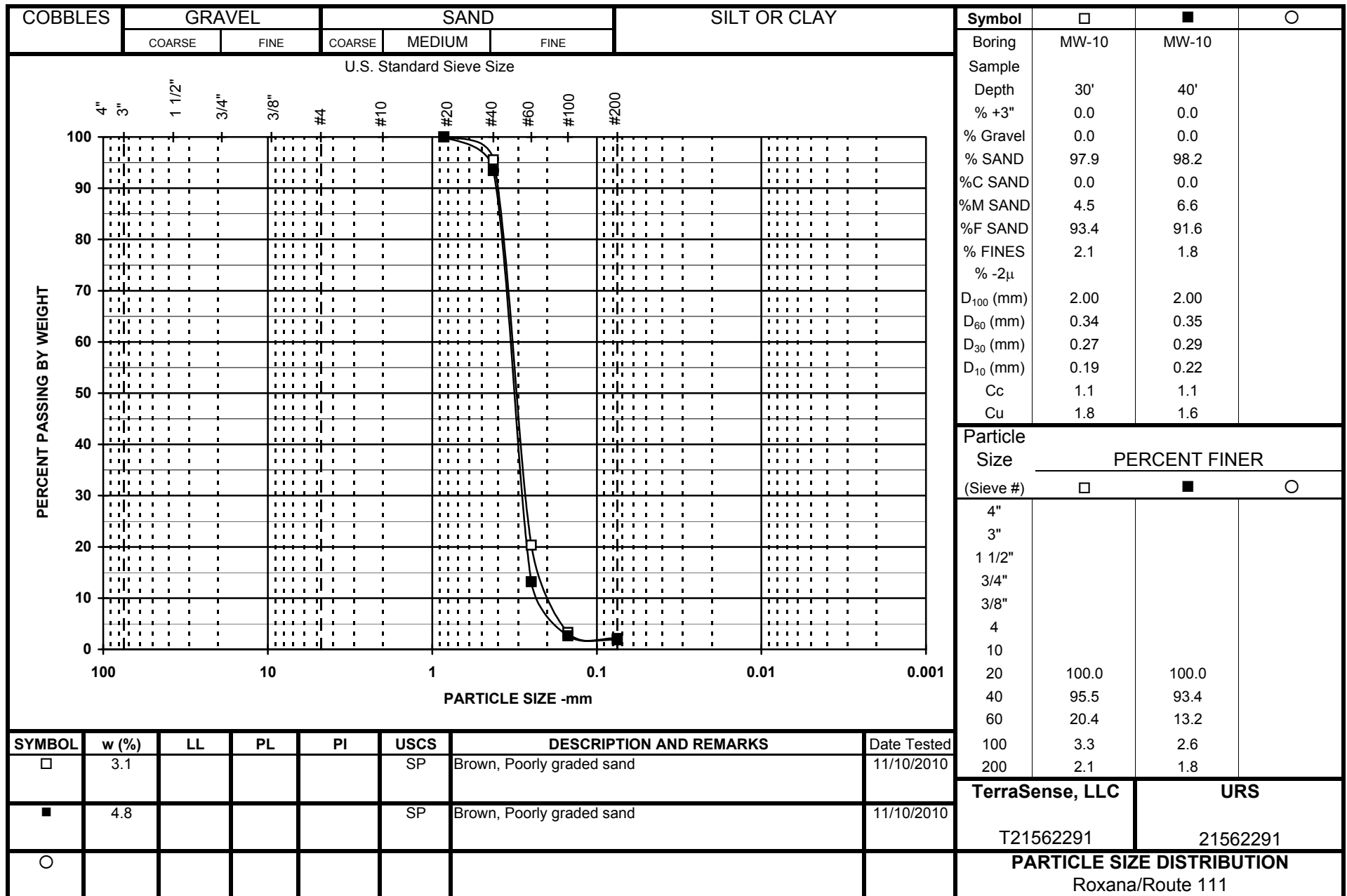
Note: (1) USCS symbol based on visual observation and Sieve reported.











Monitoring Well Construction Diagrams

MW-6B

MW-6C

MW-6D

MW-9

MW-10

MW-11

MW-12

MW-13

Monitoring Well Installation Details
Flush Mount Monitoring Well Construction Diagram



Project:	West Fenceline - Route 111/Rand Avenue Vicinity			Well ID:	MW-6B
Project Location:	Roxana, Illinois	Date Started:	10/12/2010		
Well Location:	Frontage road South of Rand Avenue	Date Completed:	10/12/2010	Boring ID:	MW-6B
Drilling Contractor:	Roberts Environmental Drilling, Inc.	Time Seal Set:	1420	Northing:	791604.07
Driller:	J. Cox	Type of Rig:	CME 75	Easting:	2322076.35
Consulting Firm:	URS Corporation	Drilling Method:	HSA (4.25" ID)	Elevation Datum:	432.79
Geologist:	M. Miller	Completion Zone:			

