

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):

Addendum to Investigation Report
Date of Submittal 9/20/10

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)

Supplemental data report to the subsurface investigation report that was submitted on 2/18/10. (This supplemental report was being finalized upon receipt of the 8/5/10 IEPA comment letter – the IEPA comments will be addressed separately.)

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

Supplemental report dated August 2010

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: 9/20/10

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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).

operator
Owner Signature: Karin Edger 9/08/10
(Date)
Title: Principal Program Manager

Operator Signature: _____
(Date)
Title: _____

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

Professional's Signature: Robert B. Billman 9/20/10

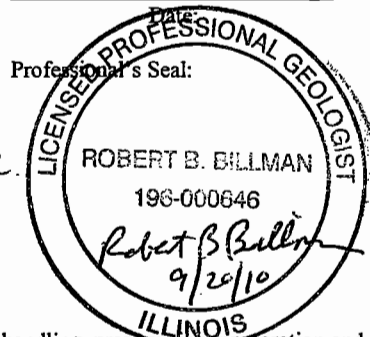
Professional's Name: Robert B. Billman

Professional's Address: URS Corp.

1001 Highlands Plaza Drive

St Louis, Mo 63110

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



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

Name of Laboratory Xenco Laboratories

Mailing Address of Laboratory

4143 Greenbriar Drive

Stafford, TX 77477

Carlos Castro 8/13/10
Signature of Laboratory Responsible Officer Date

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

IEPA RCRA Corrective Action Certification

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

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- 7.4 **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. (A)

Name of Laboratory Air Toxics Ltd.

[Signature] 9-1-10
Signature of Laboratory Responsible Officer Date

Mailing Address of Laboratory

Phua Penney Lab Director
Name and Title of Laboratory Responsible Officer

180 Blue Ravine Rd

Folsom, CA 95630

(A) Air toxics Ltd does not have certification for the state of Illinois, but is NELAP certified. p#p 9-1-10



September 20, 2010

Stephen F. Nightingale, P.E.
Manager, Permit Section
Bureau of Land
Illinois Department of Environmental Protection
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

RE: 1191150002 – Madison County
Equilon Enterprises
Log No. B-43-CA-12
Addendum to February 2010 Report – Supplemental Investigation Activities
Roxana, Illinois

Dear Mr. Nightingale;

Shell Oil Products US (SOPUS) recently conducted investigation activities in the Village of Roxana, Illinois supplemental to the work reported in the *Dissolved Phase Groundwater Investigation and P-60 Free Phase Product Delineation Report* (“Report”), submitted February 18, 2010. This addendum to the referenced report presents a discussion of the supplemental investigation activities and results.

As part of the ongoing community relations activities and as requested by Illinois Environmental Protection Agency (IEPA), the Report was posted to the website repository on May 5, 2010 with a cover letter stating it was currently under review by the IEPA. As requested by IEPA, a Corrective Action Certification Form was submitted to the IEPA on May 18, 2010. The IEPA provided comments on the Report in a letter dated August 5, 2010. The comments in this letter will be addressed in a subsequent document parallel to this addendum.

1.0 OBJECTIVES

The following additional work and actions were recommended in the Report and are the subject of this addendum:



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Soil

- Borings GP-3 and GP-5 were drilled once access was obtained from the Village of Hartford. These locations were unable to be completed during the 2009 investigation.

LNAPL

- Existing wells and piezometers in the Village of Roxana and along the west fenceline of the Wood River Refinery (WRR) continued to be gauged periodically to evaluate the absence or presence of LNAPL.
- A four-inch diameter monitoring well was installed at the location of Piezometer P-60-11 (located approximately 130 feet north of Well P-60) to allow for potential product recovery.

Groundwater

- Groundwater data were collected at locations GP-3 and GP-5 once access was obtained from Hartford. These locations were unable to be completed during the 2009 investigation.
- The monitoring locations in Roxana were gauged in conjunction with the WRR groundwater monitoring program. This continues to build the groundwater data set to account for seasonal fluctuations.
- SOPUS and ConocoPhillips (COP) are continuing to evaluate maintenance needs for the refinery groundwater production wells. This process began in mid 2009. Currently, one water production well was heavily silted (W-71) and a replacement was installed during the second quarter 2010 (W-85). The field boring log and water well construction report are included in **Attachment A**.

Soil Vapor

- A shallow sampling port (~10 feet) was installed at location VMP-3 to assess potential vapors at this depth (existing ports are at depths of 5 and 22 feet).



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- A shallow sampling port (~5 feet) (VMP-17) was installed near the building located at the northeast corner of the Village of Roxana Public Works Yard to obtain soil vapor samples.

In addition to these recommended activities and upon further review of data, two shallow soil vapor sampling ports (~8.5 and 5 feet) were also installed along the north side of Eighth Street near Chaffer Street (VMP-18 and VMP-19).

2.0 INVESTIGATION ACTIVITIES

This supplemental field investigation was performed in general accordance with the investigative procedures contained in the IEPA-approved Work Plan¹. The field activities were conducted during June 2010. The following subsections provide a brief description of the data collection activities that were performed. A more detailed explanation of the procedures for each of the activities can be found in Section 2 of the Report.

Figure 1 shows the approximate supplemental investigation locations. The field forms (i.e., air-knife forms, soil boring logs, groundwater profiling low flow sheets, monitoring well construction diagram, and soil vapor development and sampling information) from the supplemental investigation activities are included in **Attachment B** to this report.

2.1 PRE-FIELD ACTIVITIES

The work in the Village of Roxana was performed according to an access agreement between SOPUS and the Village of Roxana, signed July 9, 2009. The work in the Village of Hartford was performed according to an access agreement between SOPUS and the Village of Hartford, signed June 3, 2010. The work in the WRR was performed according to refinery protocols and procedures.

Prior to the start of work, investigation locations were marked in the field (e.g., spray paint) and reviewed with Village and/or WRR representatives. A utility locate was

¹ Shell Oil Products US, 2009; *Dissolved Phase Groundwater Investigation and P-60 Free Phase Product Delineation Work Plan – Roxana, Illinois*; Prepared by URS Corporation; Dated January 21, 2009; Approved with conditions by IEPA May 12, 2009.



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performed using Illinois' Joint Utility Locating Information for Excavators (JULIE) service for locations outside WRR.

2.2 BOREHOLE CLEARANCE

Borehole clearance via an air-vacuum system (e.g., air-knife) was used to clear each location 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 as follows:

<u>Location</u>	<u>Air Knife Depth (ft bgs²)</u>
GP-3	7
GP-5	7.5
P-60-11	5
VMP-3-10	5
VMP-17-5	6
VMP-18-8.5	9
VMP-19-5	7

Subsurface material observations during air knifing were noted on the soil boring logs.

2.3 SOIL SAMPLING

Soil sampling was performed at two locations along Rand Avenue, GP-3 and GP-5, to gather information near the 1986 benzene release.

Soil sampling was conducted via Geoprobe, using a dual-tube sampling system. 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. Two discrete soil samples from boring GP-3 and three discrete soil samples from boring GP-5 were collected for analysis of

² bgs = below ground surface



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volatile organic compounds (VOCs) based on field headspace readings and/or visual observations.

2.4 GROUNDWATER PROFILING

Groundwater profiling was conducted after the soil sampling at locations GP-3 and GP-5 along Rand Avenue to gather information near the 1986 release and validate the proposed monitoring well network previously submitted to IEPA on September 16, 2009.

Profiling was performed using dedicated polyethylene tubing for each sample, equipped with a ball and check valve system connected through a Waterra pump to a flow-through cell. Profiling samples were first collected from near the top of the groundwater surface (29.5 and 31.5 feet bgs at GP-3 and GP-5, respectively) and at a depth of approximately 8 feet below the first sample (37.5 and 39.5 feet bgs at GP-3 and GP-5, respectively). Groundwater was purged and monitored for pH, temperature, conductivity, turbidity, dissolved oxygen (DO), and oxidation-reduction potential (ORP). Once these water-quality parameters had stabilized over 3 flow-through cell volumes or water had purged for 1 hour (whichever occurred first), groundwater flow was diverted from the flow-through cell and the groundwater was sampled. Purge times are as follows:

- GP-3 sample at 29.5 ft bgs – sampled after purging for 36 minutes.
- GP-3 sample at 37.5 ft bgs – sampled after purging for 48 minutes.
- GP-5 sample at 31.5 ft bgs – sampled after purging for 1 hour.
- GP-5 sample at 39.5 ft bgs – sampled after purging for 32 minutes.

The samples were analyzed for VOCs and semivolatile organic compounds (SVOCs). Upon completion, the boreholes were backfilled with tremied bentonite grout and the ground surface was returned to its original condition.

2.5 MONITORING WELL INSTALLATION & PIEZOMETER/MONITORING WELL GAUGING

A new monitoring well was installed at the location of Piezometer P-60-11 due to prior light non-aqueous phase liquid (LNAPL) observations. P-60-11 is located approximately 100 feet north of Well P-60 along the west fenceline within the WRR.



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The flush-mount surface completion and piezometer casing were removed. A new monitoring well was installed using 6.25-inch inside diameter hollow stem augers that were advanced to a depth of approximately 62 feet bgs. The monitoring well was constructed using a 4-inch diameter Schedule 40 PVC casing with a 30-foot section of 0.010-inch slotted PVC well screen (to account for groundwater fluctuations) set such that it straddled the water table. The sand pack consisted of a combination of placed and native sand in the annular space, and extended to approximately 2 feet above the top of the well screen. A 2.5-foot thick bentonite seal was placed above the sand pack and the borehole annulus was then grouted to near the surface with cement/bentonite grout. A surface completion, including a locking expandable cap, stick-up protector and bumper posts, were added.

Monitoring well and piezometer gauging has been performed periodically in the Village of Roxana and along the west fenceline in the WRR. **Tables 1** and **2** summarize monitoring well and piezometer completion and gauging information. A groundwater contour map is presented on **Figure 2** based upon the most recent data.

2.6 VAPOR MONITORING POINT INSTALLATION, DEVELOPMENT, & SAMPLING

Vapor monitoring points (VMPs) were installed at four locations (one vapor port per location) in the Village of Roxana as follows to evaluate potential vapor issues:

- One port at VMP-3, near the alley intersection with Chaffer Street between Third and Fourth Streets, at a depth of 10 feet bgs to supplement the existing vapor ports installed in 2009.
- One port at VMP-17, near the Roxana Public Works building at the intersection of Eighth Street and Chaffer Street, at a depth of 5 feet bgs.
- One port each at VMP-18 and VMP-19, along the north side of Eighth Street near Chaffer Street, at depths of 8.5 feet and 5 feet bgs, respectively. These locations were added based upon subsequent evaluation.

The vapor monitoring ports at each location were installed using a Geoprobe rig or through the air-knife hole.



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Each vapor port consisted of a 0.5-inch outer diameter by 6-inch long Geoprobe Systems stainless steel screen connected to a 0.125-inch diameter continuous stainless steel riser tubing extending to the ground surface. A sand pack was placed in the annular space from approximately six inches below to six inches above each stainless steel screen. The remaining annular space was filled with hydrated bentonite chips to the ground surface and completed at the surface with a flush-mounted protective cover. The stainless steel tubes from each sampling port were capped with a Swagelok® stainless steel reducer and plug.

VMP development and sampling were performed at the four new sampling ports installed. The VMPs were developed prior to sampling by purging a volume of air equal to three times the volume of the sand pack and the vapor port using a peristaltic pump at a rate of no greater than 2 L/min. The soil vapors were discharged to the atmosphere through an in-line charcoal filter and monitored with a PID and 4-gas monitor to ensure that the in-line charcoal filter was working properly.

VMP sampling activities were performed in accordance with in the procedures described in the Report. Summa canisters were filled and analyzed for VOCs, fixed gases and helium. Vapor samples were also collected in Tedlar bags and screened in the field for total VOCs using a PID and for combustible gases (carbon monoxide, hydrogen sulfide, oxygen, and the lower explosive limit) using a 4-gas monitor.

2.7 HEALTH & SAFETY, DECONTAMINATION, & INVESTIGATION DERIVED WASTE

The supplemental work in Roxana, Illinois was performed in general accordance with the health and safety practices as described in the Report.

Decontamination was also performed according to the procedures outlined in the Report.

Investigation derived waste (IDW) was collected, managed and disposed based on two separate work areas, inside the WRR and outside the WRR.

Soil cuttings from inside the WRR were collected and staged in a roll-off and managed by current site owner representatives on behalf of SOPUS. Decontamination water from inside the WRR was disposed through the refinery's National Pollutant Discharge Elimination System (NPDES)-permitted Wastewater Treatment Plant (WWTP).



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Soil cuttings from outside the WRR were collected and staged in one labeled and sealed roll-off for disposal. Decontamination water and purge water from outside the WRR was collected and staged in a 55-gallon steel drum for disposal. IDW generated outside the WRR was staged at the Village of Roxana Public Works Yard. Prior to disposal, analytical results from sampling activities were compared to those used to develop the existing waste profiles used in 2009. The data from current sampling activities was comparable to the data used to develop waste profiles in 2009; therefore the media were classified as non-hazardous wastes and will be managed as such.

2.8 SAMPLE HANDLING, LABORATORY TESTING, DATA QUALITY REVIEW, AND DATA MANAGEMENT, ANALYSIS AND REPORTING

Sample handling, laboratory testing and data quality review were performed according to the procedures outlined in the Work Plan.

The following test methods and laboratories were utilized during this supplemental scope of work:

- VOCs via USEPA Method 8260B for soil and groundwater – Xenco Laboratories, Inc. of Stafford, Texas;
- SVOCs via USEPA Method 8270C for groundwater – Xenco Laboratories, Inc. of Stafford, Texas; and
- VOCs via modified USEPA TO-15 for soil vapor – Air Toxics, Ltd. of Folsom, California;
- Fixed gases via Modified ASTM D-1946 for soil vapor – Air Toxics, Ltd. of Folsom, California.

Analytical data were subjected to a Level III review for quality and completeness, in accordance with procedures outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review and the Work Plan. Data qualifiers were added, as appropriate, and are included on the data tables and the laboratory result pages.



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Groundwater, soil, and soil vapor results reported for the analyses performed were accepted for their intended use. Acceptable levels of accuracy and precision, based on matrix spike/matrix spike duplicate (MS/MSD), laboratory control sample (LCS), surrogate and field duplicate data were achieved for these sample delivery groups (SDGs) to meet the project objectives. Completeness, which is defined to be the percentage of analytical results that are judged to be valid, including estimated detect/non-detect (J/UJ) data was 100 percent.

Data management, analysis and reporting were performed as outlined in the Report.

Field data and documentation collected as part of this supplemental scope of work became part of the project file. URS maintains the project file for the site, including relevant records, logs, field logbooks, pictures, subcontractor reports, data reviews, and the database management system.

URS worked with the laboratory to attain reporting limits to meet the project objectives for soil, groundwater and soil vapor. Consistent with the process used for prior data, analytical results for soil and groundwater were primarily compared to media screening tables in the latest version of the Tiered Approach to Corrective Action Objectives (TACO) rules (35 IAC Part 742 Appendix B). The *Proposed Amendments to TACO* (dated September 2, 2008) screening levels were also used in conjunction with the current TACO screening criteria. Additionally, and where screening criteria did not exist in the TACO tables, the screening levels found in the *Chemicals Not in TACO Tier 1 Tables*³ were used. Soil vapor results were not screened, as IEPA's September 9, 2008 proposed amendments for soil vapor were retracted.

3.0 INVESTIGATION RESULTS

The results of the supplemental investigation activities are described in the subsections below. Supporting tables and figures are comprehensive in nature, presenting the supplemental results as well as previous results.

³ <http://www.epa.state.il.us/land/taco/chemicals-not-in-taco-tier-1-tables.html>



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3.1 SOIL ANALYTICAL RESULTS

The laboratory analytical results for the soil samples collected during this supplemental investigation are presented in the “All Results Table” in **Attachment C** and/or the laboratory data included in **Attachment D** to this report. A tabular summary of the analytical detections is presented in **Table 3**, and the BTEX results are also depicted in **Figure 3**.

The following VOCs were detected in soil during this supplemental investigation:

Benzene	tert-Butylbenzene (estimated BDL)
Ethylbenzene (estimated BDL ⁴)	Isopropylbenzene (estimated BDL)
Toluene (estimated BDL)	p-Isopropyltoluene (estimated BDL)
m,p-Xylenes (estimated BDL)	Methyl tert-Butyl Ether
o-Xylenes (estimated BDL)	n-Propylbenzene (estimated BDL)
n-Butylbenzene (estimated BDL)	1,2,4-Trimethylbenzene (estimated BDL)
sec-Butylbenzene (estimated BDL)	1,3,5-Trimethylbenzene (estimated BDL)

These are the same petroleum constituents as those detected during the 2009 investigation and presented in the Report.

The analytical detections were compared with TACO Tier 1 soil remediation objectives (TACO industrial/commercial screening criteria), since boring locations are along pipelines (where a construction worker exposure is more relevant). This comparison is presented in **Table 3**.

The analytical results are below the screening criteria in both samples collected in boring GP-3. The analytical results are below the screening criteria in the samples collected in boring GP-5 except for one benzene exceedance at 27 feet bgs. The soil component of the groundwater ingestion pathway screening criterion for benzene (0.03 mg/kg) was exceeded in the sample and the duplicate collected at 27 feet bgs (estimated concentrations of 0.034 and 0.186 mg/kg, respectively). This exceedance is likely related to groundwater impacts at this depth.

⁴ BDL = below detection limit



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Soil exposure does not pose a risk, except with respect to construction workers along the pipeline corridor. These potential risks can and/or will be managed via institutional controls (e.g., safe work procedures, signage).

3.2 LNAPL ALONG THE WRR WEST FENCELINE

Piezometers and monitoring wells within the Village of Roxana and along the western fenceline in the WRR were gauged at various times since the issuance of the February 2010 report. The product thicknesses found in the piezometers during this supplemental investigation can be found in **Table 1**. The product thickness found in the monitoring wells during this supplemental investigation can be found in **Table 2**. LNAPL has not been measured in any monitoring wells or piezometers in the Village of Roxana between September 2009 and July 2010. LNAPL has continued to be encountered periodically in some of the monitoring wells and piezometers in the refinery along the west fenceline of the North Property of the WRR as depicted on **Figure 4**.

As described in the February 2010 report, a Smart Skimmer pump system has been in place to recover free product in well P-60 in the WRR since May 2008. Since approximately May 2009 however, groundwater levels have been near or above the top of the well screen, precluding product from entering the well. This increase in groundwater levels is a regional occurrence. Groundwater data have been reviewed from wells across the refinery during this time period and the results are similar. Due to this increase in groundwater levels, the skimmer pump in Well P-60 has been off since January 25, 2010, at which time there was about 0.29 ft of product in the well. Well P-60 has been gauged weekly since the pump has been shut off and product thicknesses have fluctuated between 0.26 and 0.57 ft.

Historically, product thicknesses in the P-60-11 piezometer have been on the order of 1 to 1.5 feet between June 2007 and May 2010⁵. This piezometer is located approximately 130 feet north of Well P-60. The new monitoring well installed at this location (same identification number) during this supplemental investigation has a screen interval which overlaps that of well P-60 (Well P-60 is screened from approximately 45 to 65 ft bgs and

⁵ Water levels were observed to be above the top of the screen in the P-60-11 piezometer during the gauging events since August 2008.



Well P-60-11 is screened from approximately 30 to 60 ft bgs). The new well has been gauged weekly since installation with no indication of product. A clear bailer was used periodically in an attempt to confirm the presence of product, however, a bio-film material is all that was observed.

3.3 GROUNDWATER ANALYTICAL RESULTS

The laboratory analytical results for the groundwater samples collected during this supplemental investigation can be reviewed in the “All Results Table” in **Attachment B** and/or the laboratory data included in **Attachment C** to this report. A tabular summary of the analytical detections is presented in **Table 4**, and the BTEX results are also depicted on **Figure 5**.

The following VOCs and SVOCs were detected in the groundwater sampled during this supplemental investigation:

Benzene	tert-Butylbenzene (estimated BDL)
Toluene (estimated BDL)	Isopropylbenzene
m,p-Xylenes	Methyl tert-Butyl Ether (estimated BDL)
o-Xylenes (estimated BDL)	n-Propylbenzene
n-Butylbenzene	1,2,4-Trimethylbenzene (estimated BDL)
sec-Butylbenzene	2-Methylnaphthalene

These constituents were also detected during the 2009 investigation and presented in the Report. The number of constituents detected, however, were fewer than in 2009 (11 instead of 16 VOCs and 1 instead of 11 SVOCs).

The analytical detections were compared with the Class 1 groundwater remediation objectives outlined in the TACO rules⁶. This comparison is presented in **Table 4**.

The analytical results for organics are below the groundwater screening criteria in both of the samples collected at location GP-3. The analytical results are below the groundwater screening criteria in both of the samples collected at location GP-5 except for exceedances of benzene at depths of 31.5 and 39.5 feet bgs. The groundwater criterion

⁶ While groundwater data were screened to Class I groundwater remediation objectives, the groundwater ordinance enacted by the Village of Roxana prevents exposure to impacted groundwater.



for benzene (0.005 mg/L) was exceeded at both groundwater sample depths (with concentrations of 0.0554 and 0.00958 mg/L, respectively).

3.4 SOIL VAPOR ANALYTICAL RESULTS

The laboratory analytical results for the soil vapor samples collected during this supplemental investigation can be viewed in **Attachment C**. A tabular summary of the volatile organic analytical detections is presented in **Table 5** and a tabular summary of the natural or fixed gas detections is presented in **Table 6**. The results for benzene in soil vapor are depicted on **Figure 6**. A tabular summary of all the soil vapor analytical results is presented in the “All Results Table” (updated from the February 2010 report) in **Attachment B**.

The following analytes were detected in soil vapor during this supplemental investigation:

Benzene	Hexane
Toluene (estimated BDL)	Isopropylbenzene (estimated BDL)
m,p-Xylenes (estimated BDL)	<i>Methylene Chloride (estimated BDL)</i>
Acetone	2-Propanol
2-Butanone	n-Propylbenzene (estimated BDL)
Chloroform (estimated BDL)	<i>Tetrahydrofuran</i>
Cyclohexane	1,2,4-Trimethylbenzene (estimated BDL)
Ethanol	1,3,5-Trimethylbenzene (estimated BDL)
4-Ethyltoluene (estimated BDL)	2,2,4-Trimethylpentane
Heptane	

Of the VOCs that were detected in the soil vapor samples collected during this supplemental investigation, two constituents were not detected during the 2009 investigation (*italics in table above*). Four additional constituents were detected in 2009 but not during this supplemental investigation.



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4.0 CONCLUSIONS

URS conducted a subsurface supplemental investigation on behalf of SOPUS in the Village of Roxana, Village of Hartford, and a limited portion of the WRR. The results of this supplemental investigation served to reinforce the results collected during the 2009 investigation. This information will be used to help address the comments presented in the IEPA August 5, 2010 comment letter.

If there are any questions on the information contained in this report please do not hesitate to contact me (314-743-4228) or Kevin Dyer (SOPUS) (618-288-7237).