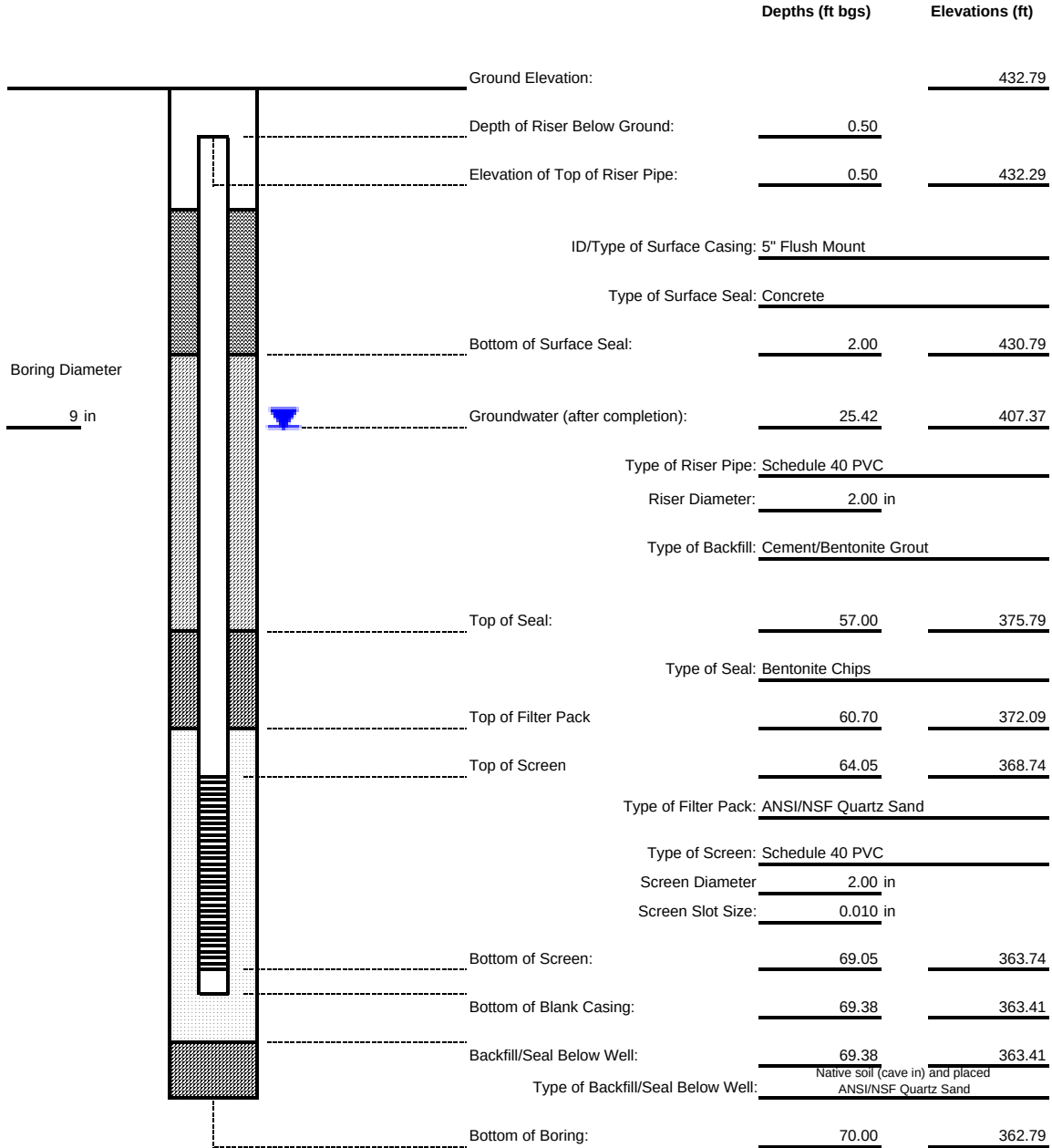


DIAGRAM IS NOT TO SCALE

Monitoring Well Installation Details
Flush Mount Monitoring Well Construction Diagram



Project:	West Fenceline - Route 111/Rand Avenue Vicinity			Well ID:	MW-6C
Project Location:	Roxana, Illinois	Date Started:	10/13/2010		
Well Location:	Frontage road South of Rand Avenue	Date Completed:	10/13/2010	Boring ID:	MW-6C
Drilling Contractor:	Roberts Environmental Drilling, Inc.	Time Seal Set:	1415	Northing:	791599.99
Driller:	J. Cox	Type of Rig:	CME 75	Easting:	2322078.73
Consulting Firm:	URS Corporation	Drilling Method:	HSA (4.25" ID)	Elevation Datum:	432.79
Geologist:	M. Miller	Completion Zone:			

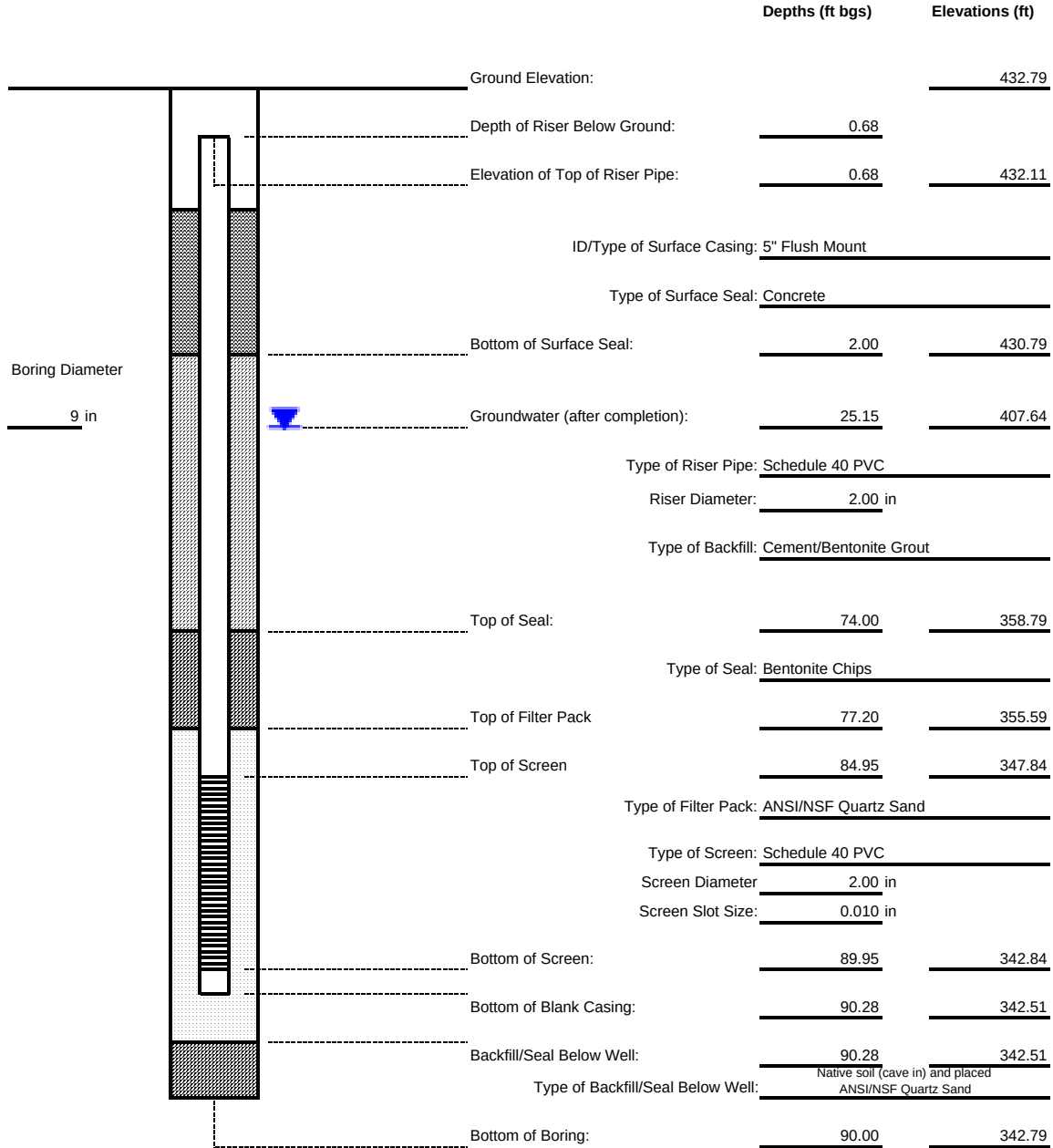


DIAGRAM IS NOT TO SCALE

Monitoring Well Installation Details
Flush Mount Monitoring Well Construction Diagram



Project:	West Fenceline - Route 111/Rand Avenue Vicinity			Well ID:	MW-6D
Project Location:	Roxana, Illinois	Date Started:	10/21/2010		
Well Location:	Frontage road South of Rand Avenue	Date Completed:	10/26/2010	Boring ID:	MW-6D
Drilling Contractor:	Roberts Environmental Drilling, Inc.	Time Seal Set:	1515	Northing:	791594.14
Driller:	P. Seymour	Type of Rig:	CME 75	Easting:	2322081.25
Consulting Firm:	URS Corporation	Drilling Method:	HSA (4.25" ID)	Elevation Datum:	432.54
Geologist:	N. Satam	Completion Zone:			