Sincerely,

URS Corporation, on behalf of Shell Oil Products US

T. Jeff Adams
Project Manager

Enclosures: **Table 1** Piezometer Completion Summary and NAPL Gauging
 Table 2 Monitoring Well Completion Summary & Groundwater Gauging
 Table 3 Summary of Soil Analytical Detections and Screening
 Table 4 Summary of Groundwater Analytical Detections and Screening
 Table 5 Summary of Soil Vapor Analytical Detections
 Table 6 Summary of Soil Vapor Fixed Gas Detections

 Figure 1 Supplemental Investigation Locations
 Figure 2 Potentiometric Surface
 Figure 3 Soil Analytical Results Summary
 Figure 4 Product Gauging Results
 Figure 5 Groundwater Analytical Results Summary
 Figure 6 Benzene Soil Vapor Analytical Results Summary



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Attachment A W-85 Field Boring Log and Water Well Construction
Report

Attachment B Supplemental Investigation Field Forms

Attachment C All Results Analytical Tables

Attachment D Data Review Sheets and Analytical Reports

cc: Kevin Dyer, SOPUS
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Project File

TABLE 1
PIEZOMETER COMPLETION SUMMARY AND NAPL GAUGING

												12/9/2009			1/6/2010			5/11-13/2010			7/8-12/2010				
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)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)		
VILLAGE OF ROXANA																									
ROST-3-PZ	Village of Roxana	FM	1	442.29	442.62	-0.33	50.00	392.29	40.00	50.00	404.29	392.29	10.00	NE	42.27	NA	NE	40.31	NA	NE	38.92	NA	NE	37.98	NA
ROST-4-PZ	Village of Roxana	FM	1	442.27	442.48	-0.21	48.00	394.27	38.00	48.00	402.27	394.27	10.00	NE	41.60	NA	NE	39.74	NA	NE	38.43	NA	NE	37.91*	NA
ROST-7-PZ	Village of Roxana	FM	1	442.19	442.53	-0.34	30.00	412.19	20.00	30.00	422.19	412.19	10.00	NE	24.55	NA	NE	23.35	NA	NE	23.50	NA	NE	22.39	NA
WOOD RIVER REFINERY																									
GP-9-PZ	WRR - North Property	FM	1	442.41	442.71	-0.30	47.60	394.81	37.60	47.60	404.81	394.81	10.00	NE	40.70	NA	NE	40.31	NA	NE	39.37	NA	NE	38.72	NA
P-60-11	WRR - North Property	FM	0.75	443.39	443.70	-0.31	65.31	378.08	50.31	65.31	393.08	378.08	15.00	42.34*	43.41*	1.07	41.40*	42.50*	1.10	40.16*	41.24*	1.08	---	---	---
P-60-12S	WRR - North Property	FM	0.75	443.33	443.80	-0.47	23.84	419.49	13.84	23.84	429.49	419.49	10.00	22.29	22.71	0.42	21.55	21.90	0.35	NE	21.85	NA	NE	20.86	NA
P-60-12	WRR - North Property	FM	0.75	443.31	443.76	-0.45	70.00	373.31	60.00	70.00	383.31	373.31	10.00	NE	42.43*	NA	NE	41.51*	NA	NE	40.30*	NA	NE	39.73*	NA
P-60-13S	WRR - North Property	FM	0.75	442.39	442.83	-0.44	20.00	422.39	10.00	20.00	432.39	422.39	10.00	NE	17.23	NA	NE	17.17	NA	NE	17.26	NA	NE	17.16	NA
P-60-13	WRR - North Property	FM	0.75	442.43	442.83	-0.40	60.00	382.43	40.00	60.00	402.43	382.43	20.00	41.58	41.60	0.02	40.59	41.40	0.81	39.26*	39.28*	0.02	38.89*	39.63*	0.74

- NOTES:**
- 1) Piezometers ROST-3-PZ, ROST-4-PZ and ROST-7-PZ were installed on 9/3/2009; Piezometer GP-9-PZ was installed on 8/25/2009; Piezometers P-60-13S and P-60-13 were installed on 11/25/2009.
 - 2) Elevations are relative to the 1988 USGS datum.
 - 3) FM = Flush Mounted Surface Completion
 - 4) NE = Not Encountered; NA = Not Applicable
 - 5) The P-60-13S and P-60-13 piezometers were surveyed for elevations using a hand level on 8/27/10. The elevations shown in the table above are approximate.
 - 6) * Indicates the product and/or water level is above the top of the piezometer screen.
 - 7) On 6/3/10, piezometer P-60-11 was removed and replaced with a 4-inch diameter well with the same identification number.
 - 8) Information previously presented has been shaded in gray.

TABLE 2
MONITORING WELL COMPLETION SUMMARY & GROUNDWATER GAUGING

Monitoring Well Identification	Location	Surface Completion	Well 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)	12/9/2009					1/6/2010					5/11-13/2010					7/8-12/2010							
												Depth to Product (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	Product/ Water Interface (ft MSL)	Corrected Water Elevation (ft MSL)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	Product/ Water Interface (ft MSL)	Corrected Water Elevation (ft MSL)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	Product/ Water Interface (ft MSL)	Corrected Water Elevation (ft MSL)	Depth to Product (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	Product/ Water Interface (ft MSL)	Corrected Water Elevation (ft MSL)			
VILLAGE OF ROXANA																																		
MW-1	Village of Roxana	FM	2	442.86	443.24	-0.38	58.41	384.45	43.31	58.31	399.55	384.55	15.00	NE	40.74 *	NA	402.12	402.12	NE	40.18 *	NA	402.68	402.68	NE	38.90 *	NA	403.96	403.96	NE	37.82 *	NA	405.04	405.04	
MW-2	Village of Roxana	FM	2	443.93	444.21	-0.28	62.19	381.74	48.49	63.49	395.44	380.44	15.00	NE	42.07 *	NA	401.86	401.86	NE	41.35 *	NA	402.58	402.58	NE	40.20 *	NA	403.73	403.73	NE	39.21 *	NA	404.72	404.72	
MW-3	Village of Roxana	FM	2	430.36	430.69	-0.33	45.98	384.38	31.07	46.07	399.29	384.29	15.00	NE	27.81 *	NA	402.55	402.55	NE	27.27 *	NA	403.09	403.09	NE	25.94 *	NA	404.42	404.42	NE	24.54 *	NA	405.82	405.82	
MW-4	Village of Roxana	FM	2	441.58	441.86	-0.28	57.63	383.95	42.73	57.73	398.85	383.85	15.00	NE	39.17 *	NA	402.41	402.41	NE	38.57 *	NA	403.01	403.01	NE	37.34 *	NA	404.24	404.24	NE	36.11 *	NA	405.47	405.47	
MW-5	Village of Roxana	FM	2	429.73	429.98	-0.25	46.13	383.60	31.20	46.20	398.53	383.53	15.00	NE	27.11 *	NA	402.62	402.62	NG	NG	NA	NA	NA	NG	NG	NA	NA	NA	NE	24.42 *	NA	405.31	405.31	
MW-6	Village of Roxana	FM	2	432.42	432.75	-0.33	46.98	385.44	35.00	50.00	397.42	382.42	15.00	NE	29.39 *	NA	403.03	403.03	NE	28.78 *	NA	403.64	403.64	NG	NG	NA	NA	NA	NG	NG	NA	NA	NA	
MW-7	Roxana Public Works	FM	2	443.10	443.46	-0.36	52.92	390.18	42.92	52.92	400.18	390.18	10.00	NE	40.78 *	NA	402.32	402.32	NE	40.12 *	NA	402.98	402.98	NE	38.93 *	NA	404.17	404.17	NE	37.54 *	NA	405.56	405.56	
MW-8	Roxana Public Works	FM	2	434.11	434.40	-0.29	43.60	390.51	33.60	43.60	400.51	390.51	10.00	NE	31.58 *	NA	402.53	402.53	NE	31.01 *	NA	403.10	403.10	NE	29.80 *	NA	404.31	404.31	NE	28.28 *	NA	405.83	405.83	
P-52	Village of Roxana	SU	2	444.25	442.29	1.96	60.00	384.25	35.00	60.00	409.25	384.25	25.00	NG	NG	NA	NA	NA	NE	41.21	NA	403.04	403.04	NE	39.42	NA	404.83	404.83	NE	38.11	NA	406.14	406.14	
P-53	Village of Roxana	SU	2	446.23	444.25	1.98	63.50	382.73	38.50	63.50	407.73	382.73	25.00	NG	NG	NA	NA	NA	NE	43.85	NA	402.38	402.38	NE	42.17	NA	404.06	404.06	NE	40.83	NA	405.40	405.40	
P-54	Village of Roxana	FM	2	442.18	442.41	-0.23	63.00	379.18	38.00	63.00	404.18	379.18	25.00	NE	40.53	NA	401.65	401.65	NE	39.95	NA	402.23	402.23	NE	38.53	NA	403.65	403.65	NE	37.33 *	NA	404.85	404.85	
WOOD RIVER REFINERY																																		
P-55	WRR - North Property	SU	2	445.95	444.00	1.95	63.50	382.45	38.50	63.50	407.45	382.45	25.00	NE	44.89	NA	401.06	401.06	NE	44.07	NA	401.88	401.88	NE	42.69	NA	403.26	403.26	NE	41.81	NA	404.14	404.14	
P-56	WRR - North Property	SU	2	446.02	444.34	1.68	63.50	382.52	38.50	63.50	407.52	382.52	25.00	NE	44.56	NA	401.46	401.46	NE	43.76	NA	402.26	402.26	NE	42.71	NA	403.31	403.31	NE	41.99	NA	404.03	404.03	
P-57	WRR - North Property	SU	2	446.53	444.57	1.96	63.50	383.03	38.50	63.50	408.03	383.03	25.00	NE	44.54	NA	401.99	401.99	NE	43.80	NA	402.73	402.73	NE	42.73	NA	403.80	403.80	NE	41.60	NA	404.93	404.93	
P-58	WRR - North Property	SU	2	444.92	443.20	1.71	63.50	381.42	38.50	63.50	406.42	381.42	25.00	NE	42.53	NA	402.39	402.39	NE	41.81	NA	403.11	403.11	NE	40.76	NA	404.16	404.16	39.42	39.46	0.04	405.46	405.49	
P-59	WRR - North Property	SU	2	446.78	443.87	2.91	70.00	376.78	45.00	70.00	401.78	376.78	25.00	NE	45.46	NA	401.32	401.32	NE	44.64 *	NA	402.14	402.14	NE	43.59 *	NA	403.19	403.19	43.21	43.23 *	0.02	403.55	403.57	
P-60	WRR - North Property	SU	2	446.57	443.61	2.97	65.00	381.57	45.00	65.00	401.57	381.57	20.00	45.51	45.92	0.41	400.65	400.96	44.68	44.84 *	0.16	401.73	401.85	43.45	43.73 *	0.28	402.84	403.05	42.61	43.18 *	0.57	403.39	403.81	
P-60-11	WRR - North Property	SU	4	446.18	443.53	2.65	62.65	383.53	32.65	62.65	413.53	383.53	30.00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P-61	WRR - North Property	SU	2	444.27	441.59	2.68	68.00	376.27	43.00	68.00	401.27	376.27	25.00	NG	NG	NA	NA	NA	42.42	42.65 *	0.23	401.62	401.79	41.97	42.09 *	0.12	402.18	402.27	41.04	41.18 *	0.14	403.09	403.19	
P-62	WRR - North Property	SU	2	442.32	440.85	1.47	65.00	377.32	40.00	65.00	402.32	377.32	25.00	NG	NG	NA	NA	NA	40.54	42.41	1.87	399.91	401.30	39.56	40.90	1.34	401.42	402.42	38.51	39.96 *	1.45	402.36	403.44	
P-66	WRR - North Property	SU	2	436.70	436.98	-0.28	60.00	376.70	35.00	60.00	401.70	376.70	25.00	NG	NG	NA	NA	NA	NE	33.38 *	NA	403.32	403.32	NE	32.30 *	NA	404.40	404.40	30.81	30.83 *	0.02	405.87	405.89	
P-68	WRR - North Property	SU	4	445.07	441.81	3.26	67.00	378.07	42.00	67.00	403.07	378.07	25.00	NG	NG	NA	NA	NA	42.13	46.23	4.10	398.84	401.88	40.94	48.15 *	7.21	396.92	402.26	40.50	44.65	4.15	400.42	403.49	
P-69	WRR - North Property	SU	4	443.18	440.86	2.32	63.50	379.68	38.50	63.50	404.68	379.68	25.00	NG	NG	NA	NA	NA	41.44	41.47	0.03	401.71	401.74	40.39	40.42	0.03	402.76	402.79	NE	40.14	NA	403.04	403.04	
P-70	WRR - North Property	SU	4	442.83	441.16	1.67	68.00	374.83	43.00	68.00	399.83	374.83	25.00	NG	NG	NA	NA	NA	41.07	41.63 *	0.56	401.20	401.61	40.21	40.67 *	0.46	402.16	402.50	39.42	39.86 *	0.44	402.97	403.29	
P-73	WRR - North Property	SU	4	443.76	442.17	1.59	65.00	378.76	40.00	65.00	403.76	378.76	25.00	NG	NG	NA	NA	NA	NE	41.17	NA	402.59	402.59	NE	40.15	NA	403.61	403.61	40.24	41.26	1.02	402.50	403.25	
P-74	WRR - North Property	SU	4	442.63	441.20	1.43	68.00	374.63	43.00	68.00	399.63	374.63	25.00	NG	NG	NA	NA	NA	NE	40.71 *	NA	401.92	401.92	NE	39.07 *	NA	403.56	403.56	NE	38.88 *	NA	403.75	403.75	
P-75	WRR - North Property	SU	4	446.32	444.19	2.13	66.00	380.32	41.00	66.00	405.32	380.32	25.00	NG	NG	NA	NA	NA	NE	42.96	NA	403.36	403.36	42.01	42.30	0.29	404.02	404.24	40.58	40.87 *	0.29	405.45	405.67	
P-93A	WRR - North Property	SU	2	446.58	444.41	2.17	61.00	385.58	46.00	61.00	400.58	385.58	15.00	NE	44.47 *	NA	402.11	402.11	NE	43.73 *	NA	402.85	402.85	NE	42.67 *	NA	403.91	403.91	NE	41.47 *	NA	405.11	405.11	
P-93B	WRR - North Property	SU	2	446.46	444.44	2.03	74.00	372.46	72.00	74.00	374.46	372.46	2.00	NE	44.38 *	NA	402.08	402.08	NE	43.63 *	NA	402.83	402.83	NE	42.56 *	NA	403.90	403.90	NE	41.38 *	NA	405.08	405.08	
P-93C	WRR - North Property	SU	2	446.51	444.26	2.26	94.00	352.51	92.00	94.00	354.51	352.51	2.00	NE	44.41 *	NA	402.10	402.10	NE	43.67 *	NA	402.84	402.84	NE	42.59 *	NA								

SEE LAST PAGE OF TABLE FOR NOTES.

TABLE 3
SUMMARY OF SOIL ANALYTICAL DETECTIONS AND SCREENING

Industrial Ingestion Criteria <i>current (proposed)</i> Industrial Inhalation Criteria <i>current (proposed)</i> Soil to GW Class I Criteria <i>current (proposed)</i>				Benzene			Ethylbenzene			Toluene			m,p-Xylene			o-Xylene			n-Butylbenzene			sec-Butylbenzene			tert-Butylbenzene		
				100			200000			410000(160000)			410000			410000											
				1.6 (1.5)			400 (350)			650			420 (330)			410 (370)											
				0.03 (0.032)			13 (12)			12 (11)			200 (170)			190 (170)											
Location	Sample ID	Depth	Sample Date	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals			
GP-1	GP-1-22.5	22.5 ft	9/2/2009	< 0.004	U		< 0.004	U		< 0.004	U		< 0.009	U		< 0.004	U		< 0.004	U		0.001	J		0.002	J	
	GP-1-31	31 ft	9/2/2009	< 0.004	U		< 0.004	U		< 0.004	U		< 0.009	U		< 0.004	U		< 0.004	U		< 0.004	U		< 0.004	U	
	GP-1-31D	31 ft	9/2/2009	< 0.004	U		< 0.004	U		< 0.004	U		< 0.008	U		< 0.004	U		< 0.004	U		< 0.004	U		< 0.004	U	
GP-2	GP-2-17	17 ft	8/31/2009	< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U	
	GP-2-23.5	23.5 ft	8/31/2009	< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U	
	GP-2-23.5D	23.5 ft	8/31/2009	< 0.004	U		< 0.004	U		< 0.004	U		< 0.009	U		< 0.004	U		< 0.004	U		< 0.004	U		< 0.004	U	
GP-3	GP-3-17	17 ft	6/9/2010	< 0.005	U		< 0.005	U		< 0.005	U		< 0.011	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U	
	GP-3-24	24 ft	6/9/2010	0.007			< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U	
GP-4	GP-4-11	11 ft	8/31/2009	0.002	J		0.002	J		< 0.009	U		0.005	J		0.002	J		< 0.009	U		< 0.009	U		0.005	J	
	GP-4-22.5	22.5 ft	8/31/2009	< 0.005	U		< 0.005	U		< 0.005	U		< 0.009	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U	
	GP-4-33	33 ft	8/31/2009	0.003	J		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U	
GP-5	GP-5-10	10 ft	6/9/2010	< 0.006	U		< 0.006	U		< 0.006	U		< 0.013	U		< 0.006	U		< 0.006	U		< 0.006	U		< 0.006	U	
	GP-5-19	19 ft	6/9/2010	< 0.005	U		< 0.005	U		< 0.005	U		< 0.01	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U	
	GP-5-27	27 ft	6/9/2010	0.034		J	0.002	J	J	0.002	J	J	0.005	J	J	0.001	J	J	0.046		J	0.029		J	0.012		J
	GP-5-27D	27 ft	6/9/2010	0.186		J	0.012		J	0.009		J	0.031		J	0.01		J	0.17		J	0.105		J	0.044		J
GP-7	GP-7-25	25 ft	8/26/2009	< 0.005	U		0.002	J		< 0.005	U		0.004	J		0.002	J		< 0.005	U		< 0.005	U		< 0.005	U	
	GP-7-37	37 ft	8/26/2009	0.987		J	5.37		J	3.45		J	16.1		J	7.99		J	0.586		J	0.121	J	J	< 0.341	U	UJ
	GP-7-37D	37 ft	8/26/2009	0.878		J	4.75		J	3.05		J	14.1		J	7.12		J	0.491		J	0.103	J	J	< 0.318	U	UJ
	GP-7-41	41 ft	8/26/2009	2.18		J	12.8		J	1.86		J	39.4		J	16.4		J	0.997		J	0.276	J	J	< 0.657	U	UJ
GP-8	GP-8-13	13 ft	8/26/2009	0.002	J		0.005			< 0.005	U		0.006	J		< 0.005	U		0.005			0.002	J		< 0.005	U	
	GP-8-35	35 ft	8/26/2009	0.006			0.007			0.001	J		0.003	J		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U	
	GP-8-47	47 ft	8/26/2009	< 0.006	U	UJ	0.002	J	J	< 0.006	U	UJ	0.003	J	J	< 0.006	U	UJ	0.005	J	J	< 0.006	U	UJ	< 0.006	U	
	GP-8-47D	47 ft	8/26/2009	1.48		J	1.88		J	0.059	J	J	1.98		J	0.137	J	J	0.235		J	0.063	J	J	< 0.235	U	
GP-9	GP-9-18	18 ft	8/25/2009	2.78	J		60.6			94.2			162			69.2			10			2.08	J		< 5.07	U	
	GP-9-37	37 ft	8/25/2009	0.004	J		0.241			0.008			1.04	D		0.395	D		0.089			0.031			< 0.006	U	

SEE LAST PAGE OF TABLE FOR NOTES.

TABLE 3
SUMMARY OF SOIL ANALYTICAL DETECTIONS AND SCREENING

Industrial Ingestion Criteria <i>current (proposed)</i> Industrial Inhalation Criteria <i>current (proposed)</i> Soil to GW Class I Criteria <i>current (proposed)</i>				Isopropylbenzene			p-Isopropyltoluene			Methyl tert-Butyl Ether			n-Propylbenzene			1,2,4-Trimethylbenzene			1,3,5-Trimethylbenzene		
				(200000)						20000									100000*		
				(800)						8800 (8400)						140*			73*		
				(91)						0.32 (0.31)									10*		
Location	Sample ID	Depth	Sample Date	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals	Result (mg/kg)	Lab Quals	URS Quals
GP-1	GP-1-22.5	22.5 ft	9/2/2009	< 0.004	U		< 0.004	U		< 0.004	U		< 0.004	U		< 0.004	U		< 0.004	U	
	GP-1-31	31 ft	9/2/2009	< 0.004	U		< 0.004	U		< 0.004	U		< 0.004	U		< 0.004	U		< 0.004	U	
	GP-1-31D	31 ft	9/2/2009	< 0.004	U		< 0.004	U		< 0.004	U		< 0.004	U		< 0.004	U		< 0.004	U	
GP-2	GP-2-17	17 ft	8/31/2009	< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U	
	GP-2-23.5	23.5 ft	8/31/2009	< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U	
	GP-2-23.5D	23.5 ft	8/31/2009	< 0.004	U		< 0.004	U		< 0.004	U		< 0.004	U		< 0.004	U		< 0.004	U	
GP-3	GP-3-17	17 ft	6/9/2010	< 0.005	U		< 0.005	U		0.013			< 0.005	U		< 0.005	U		< 0.005	U	
	GP-3-24	24 ft	6/9/2010	< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U	
GP-4	GP-4-11	11 ft	8/31/2009	< 0.009	U		< 0.009	U		0.005	J		0.003	J		0.011			0.003	J	
	GP-4-22.5	22.5 ft	8/31/2009	< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U	
	GP-4-33	33 ft	8/31/2009	< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		0.002	J		< 0.005	U	
GP-5	GP-5-10	10 ft	6/9/2010	< 0.006	U		< 0.006	U		0.002	J		< 0.006	U		< 0.006	U		< 0.006	U	
	GP-5-19	19 ft	6/9/2010	< 0.005	U		< 0.005	U		0.003	J		< 0.005	U		< 0.005	U		< 0.005	U	
	GP-5-27	27 ft	6/9/2010	0.036		J	0.006		J	0.032		J	0.071		J	0.002	J	J	0.002	J	J
	GP-5-27D	27 ft	6/9/2010	0.207	J	J	0.029		J	0.126		J	0.439	D	J	0.014		J	0.021		J
GP-7	GP-7-25	25 ft	8/26/2009	< 0.005	U		< 0.005	U		< 0.005	U		< 0.005	U		0.004	J		< 0.005	U	
	GP-7-37	37 ft	8/26/2009	0.504		J	0.07	J	J	< 0.341	U	UJ	1.62		J	8.49		J	2.32		J
	GP-7-37D	37 ft	8/26/2009	0.442		J	< 0.318	U	UJ	< 0.318	U	UJ	1.39		J	7.32		J	2.04		J
	GP-7-41	41 ft	8/26/2009	0.878		J	0.141	J	J	< 0.657	U	UJ	3.02		J	17.6		J	4.83		J
GP-8	GP-8-13	13 ft	8/26/2009	0.003	J		0.002	J		< 0.005	U		0.006			0.004	J		0.001	J	
	GP-8-35	35 ft	8/26/2009	< 0.005	U		< 0.005	U		< 0.005	U		0.001	J		0.002	J		< 0.005	U	
	GP-8-47	47 ft	8/26/2009	< 0.006	U	UJ	< 0.006	U	UJ	< 0.006	U		0.002	J	J	0.006		J	0.002	J	J
	GP-8-47D	47 ft	8/26/2009	0.228	J	J	0.049	J	J	< 0.235	U		0.543		J	1.3		J	0.458		J
GP-9	GP-9-18	18 ft	8/25/2009	7.07			1.51	J		< 5.07	U		19.9			93.4			26.0		
	GP-9-37	37 ft	8/25/2009	0.059			0.042			< 0.006	U		0.136			1.31	D		0.206		

NOTES:

- 1) Screening criteria taken from Illinois Tiered Approach to Corrective Action Objectives (TACO), 35 IAC Part 742.
2) * Screening criteria taken from the Chemicals Not in TACO Tier 1 Tables dated 1/9/2009.
3) (#) Proposed screening criteria taken from IPCB Notice of Proposed Amendments for TACO dated 9/2/2008.
4) Information previously presented (except highlighted exceedances) has been shaded in gray.

	Exceedances of the Inhalation, and Soil to Groundwater Screening Criteria
	Exceedances of the Soil to Groundwater Screening Criteria
	Exceedances of proposed screening criteria

LAB QUALIFIERS:

D = Results from a diluted sample. Dilution factors are included in the result.
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.