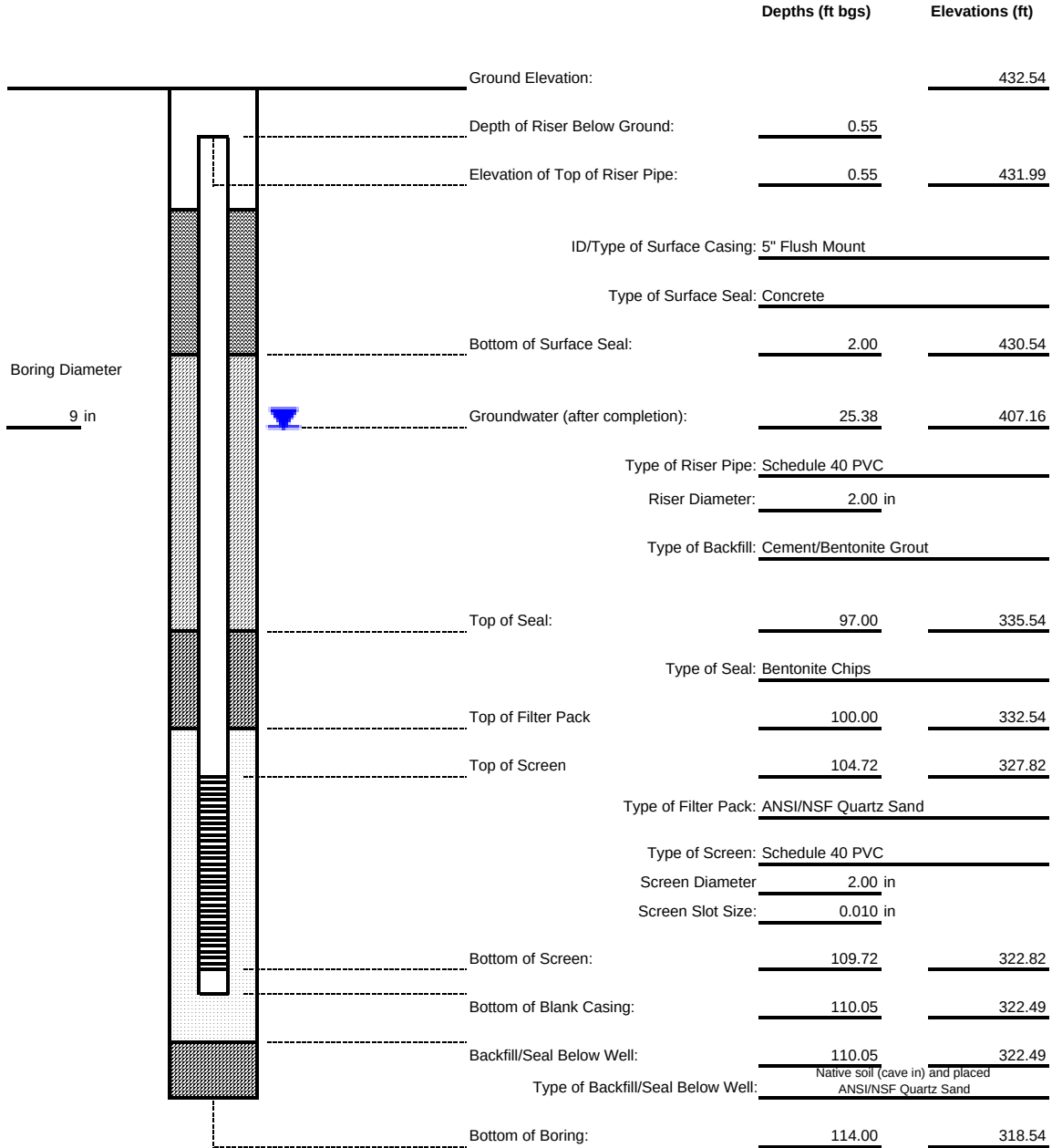


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Monitoring Well Installation Details
Flush Mount Monitoring Well Construction Diagram



Project:	West Fenceline - Route 111/Rand Avenue Vicinity			Well ID:	MW-9
Project Location:	Roxana, Illinois	Date Started:	10/28/2010		
Well Location:	Alley between 1st and 2nd Streets	Date Completed:	11/1/2010	Boring ID:	MW-9
Drilling Contractor:	Roberts Environmental Drilling, Inc.	Time Seal Set:	1340	Northing:	794065.9
Driller:	P. Seymour	Type of Rig:	CME 75	Easting:	2321747.7
Consulting Firm:	URS Corporation	Drilling Method:	HSA (4.25" ID)	Elevation Datum:	445.62
Geologist:	N. Satam	Completion Zone:			

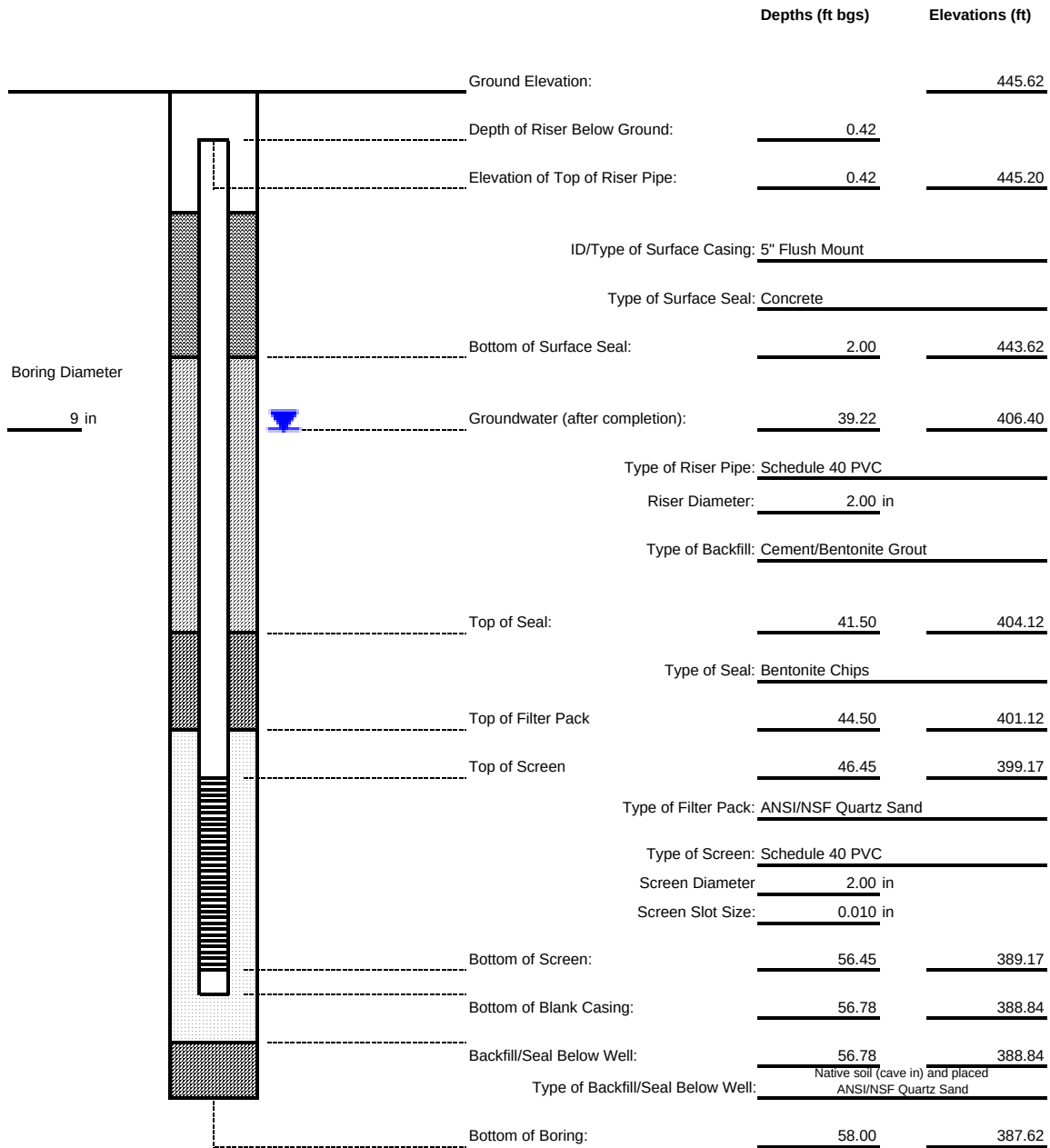


DIAGRAM IS NOT TO SCALE

Monitoring Well Installation Details
Flush Mount Monitoring Well Construction Diagram



Project:	West Fenceline - Route 111/Rand Avenue Vicinity			Well ID:	MW-10
Project Location:	Roxana, Illinois	Date Started:	10/20/2010		
Well Location:	Alley between 1st and 2nd Streets	Date Completed:	10/20/2010	Boring ID:	MW-10
Drilling Contractor:	Roberts Environmental Drilling, Inc.	Time Seal Set:	1450	Northing:	794066.09
Driller:	P. Seymour	Type of Rig:	CME 75	Easting:	2322212.72
Consulting Firm:	URS Corporation	Drilling Method:	HSA (4.25" ID)	Elevation Datum:	445.57
Geologist:	N. Satam	Completion Zone:			