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Roxana, Illinois

TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL DETECTIONS AND SCREENING

TACO Class I Screening Criteria current(proposed)				Naphthalene			Phenanthrene			Phenol		
				0.14 mg/L			0.21 mg/L*			0.1 mg/L		
				Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals	Result (mg/L)	Lab Quals	URS Quals
Location	Sample ID	Depth	Sample Date									
GP-1	GP-1-34	34 ft	9/2/2009	< 0.005	U		< 0.005	U		< 0.01	U	
	GP-1-42	42 ft	9/2/2009	< 0.005	U		< 0.005	U		< 0.01	U	
GP-4	GP-4-34	34 ft	9/1/2009	< 0.005	U		< 0.005	U		< 0.01	U	
	GP-4-34D	34 ft	9/1/2009	0.001	J		< 0.005	U		< 0.01	U	
	GP-4-42	42 ft	9/1/2009	< 0.005	U		< 0.005	U		< 0.01	U	
GP-3	GP-3-29.5	29.5 ft	6/9/2010	< 0.01	U		< 0.01	U		< 0.02	U	
	GP-3-29.5D	29.5 ft	6/9/2010	< 0.01	U		< 0.01	U		< 0.02	U	
	GP-3-37.5	37.5 ft	6/9/2010	< 0.01	U		< 0.01	U		< 0.02	U	
GP-5	GP-5-31.5	31.5 ft	6/9/2010	< 0.01	U		< 0.01	U		< 0.02	U	
	GP-5-39.5	39.5 ft	6/9/2010	< 0.01	U		< 0.01	U		< 0.02	U	
GWP-01	GWP-1-50	50 ft	7/27/2009	< 0.005	U		< 0.005	U		< 0.01	U	
	GWP-1-58	58 ft	7/27/2009	< 0.005	U		< 0.005	U		< 0.01	U	
GWP-02	GWP-2-50	50 ft	7/28/2009	< 0.005	U		< 0.005	U		< 0.01	U	
	GWP-2-58	58 ft	7/28/2009	< 0.006	U		< 0.006	U		< 0.011	U	
GWP-03	GWP-3-50	50 ft	7/28/2009	0.186	D		< 0.005	U		< 0.01	U	
	GWP-3-58	58 ft	7/28/2009	0.294	D		0.029			< 0.01	U	
GWP-04	GWP-4-50	50 ft	7/29/2009	0.061			< 0.005	U		< 0.01	U	
	GWP-4-58	58 ft	7/29/2009	0.004	J		< 0.005	U		< 0.01	U	
GWP-05	GWP-5-50	50 ft	7/30/2009	0.065			0.004	J		0.014		
	GWP-5-58	58 ft	7/30/2009	0.211	D		< 0.006	U		0.004	J	
GWP-06	GWP-6-50	50 ft	7/29/2009	0.182	D		< 0.005	U		0.007	J	
	GWP-6-50-D	50 ft	7/29/2009	0.194	D		< 0.005	U		0.007	J	
	GWP-6-58	58 ft	7/29/2009	0.081			< 0.005	U		0.012		
GWP-07	GWP-7-50	50 ft	7/30/2009	0.225	D		< 0.005	U		0.022		
	GWP-7-58	58 ft	7/30/2009	0.002	J	J	< 0.005	U	UJ	< 0.011	U	UJ
GWP-08	GWP-8-50	50 ft	7/31/2009	0.209	D		0.003	J		0.013		
	GWP-8-58	58 ft	7/31/2009	0.184	D		0.002	J		0.002	J	
GWP-09	GWP-9-50	50 ft	8/3/2009	0.003	J		0.004	J		0.002	J	
	GWP-9-58	58 ft	8/3/2009	0.072			0.006			< 0.01	U	
GWP-10	GWP-10-50	50 ft	8/3/2009	0.075			< 0.005	U		< 0.01	U	
	GWP-10-58	58 ft	8/3/2009	0.146	D		< 0.005	U		< 0.01	U	
GWP-11	GWP-11-50	50 ft	8/6/2009									
	GWP-11-58	58 ft	8/6/2009									
GWP-12	GWP-12-50	50 ft	8/4/2009	< 0.006	U		< 0.006	U		< 0.013	U	
	GWP-12-58	58 ft	8/4/2009	< 0.005	U		< 0.005	U		< 0.01	U	
GWP-13	GWP-13-50	50 ft	8/5/2009	< 0.006	U		< 0.006	U		< 0.011	U	
	GWP-13-58	58 ft	8/5/2009	0.236	D		< 0.005	U		< 0.011	U	
GWP-14	GWP-14-50	50 ft	8/5/2009	< 0.005	U		< 0.005	U		< 0.011	U	
	GWP-14-58	58 ft	8/5/2009									
GWP-15	GWP-15-50	50 ft	8/6/2009	< 0.005	U		< 0.005	U		< 0.011	U	
	GWP-15-58	58 ft	8/6/2009	< 0.005	U		< 0.005	U		< 0.01	U	
GWP-16	GWP-16-50	50 ft	8/7/2009									
	GWP-16-58	58 ft	8/7/2009									
GWP-17	GWP-17-50	50 ft	8/10/2009									
	GWP-17-58	58 ft	8/10/2009									
GWP-18	GWP-18-50	50 ft	8/11/2009	< 0.005	U		< 0.005	U		< 0.011	U	
	GWP-18-58	58 ft	8/11/2009	< 0.005	U		< 0.005	U		< 0.011	U	
	GWP-18-58D	58 ft	8/11/2009	< 0.005	U		< 0.005	U		< 0.011	U	
GWP-19	GWP-19-50	50 ft	8/12/2009									
	GWP-19-58	58 ft	8/12/2009									
GWP-20	GWP-20-50	50 ft	8/12/2009									
	GWP-20-58	58 ft	8/12/2009									
GWP-21	GWP-21-34	34 ft	9/3/2009	< 0.005	U		< 0.005	U		< 0.01	U	
	GWP-21-42	42 ft	9/3/2009	< 0.005	U		< 0.005	U		< 0.01	U	
	GWP-21-42D	42 ft	9/3/2009	< 0.005	U		< 0.005	U		< 0.01	U	
MW-07	MW-7-102309		10/23/2009	0.006			< 0.005	U		0.023		J
MW-08	MW-8-102209		10/22/2009	0.032			< 0.005	U		0.05		J
	MW-8-102209D		10/22/2009	0.031			< 0.006	U		0.124	D	

NOTES:

- 1) Screening criteria taken from Illinois Tiered Approach to Corrective Action Objectives (TACO), 35 IAC Part 742.
2) * Screening criteria taken from the Chemicals not in TACO Tier 1 Tables dated 1/9/2009.
3) (#) Proposed screening criteria taken from IPCB Notice of Proposed Amendments for TACO (dated 9/2/2008).
4) Information previously presented (except highlighted exceedances) has been shaded in gray.

Exceedance of the Groundwater Class I Screening Criteria

Exceedance of proposed 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 SOIL VAPOR ANALYTICAL DETECTIONS

				Benzene			Ethylbenzene			Toluene			m,p-Xylene			o-Xylene			Acetone			1,3-Butadiene			2-Butanone			Carbon disulfide			Chloroform			Cyclohexane			Ethanol			4-Ethyltoluene		
				Result (mg/m³)	Lab Quals	URS Quals	Result (mg/m³)	Lab Quals	URS Quals	Result (mg/m³)	Lab Quals	URS Quals	Result (mg/m³)	Lab Quals	URS Quals	Result (mg/m³)	Lab Quals	URS Quals	Result (mg/m³)	Lab Quals	URS Quals	Result (mg/m³)	Lab Quals	URS Quals	Result (mg/m³)	Lab Quals	URS Quals	Result (mg/m³)	Lab Quals	URS Quals	Result (mg/m³)	Lab Quals	URS Quals	Result (mg/m³)	Lab Quals	URS Quals	Result (mg/m³)	Lab Quals	URS Quals			
Location	Sample ID	Depth	Sample Date																																							
VMP-1	VMP-1-5	5 ft	11/2/2009	<0.38	ND		<0.52	ND		0.63			<0.52	ND		<0.52	ND		<1.1	ND		<0.26	ND		<0.35	ND		<0.37	ND		<0.58	ND		18			<0.9	ND		<0.58	ND	
	VMP-1-8.5	8.5 ft	11/2/2009	<0.52	ND		<0.71	ND		<0.62	ND		<0.71	ND		<0.71	ND		<1.6	ND		<0.36	ND		<0.48	ND		<0.51	ND		<0.8	ND		14			<1.2	ND		<0.8	ND	
	VMP-1-23.5	23.5 ft	11/2/2009	<1.3	ND		<1.7	ND		<1.5	ND		<1.7	ND		<3.8	ND		<0.88	ND		<1.2	ND		<1.2	ND		<1.2	ND		<1.9	ND		66			<3	ND		<1.9	ND	
	VMP-1-38.5	38.5 ft	11/2/2009	3.8			<4.9	ND		<4.2	ND		<4.9	ND		<11	ND		420			<3.3	ND		<3.5	ND		<3.5	ND		<5.5	ND		380			<8.4	ND		<5.5	ND	
VMP-2	VMP-2-5	5 ft	11/2/2009	<0.46	ND		<0.63	ND		<0.55	ND		<0.63	ND		<0.63	ND		<1.4	ND		<0.32	ND		<0.43	ND		<0.45	ND		<0.71	ND		8			<1.1	ND		<0.72	ND	
	VMP-2-8.5	8.5 ft	11/3/2009	<0.16	ND		<0.22	ND		<0.19	ND		<0.22	ND		<0.48	ND		<0.11	ND		<0.15	ND		<0.16	ND		<0.16	ND		<0.25	ND		0.24			<0.38	ND		<0.25	ND	
	VMP-2-8.5-D	8.5 ft	11/3/2009	<0.17	ND		<0.23	ND		<0.2	ND		<0.23	ND		<0.51	ND		<0.12	ND		<0.16	ND		<0.17	ND		<0.17	ND		<0.26	ND		0.29			<0.41	ND		<0.26	ND	
	VMP-2-22	22 ft	11/3/2009	<0.89	ND		<1.2	ND		<1	ND		<1.2	ND		<2.7	ND		<0.62	ND		<0.82	ND		<0.87	ND		<0.87	ND		<1.4	ND		11			<2.1	ND		<1.4	ND	
VMP-2-42	42 ft	11/3/2009	84			130			59			160			58			<52	ND		<12	ND		<16	ND		<17	ND		<27	ND		920			<41	ND	UJ	<27	ND		
VMP-3	VMP-3-5	5 ft	11/3/2009	<0.017	ND		0.065			<0.02	ND		0.1			0.045			<0.051	ND		<0.012	ND		<0.016	ND		<0.017	ND		<0.026	ND		0.23			<0.041	ND		0.035		
	VMP-3-10	10 ft	6/21/2010	8.6			<6.6	ND		<5.7	ND		2.9	J		<6.6	ND		<14	ND		<3.4	ND		<4.5	ND		<4.7	ND		<7.4	ND		1000			<11	ND		3.1	J	
	VMP-3-22	22 ft	11/4/2009	52			<17	ND		<15	ND		22			<17	ND		<37	ND		<8.6	ND		<11	ND		<12	ND		<19	ND		980			<29	ND	UJ	<19	ND	
	VMP-3-31.5	31.5 ft	11/4/2009	240			78			25			130			<27	ND		<59	ND		<14	ND		<18	ND		<19	ND		<30	ND		920			<47	ND		<30	ND	
VMP-3-39	39 ft	11/4/2009	240			70			<46	ND		110			<54	ND		<120	ND		<27	ND		<36	ND		<38	ND		<60	ND		790			<93	ND		<61	ND		
VMP-4	VMP-4-5	5 ft	11/5/2009	<0.04	ND		<0.055	ND		<0.048	ND		<0.055	ND		<0.12	ND		<0.055	ND		<0.028	ND		<0.037	ND		<0.039	ND		<0.062	ND		5.7			<0.095	ND		<0.062	ND	
	VMP-4-12	12 ft	11/5/2009	3.2			<0.92	ND		<0.8	ND		1.5			<0.92	ND		<2	ND		<0.47	ND		<0.62	ND		<0.66	ND		<1	ND		170			<1.6	ND		1.2		
	VMP-4-23.5	23.5 ft	11/5/2009	540			720			1400			1300			410			<92	ND		<21	ND		<29	ND		<30	ND		<47	ND		2500			<73	ND		110		
	VMP-4-39	39 ft	11/5/2009	660			620			420			1100			320			<71	ND		<16	ND		<22	ND		<23	ND		<36	ND		2400			<56	ND		120		
VMP-5	VMP-5-5	5 ft	11/5/2009	1.5			<0.97	ND		<0.84	ND		<0.97	ND		<0.97	ND		<2.1	ND		<0.5	ND		<0.66	ND		<0.7	ND		<1.1	ND		78			<1.7	ND		<1.1	ND	
	VMP-5-12.5	12.5 ft	11/6/2009	5.8			<1.1	ND		<0.97	ND		<1.1	ND		<1.1	ND		<2.4	ND		<0.57	ND		<0.76	ND		<0.8	ND		<1.2	ND		240			<1.9	ND		<1.3	ND	
	VMP-5-12.5-D	12.5 ft	11/6/2009	6			<2.5	ND		<2.2	ND		<2.5	ND		<2.5	ND		<5.5	ND		<1.3	ND		<1.7	ND		<1.8	ND		<2.8	ND		240			<4.4	ND		<2.8	ND	
	VMP-5-31	31 ft	11/6/2009	160			<10	ND		<9	ND		<10	ND		<10	ND		<23	ND		<5.3	ND		<7	ND		<7.4	ND		<12	ND		1600			<18	ND		<12	ND	
VMP-5-40	40 ft	11/6/2009	170			<14	ND		<12	ND		<14	ND		<14	ND		<31	ND		<7.2	ND		<9.7	ND		<10	ND		<16	ND		1400			<25	ND		<16	ND		
VMP-6	VMP-6-5	5 ft	11/6/2009	5.8		J	6.5		J	<1.5	ND		3.1		J	<1.7	ND		<3.8	ND		<0.88	ND		<1.2	ND		<1.2	ND		<1.9	ND		380		J	<3	ND		<1.9	ND	
	VMP-6-10	10 ft	11/6/2009	6.4			5.2			<1.6	ND		3.4			<1.9	ND		<4.1	ND		<0.95	ND		<1.3	ND		<1.3	ND		<2.1	ND		470			<3.2	ND		<2.1	ND	
	VMP-6-31.5	31.5 ft	11/9/2009	28			180			<10	ND		66			<12	ND		<27	ND		<6.2	ND		<8.2	ND		<8.7	ND		<14	ND		970			<21	ND		37</		

SEE LAST PAGE OF TABLE FOR NOTES.

TABLE 5
SUMMARY OF SOIL VAPOR ANALYTICAL DETECTIONS

				Heptane			Hexane			Isopropylbenzene			Methylene Chloride			2-Propanol			n-Propylbenzene			Tetrahydrofuran			1,2,4-Trimethylbenzene			1,3,5-Trimethylbenzene			2,2,4-Trimethylpentane		
				Result (mg/m ³)	Lab Quals	URS Quals	Result (mg/m ³)	Lab Quals	URS Quals	Result (mg/m ³)	Lab Quals	URS Quals	Result (mg/m ³)	Lab Quals	URS Quals	Result (mg/m ³)	Lab Quals	URS Quals	Result (mg/m ³)	Lab Quals	URS Quals	Result (mg/m ³)	Lab Quals	URS Quals	Result (mg/m ³)	Lab Quals	URS Quals	Result (mg/m ³)	Lab Quals	URS Quals	Result (mg/m ³)	Lab Quals	URS Quals
Location	Sample ID	Depth	Sample Date																														
VMP-1	VMP-1-5	5 ft	11/2/2009	3.8			53			<0.58	ND		< 0.41	ND		<1.2	ND		<0.58	ND		< 0.35	ND		<0.58	ND		<0.58	ND		220		
	VMP-1-8.5	8.5 ft	11/2/2009	1.7			16			<0.8	ND		< 0.57	ND		<1.6	ND		<0.8	ND		< 0.48	ND		<0.8	ND		<0.8	ND		370		
	VMP-1-23.5	23.5 ft	11/2/2009	24			140			<1.9	ND		< 1.4	ND		<3.9	ND		<1.9	ND		< 1.2	ND		<1.9	ND		<1.9	ND		920		
	VMP-1-38.5	38.5 ft	11/2/2009	130			1000			<5.5	ND		< 3.9	ND		<11	ND		<5.5	ND		< 3.3	ND		<5.5	ND		<5.5	ND		2400		
VMP-2	VMP-2-5	5 ft	11/2/2009	1.3			13			<0.72	ND		< 0.5	ND		<1.4	ND		<0.72	ND		< 0.43	ND		<0.72	ND		<0.72	ND		270		
	VMP-2-8.5	8.5 ft	11/3/2009	<0.21	ND		<0.18	ND		<0.25	ND		< 0.18	ND	UJ	<0.5	ND		<0.25	ND		< 0.15	ND		<0.25	ND		<0.25	ND		74		
	VMP-2-8.5-D	8.5 ft	11/3/2009	<0.22	ND		<0.19	ND		<0.26	ND		< 0.19	ND	UJ	<0.53	ND		<0.26	ND		< 0.16	ND		<0.26	ND		<0.26	ND		82		
	VMP-2-22	22 ft	11/3/2009	1.6			13			<1.4	ND		< 0.97	ND		<2.8	ND		<1.4	ND		< 0.82	ND		<1.4	ND		<1.4	ND		600		
	VMP-2-42	42 ft	11/3/2009	1800			7000			<27	ND		< 19	ND		<54	ND		<27	ND		< 16	ND		<27	ND		<27	ND		1700		
VMP-3	VMP-3-5	5 ft	11/3/2009	0.16			0.58			<0.026	ND		< 0.019	ND	UJ	<0.053	ND		<0.026	ND		< 0.016	ND		<0.026	ND		<0.026	ND		6.4		
	VMP-3-10	10 ft	6/21/2010	86			1300			2.8	J		<5.3	ND		3.8	J		5.6	J		<4.5	ND		4.3	J		1.4	J		3500		
	VMP-3-22	22 ft	11/4/2009	310			4900			<19	ND		< 13	ND		<38	ND		24			< 11	ND		<19	ND		<19	ND		3800		
	VMP-3-31.5	31.5 ft	11/4/2009	870			18000	E	J	<30	ND		< 22	ND		<61	ND		<30	ND		< 18	ND		<30	ND		<30	ND		6800		
	VMP-3-39	39 ft	11/4/2009	780			18000			<61	ND		< 43	ND		<120	ND		<61	ND		< 36	ND		<61	ND		<61	ND		7100		
VMP-4	VMP-4-5	5 ft	11/5/2009	<0.052	ND		0.54			<0.062	ND		< 0.044	ND		<0.12	ND		<0.062	ND		< 0.037	ND		<0.062	ND		<0.062	ND		20		
	VMP-4-12	12 ft	11/5/2009	35			130			<1	ND		< 0.73	ND		<2.1	ND		<1	ND		< 0.62	ND		<1	ND		<1	ND		300		
	VMP-4-23.5	23.5 ft	11/5/2009	3600			14000			<48	ND		< 34	ND		<95	ND		<48	ND		< 29	ND		78			<48	ND		4700		
	VMP-4-39	39 ft	11/5/2009	3500			14000			<37	ND		< 26	ND		<73	ND		39			< 22	ND		83			<37	ND		4500		
VMP-5	VMP-5-5	5 ft	11/5/2009	9.1			170			<1.1	ND		< 0.78	ND		<2.2	ND		<1.1	ND		< 0.66	ND		<1.1	ND		<1.1	ND		370		
	VMP-5-12.5	12.5 ft	11/6/2009	46			650			<1.3	ND		< 0.9	ND		<2.5	ND		<1.3	ND		< 0.76	ND		<1.3	ND		<1.3	ND		960		
	VMP-5-12.5-D	12.5 ft	11/6/2009	47			640			<2.8	ND		< 2	ND		<5.7	ND		<2.8	ND		< 1.7	ND		<2.8	ND		<2.8	ND		1000		
	VMP-5-31	31 ft	11/6/2009	910			4900			<12	ND		< 8.3	ND		<23	ND		<12	ND		< 7	ND		<12	ND		<12	ND		4000		
	VMP-5-40	40 ft	11/6/2009	810			4400			<16	ND		< 11	ND		<32	ND		<16	ND		< 9.7	ND		<16	ND		<16	ND		3400		
VMP-6	VMP-6-5	5 ft	11/6/2009	380		J	720		J	2.7		J	< 1.4	ND		<3.9	ND		5.8		J	< 1.2	ND		<1.9	ND		<1.9	ND		1400		J
	VMP-6-10	10 ft	11/6/2009	480			900			3.6			< 1.5	ND		<4.2	ND		8			< 1.3	ND		<2.1	ND		<2.1	ND		1800		
	VMP-6-31.5	31.5 ft	11/9/2009	1800			3100			18			< 9.7	ND	UJ	<28	ND		44			< 8.2	ND		29			<14	ND		2500		
	VMP-6-39	39 ft	11/9/2009	2400			4200			24			< 11	ND	UJ	<31	ND		60			< 9.4	ND		79			29			2800		
VMP-7	VMP-7-5	5 ft	11/9/2009	0.091			0.11			<0.005	ND		< 0.004	ND		0.55			<0.005	ND		< 0.003	ND		<0.005	ND		<0.005	ND		0.21		
	VMP-7-13.5	13.5 ft	11/9/2009	<0.037	ND		0.052			<0.044	ND		< 0.031	ND		<0.088	ND		<0.044	ND		< 0.026	ND		<0.044	ND		<0.044	ND		22	E	J
	VMP-7-29.5	29.5 ft	11/9/2009	460		J	420		J	7.5		J	< 0.66	ND		<1.9	ND		6.5		J	< 0.56	ND		<0.94	ND		<0.94	ND		1200	E	J
	VMP-7-38	38 ft	11/9/2009	170		J	140		J	4		J	< 0.23	ND		<0.65	ND		3.5		J	< 0.19	ND		<0.32	ND		<0.32	ND		410	E	J
VMP-8	VMP-8-5	5 ft	11/10/2009	0.016			0.016			<0.005	ND		< 0.004	ND		<0.011	ND		<0.005	ND		< 0.003	ND		<0.005	ND		<0.005	ND		0.031		
	VMP-8-9.5	9.5 ft	11/10/2009	0.0046			0.0042			<0.005	ND		< 0.003	ND		<0.011	ND		<0.005	ND		< 0.003	ND		<0.005	ND		<0.005	ND		<0.005	ND	
	VMP-8-23.5	23.5 ft	11/10/2009	<0.004	ND		<0.004	ND		<0.005	ND		< 0.004	ND		<0.012	ND		<0.005	ND		< 0.003	ND		<0.005	ND		<0.005	ND		<0.005	ND	
VMP-9	VMP-9-5	5 ft	11/11/2009	<0.004	ND		<0.003	ND		<0.005	ND		< 0.003	ND		<0.011	ND		<0.005	ND		< 0.003											

SEE LAST PAGE OF TABLE FOR NOTES.