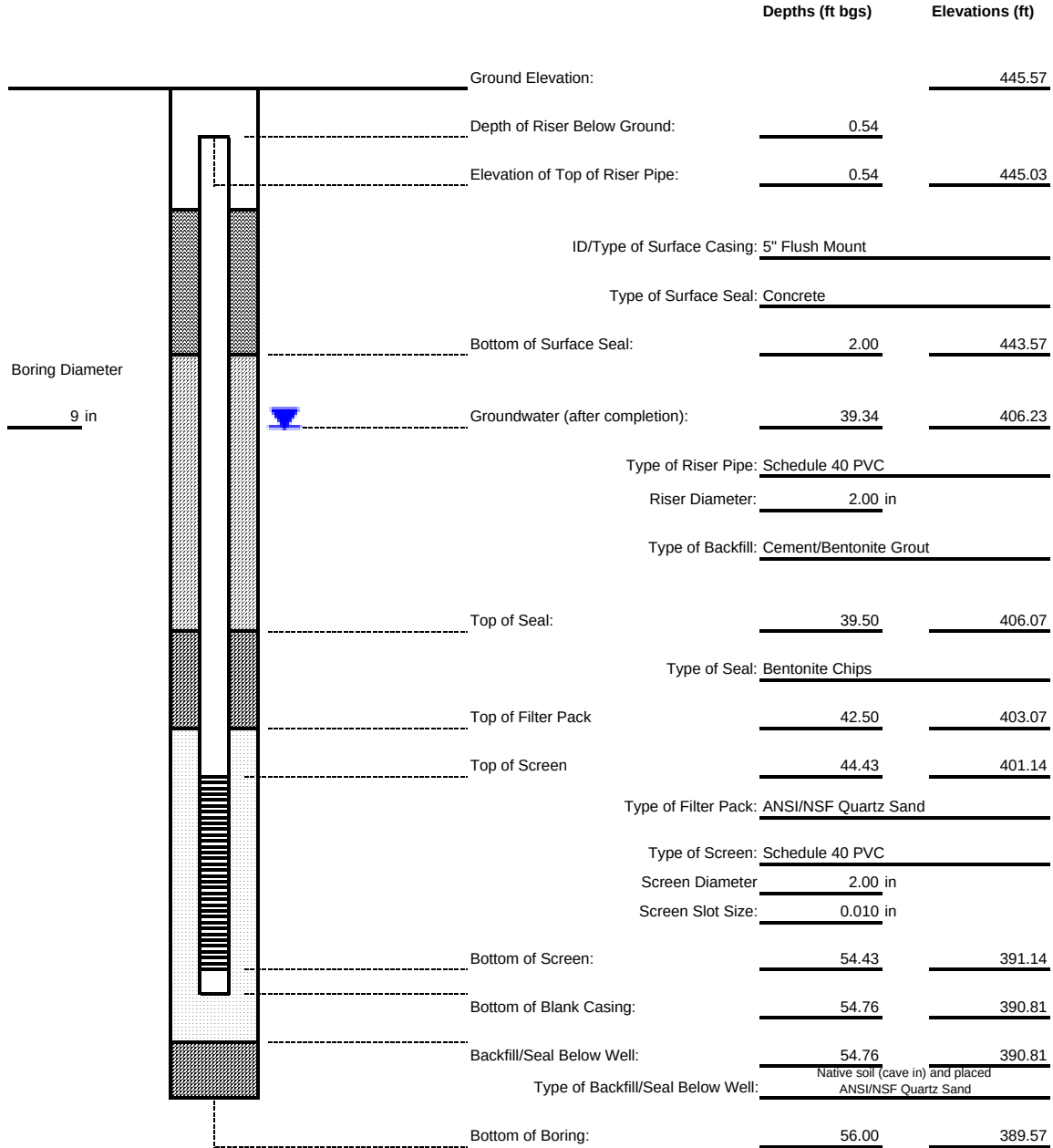


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Monitoring Well Installation Details
Flush Mount Monitoring Well Construction Diagram



Project:	West Fenceline - Route 111/Rand Avenue Vicinity			Well ID:	MW-11
Project Location:	Roxana, Illinois	Date Started:	10/14/2010		
Well Location:	Alley between 3rd and 4th Streets	Date Completed:	10/14/2010	Boring ID:	MW-11
Drilling Contractor:	Roberts Environmental Drilling, Inc.	Time Seal Set:	1720	Northing:	793440.27
Driller:	J. Cox	Type of Rig:	CME 75	Easting:	2321771.09
Consulting Firm:	URS Corporation	Drilling Method:	HSA (4.25" ID)	Elevation Datum:	442.74
Geologist:	M. Miller	Completion Zone:			