TABLE 6
SUMMARY OF SOIL VAPOR FIXED GAS DETECTIONS

Location	Sample ID	Sample Date	Carbon Dioxide			Ethane			Helium			Methane			Nitrogen			Oxygen		
			Result (%)	Lab Quals	URS Quals	Result (%)	Lab Quals	URS Quals	Result (%)	Lab Quals	URS Quals	Result (%)	Lab Quals	URS Quals	Result (%)	Lab Quals	URS Quals	Result (%)	Lab Quals	URS Quals
VMP-1	VMP-1-5	11/2/2009	4.5			<0.0024	ND		1.6			1.4			81			11		
	VMP-1-8.5	11/2/2009	12			<0.0023	ND		<0.11	ND		1.5			85			1.5		
	VMP-1-23.5	11/2/2009	9.8			0.0038			<0.12	ND		7.4			80			1.3		
	VMP-1-38.5	11/2/2009	5.6			0.017			0.23			33			54			1.4		
VMP-2	VMP-2-5	11/2/2009	7.8			<0.0023	ND		2.4			0.0078			79			11		
	VMP-2-8.5	11/3/2009	2.5			<0.002	ND		1.2			<0.0002	ND		78			18		
	VMP-2-8.5-D	11/3/2009	2.7			<0.0022	ND		1.3			<0.00022	ND		78			18		
	VMP-2-22	11/3/2009	10			<0.0022	ND		<0.11	ND		0.54			85			4		
VMP-3	VMP-2-42	11/3/2009	5			0.02			<0.11	ND		64			16			0.92		
	VMP-3-5	11/3/2009	8.5			<0.0027	ND		0.18			0.037			86			5		
	VMP-3-10	6/21/2010	7.9			0.01			<0.15	ND		26			60			1.3		
	VMP-3-22	11/4/2009	8.7			0.012			<0.12	ND		25			58			1.1		
VMP-4	VMP-3-31.5	11/4/2009	5.6			0.02			<0.12	ND		43			36			0.77		
	VMP-3-39	11/4/2009	5.6			0.021			<0.12	ND		45			33			0.79		
	VMP-4-5	11/5/2009	0.69			<0.0025	ND		34			0.029			51			14		
	VMP-4-12	11/5/2009	9.6			<0.0025	ND		0.26			2.2			84			3.8		
VMP-5	VMP-4-23.5	11/5/2009	6.7			0.021			<0.12	ND		46			32			0.75		
	VMP-4-39	11/5/2009	6.6			0.02			<0.12	ND		44			34			1.1		
	VMP-5-5	11/5/2009	14			<0.0022	ND		<0.11	ND		2.8			81			1.3		
	VMP-5-12.5	11/6/2009	13			0.004			<0.13	ND		6.3			78			1.3		
VMP-6	VMP-5-12.5-D	11/6/2009	13			0.004			<0.12	ND		6.3			77			1.6		
	VMP-5-31	11/6/2009	10			0.014			<0.12	ND		24			58			1		
	VMP-5-40	11/6/2009	9.2			0.012			<0.16	ND		22			60			2.7		
	VMP-6-5	11/6/2009	13			<0.0024	ND		<0.12	ND		3.7			79			3.3		
VMP-7	VMP-6-10	11/6/2009	14			<0.0026	ND		<0.13	ND		4.2			78			2.7		
	VMP-6-31.5	11/9/2009	14			0.003			<0.11	ND		7.7			75			1.4		
	VMP-6-39	11/9/2009	15			0.0033			<0.11	ND		8.3			73			1.3		
	VMP-7-5	11/9/2009	1.7			<0.0023	ND		2.7			<0.00023	ND		78			18		
VMP-8	VMP-7-13.5	11/9/2009	16			<0.0022	ND		<0.11	ND		0.1			82			2.1		
	VMP-7-29.5	11/9/2009	17			<0.0023	ND		<0.11	ND		4.4			77			1.3		
	VMP-7-38	11/9/2009	3.2			<0.0024	ND		<0.12	ND		0.95			79			17		
	VMP-8-5	11/10/2009	5.1			<0.0023	ND		<0.12	ND		<0.00023	ND		79			16		
VMP-9	VMP-8-9.5	11/10/2009	9			<0.0022	ND		0.79			<0.00022	ND		78			12		
	VMP-8-23.5	11/10/2009	10			<0.0024	ND		<0.12	ND		<0.00024	ND		79			11		
	VMP-9-5	11/11/2009	3.8			<0.0022	ND		11			<0.00022	ND		69			16		
	VMP-9-11.5	11/11/2009	12			<0.0028	ND		2.5			<0.00028	ND		79			6.5		
VMP-10	VMP-9-25.5	11/10/2009	17			<0.0022	ND		<0.11	ND		3.8			78			1.2		
	VMP-9-25.5-D	11/10/2009	16			<0.0025	ND		<0.12	ND		3.8			79			1.3		
	VMP-9-38.5	11/10/2009	17			<0.0022	ND		<0.11	ND		3.2			78			1.2		
	VMP-10-5	11/11/2009	3.9			<0.0022	ND		<0.11	ND		<0.00022	ND		78			18		
VMP-10	VMP-10-10	11/11/2009	9.9			<0.0023	ND		<0.11	ND		<0.00023	ND		79			11		
	VMP-10-20	11/11/2009	0.15		J	<0.0022	ND		<0.11	ND		<0.00022	ND		78			22		
	VMP-10-20-D	11/11/2009	0.23		J	<0.0025	ND		0.58			<0.00025	ND		78			21		
	VMP-10-30	11/13/2009	16			<0.0025	ND		<0.12	ND		<0.00025	ND		81			3.4		

SEE LAST PAGE OF TABLE FOR NOTES.

TABLE 6
SUMMARY OF SOIL VAPOR FIXED GAS DETECTIONS

Location	Sample ID	Sample Date	Carbon Dioxide			Ethane			Helium			Methane			Nitrogen			Oxygen		
			Result (%)	Lab Quals	URS Quals	Result (%)	Lab Quals	URS Quals	Result (%)	Lab Quals	URS Quals	Result (%)	Lab Quals	URS Quals	Result (%)	Lab Quals	URS Quals	Result (%)	Lab Quals	URS Quals
VMP-11	VMP-11-5	11/17/2009	7.8			<0.0022	ND		<0.11	ND		1			87			4.4		
	VMP-11-8	11/17/2009	11			<0.0025	ND		0.21			0.01			84			5.1		
	VMP-11-29	11/18/2009	17			<0.0024	ND		<0.12	ND		0.14			80			2.4		
	VMP-11-38	11/18/2009	16			<0.003	ND		<0.15	ND		0.35			81			1.8		
VMP-12	VMP-12-5	11/13/2009	14			<0.0025	ND		<0.13	ND		33			50			0.9		
	VMP-12-11.5	11/13/2009	14			<0.0022	ND		<0.11	ND		34			49			0.84		
	VMP-12-25	11/13/2009	14			<0.0023	ND		<0.11	ND		33			49			0.84		
	VMP-12-39	11/13/2009	14			<0.0024	ND		<0.12	ND		32			50			0.95		
VMP-13	VMP-13-5	11/16/2009	14			<0.0024	ND		<0.12	ND		0.82			82			2.5		
	VMP-13-10.5	11/17/2009	0.14		J	<0.0024	ND		<0.12	ND		0.0079		J	80			20		
	VMP-13-10.5-D	11/17/2009	0.23		J	<0.0025	ND		<0.12	ND		0.015		J	79			21		
	VMP-13-21.5	11/17/2009	15			<0.0021	ND		<0.11	ND		1.6			81			1.3		
VMP-14	VMP-13-29.5	11/17/2009	13			<0.0024	ND		<0.12	ND		1.6			81			1.7		
	VMP-14-5	11/20/2009	2			<0.0026	ND		0.13			0.0013			87			11		
	VMP-14-11.5	11/16/2009	12			0.005			<0.12	ND		15			71			1.4		
	VMP-14-20	11/16/2009	18			0.0062			<0.12	ND		18			60			1.3		
VMP-15	VMP-14-29	11/16/2009	17			0.0073			<0.12	ND		18			60			1		
	VMP-15-5	11/18/2009	13			<0.0025	ND		<0.13	ND		<0.00025	ND		82			4.8		
	VMP-15-5-D	11/18/2009	13			<0.0025	ND		<0.13	ND		<0.00025	ND		82			4.8		
	VMP-15-21.5	11/18/2009	18			0.012			<0.11	ND		19			60			1.2		
VMP-16	VMP-15-25.5	11/18/2009	17			0.014			<0.12	ND		20			60			1.1		
	VMP-15-29	11/19/2009	17			0.014			<0.12	ND		20			60			1.2		
	VMP-16-5	11/20/2009	0.12			<0.0025	ND		38			<0.00025	ND		49			13		
	VMP-16-13.5	11/19/2009	0.79			<0.0024	ND		24			0.1			58			17		
VMP-17	VMP-16-19	11/19/2009	2.2			<0.0026	ND		14			3.9			65			15		
	VMP-16-31	11/19/2009	4			<0.0023	ND		8.7			12			66			9.2		
	VMP-16-31-D	11/19/2009	3.7			<0.0023	ND		8.4			11			67			9.4		
	VMP-17-5	6/21/2010	6.7			<0.0029	ND		<0.14	ND		0.00014	J		81			12		
VMP-18	VMP-17-5-DUP	6/21/2010	6.8			<0.003	ND		<0.15	ND		0.00018	J		81			12		
	VMP-18-8.5	6/18/2010	7.7			<0.0029	ND		<0.14	ND		0.000026	J		81			11		
VMP-19	VMP-19-5	6/18/2010	8.7			<0.0027	ND		0.03			<0.00027	ND		79			12		

NOTES:

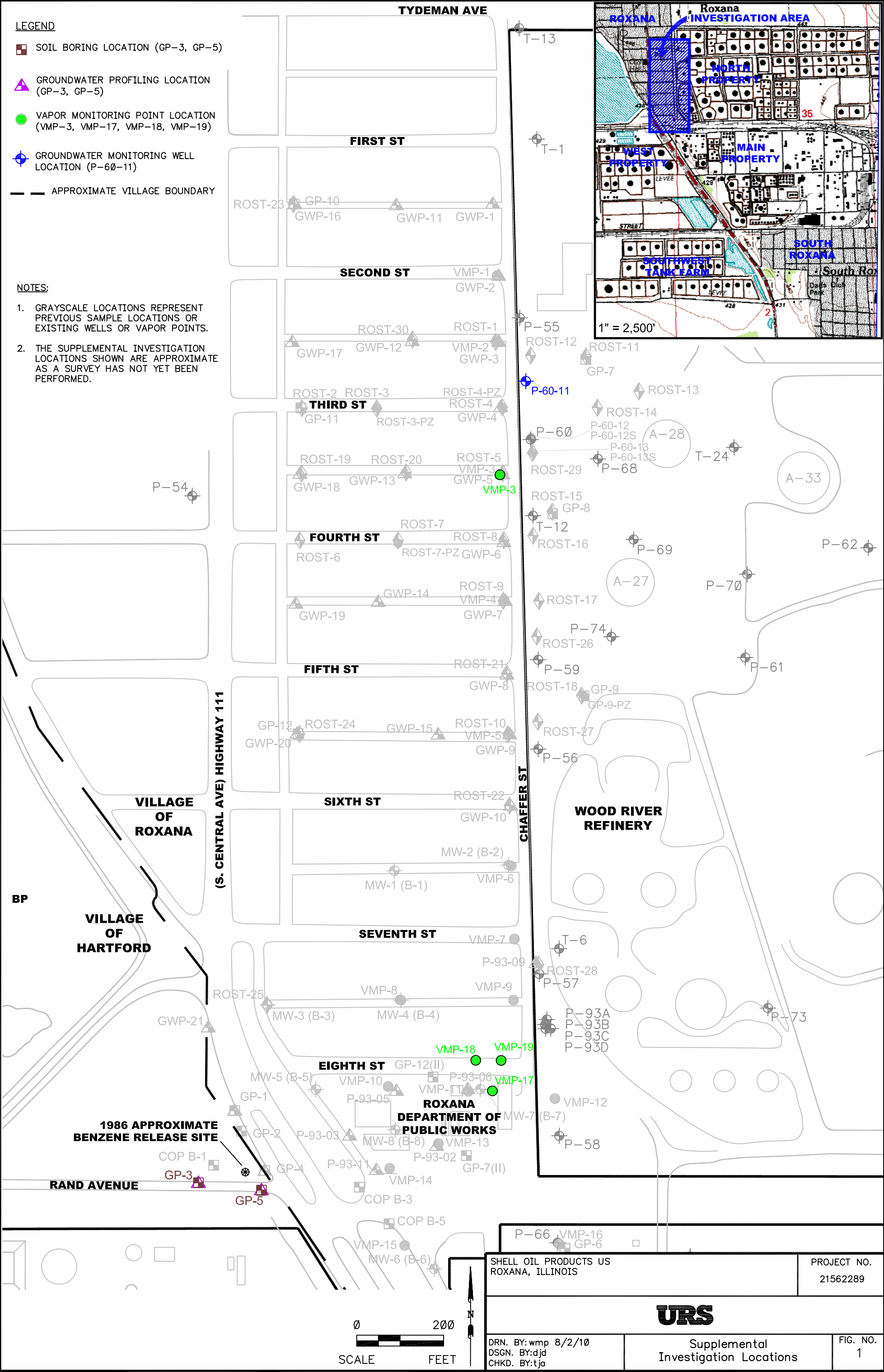
- 1) All samples including tedlar bags containing vapor were collected using a helium leak-check shroud .
- 2) Information previously presented has been shaded in gray.

LABORATORY QUALIFIERS:

ND = Not detected.

URS QUALIFIERS:

J = The results is estimated.



LEGEND

- SOIL BORING LOCATION WITHOUT SCREENING CRITERIA EXCEEDANCE
- SOIL BORING LOCATION WITH SCREENING CRITERIA EXCEEDANCE
- SOIL BORING LOCATION (NO ANALYTICAL SAMPLES COLLECTED)

- NOTES:
- B = BENZENE; E = ETHYLBENZENE; T = TOLUENE; X (M,P) = M,P - XYLENES; X (O) = O - XYLENES.
 - ANALYTICAL RESULTS ARE SHOWN IN MG/KG.

- EXCEEDANCES OF TACO SCREENING CRITERIA (SEE TABLE BELOW) ARE HIGHLIGHTED IN YELLOW. PROPOSED SCREENING VALUES ARE IN PARENTHESES.

	B	E	T	m,p-X	o-X
Ind./Comm. Ingestion	100	200000	410000 (160000)	410000	410000
Ind./Comm. Inhalation	1.6 (1.5)	400 (350)	650	420 (330)	410 (370)
Soil to GW Class I	0.03 (0.032)	13 (12)	12 (11)	200 (170)	190 (170)

- QUALIFIER DEFINITIONS:
D = RESULT FROM DILUTED SAMPLE.
E = DATA EXCEEDS UPPER CALIBRATION LIMIT SO RESULT IS ESTIMATED.
J (LAB) OR J (URS) = RESULT IS ESTIMATED.

Location	Depth	Date	B	E	T	X(m,p)	X(o)
GP-8	13 ft	8/26/2009	0.002 J	0.005	< 0.005	0.006 J	< 0.005
	35 ft	8/26/2009	0.006	0.007	0.001 J	0.003 J	< 0.005
	47 ft	8/26/2009	< 0.006	0.002 JJ	< 0.006	0.003 J	< 0.006

Location	Depth	Date	B	E	T	X(m,p)	X(o)
GP-7	25 ft	8/26/2009	< 0.005	0.002 J	< 0.005	0.004 J	0.002 J
	37 ft	8/26/2009	0.987 J	5.37 J	3.45 J	16.1 J	7.99 J
	41 ft	8/26/2009	0.878 J	4.75 J	3.05 J	14.1 J	7.12 J

Location	Depth	Date	B	E	T	X(m,p)	X(o)
GP-9	18 ft	8/25/2009	2.78 J	60.6	94.2	162	69.2
	37 ft	8/25/2009	0.004 J	0.241	0.008	1.04 D	0.395 D

Location	Depth	Date	B	E	T	X(m,p)	X(o)
B-2	41 ft	5/20/2008	0.0927 J	4.39 D	0.0136 J	2.45 D	0.0246 J

Location	Depth	Date	B	E	T	X(total)
COP B-3	14-16 ft	3/1/2007	0.287	0.548	<0.141	<0.141
	22-24 ft	3/1/2007	21.9	8.22	<0.972	7.89
	34-36 ft	3/1/2007	3.71	<0.138	<0.138	0.42

Location	Depth	Date	B	E	T	X(m,p)	X(o)
GP-7(II)	19 ft	5/19/2008	0.344 EJ	<0.00529	0.00115 J	<0.0106	<0.00529
			0.795 EJ	<0.0051	0.00109 J	<0.0102	<0.0051

Location	Depth	Date	B	E	T	X(total)
COP B-5	14-16 ft	2/28/2007	0.001	<0.005	<0.005	<0.005
	38-40 ft	2/28/2007	165	1.5	1.26	4.17

Location	Depth	Date	B	E	T	X(m,p)	X(o)
GP-5	10 ft	6/9/2010	<0.006	<0.006	<0.006	<0.013	<0.006
	19 ft	6/9/2010	<0.005	<0.005	<0.005	<0.010	<0.005
	27 ft	6/9/2010	0.034 J	0.002 JJ	0.002 JJ	0.005 JJ	0.001 JJ

SHELL OIL PRODUCTS US
ROXANA, ILLINOIS

PROJECT NO.
21562289

URS

DRN. BY: wmp 8/2/10
DSGN. BY: djd
CHKD. BY: tja

Soil Analytical Results Summary

FIG. NO.
3

LEGEND

- MONITORING WELL LOCATION (PRODUCT OBSERVED DURING TIME PERIOD SHOWN)
- PIEZOMETER LOCATION (PRODUCT OBSERVED DURING TIME PERIOD SHOWN)
- MONITORING WELL LOCATION (NO PRODUCT OBSERVED DURING TIME PERIOD SHOWN)
- PIEZOMETER LOCATION (NO PRODUCT OBSERVED DURING TIME PERIOD SHOWN)

- NOTES:
- WELLS SHOWN WITH NO PRODUCT THICKNESSES WERE GAUGED AT RELEVANT TIMES DURING THE TIME PERIOD SHOWN, BUT NO PRODUCT WAS MEASURED DURING GAUGING.
 - NE = NOT ENCOUNTERED.
 - WELLS LOCATED INSIDE THE REFINERY ALONG THE WEST FENCELINE GENERALLY CONTAINED MEASURABLE PRODUCT DURING THE TIME PERIOD SHOWN. EXCEPTIONS ARE T-1, T-2, T-6, T-13, P-56, P-57, P-74, P-93A-D, AND GP-PZ-9.
 - * INDICATES THE PRODUCT AND/OR WATER LEVEL IS ABOVE THE TOP OF THE MONITORING WELL/PIEZOMETER SCREEN.
 - INFORMATION PREVIOUSLY PRESENTED HAS BEEN SHADED IN GRAY.

TYDEMAN AVE

FIRST ST

SECOND ST

THIRD ST

FOURTH ST

FIFTH ST

SIXTH ST

SEVENTH ST

EIGHTH ST

NORTH PROPERTY

WOOD RIVER REFINERY

VILLAGE OF ROXANA

(S. CENTRAL AVE) HIGHWAY 111

CHAFFER ST

Gauging Event	3Q08	4Q08	1Q09	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10
Well ID	Product Thickness (feet)								
P-60	9.43	5.44	6.54	3.21	1.13*	0.87*	0.16*	0.12*	0.57*

Gauging Event	4Q09	1Q10	2Q10	3Q10
Well ID	Product Thickness (feet)			
P-60-13S	NM	NM	NM	NM
P-60-13	0.03	0.81	0.02*	0.74*

Gauging Event	3Q08	4Q08	1Q09	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10
Well ID	Product Thickness (feet)								
T-12	NE	NE	0.01	NE	NE*	NE*	NE*	NE*	NE*

Gauging Event	3Q08	4Q08	1Q09	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10
Well ID	Product Thickness (feet)								
P-69	0.15	0.08	NE	0.05	0.02	0.04	0.03	0.03	0.03

Gauging Event	3Q08	4Q08	1Q09	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10
Well ID	Product Thickness (feet)								
P-59	NE	NE	NE	NE	NE	NE	NE*	NE*	0.02*

Gauging Event	3Q08	4Q08	1Q09	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10
Well ID	Product Thickness (feet)								
P-66	NE	NE	NE	0.01	NE	NE	NE*	NE*	0.02*

Gauging Event	3Q08	4Q08	1Q09	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10
Well ID	Product Thickness (feet)								
P-55	NE	NE	NE	0.02	NE	NE	NE	NE	NE

Gauging Event	3Q08	4Q09	1Q10	2Q10	3Q10
Well ID	Product Thickness (feet)				
P-60-11	1.20*	1.07*	1.10*	1.08*	0.02

Gauging Event	3Q08	4Q09	1Q10	2Q10	3Q10
Well ID	Product Thickness (feet)				
P-60-12S	0.71	0.42	0.35	NE	NE
P-60-12	NE*	NE*	NE*	NE*	NE*

Gauging Event	3Q08	4Q08	1Q09	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10
Well ID	Product Thickness (feet)								
T-24	1.11	1.03	0.98	0.98	0.82	0.71	0.35	0.30	0.32

Gauging Event	3Q08	4Q08	1Q09	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10
Well ID	Product Thickness (feet)								
P-68	0.86	1.16	2.11	2.55	2.71	3.66	4.10	7.21*	4.15

Gauging Event	3Q08	4Q08	1Q09	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10
Well ID	Product Thickness (feet)								
P-70	0.99	0.77	0.94	0.65	0.64	0.60	0.56*	0.46*	0.44*

Gauging Event	3Q08	4Q08	1Q09	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10
Well ID	Product Thickness (feet)								
P-62	1.40	1.46	1.49	1.43	1.45	1.48	1.87	1.34	1.45*

Gauging Event	3Q08	4Q08	1Q09	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10
Well ID	Product Thickness (feet)								
P-61	1.19	0.76	0.66	0.21	0.23	0.18	0.23*	0.12*	0.14*

Gauging Event	3Q08	4Q08	1Q09	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10
Well ID	Product Thickness (feet)								
P-73	NE	NE	0.01	NE	NE	NE	NE	NM	1.02

Gauging Event	3Q08	4Q08	1Q09	2Q09	3Q09	4Q09	1Q10	2Q10	3Q10
Well ID	Product Thickness (feet)								
P-58	NE	0.01	NE	0.02	0.03	NE	NE	NE	0.04

SHELL OIL PRODUCTS US
ROXANA, ILLINOIS

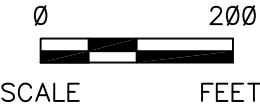
PROJECT NO.
21562289

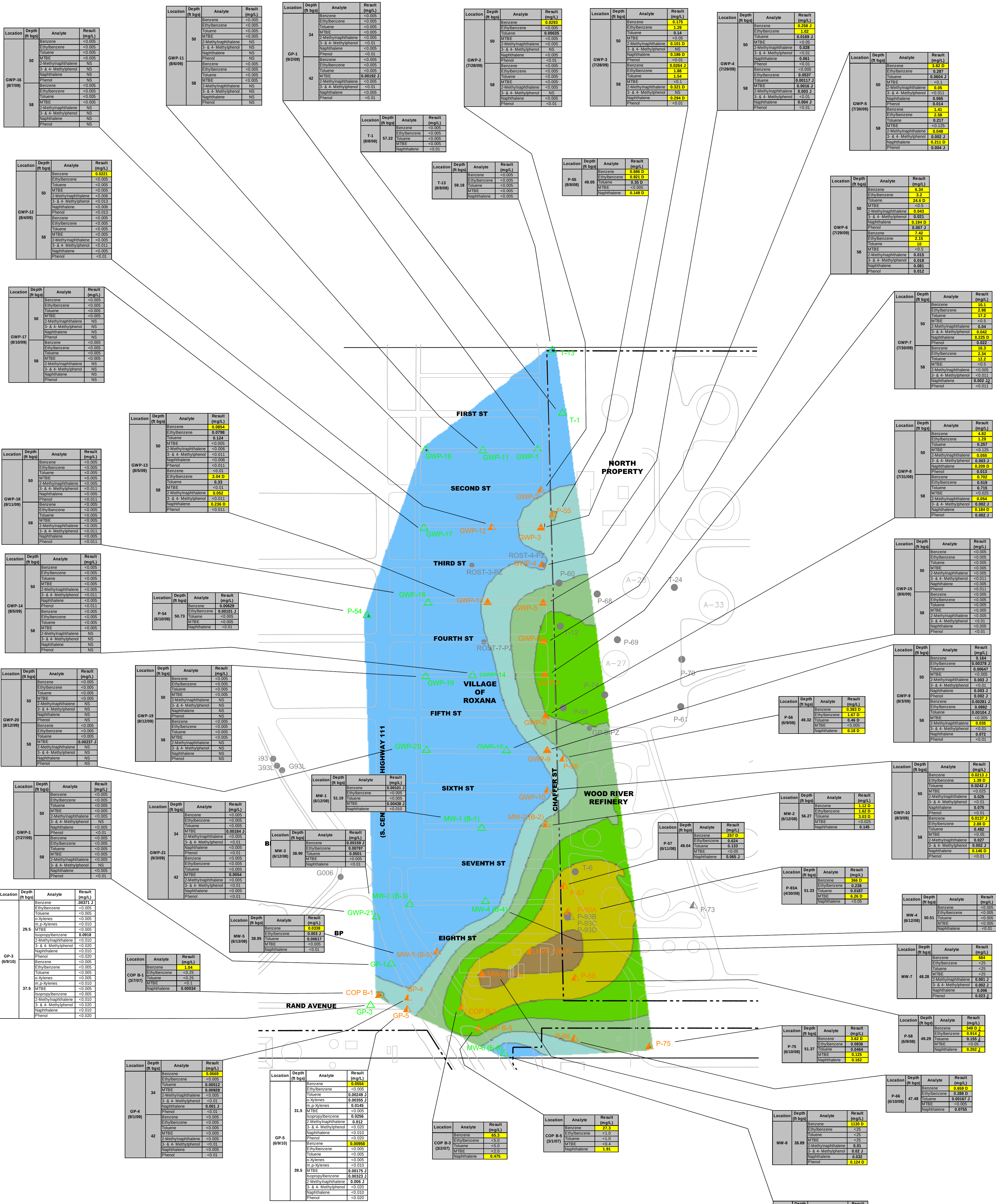
URS

DRN. BY:djd 8/2/10
DSGN. BY:djd
CHKD. BY:tja

Product Gauging Results

FIG. NO.
4





NOTES:

- GROUNDWATER ANALYTICAL RESULTS WERE COMPARED TO THE ILLINOIS CLASS I GROUNDWATER SCREENING CRITERIA. EXCEEDANCES ARE HIGHLIGHTED IN YELLOW. PROPOSED SCREENING VALUES ARE IN PARENTHESES.
- LOCATIONS GP-3 AND GP-5 WERE SAMPLED BY URS DURING THE SUPPLEMENTAL INVESTIGATION IN SUMMER 2010.
- LOCATIONS IDENTIFIED AS "GWP-##", GP-1, GP-2, GP-4, AND MONITORING WELLS MW-7 THROUGH MW-8 WERE SAMPLED BY URS IN FALL 2009 (RESULT BOXES SHADED IN GRAY).
- REFINERY MONITORING WELLS (P-##) AND MONITORING WELLS MW-1 THROUGH MW-6 WERE SAMPLED BY URS IN 2008 (RESULT BOXES SHADED IN GRAY).
- LOCATIONS IDENTIFIED AS "COP "B-#" WERE GROUNDWATER PROFILE LOCATIONS SAMPLED BY CONOCOPHILLIPS IN 2007 (RESULT BOXES SHADED IN GRAY).
- QUALIFIER DEFINITIONS:
D = RESULT FROM DILUTED SAMPLE.
J = (LAB) OR J (URS) = RESULT IS ESTIMATED.
- THIS FIGURE WAS DEVELOPED USING ENVIRONMENTAL VISUALIZATION SOFTWARE (EVS PRO 9.13). FOR MODELING PURPOSES, HALF OF THE REPORTING LIMIT WAS USED FOR NON-DETECT RESULTS.
- AT LOCATIONS WHERE A DUPLICATE SAMPLE WAS ANALYZED, THE HIGHER OF THE TWO ANALYTE RESULTS WAS USED FOR MODELING PURPOSES.