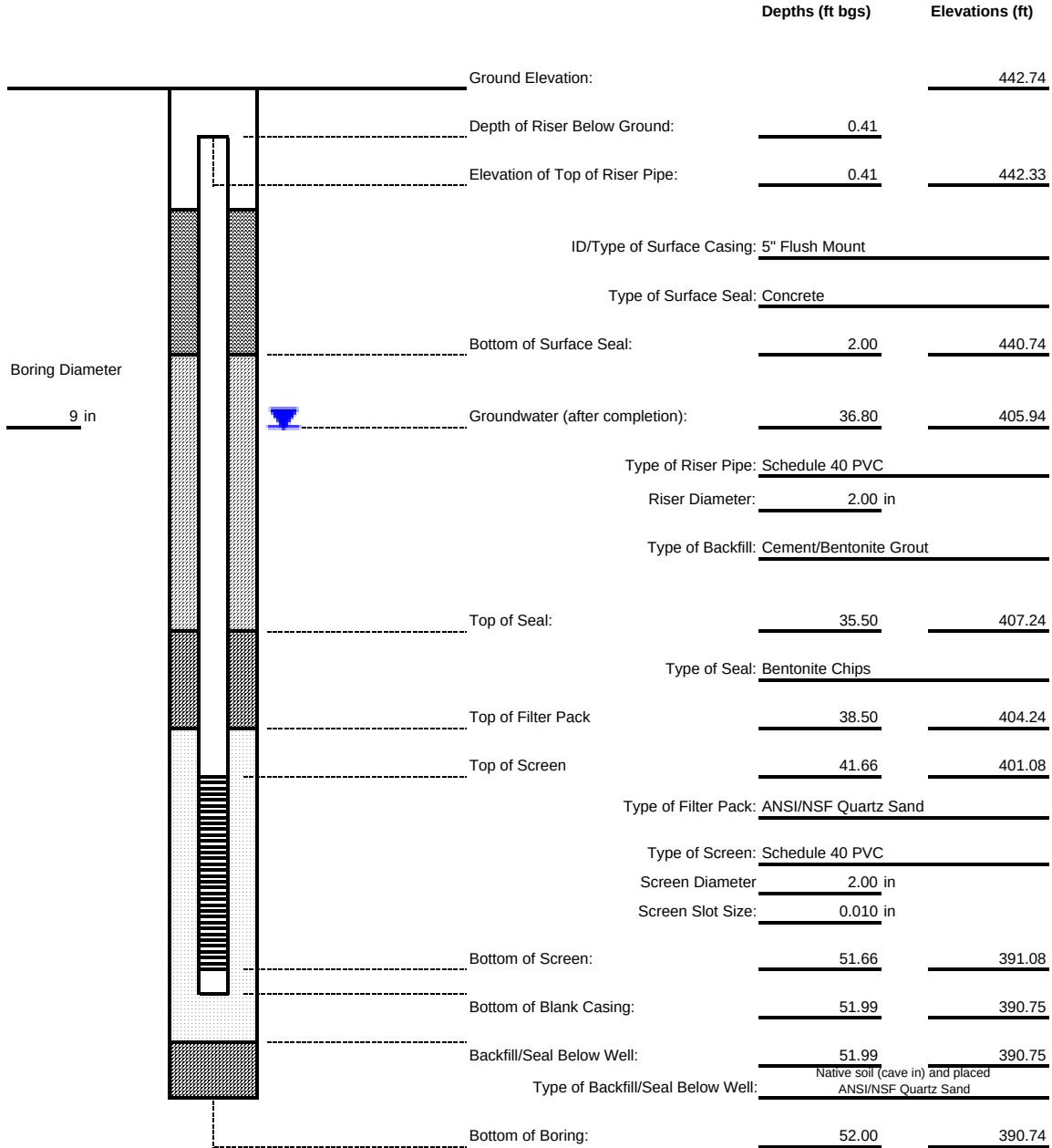


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Monitoring Well Installation Details
Flush Mount Monitoring Well Construction Diagram



Project:	West Fenceline - Route 111/Rand Avenue Vicinity			Well ID:	MW-12
Project Location:	Roxana, Illinois	Date Started:	10/18/2010		
Well Location:	Alley between 5th and 6th Streets	Date Completed:	10/19/2010	Boring ID:	MW-12
Drilling Contractor:	Roberts Environmental Drilling, Inc.	Time Seal Set:	1215	Northing:	792845.49
Driller:	P. Seymour	Type of Rig:	CME 75	Easting:	2321746.32
Consulting Firm:	URS Corporation	Drilling Method:	HSA (4.25" ID)	Elevation Datum:	443.11
Geologist:	N. Satam	Completion Zone:			

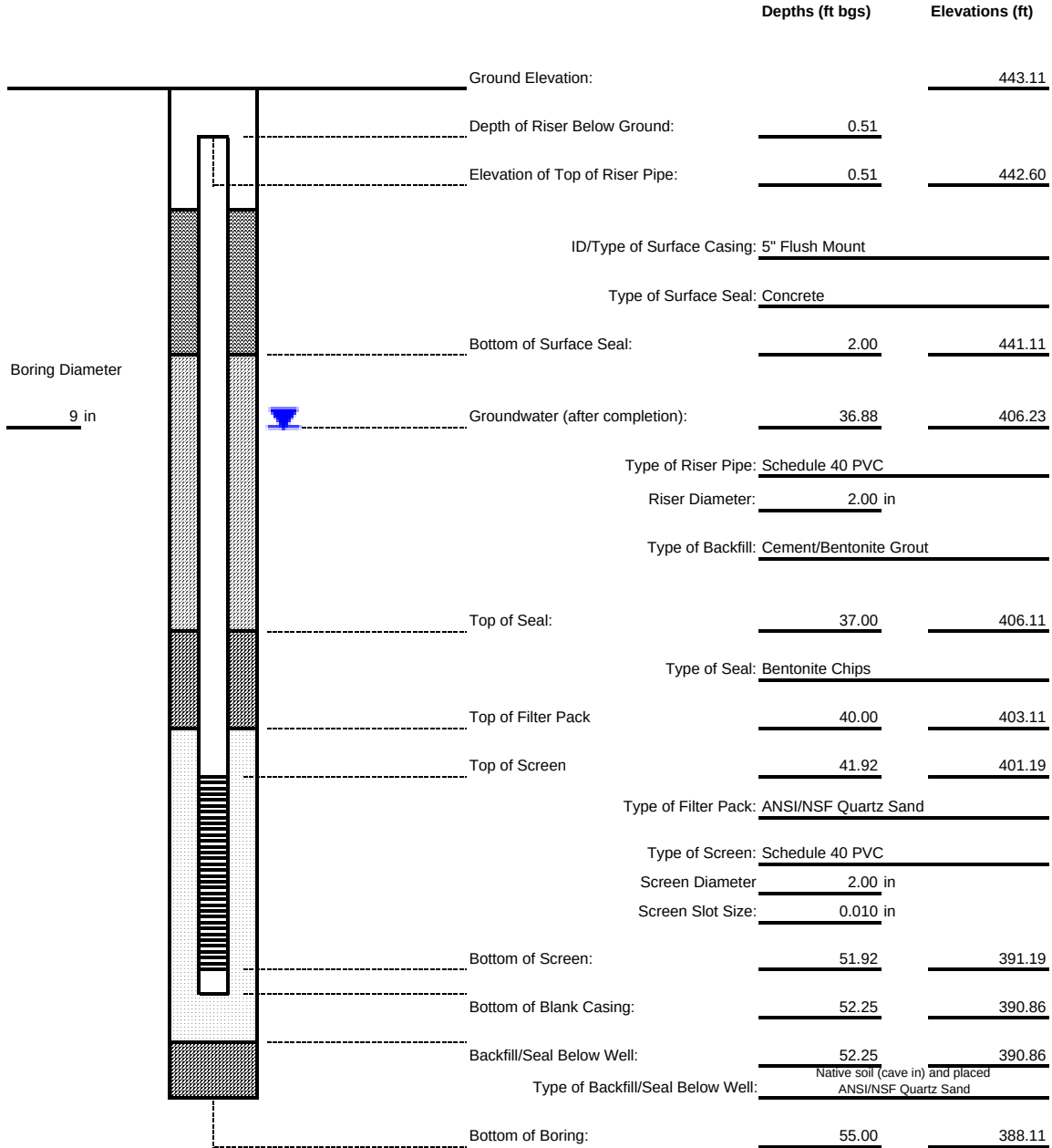


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Monitoring Well Installation Details
Flush Mount Monitoring Well Construction Diagram