LEGEND

- GROUNDWATER SAMPLE LOCATION WITH EXCEEDANCE OF VOC AND SVOC SCREENING CRITERIA
- GROUNDWATER SAMPLE LOCATION WITH EXCEEDANCE OF ONLY VOC SCREENING CRITERIA
- GROUNDWATER SAMPLE LOCATION WITHOUT EXCEEDANCE OF SCREENING CRITERIA
- MONITORING WELL OR PIEZOMETER LOCATOR NOT SAMPLED
- < 0.05 mg/L
- 0.05 - 0.5 mg/L
- 0.5 - 5 mg/L
- 5 - 50 mg/L
- 50 - 500 mg/L
- > 500 mg/L

Analyte	Screening (mg/L)
Benzene	0.005
Ethylbenzene	0.7
Toluene	1.0
m-Xylenes	10
p-Xylenes	0.07
MTBE	0.35 & 0.035
3 & 4-Methylphenol	0.14
Napthalene	0.7

0200
SCALE FEET

SHELL OIL PRODUCTS US
ROXANA, ILLINOIS

Groundwater Analytical Results Summary

Date: 7/26/10

Project Number: 21562289

Drawing Number: 5

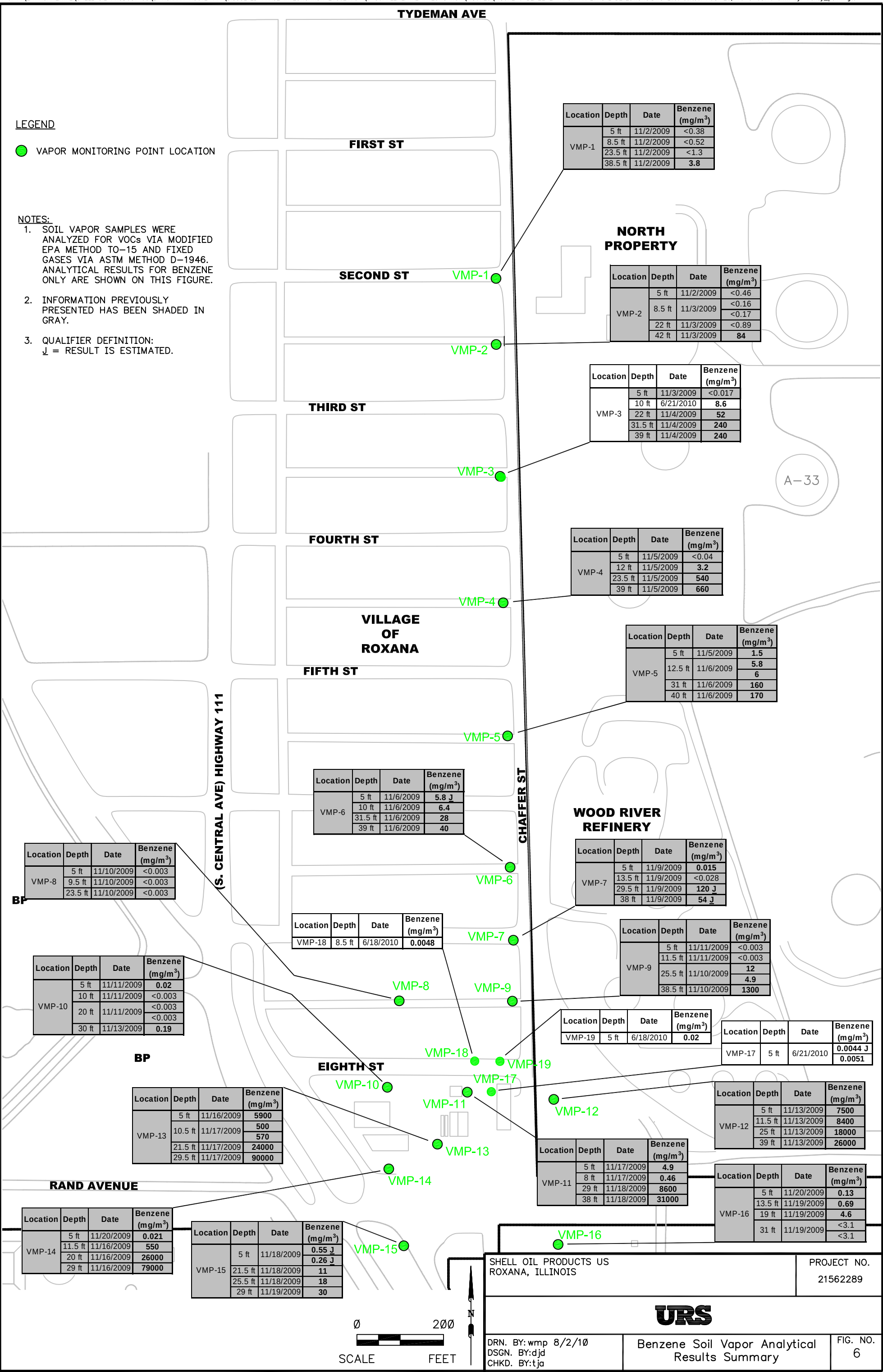
Drawn by: wmp

Design by: wmp

Checked by:

URS

File: P:\ENVIRONMENTAL\SHLL OIL PRODUCT US\B-ROXANA-ROUTE 111\DISSOLVED PHASE INVESTIGATION 21562175-V\SUPPLEMENTAL INVESTIGATION\FIGURES\FIGURE 5 GW ANALYTICAL DETECTIONS.DWG Last edited: AUG. 30, 10 @ 1:59 p.m. by: wendy_pennington



ATTACHMENT A

W-85 Field Boring Log and Water Well Construction Report



Layne-Western Company

A Layne Company
2399 Cassens Drive • Fenton, Missouri 63026

FIELD BORING LOG

Boring No. TH 85

Project Coloco Phillips Job No. 10960769 Date 2-2-10

Location NORTH PROPERTY Crew GARY MILLS / CHRIS MAZDA

Drilling Method: ☒ HSA ☐ CFA ☒ Rotary Wash ☐ Rock Coring ☐ Drilling Fluid

DEPTH, ft.		DESCRIPTION	Sample			SPT Blows N/6"
From	To		Type	Depth, ft.	Recovery	
0	66	Fine silty sand	WASH			
66	68	COAL LAYER				
68	75	Med sand				
75	78	Limes tone - med, coarse sand.				
78	85	Med coarse sand				
85	115	Limestone, Med sand mixed - w- clay				
115	121	Fine - Med sand with light clay				
121	136	Med sand				
136	138	Med to coarse (DARK) sand.				
138	142	" " "				
	142	REFUSED				

WATER LEVEL OBSERVATIONS	NOTES	Piezometer Installed: ☒ NO ☐ Yes - Depth <u>142</u> ft.
During Drilling _____ ft.		
At Completion _____ ft.		
After _____ hrs. _____ ft.		
After _____ hrs. _____ ft.		
After _____ hrs. _____ ft.		

TOP OF BURN

1. Type of Well

- a. Driven Well: Casing Diameter (in.) _____ Depth (ft.) _____
- b. Bored Well: Casing Diameter (in.) _____ Buried Slab? _____
- c. Drilled Well: PVC Casing Formation Packer Set at Depth of (ft.) NA
- d. Drilled Well: Steel Casing Mechanically Driven _____
- e. Hole Diameter (in.) 48" to (ft.) 102'; (in.) _____ to (ft.) _____; (in.) _____ to (ft.) _____
- f. Type of Grout # of bags Grout Weight From (ft.) To (ft.) Tremie Depth (ft.)

WEAT cement	94	32.5 tons	60	0	

g. Well Finished within unconsolidated Formation

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
QUICKRETE	#46	102	60

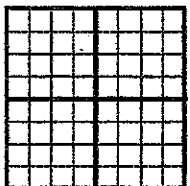
2. Well Use: Cone of Depression Well Disinfected? Yes
3. Date Well Completed: 5-6-10 Driller's Estimated Well Yield (gpm): 1000
4. Date Permanent Pump Installed: 5-7-10 Set at Depth (ft.): 60
5. Pump Capacity (gpm): 500
6. Pitless Adapter Model and Manufacturer: NA Attachment to Casing: BOLTED
7. Well Cap Type & Manufacturer: FABRICATED BY LAYNE
8. Pressure Tank Working Cycle (gals.): NA Captive Air? NA 9. Pump System Disinfected: Yes
10. Name of Pump Company Byron Jackson
11. Pump Installer: Layne License # 102-004215
12. Ch. Am Licensed Pump Installation Contractor Signature Date 6/21/10

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Conoco Phillips Well # 85
14. Driller: Layne Rusty Bowles License # 092-007277
15. Name of Drilling Company: Layne 16. Permit Number: 119-02-10
- Date Issued: 2-23-10 17. Date Drilling Started 3-5-10
18. Well Site Address: 1st St. Conoco Property
19. Township Name: WOOD RIVER Land I.D. # _____
20. Subdivision Name: _____ Lot # _____
21. Location: a. County Madison b. Site Elevation _____ ft. (above msl)
- c. Township: SN Range: 9E Section: 35
- d. NW Quarter of the NE Quarter of the NE Quarter
- e. GPS: Lat: Degrees 38 Minutes 50 Seconds 41.2 N
Lon: Degrees 90 Minutes 04 Seconds 34.6 W
22. Casing and Liner Information



Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
24	WELDED CARBON	-103.9	1.9

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
24	25	.050	103.9	78.9

23. Is the well screened? Yes If yes
24. Water from Unconsolidated at a depth of (ft.) 103.9 To (ft.) 78.9
- a. Static water level (ft.) below top of casing 45 which is (in.) above ground 1.9
- b. pumping level is (ft.) 50' pumping (gpm) 500 for (hours) 4

Earth Materials Passed Through	From (ft.)	To (ft.)
Fine Silty Sand	0	-66
Coal layer	-66	-68
med Sand	-68	-75
med Coarse Sand	-78	-85
med Sand trace clay	-85	-103.9

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

Ch. Am License # 092-007277
Licensed Water Well Contractor Signature

AIR KNIFING FORMS



AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT:	JOB NAME & NUMBER: Dissolved Phase & P-80 21562175- 256 2289	OBSERVED BY: KH
	DATE STARTED: 6/3/10	DATE COMPLETED: 6/3/10
	BORING LOCATION: VMP-3(5), VMP-17, GP-3, GP-5 → Roxana	
	SUBCONTRACTOR: Roberts Environmental Drilling, Inc.	

REASON FOR AIR KNIFING AT THIS LOCATION:

Utilities Concern

AIR KNIFE 1

Description/Location/Observations:

ID/Diameter/Depth/ utilities observed

VMP-3(5) - Roxana - Alley between 3rd and 4th Street -
 6"-8" Diameter
 5' - Depth
 No utilities observed

AIR KNIFE 2

Description/Location/Observations:

VMP-17 - Roxana WWTP
 6"-8" Diameter
 6' - Depth
 No utilities observed

AIR KNIFE 3

Description/Location/Observations:

GP-3 - RAND AVE AND Rt. 111
~~Hot Rock at 4'~~ Diameter 6"-8"
 Water intrusion at 1.5' Could not continue do to water
 Depth ~ 3' infiltration into the hole

AIR KNIFE 4

Description/Location/Observations:

GP-5 - RAND AVE AND Rt. 111
1st Attempt
 6"-8" Diameter
 4' Depth
 No utilities observed
 Solid Rock at 4' -

2nd Attempt
 6"-8" Diameter
 7' Depth
 Pipe observed - can not determine its origin. Stopped
 air knifing once pipe was observed.



AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT:		JOB NAME & NUMBER: Dissolved Phase & P-60 21562475- 2289	OBSERVED BY: WMP
		DATE STARTED: 6/3/10	DATE COMPLETED: 6/3/10
		BORING LOCATION: P-60-11	
		SUBCONTRACTOR: Roberts Environmental Drilling, Inc.	
REASON FOR AIR KNIFING AT THIS LOCATION:			
AIR KNIFE 1	P-60-11		
Description/Location/Observations:	Diam = 15" Depth = 5' NO UTILITIES OBSERVED		
AIR KNIFE 2	Bumper Pole holes (x3)		
Description/Location/Observations:	Diam = 6" Depth = 3' no further drilling activities in these holes NO UTILITIES OBSERVED		
AIR KNIFE 3			
Description/Location/Observations:			
AIR KNIFE 4			
Description/Location/Observations:			



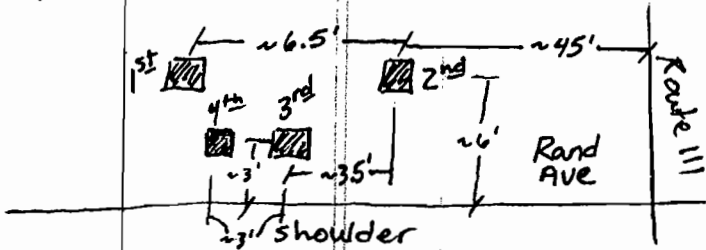
AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT:

GP-5

↑N



JOB NAME & NUMBER:

Dissolved Phase & P-60

21562475-2289

OBSERVED BY:

WMP

DATE STARTED:

6/8/10

DATE COMPLETED:

BORING LOCATION:

Rand Ave

GP-3, GP-5

SUBCONTRACTOR:

Roberts Environmental Drilling, Inc.

REASON FOR AIR KNIFING AT THIS LOCATION:

to clear the presence of utilities
prior to performing GP/GWP activities

AIR KNIFE 1

GP-3

Description/Location/Observations:

6" diam PVC casing
7' deep (clay in bottom)
No utilities observed

AIR KNIFE 2

GP-5

Description/Location/Observations:

attempt 3

Diam = 12"
pipe found ~5' bgs
E. wall

attempt 4

Diam = 11"
Depth = 7.5'

No utilities observed but a bunch of gravel/cobbles

AIR KNIFE 3

Description/Location/Observations:

AIR KNIFE 4

Description/Location/Observations:



AIR KNIFING FORM

SHEET 1 of 1

AIR KNIFING EXCAVATION ARRANGEMENT:

JOB NAME & NUMBER:

Dissolved Phase & P-60
21562175

OBSERVED BY:

M. Miller

DATE STARTED:

6/11/10

DATE COMPLETED:

6/11/10

BORING LOCATION:

SUBCONTRACTOR:

Roberts Environmental Drilling, Inc.

REASON FOR AIR KNIFING AT THIS LOCATION:

Pushdown at vapor points

AIR KNIFE 1

East bay (VMP-17)

Description/Location/Observations:

- Right side ~ 4"
- Medium dense, moist, dk brown, fine plastic silty CLAY (CPML) with trace sand
- loose lower at 5'
- 3/4'
- Bottom of bay at 7'

AIR KNIFE 2

West bay (VMP-18)

Description/Location/Observations:

- Right side 4"
- medium dense, moist, dk brown, fine plastic silty CLAY (CPML) with sand
- 2' Medium dense, moist, brown, fine plastic silty CLAY (CL)
- 3/4' Medium dense, moist brown, fine to medly grained SAND (SP)
- bottom of bay at 9'

AIR KNIFE 3

Description/Location/Observations:

AIR KNIFE 4

Description/Location/Observations:

SOIL BORING LOGS

GP-3

GP-5

LOG OF BORING GP-3

Depth In feet	Inches Driven	Inches Recovered	PID (ppm)	Sampler Graphic	Symbol	USCS	Completion Date: 6/9/10 Casing Elevation: Ground Elevation:	Coordinates Northing: N/A Easting: N/A
							DESCRIPTION	NOTES
5						ASPHALT	Asphalt	Boring advanced to a depth of 7' bgs via air knife to clear utilities.
						FILL	Baselock (FILL)	
							Sandy fill (FILL)	
10	60	44	0.2			CL	Medium stiff, moist, dark gray with brown mottles, low plastic CLAY (CL)	
			1.1				Becomes with silt	
			1.3					
15	48	34	1.2			SC	Loose to medium dense, moist, gray, fine grained, Clayey SAND (SC)	
			0.5			SP	Medium dense, moist, gray, medium to coarse grained SAND (SP) 2" clay seam Becomes wet	
			1.1				Becomes moist	
20	48	38	3.8			SP	3" clay seam Becomes brownish gray	Sampled GP-3-17 for VOC at 1335 Sampled GP-3-24 for VOC at 1340
			5.7					
							Becomes wet	

Completion Depth: 28.00 Ft bgsProject No.: 21562289Project Name: Roxana Supplemental InvestigationDrilling Contractor: Roberts Environmental Drilling, Inc.Drilling method: Geoprobe (Direct Push Dual Tube)Logged by: W. PenningtonWater Depth: 24.5 ft., After ATD hrs.

Water Depth: _____ ft., After _____ hrs.

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

ATD - At time of drilling

☐ Splitspoon Sampler☐ Hollow Stem Auger☐ Soil samples not collected☒ Geoprobe Macro Sampler☒ Air Knife/Hand Auger☒ Sampler☒ Air Rotary☒ 3" Clear Acetate LinerUSC based on field
visual observations

LOG OF BORING GP-3

Depth In feet	Inches Driven	Inches Recovered	PID (ppm)	Sampler Graphic	Symbol	USCS	LOG OF BORING GP-3	
							Completion Date: 6/9/10 Casing Elevation: Ground Elevation:	Coordinates Northing: N/A Easting: N/A
							DESCRIPTION	NOTES
48	48	4.9	10.3			SP	Same: Medium dense, wet, brownish gray, medium to coarse grained SAND (SP)	
30							Bottom of boring at 28' bgs	
35								
40								
45								

Completion Depth: 28.00 Ft bgsProject No.: 21562289Project Name: Roxana Supplemental InvestigationDrilling Contractor: Roberts Environmental Drilling, Inc.Drilling method: Geoprobe (Direct Push Dual Tube)Logged by: W. PenningtonWater Depth: 24.5 ft., After ATD hrs.

Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling☒ Water level after drilling
ATD - At time of drilling☐ Splitspoon Sampler☐ Hollow Stem Auger☐ Soil samples not collected☒ Geoprobe Macro Sampler☒ Air Knife/Hand Auger
Sampler☒ Air Rotary☒ 3" Clear Acetate LinerUSC based on field
visual observations


LOG OF BORING GP-5

Depth In feet	Inches Driven	Inches Recovered	PID (ppm)	Sampler Graphic	Symbol	USCS	Completion Date: 6/9/10 Casing Elevation: Ground Elevation:	Coordinates Northing: N/A Easting: N/A
							DESCRIPTION	NOTES
5						ASPHALT	Asphalt	Boring advanced to a depth of 7.5' bgs via air knife to clear utilities.
						FILL	Basereck (FILL)	
						FILL	Loose, wet, gray SAND (FILL)	
10	54	26	1.2			CL	Soft, moist, gray with brown mottles, low plastic CLAY (CL)	Sampled GP-5-10 for VOC at 0855
			1.6				Becomes medium stiff	
			0.4				Brown mottles grade out	
15	48	46	1.4			CL	Brown mottles grade out	Sampled GP-5-19 for VOC at 0900
			0.4					
			1.3					
20	48	36	9.5			SP	Loose, moist, gray, fine to medium grained SAND (SP), trace to with clay	
			15.6				Becomes medium dense to dense, brownish gray, trace small clay seams (< 1/4" thick)	
							3" clay seam (smaller clay seams grade out) Becomes medium to coarse grained	

Completion Depth: 32.00 Ft bgsProject No.: 21562289Project Name: Roxana Supplemental InvestigationDrilling Contractor: Roberts Environmental Drilling, Inc.Drilling method: Geoprobe (Direct Push Dual Tube)Logged by: W. PenningtonWater Depth: 28 ft., After ATD hrs.

Water Depth: _____ ft., After _____ hrs.

☐ Water level at time of drilling☒ Water level after drilling
ATD - At time of drilling☐ Splitspoon Sampler☐ Hollow Stem Auger☐ Soil samples not collected☒ Geoprobe Macro Sampler☐ Air Knife/Hand Auger
Sampler☐ Air Rotary☒ 3" Clear Acetate LinerUSC based on field
visual observations

LOG OF BORING GP-5								
Depth In feet	Inches Driven	Inches Recovered	PID (ppm)	Sampler Graphic	Symbol	USCS		
Completion Date: 6/9/10 Casing Elevation: Ground Elevation:						Coordinates Northing: N/A Easting: N/A		
DESCRIPTION						NOTES		
30	48	39	15.2			SP	Same: Medium dense to dense, moist, brownish gray, medium to coarse grained SAND (SP) 1" clay seam Becomes wet	Sampled GP-5-27 and GP-5-27D for VOC at 0905 ▽
			1075					
			988					
	48	47	247					
35							Bottom of boring at 32' bgs	
40								
45								

☒ Geoprobe Macro Sampler
☒ Air Knife/Hand Auger
☒ Sampler
☒ Air Rotary
☒ 3" Clear Acetate Liner
 USC based on field
 visual observations



GROUNDWATER PROFILING SHEETS

GP-3-29.5

GP-3-37.5

GP-5-31.5

GP-5-39.5

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana PROJECT NUMBER: 2562289 FIELD PERSONNEL: W. Pennington / K. Hws

DATE: 6/9/10 WEATHER: 80's Partly Cloudy

MONITORING WELL ID: GP-3-29.5 SAMPLE ID: GP-3-29.5

All measurements BGS

INITIAL DATA
Well Diameter: 1.25 in
Total Well Depth (btoc): 32.6 ft
Depth to Water (btoc): 22.6 ft
Depth to LNAPL/DNAPL (btoc): - ft
Depth to Top of Screen (btoc): 27 ft
Screen Length: 5 ft
Water Column Height (do not include LNAPL or DNAPL): 9.4 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) = 22.5 ft
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
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: 250 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 750 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.1 ppm

Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Pump Type:	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0		1403	UG	GRAY	None	6.90	24.44	1.101	361.3	-0.03	-170
1500		1407		Brown		6.85	24.15	1.069	420.8	-0.04	-162
3250		1411				6.84	23.97	1.044	415.0	-0.04	-161
3800		1415				6.84	23.86	1.030	382.8	-0.04	-162
3750		1419				6.85	23.43	1.014	289.4	-0.04	-163
4500		1423				6.85	23.29	1.010	292.4	-0.04	-163
5250		1427				6.84	23.15	1.003	215.1	-0.04	-163
6000		1431		cloudy		6.85	23.11	1.002	175.6	-0.04	-163
6750		1435			↓	6.85	22.89	0.9923	176.4	-0.04	-164
		1439			↓		22.89	0.9946	158.7	-0.04	-164

Start Time: 1403 Elapsed Time (min): 36 min Water Quality Meter ID: Tr-119500
Stop Time: 1439 Average Purge Rate (mL/min): 250 mL/min Date Calibrated: 6/9/10

SAMPLING DATA
Sample Date: 6/9/10 Sample Time: 1440 Lab Analysis: DOCs / SUOCs
Sample Method: Monsoon / Low Flow Sample Flow Rate (mL/min): 250 mL/min QA/QC Samples: Dup
VOA Vials, No Headspace ☒ Initials: lbt

COMMENTS:
Temp not quite stable but sonde is sitting on asphalt in the sun which can interfere with readings.
At the time of sampling, temp continued to fluctuate while other parameters remained stable.
Troll 9500 instrument in calibration but DO readings are at the lower end of the calibration range.

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana PROJECT NUMBER: 21562289 FIELD PERSONNEL: W. Pennington / K. Hurst
 DATE: 6/9/10 WEATHER: 80's Partly Cloudy
 MONITORING WELL ID: GP-3-37.5 SAMPLE ID: GP-3-37.5

INITIAL DATA
 Well Diameter: 1.25 in
 Total Well Depth (ftoc): 40 ft
 Depth to Water (ftoc): 24 ft
 Depth to LNAPL/DNAPL (ftoc): — ft
 Depth to Top of Screen (ftoc): 35 ft
 Screen Length: 5 ft
 Water Column Height (do not include LNAPL or DNAPL): 16 ft
 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) = 37.5 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: 250 mL
 Minimum Purge Volume = (3 x Flow Cell Volume): 750 mL
 Ambient PID/FID Reading: 0.0 ppm
 Wellbore PID/FID Reading: 0.2 ppm

Purge Data										
Pump Type:	Monsoon Stainless Steel Submersible Pump									
Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	15:04	24	Brown	None	7.09	24.35	1.205	6.774	0.01	-171
750	15:06	↓	↓	↓	7.06	24.73	1.207	144.4	0.08	-175
1500	15:12				6.96	23.82	1.181	460.9	0.50	-147
2250	15:16				6.89	23.31	1.156	150.7	1.06	-118
3000	15:20				6.85	23.04	1.149	683.1	1.29	-106
3750	15:24				6.82	22.73	1.141	42.83	1.10	-102
4500	15:28				6.81	22.70	1.139	52.29	1.31	-100
5250	15:32				6.81	22.79	1.144	39.28	1.29	-99
6000	15:36				6.81	22.44	1.132	31.07	1.20	-99
6750	15:40				6.80	22.44	1.135	32.57	1.31	-98
7500	15:44				6.79	22.33	1.132	22.99	1.23	-98
8250	15:48	6.79	22.33	1.133	20.41	1.32	-97			
9000	15:52	6.79	22.24	1.127	22.08	1.08	-97			
9750	15:56	↓	↓	↓	6.79	22.24	1.127	22.08	1.08	-97
10500	16:00									

Start Time: 1504 Elapsed Time (min): 48 min Water Quality Meter ID: T-001 9500
 Stop Time: 1552 Average Purge Rate (mL/min): 250 mL/min Date Calibrated: 6/9/10

SAMPLING DATA
 Sample Date: 6/9/10 Sample Time: 1605 1550 Lab Analysis: VOCS / SUOCS
 Sample Method: Monsoon / Low Flow Sample Flow Rate (mL/min): 250 mL/min QA/QC Samples: MS / MSD
 VOA Vials, No Headspace ☒ Initials: W

COMMENTS:
 Total Purge Volume: 9000 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana PROJECT NUMBER: 21562289 FIELD PERSONNEL: W. Pennington

DATE: 6/9/10 WEATHER: 70s, overcast

MONITORING WELL ID: GP-S-31.5 SAMPLE ID: GP-S-31.5

INITIAL DATA
 Well Diameter: 1.25 in
 Total Well Depth (feet): 36.5 ft
 Depth to Water (feet): 26.5 ft
 Depth to LNAPL/DNAPL (btoc): — ft
 Depth to Top of Screen (btoc): 31 ft
 Screen Length: 5 ft
 Water Column Height (do not include LNAPL or DNAPL): 10 ft btoc
 If Depth to Top of Screen is > Depth to Water AND Screen Length is < 4 feet,
 Place Pump at: Total Well Depth - 0.5 (Screen Length + DNAPL Column Height) = 31.5 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: 250 mL
 Minimum Purge Volume = (3 x Flow Cell Volume): 750 mL
 Ambient PID/FID Reading: 1450 ppm
 Wellbore PID/FID Reading: 145 ppm

Purge Volume (mL)	Pump Type:	Monsoon Stainless Steel Submersible Pump	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	0938		NG	BROWN	Hydrocarbon	6.64	21.54	1.127	94.85	-0.01	-347
750	0942					6.45	20.84	1.116	181.4	-0.03	-271
1500	0946					6.46	20.43	1.038	325.7	-0.04	-220
2250	0947					6.47	20.30	1.076	218.6	-0.04	-178
3000	0950					6.48	20.27	1.074	167.6	-0.04	-188
3750	0953					6.49	20.32	1.101	121.3	-0.04	-182
4500	0956					6.49	20.27	1.101	111.8	-0.04	-178
5250	0959					6.49	20.23	1.101	86.02	-0.04	-175
6000	1002					6.49	20.24	1.102	166.56	-0.04	-173
6750	1009					6.49	20.20	1.099	57.09	-0.04	-171
7500	1008					6.49	20.17	1.099	47.79	-0.04	-168
8250	1011					6.47	20.19	1.100	40.84	-0.04	-147
9000	1014					6.48	20.29	1.100	34.04	-0.04	-167
9750	1017					6.48	20.24	1.102	39.64	-0.04	-166
10500	1020					6.48	20.24	1.102	37.22	-0.04	-168
11250	1023					6.47	20.25	1.105	34.37	-0.04	-163

Start Time: 0925-0938 Elapsed Time (min): 53 min
 Stop Time: 1023 Average Purge Rate (mL/min): 250 mL/min
 Water Quality Meter ID: Troll 9500 Date Calibrated: 6/9/10

SAMPLING DATA
 Sample Date: 6/9/10 Sample Time: 1030 Lab Analysis: DOC, SUOC
 Sample Method: Monsoon / Low Flow Sample Flow Rate (mL/min): 250 mL/min QA/QC Samples: EB - After this Sample
 VOA Vials, No Headspace ☒ Initials: KH

COMMENTS:
 Slight sheen in purge buckets. After a review of the analytical data, this slight sheen is thought to be caused by residue from previous purging/sampling events.
 Type - should be 4 min instead of 3 min readings - sampling time (hr) according to rugged reader
 Troll 9500 instrument is in calibration but DO readings are at the lower end of the calibration range.

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Boxing PROJECT NUMBER: 21562289 FIELD PERSONNEL: W. Pennington / K. Huest

DATE: 4/9/10 WEATHER: 70's, overcast

MONITORING WELL ID: GP-5-39.5 SAMPLE ID: GP-5-39.5

INITIAL DATA
Well Diameter: 1.25 in
Total Well Depth: 44.5 ft
Depth to Water: 39.5 ft
Depth to LNAPL/DNAPL (btoc): 39.5 ft
Depth to Top of Screen (btoc): 39 ft
Screen Length: 5 ft
Volume of Flow Through Cell: 250 mL
Minimum Purge Volume = (3 x Flow Cell Volume): 750 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 1.1 ppm

PURGE DATA Pump Type: Monsoon Stainless Steel Submersible Pump

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)
0	1105	26	26	Hydrocarbon	6.87	21.53	1.133	44.85	-0.03	-154
750	1109	26	26	Hydrocarbon	6.87	20.95	1.053	42.8	-0.03	-137
1500	1113	26	26	Hydrocarbon	6.83	20.76	1.034	40.6	-0.03	-131
2250	1117	26	26	Hydrocarbon	6.82	20.68	1.030	39.52	-0.04	-128
3000	1121	26	26	Hydrocarbon	6.84	20.70	1.025	40.19	-0.04	-129
3750	1125	26	26	Hydrocarbon	6.83	20.67	1.025	44.40	-0.04	-128
4500	1129	26	26	Hydrocarbon	6.82	20.60	1.022	35.08	-0.04	-127
5250	1133	26	26	Hydrocarbon	6.82	20.66	1.022	32.32	-0.04	-127
6000	1137	26	26	Hydrocarbon	6.82	20.61	1.019	31.88	-0.04	-127

Start Time: 1105 Elapsed Time (min): 32 min Water Quality Meter ID: Troll 9500
Stop Time: 1137 Average Purge Rate (mL/min): 250 mL/min Date Calibrated: 6/9/10

SAMPLING DATA
Sample Date: 4/9/10 Sample Time: 1140 Lab Analysis: VOC, SVOC
Sample Method: Monsoon / Low Flow Sample Flow Rate (mL/min): 250 mL/min QA/QC Samples: GP-5-39.5EB
VOA Vials, No Headspace ☒ Initials: KH

COMMENTS:
Troll 9500 instrument in calibration but DO readings are at the lower end of the calibration range
Total Purge Volume: 6000 mL

**MONITORING WELL AND
VAPOR MONITORING POINT
CONSTRUCTION DIAGRAMS**

P-60-11

VMP-3-10

VMP-17-5

VMP-18-8.5

VMP-19-5

Monitoring Well Installation Details
Stick Up Monitoring Well Construction Diagram



Project:	Route 111/Rand Avenue Vicinity Supplemental Investigation			Well ID:	P-60-11
Project Location:	Roxana, Illinois	Date Started:	6/3/2010		
Well Location:	Wood River Refinery	Date Completed:	6/3/2010	Boring ID:	P-60-11
Drilling Contractor:	Roberts Environmental Drilling, Inc.	Time Seal Set:	1605	Northing:	793601.82
Driller:	P. Seymour	Type of Rig:	CME-75	Easting:	2322280.72
Consulting Firm:	URS Corporation	Drilling Method:	Hollow Stem Auger	Elevation Datum:	443.70
Geologist:	W. Pennington	Completion Zone:	Main Sand		

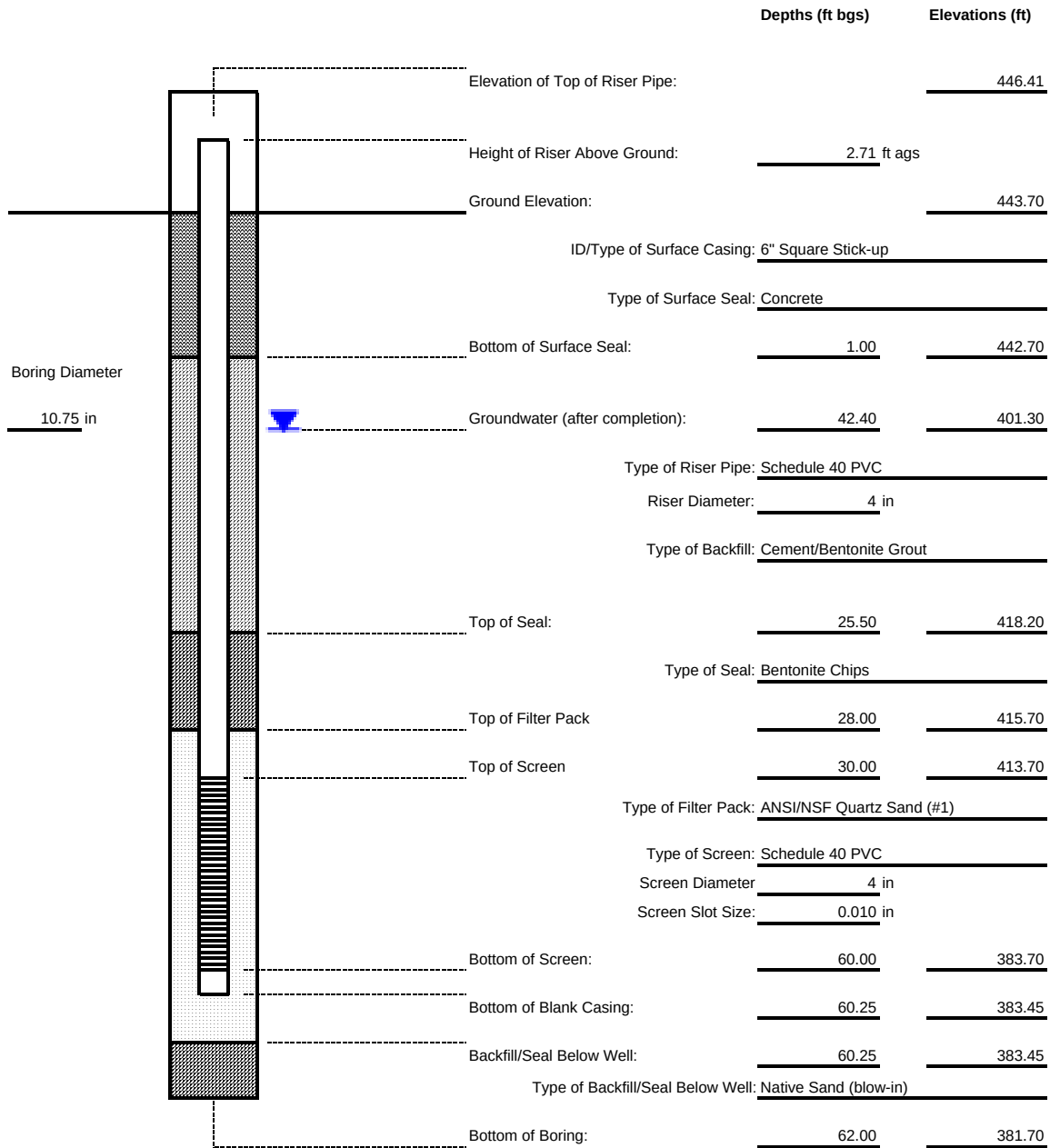


DIAGRAM IS NOT TO SCALE

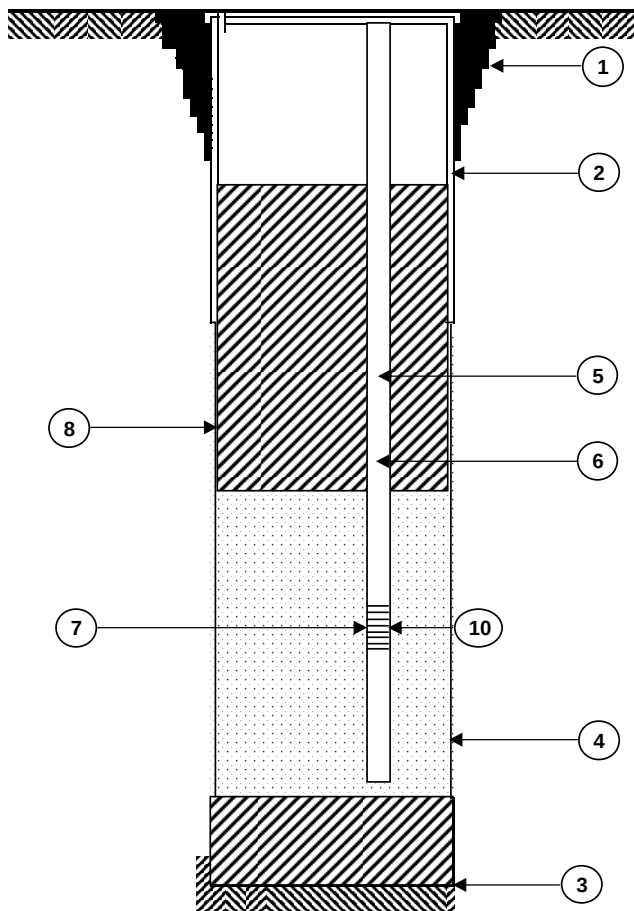
VAPOR MONITORING POINT CONSTRUCTION DIAGRAM

GROUND SURFACE ELEVATION (FEET) 442.22 JOB NUMBER 21562289

TOP OF INNER WELL CASING ELEVATION NA BORING NUMBER VMP-3-10

DATUM 1988 USGS INSTALLATION DATE 6/7/2010

LOCATION Roxana, Illinois



VAPOR MONITORING PORT INSTALLATION DETAILS

SCREEN	DEPTH TO BOTTOM OF SAND (FEET*)	DEPTH TO TOP OF SAND (FEET*)	DEPTH TO BOTTOM OF SCREEN (FEET*)	DEPTH TO TOP OF SCREEN (FEET*)	LENGTH OF SCREEN (FEET)	DIAMETER OF SCREEN (INCHES)	SLOT SIZE (INCHES)
10'	11	9.5	10.5	10	0.5	0.5	0.010

- 1 CONCRETE CAP? ☒ YES ☐ NO (CIRCLE ONE)
- 2 BOREHOLE DIAMETER 3.5 INCHES
- 3 TOTAL DEPTH OF BOREHOLE 11 FEET*
- 4 TYPE OF PACK AROUND SCREEN ANSI/NSF Quartz Sand
- 5 RISER MATERIAL Stainless Steel
- 6 RISER DIAMETER 0.125 INCHES
- 7 SCREEN MATERIAL Stainless Steel
- 8 TYPE OF SEAL Bentonite Chips

* (DEPTH FROM GROUND SURFACE)

NOTE: DRAWING NOT TO SCALE

URS
Corporation

VAPOR MONITORING POINT CONSTRUCTION DIAGRAM

GROUND SURFACE ELEVATION (FEET) approx. 443.5

JOB NUMBER 21562289

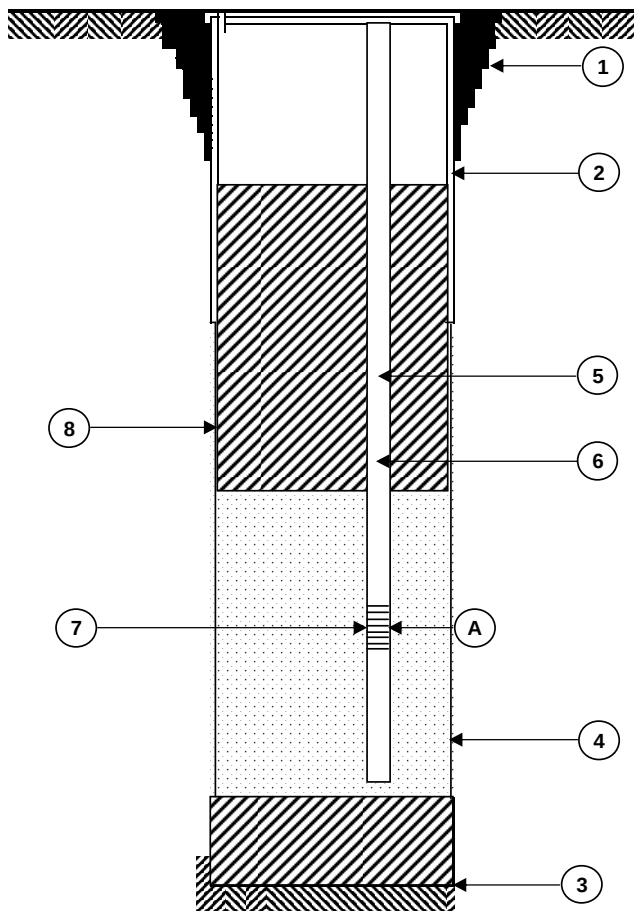
TOP OF INNER WELL CASING ELEVATION NA

BORING NUMBER VMP-17-5

DATUM 1988 USGS

INSTALLATION DATE 6/4/2010

LOCATION Roxana, Illinois



VAPOR MONITORING PORT INSTALLATION DETAILS

SCREEN	DEPTH TO BOTTOM OF SAND (FEET*)	DEPTH TO TOP OF SAND (FEET*)	DEPTH TO BOTTOM OF SCREEN (FEET*)	DEPTH TO TOP OF SCREEN (FEET*)	LENGTH OF SCREEN (FEET)	DIAMETER OF SCREEN (INCHES)	SLOT SIZE (INCHES)
A	6	4.5	5.5	5	0.5	0.5	0.010

1 CONCRETE CAP? ☒ YES ☐ NO (CIRCLE ONE)

2 BOREHOLE DIAMETER 8 INCHES

3 TOTAL DEPTH OF BOREHOLE 6 FEET*

4 TYPE OF PACK AROUND SCREEN ANSI/NSF Quartz Sand

5 RISER MATERIAL Stainless Steel

6 RISER DIAMETER 0.125 INCHES

7 SCREEN MATERIAL Stainless Steel

8 TYPE OF SEAL Bentonite Chips

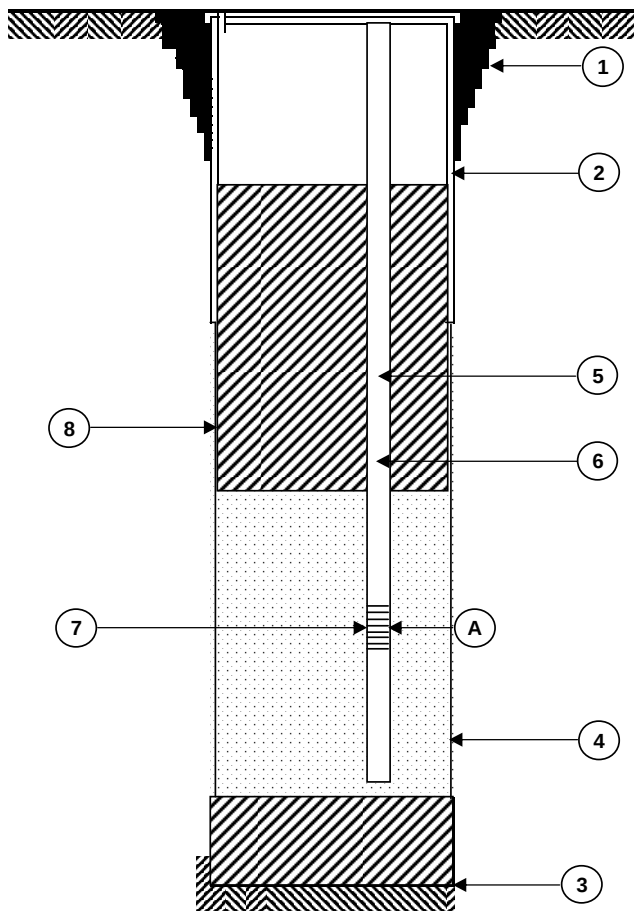
* (DEPTH FROM GROUND SURFACE)

NOTE: DRAWING NOT TO SCALE

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VAPOR MONITORING POINT CONSTRUCTION DIAGRAM

GROUND SURFACE ELEVATION (FEET) approx. 443 JOB NUMBER 21562289
 TOP OF INNER WELL CASING ELEVATION NA BORING NUMBER VMP-18-8.5
 DATUM 1988 USGS INSTALLATION DATE 6/11/2010
 LOCATION Roxana, Illinois



VAPOR MONITORING PORT INSTALLATION DETAILS

SCREEN	DEPTH TO BOTTOM OF SAND (FEET*)	DEPTH TO TOP OF SAND (FEET*)	DEPTH TO BOTTOM OF SCREEN (FEET*)	DEPTH TO TOP OF SCREEN (FEET*)	LENGTH OF SCREEN (FEET)	DIAMETER OF SCREEN (INCHES)	SLOT SIZE (INCHES)
A	9.5	8	8.5	9	0.5	0.5	0.010

- 1 CONCRETE CAP? ☒ YES ☐ NO (CIRCLE ONE)
 2 BOREHOLE DIAMETER 8 INCHES
 3 TOTAL DEPTH OF BOREHOLE 9.5 FEET*
 4 TYPE OF PACK AROUND SCREEN ANSI/NSF Quartz Sand
 5 RISER MATERIAL Stainless Steel
 6 RISER DIAMETER 0.125 INCHES
 7 SCREEN MATERIAL Stainless Steel
 8 TYPE OF SEAL Bentonite Chips