Project:	West Fenceline - Route 111/Rand Avenue Vicinity			Well ID:	MW-13
Project Location:	Roxana, Illinois	Date Started:	12/1/2010		
Well Location:	WRR West Property	Date Completed:	12/3/2010	Boring ID:	MW-13
Drilling Contractor:	Roberts Environmental Drilling, Inc.	Time Seal Set:	1420	Northing:	791574.95
Driller:	B. Schilling	Type of Rig:	CME 55	Easting:	2321696.95
Consulting Firm:	URS Corporation	Drilling Method:	HSA (4.25" ID)	Elevation Datum:	430.79
Geologist:	E. Fritsch	Completion Zone:			

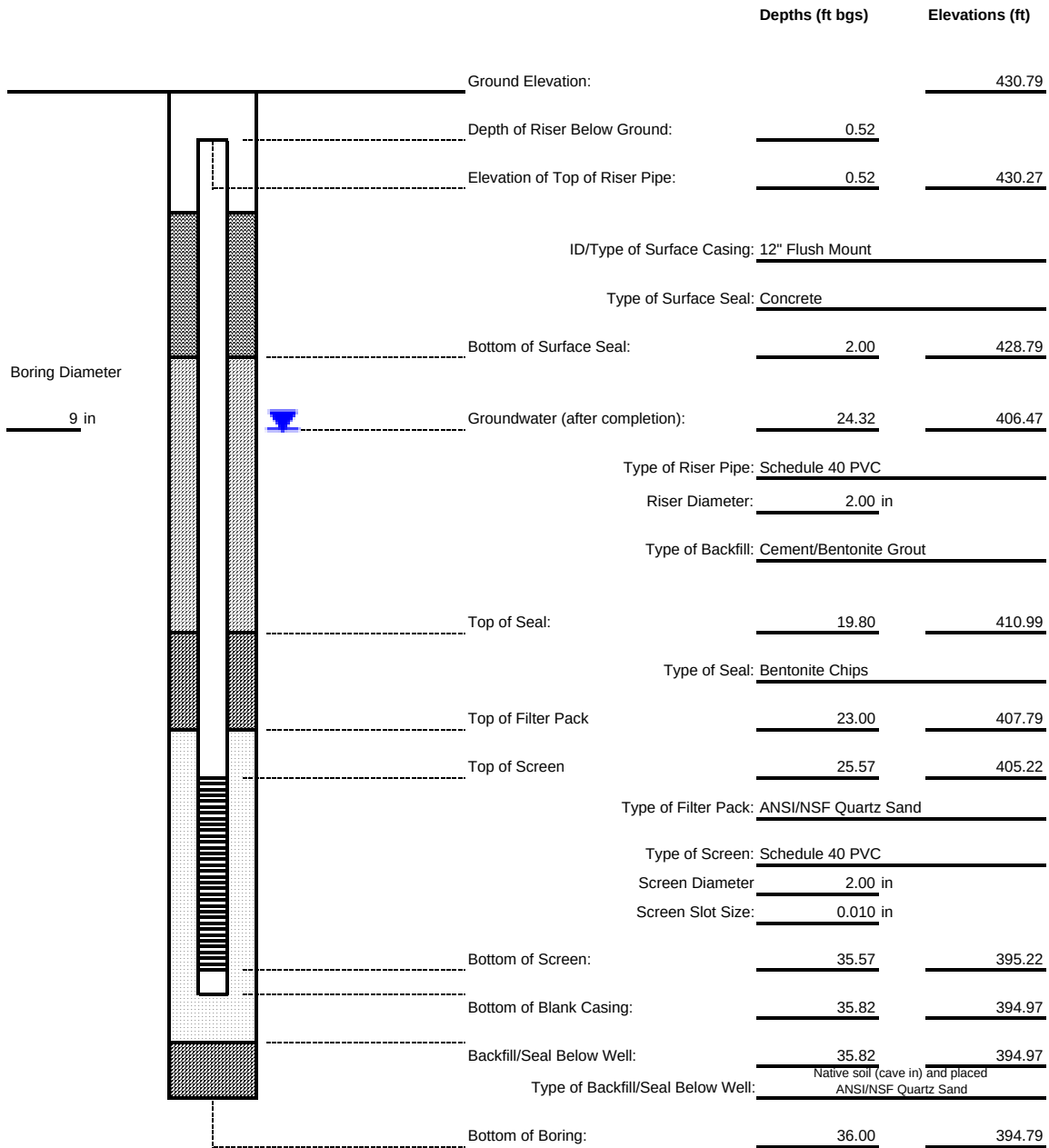


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