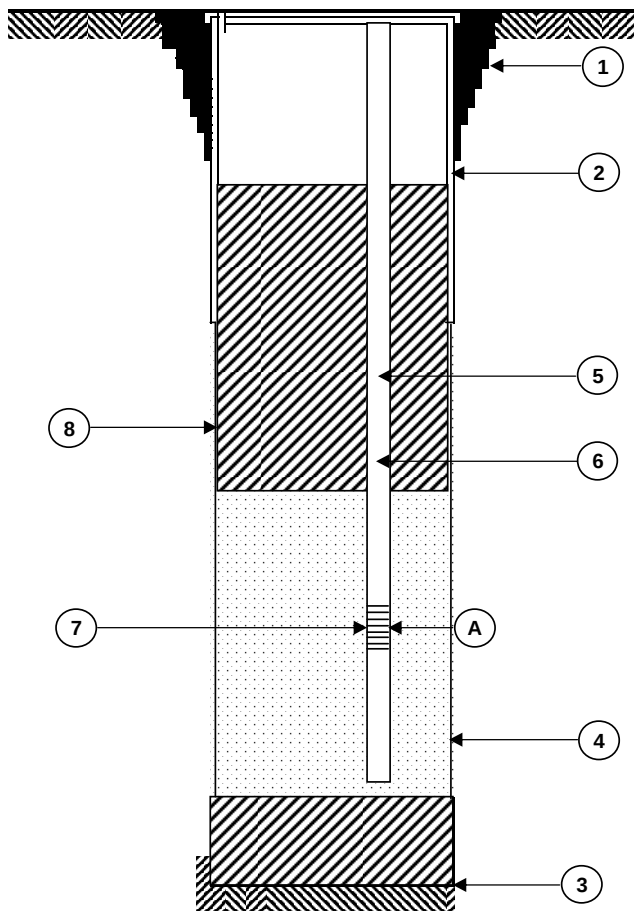
* (DEPTH FROM GROUND SURFACE)

NOTE: DRAWING NOT TO SCALE

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VAPOR MONITORING POINT CONSTRUCTION DIAGRAM

GROUND SURFACE ELEVATION (FEET) approx. 443 JOB NUMBER 21562289
 TOP OF INNER WELL CASING ELEVATION NA BORING NUMBER VMP-19-5
 DATUM 1988 USGS INSTALLATION DATE 6/11/2010
 LOCATION Roxana, Illinois



VAPOR MONITORING PORT INSTALLATION DETAILS

SCREEN	DEPTH TO BOTTOM OF SAND (FEET*)	DEPTH TO TOP OF SAND (FEET*)	DEPTH TO BOTTOM OF SCREEN (FEET*)	DEPTH TO TOP OF SCREEN (FEET*)	LENGTH OF SCREEN (FEET)	DIAMETER OF SCREEN (INCHES)	SLOT SIZE (INCHES)
A	6	4.5	5.5	5	0.5	0.5	0.010

- 1 CONCRETE CAP? ☒ YES ☐ NO (CIRCLE ONE)
 2 BOREHOLE DIAMETER 8 INCHES
 3 TOTAL DEPTH OF BOREHOLE 7 FEET*
 4 TYPE OF PACK AROUND SCREEN ANSI/NSF Quartz Sand
 5 RISER MATERIAL Stainless Steel
 6 RISER DIAMETER 0.125 INCHES
 7 SCREEN MATERIAL Stainless Steel
 8 TYPE OF SEAL Bentonite Chips

* (DEPTH FROM GROUND SURFACE)

NOTE: DRAWING NOT TO SCALE

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**SOIL VAPOR DEVELOPMENT
AND SAMPLING INFORMATION**

TABLE B-1
SOIL VAPOR DEVELOPMENT & PURGING INFORMATION

LOCATION	ID	ID Color	Bottom of Screen	Tubing Volume	Sand Pack Volume	Sample Train Volume	Target Development Purge Volume	Actual Development Purge Volume	Target Sampling Purge Volume	Actual Sampling Purge Volume
				mL						
VMP-1	VMP-1-5	yellow	5.5	18	18,765	10	56,378	60,000	83	90
	VMP-1-8.5	blue	9	27	18,765	10	56,403	60,000	108	120
	VMP-1-23.5	green	24	63	18,765	10	56,512	60,000	217	225
	VMP-1-38.5	red	39	99	18,765	10	56,620	70,000	325	345
VMP-2	VMP-2-5	yellow	5.5	18	18,765	10	56,378	60,000	83	90
	VMP-2-8.5	blue	9	27	18,765	10	56,403	60,000	108	120
	VMP-2-22	green	22.5	59	18,765	10	56,501	60,000	206	225
	VMP-2-42	red	42.5	107	18,765	10	56,646	62,000	351	375
VMP-3	VMP-3-5	yellow	5.5	18	18,765	10	56,378	64,000	83	90
	VMP-3-10		10.5	30	18,765	10	56,414	57,000	119	120
	VMP-3-22	blue	22.5	59	18,765	10	56,501	60,000	206	225
	VMP-3-31.5	green	32	82	18,765	10	56,570	66,000	275	360
VMP-4	VMP-3-39	red	39.5	100	18,765	10	56,624	80,000	329	450
	VMP-4-5	yellow	5.5	18	18,765	10	56,378	62,000	83	105
	VMP-4-12	blue	12.5	35	18,765	10	56,429	72,000	134	150
	VMP-4-23.5	green	24	63	18,765	10	56,512	76,000	217	225
VMP-5	VMP-4-39	red	39.5	100	18,765	10	56,624	82,000	329	330
	VMP-5-5	yellow	5.5	18	18,765	10	56,378	80,000	83	90
	VMP-5-12.5	blue	13	36	18,765	10	56,432	66,000	137	165
	VMP-5-31	green	31.5	81	18,765	10	56,566	66,000	271	300
VMP-6	VMP-5-40	red	40.5	102	18,765	10	56,631	68,000	336	360
	VMP-6-5	yellow	5.5	18	18,765	10	56,378	76,000	83	105
	VMP-6-10	blue	10.5	30	18,765	10	56,414	70,000	119	135
	VMP-6-31.5	green	32	82	18,765	10	56,570	70,000	275	285
VMP-7	VMP-6-39	red	39.5	100	18,765	10	56,624	74,000	329	330
	VMP-7-5	yellow	5.5	18	18,765	10	56,378	66,000	83	120
	VMP-7-13.5	blue	14	39	18,765	10	56,440	60,000	145	165
	VMP-7-29.5	green	30	77	18,765	10	56,555	62,000	260	270
VMP-8	VMP-7-38	red	38.5	98	18,765	10	56,617	88,000	322	330
	VMP-8-5	yellow	5.5	18	18,765	10	56,378	72,000	83	105
	VMP-8-9.5	blue	10	29	18,765	10	56,411	60,000	116	120
	VMP-8-23.5	green	24	63	18,765	10	56,512	62,000	217	225
VMP-9	VMP-8-35.5	red	36	92	18,765	10	56,599	72,000	304	315
	VMP-9-5	yellow	5.5	18	18,765	10	56,378	70,000	83	90
	VMP-9-11.5	blue	12	34	18,765	10	56,425	60,000	130	150
	VMP-9-25.5	green	26	67	18,765	10	56,526	62,000	231	255
VMP-10	VMP-9-38.5	red	39	99	18,765	10	56,620	64,000	325	330
	VMP-10-5	yellow	5.5	18	18,765	10	56,378	64,000	83	90
	VMP-10-10	blue	10.5	30	18,765	10	56,414	60,000	119	120
	VMP-10-20	green	20.5	54	18,765	10	56,487	62,000	192	210
VMP-11	VMP-10-30	red	30.5	78	18,765	10	56,559	60,000	264	270
	VMP-11-5	yellow	5.5	18	18,765	10	56,378	60,000	83	105
	VMP-11-8	blue	8.5	25	18,765	10	56,400	62,000	105	120
	VMP-11-29	green	29.5	76	18,765	10	56,552	60,000	257	270
VMP-12	VMP-11-38	red	38.5	98	18,765	10	56,617	60,000	322	345
	VMP-12-5	yellow	5.5	18	18,765	10	56,378	60,000	83	105
	VMP-12-11.5	blue	12	34	18,765	10	56,425	68,000	130	135
	VMP-12-25	green	25.5	66	18,765	10	56,523	70,000	228	255
VMP-13	VMP-12-39	red	39.5	100	18,765	10	56,624	66,000	329	330
	VMP-13-5	yellow	5.5	18	18,765	10	56,378	64,000	83	105
	VMP-13-10.5	blue	11	31	18,765	10	56,418	60,000	123	135
	VMP-13-21.5	green	22	58	18,765	10	56,497	60,000	202	210
VMP-14	VMP-13-29.5	red	30	77	18,765	10	56,555	60,000	260	300
	VMP-14-5	yellow	5.5	18	18,765	10	56,378	80,000	83	90
	VMP-14-11.5	blue	12	34	18,765	10	56,425	70,000	130	135
	VMP-14-20	green	20.5	54	18,765	10	56,487	70,000	192	195
VMP-15	VMP-14-29	red	29.5	76	18,765	10	56,552	80,000	257	285
	VMP-15-5	yellow	5.5	18	18,765	10	56,378	60,000	83	105
	VMP-15-21.5	blue	22	58	18,765	10	56,497	66,000	202	225
	VMP-15-25.5	green	26	67	18,765	10	56,526	66,000	231	255
VMP-16	VMP-15-29	red	29.5	76	18,765	10	56,552	64,000	257	285
	VMP-16-5	yellow	5.5	18	18,765	10	56,378	72,000	83	105
	VMP-16-13.5	blue	14	39	18,765	10	56,440	66,000	145	180
	VMP-16-19	green	19.5	52	18,765	10	56,479	60,000	184	210
VMP-17	VMP-16-31	red	31.5	81	18,765	10	56,566	66,000	271	300
VMP-18	VMP-17-5	yellow	5.5	18	18,765	10	56,378	57,000	83	90
VMP-19	VMP-18-8.5	blue	9	27	18,765	10	56,403	57,000	108	120
VMP-19	VMP-19-5	yellow	5.5	18	18,765	10	56,378	57,000	83	90

NOTES:

- 1) The sand pack volume shown on this table is the volume of the entire sand pack, not just the pore space volume within the sand pack.
- 2) The target development purge volume is equal to 3 times the combined volume of the port tubing, sand pack, and sample train.
- 3) The target sampling purge volume is equal to 3 times the combined volume of the port tubing and sample train.
- 4) Information previously presented has been shaded in gray.
- 5) Individual ports are color coded in the field based on screen depth.

[illegible]

TABLE C-1 All Results – Soil Sampling

TABLE C-2 All Results – Groundwater Sampling

TABLE C-3 All Results – Soil Vapor Sampling

SEE LAST PAGE OF TABLE FOR NOTES.

TABLE C-1
ALL RESULTS - SOIL SAMPLING

Location	Sample ID	Sample Depth	Result Units	Sample Date	Benzene	Ethylbenzene	Toluene	m,p-Xylene	o-Xylene	Acetone	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	2-Butanone	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	2-Chlorotoluene	4-Chlorotoluene	Dibromochloromethane
Soil Samples																												
GP-1	GP-1-22.5	22.5 ft	mg/kg	9/2/2009	< 0.004	< 0.004	< 0.004	< 0.009	< 0.004	0.019 J	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.043	< 0.004	0.001 J	0.002 J	< 0.043	< 0.004	< 0.004	< 0.009	< 0.004	< 0.009	< 0.004	< 0.004	< 0.004
	GP-1-31EB	NA	mg/L	9/2/2009	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	< 0.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005
	GP-1-31	31 ft	mg/kg	9/2/2009	< 0.004	< 0.004	< 0.004	< 0.009	< 0.004	< 0.09	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.045	< 0.004	< 0.004	< 0.004	< 0.045	< 0.004	< 0.004	< 0.009	< 0.004	< 0.009	< 0.004	< 0.004	< 0.004
	GP-1-31D	31 ft	mg/kg	9/2/2009	< 0.004	< 0.004	< 0.004	< 0.008	< 0.004	< 0.082	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.041	< 0.004	< 0.004	< 0.004	< 0.041	< 0.004	< 0.004	< 0.008	< 0.004	< 0.008	< 0.004	< 0.004	< 0.004
GP-2	GP-2-17	17 ft	mg/kg	8/31/2009	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	< 0.104	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.052	< 0.005	< 0.005	< 0.005	< 0.052	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005
	GP-2-23.5	23.5 ft	mg/kg	8/31/2009	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	< 0.104	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.052	< 0.005	< 0.005	< 0.005	< 0.052	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005
	GP-2-23.5D	23.5 ft	mg/kg	8/31/2009	< 0.004	< 0.004	< 0.004	< 0.009	< 0.004	< 0.09	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.045	< 0.004	< 0.004	< 0.004	< 0.045	< 0.004	< 0.004	< 0.009	< 0.004	< 0.009	< 0.004	< 0.004	< 0.004
GP-3	GP-3-17	17 ft	mg/kg	6/9/2010	< 0.005	< 0.005	< 0.005	< 0.011	< 0.005	0.105 J	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.016 J	< 0.005	< 0.005	< 0.005	< 0.055	< 0.005	< 0.005	< 0.011	< 0.005	< 0.011	< 0.005	< 0.005	< 0.005
	GP-3-24EB	NA	mg/L	6/9/2010	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	< 0.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005
	GP-3-24	24 ft	mg/kg	6/9/2010	0.007	< 0.005	< 0.005	< 0.01	< 0.005	< 0.097	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.049	< 0.005	< 0.005	< 0.005	< 0.049	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005
GP-4	GP-4-11	11 ft	mg/kg	8/31/2009	0.002 J	0.002 J	< 0.009	0.005 J	0.002 J	< 0.176	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.088	< 0.009	< 0.009	0.005 J	< 0.088	< 0.009	< 0.009	< 0.018	< 0.009	< 0.018	< 0.009	< 0.009	< 0.009
	GP-4-22.5	22.5 ft	mg/kg	8/31/2009	< 0.005	< 0.005	< 0.005	< 0.009	< 0.005	< 0.094	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.047	< 0.005	< 0.005	< 0.005	< 0.047	< 0.005	< 0.005	< 0.009	< 0.005	< 0.009	< 0.005	< 0.005	< 0.005
	GP-4-33	33 ft	mg/kg	8/31/2009	0.003 J	< 0.005	< 0.005	< 0.01	< 0.005	< 0.102	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.051	< 0.005	< 0.005	< 0.005	< 0.051	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005
GP-5	GP-5-10	10 ft	mg/kg	6/9/2010	< 0.006	< 0.006	< 0.006	< 0.013	< 0.006	0.117 J	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.063	< 0.006	< 0.006	< 0.006	< 0.063	< 0.006	< 0.006	< 0.013	< 0.006	< 0.013	< 0.006	< 0.006	< 0.006
	GP-5-19	19 ft	mg/kg	6/9/2010	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	< 0.101	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.051	< 0.005	< 0.005	< 0.005	< 0.051	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005
	GP-5-27	27 ft	mg/kg	6/9/2010	0.034 J	0.002 J J	0.002 J J	0.005 J J	0.001 J J	< 0.077	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.038	0.046 J	0.029 J	0.012 J	< 0.038	< 0.004	< 0.004	< 0.008	< 0.004	< 0.008	< 0.004	< 0.004	< 0.004
	GP-5-27D	27 ft	mg/kg	6/9/2010	0.186 J	0.012 J	0.009 J	0.031 J	0.01 J	< 0.094	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.047	0.17 J	0.105 J	0.044 J	< 0.047	< 0.005	< 0.005	< 0.009	< 0.005	< 0.009	< 0.005	< 0.005	< 0.005
GP-7	GP-7-37	3 ft	mg/kg	8/26/2009	0.987 J	5.37 J	3.45 J	16.1 J	7.99 J	< 6.82 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 3.41 UJ	0.586 J	0.121 J J	< 0.341 UJ	< 3.41 UJ	< 0.341 UJ	< 0.341 UJ	< 0.682 UJ	< 0.341 UJ	< 0.682 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ
	GP-7-37D	3 ft	mg/kg	8/26/2009	0.878 J	4.75 J	3.05 J	14.1 J	7.12 J	< 6.36 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 3.18 UJ	0.491 J	0.103 J J	< 0.318 UJ	< 3.18 UJ	< 0.318 UJ	< 0.318 UJ	< 0.636 UJ	< 0.318 UJ	< 0.636 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ
	GP-7-41	3 ft	mg/kg	8/26/2009	2.18 J	12.8 J	1.86 J	39.4 J	16.4 J	< 13.1 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 6.57 UJ	0.997 J	0.276 J J	< 0.657 UJ	< 6.57 UJ	< 0.657 UJ	< 0.657 UJ	< 1.31 UJ	< 0.657 UJ	< 1.31 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ
	GP-7-25	3 ft	mg/kg	8/26/2009	< 0.005	0.002 J	< 0.005	0.004 J	0.002 J	< 0.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005
GP-8	GP-8-13	13 ft	mg/kg	8/26/2009	0.002 J	0.005	< 0.005	0.006 J	< 0.005	< 0.093	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.046	0.005	0.002 J	< 0.005	< 0.046	< 0.005	< 0.005	< 0.009	< 0.005	< 0.009	< 0.005	< 0.005	< 0.005
	GP-8-35	35 ft	mg/kg	8/26/2009	0.006	0.007	0.001 J	0.003 J	< 0.005	< 0.091	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.012	< 0.005	< 0.005	< 0.005	< 0.046	< 0.005	< 0.005	< 0.009	< 0.005	< 0.009	< 0.005	< 0.005	< 0.005
	GP-8-47	47 ft	mg/kg	8/26/2009	< 0.006 UJ	0.002 J J	< 0.006 UJ	0.003 J J	< 0.006 UJ	< 0.026	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.056	0.005 J J	< 0.006 UJ	< 0.006	< 0.056	< 0.006	< 0.006	< 0.011	< 0.006	< 0.011	< 0.006	< 0.006	< 0.006
	GP-8-47D	47 ft	mg/kg	8/26/2009	1.48 J	1.88 J	0.059 J J	1.98 J	0.137 J J	< 4.69	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 2.35	0.235 J	0.063 J J	< 0.235	< 2.35	< 0.235	< 0.235	< 0.469	< 0.235	< 0.469	< 0.235	< 0.235	< 0.235
GP-9	GP-9-18	18 ft	mg/kg	8/25/2009	2.78 J	60.6	94.2	162	69.2	< 101	< 5.07	< 5.07	< 5.07	< 5.07	< 5.07	< 50.7	10	2.08 J	< 5.07	< 50.7	< 5.07	< 5.07	< 10.1	< 5.07	< 10.1	< 5.07	< 5.07	< 5.07
	GP-9-37	37 ft	mg/kg	8/25/2009	0.004 J	0.241	0.008	1.04 D	0.395 D	< 0.122	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.061	0.089	0.031	< 0.006	< 0.061	< 0.006	< 0.006	< 0.012	< 0.006	< 0.012	< 0.006	< 0.006	< 0.006
Trip Blank	TB082509	NA	mg/kg	8/25/2009	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	0.0205 J	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005
	TB083109	NA	mg/kg	8/31/2009	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	< 0.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005
	TB090309	NA	mg/kg	9/3/2009	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	< 0.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005

SEE LAST PAGE OF TABLE FOR NOTES.

TABLE C-1
ALL RESULTS - SOIL SAMPLING

Location	Sample ID	Sample Depth	Result Units	Sample Date	1,2-Dibromo-3-chloropropane	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	1,2-Dichloropropane	1,3-Dichloropropane	2,2-Dichloropropane	1,1-Dichloropropene	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Hexachlorobutadiene	Isopropylbenzene	p-Isopropyltoluene	Methylene chloride	Methyl tert-Butyl Ether	n-Propylbenzene			
Soil Samples																														
GP-1	GP-1-22.5	22.5 ft	mg/kg	9/2/2009	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.017	< 0.004	< 0.004			
	GP-1-31EB	NA	mg/L	9/2/2009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005			
	GP-1-31	31 ft	mg/kg	9/2/2009	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.018	< 0.004	< 0.004			
	GP-1-31D	31 ft	mg/kg	9/2/2009	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.016	< 0.004	< 0.004		
GP-2	GP-2-17	17 ft	mg/kg	8/31/2009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.021	< 0.005	< 0.005		
	GP-2-23.5	23.5 ft	mg/kg	8/31/2009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.021	< 0.005	< 0.005		
	GP-2-23.5D	23.5 ft	mg/kg	8/31/2009	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.018	< 0.004	< 0.004		
GP-3	GP-3-17	17 ft	mg/kg	6/9/2010	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.022	0.013	< 0.005		
	GP-3-24EB	NA	mg/L	6/9/2010	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005			
	GP-3-24	24 ft	mg/kg	6/9/2010	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.02	< 0.005	< 0.005		
GP-4	GP-4-11	11 ft	mg/kg	8/31/2009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.035	0.005 J	0.003 J		
	GP-4-22.5	22.5 ft	mg/kg	8/31/2009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.019	< 0.005	< 0.005			
	GP-4-33	33 ft	mg/kg	8/31/2009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.02	< 0.005	< 0.005		
GP-5	GP-5-10	10 ft	mg/kg	6/9/2010	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.025	0.002 J	< 0.006			
	GP-5-19	19 ft	mg/kg	6/9/2010	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.02	0.003 J	< 0.005		
	GP-5-27	27 ft	mg/kg	6/9/2010	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.036 J	0.006 J	< 0.015	0.032 J	0.071 J		
	GP-5-27D	27 ft	mg/kg	6/9/2010	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.019	0.126 J	0.439 D J			
GP-7	GP-7-37	3 ft	mg/kg	8/26/2009	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 1.36 UJ	< 0.341 UJ	1.62 J			
	GP-7-37D	3 ft	mg/kg	8/26/2009	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 1.27 UJ	< 0.318 UJ	1.39 J			
	GP-7-41	3 ft	mg/kg	8/26/2009	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 2.63 UJ	< 0.657 UJ	3.02 J			
	GP-7-25	3 ft	mg/kg	8/26/2009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.02	< 0.005	< 0.005		
GP-8	GP-8-13	13 ft	mg/kg	8/26/2009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.003 J	0.002 J	< 0.019	< 0.005	0.006		
	GP-8-35	35 ft	mg/kg	8/26/2009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.018	< 0.005	0.001 J			
	GP-8-47	47 ft	mg/kg	8/26/2009	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006 UJ	< 0.006 UJ	< 0.023	< 0.006	0.002 J J			
	GP-8-47D	47 ft	mg/kg	8/26/2009	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.938	< 0.235	0.543 J			
GP-9	GP-9-18	18 ft	mg/kg	8/25/2009	< 5.07	< 5.07	< 5.07	< 5.07	< 5.07	< 5.07	< 5.07	< 5.07	< 5.07	< 5.07	< 5															

SEE LAST PAGE OF TABLE FOR NOTES.

TABLE C-1
ALL RESULTS - SOIL SAMPLING

Location	Sample ID	Sample Depth	Result Units	Sample Date	Styrene	1,1,1,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	Tetrachloroethene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Trichlorofluoromethane	1,2,3-Trichloropropane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl acetate	Vinyl chloride
Soil Samples																			
GP-1	GP-1-22.5	22.5 ft	mg/kg	9/2/2009	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.043	< 0.002
	GP-1-31EB	NA	mg/L	9/2/2009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.002
	GP-1-31	31 ft	mg/kg	9/2/2009	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.045	< 0.002
	GP-1-31D	31 ft	mg/kg	9/2/2009	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.041	< 0.002
GP-2	GP-2-17	17 ft	mg/kg	8/31/2009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.052	< 0.002
	GP-2-23.5	23.5 ft	mg/kg	8/31/2009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.052	< 0.002
	GP-2-23.5D	23.5 ft	mg/kg	8/31/2009	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.045	< 0.002
GP-3	GP-3-17	17 ft	mg/kg	6/9/2010	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.055	< 0.002
	GP-3-24EB	NA	mg/L	6/9/2010	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.002
	GP-3-24	24 ft	mg/kg	6/9/2010	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.049	< 0.002
GP-4	GP-4-11	11 ft	mg/kg	8/31/2009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	0.011	0.003 J	< 0.088	< 0.004
	GP-4-22.5	22.5 ft	mg/kg	8/31/2009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.047	< 0.002
	GP-4-33	33 ft	mg/kg	8/31/2009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.002 J	< 0.005	< 0.051	< 0.002
GP-5	GP-5-10	10 ft	mg/kg	6/9/2010	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.063	< 0.003
	GP-5-19	19 ft	mg/kg	6/9/2010	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.051	< 0.002
	GP-5-27	27 ft	mg/kg	6/9/2010	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	0.002 J J	0.002 J J	< 0.038	< 0.002
	GP-5-27D	27 ft	mg/kg	6/9/2010	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.014 J	0.021 J	< 0.047	< 0.002
GP-7	GP-7-37	3 ft	mg/kg	8/26/2009	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	< 0.341 UJ	8.49 J	2.32 J	< 3.41 UJ	< 0.136 UJ
	GP-7-37D	3 ft	mg/kg	8/26/2009	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	< 0.318 UJ	7.32 J	2.04 J	< 3.18 UJ	< 0.127 UJ
	GP-7-41	3 ft	mg/kg	8/26/2009	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	< 0.657 UJ	17.6 J	4.83 J	< 6.57 UJ	< 0.263 UJ
	GP-7-25	3 ft	mg/kg	8/26/2009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.004 J	< 0.005	< 0.05	< 0.002
GP-8	GP-8-13	13 ft	mg/kg	8/26/2009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.004 J	0.001 J	< 0.046	< 0.002
	GP-8-35	35 ft	mg/kg	8/26/2009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.002 J	< 0.005	< 0.046	< 0.002
	GP-8-47	47 ft	mg/kg	8/26/2009	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	0.006 J	0.002 J J	< 0.056	< 0.002
	GP-8-47D	47 ft	mg/kg	8/26/2009	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	< 0.235	1.3 J	0.458 J	< 2.35	< 0.094
GP-9	GP-9-18	18 ft	mg/kg	8/25/2009	< 5.07	< 5.07	< 5.07	< 5.07	< 5.07	< 5.07	< 5.07	< 5.07	< 5.07	< 5.07	< 5.07	93.4	26	< 50.7	< 2.03
	GP-9-37	37 ft	mg/kg	8/25/2009	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	1.31 D	0.206	< 0.061	< 0.002
Trip Blank	TB082509	NA	mg/kg	8/25/2009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.002
	TB083109	NA	mg/kg	8/31/2009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.002
	TB090309	NA	mg/kg	9/3/2009	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.002

NOTES

- 1) NA = Not Applicable
2) Sample ID ending with "EB" denotes a field equipment blank sample.
3) Sample ID ending with "D" denotes field duplicate sample.
4) Information previously presented has been shaded in gray.

QUALIFIERS

- D = Diluted sampled, Dilution factors included in results.
J = The result is estimated.
U = Not detected.

TABLE C-2
ALL RESULTS - GROUNDWATER SAMPLING

Location	Sample ID	Sample Depth	Sample Date	Benzene	Ethylbenzene	Toluene	m,p-Xylene	o-Xylene	Acetone	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	2-Butanone	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	2-Chlorotoluene	4-Chlorotoluene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	1,2-Dibromo-3-chloropropane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,2-Dichloropropane					
Groundwater Samples (mg/L)																																												
GP-1	GP-1-34	34 ft	9/2/2009	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	< 0.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005				
	GP-1-42	42 ft	9/2/2009	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	< 0.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005			
GP-3	GP-3-29.5	29.5 ft	6/9/2010	0.00371 J	< 0.005	< 0.005	< 0.01	< 0.005	< 0.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	0.00129 J	0.0114	0.00107 J	< 0.05	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		
	GP-3-29.5D	29.5 ft	6/9/2010	0.00369 J	< 0.005	< 0.005	< 0.01	< 0.005	< 0.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	0.00127 J	0.0108	0.00113 J	< 0.05	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005		
GP-4	GP-3-37.5	37.5 ft	6/9/2010	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	< 0.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
	GP-4-34	34 ft	9/1/2009	0.0635	< 0.005	0.00492 J	0.00649 J	0.00253 J	< 0.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	0.00387 J	0.00838	< 0.05	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
GP-5	GP-4-34D	34 ft	9/1/2009	0.0669	< 0.005	0.00512	0.00622 J	0.00241 J	< 0.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	0.00386 J	0.00822	< 0.05	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
	GP-4-42	42 ft	9/1/2009	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	< 0.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	0.00125 J	0.00176 J	< 0.05	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
GWP-01	GP-5-31.5	31.5 ft	6/9/2010	0.0554	< 0.005	0.00249 J	0.0145	0.00355 J	< 0.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	0.00513	0.00675	0.00426 J	< 0.05	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	GP-5-39.5EB	NA	6/9/2010	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	< 0.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
GWP-02	GP-5-39.5	39.5 ft	6/9/2010	0.00958	< 0.005	< 0.005	< 0.01	< 0.005	< 0.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	0.00346 J	0.00966	0.0035 J	< 0.05	< 0.005	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	GWP-1-50	50 ft	7/27/2009	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	< 0.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	
GWP-03	GWP-1-58	58 ft	7/27/2009	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	< 0.1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.005	< 0.005	< 0.05	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	GWP-2-50	50 ft	7/28/2009	0.0293	< 0.005	0.00																																						

Shell Oil Products US
Roxana, Illinois

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P:\Environmental\Shell Oil Product US\B-Roxana-Route 111\Dissolved Phase Investigation 21562175-U-Supplemental Investigation\Attachments\Attachment C All Results Tables.xls\TABLE C-2 GW

TABLE C-2
~~ALL RESULTS - GROUNDWATER SAMPLING~~

Location	Sample ID	Sample Depth	Sample Date	Benzo(a)pyrene	Benzo(g,h,i)perylene	bis(2-Chloroethoxy)methane	bis(2-Chloroethyl)ether	bis(2-chloroisopropyl) ether	bis(2-Ethylhexyl)phthalate	4-Bromophenyl phenyl ether	Butyl benzyl phthalate	4-Chloroaniline	4-Chloro-3-methylphenol	2-Chloronaphthalene	2-Chlorophenol	4-Chlorophenyl phenyl ether	Chrysene	Dibenzo(a,h)anthracene	Dibenzofuran	3,3-Dichlorobenzidine	2,4-Dichlorophenol	Diethyl phthalate	2,4-Dimethylphenol	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	4,6-Dinitro-2-methylphenol	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	Fluoranthene				
Groundwater Samples (mg/L)																																			
GP-1	GP-1-34	34 ft	9/2/2009	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.021	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005			
	GP-1-42	42 ft	9/2/2009	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005			
GP-3	GP-3-29.5	29.5 ft	6/9/2010	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.04	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.01			
	GP-3-29.5D	29.5 ft	6/9/2010	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.04	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01				
	GP-3-37.5	37.5 ft	6/9/2010	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.04	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01				
GP-4	GP-4-34	34 ft	9/1/2009	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005			
	GP-4-34D	34 ft	9/1/2009	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005			
GP-5	GP-4-42	42 ft	9/1/2009	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005			
	GP-5-31.5	31.5 ft	6/9/2010	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.04	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01			
	GP-5-39.5EB	NA	6/9/2010	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.04	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01			
GWP-01	GP-5-39.5	39.5 ft	6/9/2010	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.04	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01			
	GWP-1-50	50 ft	7/27/2009	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005			
GWP-02	GWP-1-58	58 ft	7/27/2009	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.021	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005			
	GWP-2-50	50 ft	7/28/2009	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.021	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005			
GWP-03	GWP-2-58	58 ft	7/28/2009	< 0.006	< 0.006	< 0.011	< 0.011	< 0.011	< 0.006	< 0.011	< 0.006	< 0.023	< 0.011	< 0.011	< 0.011	< 0.011	< 0.006	< 0.006	< 0.011	< 0.011	< 0.011	< 0.006	< 0.011	< 0.006	< 0.006	< 0.006	< 0.006	< 0.011	< 0.011	< 0.011	< 0.011	< 0.006			
	GWP-3-50	50 ft	7/28/2009	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.021	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.005	0.002 J	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005			
GWP-04	GWP-3-58	58 ft	7/28/2009	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.005	0.02	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005			
	GWP-4-50	50 ft	7/29/2009	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005			
GWP-05	GWP-4-58	58 ft	7/29/2009	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005			
	GWP-5-50	50 ft	7/30/2009	< 0.005	< 0.005	< 0.011	< 0.011	< 0.011	< 0.005	< 0.011	< 0.005	< 0.022	< 0.011	< 0.011	< 0.011	< 0.011	< 0.005	< 0.005	< 0.011	< 0.011	< 0.011	< 0.005	< 0.011	< 0.005	0.003 J	< 0.005	< 0.005	< 0.005	< 0.011	< 0.011	< 0.011	< 0.011	< 0.005		
GWP-06	GWP-5-58	58 ft	7/30/2009	< 0.006	< 0.006	< 0.011	< 0.011	< 0.011	< 0.006	< 0.011	< 0.006	< 0.022	< 0.011	< 0.011	< 0.011	< 0.011	< 0.006	< 0.006	< 0.011	< 0.011	< 0.011	< 0.006	< 0.011	< 0.006	0.008 J	< 0.006	< 0.006	< 0.006	< 0.011	< 0.011	< 0.011	< 0.011	< 0.006		
	GWP-6-50	50 ft	7/29/2009	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.004 J	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005			
GWP-07	GWP-6-50-D	50 ft	7/29/2009	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	0.004 J	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005			
	GWP-6-58	58 ft	7/29/2009	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	0.005 J	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005			
	GWP-7-50	50 ft	7/30/2009	< 0.005	< 0.005	< 0.011	< 0.011	< 0.011	< 0.005	< 0.011	< 0.005	< 0.021	< 0.011	< 0.011	< 0.011	< 0.011	< 0.005	< 0.005	< 0.011	< 0.011	< 0.011	< 0.005	< 0.011	< 0.005	0.01 J	< 0.005	< 0.005	< 0.005	< 0.011	< 0.011	< 0.011	< 0.011	< 0.005		
GWP-08	GWP-7-58	58 ft	7/30/2009	< 0.005 UJ	< 0.005 UJ	< 0.011 UJ	< 0.011 UJ	< 0.011 UJ	< 0.005 UJ	< 0.011 UJ	< 0.005 UJ	< 0.022 UJ	< 0.011 UJ	< 0.011 UJ	< 0.011 UJ	< 0.011 UJ	< 0.005 UJ	< 0.005 UJ	< 0.011 UJ	< 0.011 UJ	< 0.011 UJ	< 0.005 UJ	< 0.011 UJ	< 0.011 UJ	< 0.011 UJ	< 0.005 UJ	< 0.011 UJ	< 0.005 UJ	< 0.005 UJ	< 0.011 UJ	< 0.011 UJ	< 0.011 UJ	< 0.005 UJ		
	GWP-8-50	50 ft	7/31/2009	< 0.005	< 0.005	< 0.011	< 0.011	< 0.011	< 0.005	< 0.011	< 0.005	< 0.021	< 0.011	< 0.011	< 0.011	< 0.011	< 0.005	< 0.005	0.001 J	< 0.011	< 0.011	< 0.011	< 0.005	0.005 J	< 0.005	< 0.005	< 0.005	< 0.005	< 0.011	< 0.011	< 0.011	< 0.011	< 0.005		
GWP-09	GWP-8-58	58 ft	7/31/2009	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.021	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	0.002 J	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005			
	GWP-9-50EB	NA	7/31/2009	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005			
GWP-10	GWP-9-50	50 ft	8/3/2009	< 0.005	< 0.005	< 0.01	< 0.01	< 0.01	< 0.005	< 0.01	< 0.005	< 0.02	&																						

NOTES

- 1) NA = Not Applicable
- 2) NS = Not Sampled
- 3) Sample ID ending with "EB" denotes a field equipment blank sample.
- 4) Sample ID ending with "D" denotes field duplicate sample.
- 5) Information previously presented has been shaded in gray.

QUALIFIERS

D = Diluted sampled. Dilution factors included in results.

J = The result is estimated.

U = Not detected.

Shell Oil Products US
Roxana, Illinois

August 2011

P:\Environmental\Shell Oil Product US\B-Roxana-Route 111\Dissolved Phase Investigation 21562175-U-Supplemental Investigation\Attachments\Attachment C ALL Results Tables.xls\TABLE C-3 Vapor

TABLE C-3
ALL RESULTS - SOIL VAPOR SAMPLING

Location	Sample ID	Sample Depth	Sample Date	2-Hexanone (mg/m3)	Isopropylbenzene (mg/m3)	Methylene chloride (mg/m3)	4-Methyl-2-pentanone (mg/m3)	Methyl tert-Butyl Ether (mg/m3)	2-Propanol (mg/m3)	n-Propylbenzene (mg/m3)	Styrene (mg/m3)	1,1,2,2-Tetrachloroethane (mg/m3)	Tetrachloroethene (mg/m3)	Tetrahydrofuran (mg/m3)	1,2,4-Trichlorobenzene (mg/m3)	1,1,1-Trichloroethane (mg/m3)	1,1,2-Trichloroethane (mg/m3)	Trichloroethene(mg/m3)	Trichlorofluoromethane (mg/m3)	1,2,4-Trimethylbenzene (mg/m3)	1,3,5-Trimethylbenzene (mg/m3)	2,2,4-Trimethylpentane (mg/m3)	Vinyl chloride (mg/m3)	Carbon Dioxide (%)	Carbon Monoxide (%)	Ethane (%)	Ethene (%)	Helium (%)	Methane (%)	Nitrogen (%)	Oxygen (%)	
Soil Vapor Samples																																
VMP-1	VMP-1-5	5 ft	11/2/2009	<1.9	<0.58	<0.41	<0.49	<0.43	<1.2	<0.58	<0.51	<0.82	<0.81	<0.35	<3.5	<0.65	<0.58	<0.64	<0.67	<0.58	<0.3	220	<0.65	4.5	<0.024	<0.0024	<0.0024	<0.0024	1.6	1.4	81	11
	VMP-1-8.5	8.5 ft	11/2/2009	<2.7	<0.8	<0.57	<0.67	<0.59	<1.6	<0.8	<0.7	<1.1	<1.1	<0.48	<4.8	<0.89	<0.8	<0.88	<0.92	<0.8	<0.42	370	<0.89	12	<0.023	<0.0023	<0.0023	<0.0023	<0.11	1.5	85	1.5
	VMP-1-23.5	23.5 ft	11/2/2009	<6.5	<1.9	<1.4	<1.6	<1.4	<3.9	<1.9	<1.7	<2.7	<2.7	<1.2	<12	<2.2	<1.9	<2.1	<2.2	<1.9	<1	920	<2.2	9.8	<0.024	0.0038	<0.0024	<0.0024	<0.12	7.4	80	1.3
	VMP-1-38.5	38.5 ft	11/2/2009	<18	<5.5	<3.9	<4.6	<4	<11	<5.5	<4.8	<7.7	<7.6	<3.3	<33	<6.1	<5.5	<6	<6.3	<5.5	<2.9	2400	<6.1	5.6	<0.022	0.017	<0.0022	<0.0022	0.23	33	54	1.4
VMP-2	VMP-2-5	5 ft	11/2/2009	<2.4	<0.72	<0.5	<0.6	<0.52	<1.4	<0.72	<0.62	<1	<0.99	<0.43	<4.3	<0.79	<0.72	<0.78	<0.82	<0.72	<0.37	270	<0.79	7.8	<0.023	<0.0023	<0.0023	<0.0023	2.4	0.0078	79	11
	VMP-2-8.5	8.5 ft	11/3/2009	<0.84	<0.25	<0.18 UJ	<0.21	<0.18	<0.5	<0.25	<0.22	<0.35	<0.34	<0.15	<1.5	<0.28	<0.25	<0.27	<0.29	<0.25	<0.13	74	<0.28	2.5	<0.02	<0.002	<0.002	<0.002	1.2	<0.0002	78	18
	VMP-2-8.5-D	8.5 ft	11/3/2009	<0.88	<0.26	<0.19 UJ	<0.22	<0.19	<0.53	<0.26	<0.23	<0.37	<0.37	<0.16	<1.6	<0.29	<0.26	<0.29	<0.3	<0.26	<0.14	82	<0.29	2.7	<0.022	<0.0022	<0.0022	<0.0022	1.3	<	78	18
	VMP-2-22	22 ft	11/3/2009	<4.6	<1.4	<0.97	<1.1	<1	<2.8	<1.4	<1.2	<1.9	<1.9	<0.82	<8.3	<1.5	<1.4	<1.5	<1.6	<1.4	<0.72	600	<1.5	10	<0.022	<0.0022	<0.0022	<0.0022	<0.11	0.54	85	4
VMP-3	VMP-2-42	42 ft	11/3/2009	<90	<27	<19	<22	<20	<54	<27	<23	<38	<37	<16	<160	<30	<27	<30	<31	<27	<14	1700	<30	5	<0.022	0.02	<0.0022	<0.0022	<0.11	64	16	0.92
	VMP-3-5	5 ft	11/3/2009	<0.088	<0.026	<0.019 UJ	<0.022	<0.019	<0.053	<0.026	<0.023	<0.037	<0.037	<0.016	<0.16	<0.029	<0.026	<0.029	<0.03	<0.026	<0.014	6.4	<0.029	8.5	<0.027	<0.0027	<0.0027	<0.0027	0.18	0.037	86	5
	VMP-3-10	10 ft	6/21/2010	<25	2.8 J	<5.3	<6.2	<5.5	3.8 J	5.6 J	<6.4	<10	<10	<4.5	<45	<8.3	<8.3	<8.1	<8.5	4.3 J	1.4 J	3500	<3.9	7.9	<0.03	0.01	<0.003	<0.003	<0.15	26	60	1.3
	VMP-3-22	22 ft	11/4/2009	<64	<19	<13	<16	<14	<38	24	<16	<27	<26	<11	<120	<21	<19	<21	<22	<19	<9.9	3800	<21	8.7	<0.023	0.012	<0.0023	<0.0023	<0.12	25	58	1.1
VMP-4	VMP-3-31.5	31.5 ft	11/4/2009	<100	<30	<22	<25	<22	<61	<30	<26	<42	<42	<18	<180	<34	<30	<33	<35	<30	<16	6800	<34	5.6	<0.025	0.02	<0.0025	<0.0025	<0.12	43	36	0.77
	VMP-3-39	39 ft	11/4/2009	<200	<61	<43	<50	<44	<120	<61	<53	<85	<84	<36	<370	<67	<61	<66	<69	<61	<32	7100	<67	5.6	<0.025	0.021	<0.0025	<0.0025	<0.12	45	33	0.79
	VMP-4-5	5 ft	11/5/2009	<0.21	<0.062	<0.044	<0.052	<0.046	<0.12	<0.062	<0.054	<0.087	<0.086	<0.037	<0.38 UJ	<0.069	<0.062	<0.068	<0.071	<0.062	<0.032	20	<0.069	0.69	<0.025	<0.0025	<0.0025	<0.0025	34	0.029	51	14
	VMP-4-12	12 ft	11/5/2009	<3.4	<1	<0.73	<0.86	<0.76	<2.1	<1	<0.9	<1.4	<1.4	<0.62	<6.3 UJ	<1.2	<1	<1.1	<1.2	<1	<0.54	300	<1.2	9.6	<0.025	<0.0025	<0.0025	<0.0025	0.26	2.2	84	3.8
VMP-5	VMP-4-23.5	23.5 ft	11/5/2009	<160	<48	<34	<40	<35	<95	<48	<41	<66	<66	<29	<290	<53	78	<52	<54	<48	<25	4700	<53	6.7	<0.023	0.021	<0.0023	<0.0023	<0.12	46	32	0.75
	VMP-4-39	39 ft	11/5/2009	<120	<37	<26	<30	<27	<73	39	<32	<51	<50	<22	<220	<41	83	<40	<42	<37	<19	4500	<41	6.6	<0.024	0.02	<0.0024	<0.0024	<0.12	44	34	1.1
	VMP-5-5	5 ft	11/5/2009	<3.7	<1.1	<0.78	<0.92	<0.81	<2.2	<1.1	<0.95	<1.5	<1.5	<0.66	<6.6 UJ	<1.2	<1.1	<1.2	<1.2	<1.1	<0.57	370	<1.2	14	<0.022	<0.0022	<0.0022	<0.0022	<0.11	2.8	81	1.3
	VMP-5-12.5	12.5 ft	11/6/2009	<4.2	<1.3	<0.9	<1	<0.93	<2.5	<1.3	<1.1	<1.8	<1.8	<0.76	<7.6	<1.4	<1.3	<1.4	<1.4	<1.3	<0.66	960	<1.4	13	<0.026	0.004	<0.0026	<0.0026	<0.13	6.3	78	1.3
VMP-6	VMP-5-12.5-D	12.5 ft	11/6/2009	<9.5	<2.8	<2	<2.4	<2.1	<5.7	<2.8	<2.5	<4	<3.9	<1.7	<17	<3.2	<2.8	<3.1	<3.2	<2.8	<1.5	1000	<3.2	13	<0.023	0.004	<0.0023	<0.0023	<0.12	6.3	77	1.6
	VMP-5-31	31 ft	11/6/2009	<39	<12	<8.3	<9.7	<8.6	<23	<12	<10	<16	<16	<7	<71	<13	<12	<13	<13	<12	<6.1	4000	<13	10	<0.024	0.014	<0.0024	<0.0024	<0.12	24	58	1
	VMP-5-40	40 ft	11/6/2009	<54	<16	<11	<13	<12	<32	<16	<14	<22	<22	<9.7	<97	<18	<16	<18	<18	<16	<8.4	3400	<18	9.2	<0.033	0.012	<0.0033	<0.0033	<0.16	22	60	2.7
	VMP-6-5	5 ft	11/6/2009	<6.5	2.7 J	<1.4	<1.6	<1.4	<3.9	5.8 J	<1.7	<2.7	<2.7	<1.2	<12	<2.2	<1.9	<2.1	<2.2	<1.9	<1	1400 J	<2.2	13	<0.024	<0.0024	<0.0024	<0.0024	<0.12	3.7	79	3.3
VMP-7	VMP-6-10	10 ft	11/6/2009	<7	3.6	<1.5	<1.8	<1.6	<4.2	8	<1.8	<3	<2.9	<1.3	<13	<2.3	<2.1	<2.3	<2.4	<2.1	<1.1	1800	<2.3	14	<0.026	<0.0026	<0.0026	<0.0026	<0.13	4.2	78	2.7
	VMP-6-31.5	31.5 ft	11/9/2009	<46	18	<9.7 UJ	<11	<10	<28	44	<12	<19	<19	<8.2	<83	<15	29	<15	<16	<14	<7.2	2500	<15	14	<0.022	0.003	<0.0022	<0.0022	<0.11	7.7	75	1.4
	VMP-6-39																															

SOIL – SDG 376527

GROUNDWATER – SDG 376532

SOIL VAPOR – SDG 1006568 A and B

Roxana Soil Data Review

Laboratory SDG: 376527

Reviewer: Elizabeth Kunkel

Date Reviewed: 7/8/2010

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

Work Plan: Dissolved Phase Groundwater Investigation and P-60 Free Phase Product Delineation (2009)

Sample Identification	Sample Identification
GP-5-10	GP-5-19
GP-5-27	GP-5-27D
GP-3-24EB	GP-3-17
GP-3-24	

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. VOC surrogate recoveries were outside evaluation criteria in samples GP-5-27 and GP-5-27D. VOC MS/MSD recoveries were outside evaluation criteria in sample GP-5-19. Additionally, samples were diluted due to high levels of target analytes. VOC compounds in field duplicate samples GP-5-27 and GP-5-27D had field duplicate RPDs outside evaluation criteria. Samples were qualified using professional judgment. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated that two out of four sodium bisulfate vials were received by the laboratory without sodium bisulfate for field duplicate set, GP-5-27 and GP-5-27D; sufficient sample was available in the remaining sodium bisulfate preserved vials to complete the requested analyses; therefore, no qualification of data was required. The methanol designated vial for sample GP-3-17 was received by the laboratory without methanol. Sample GP-3-17 was analyzed using the sodium bisulfate vial and because no sample dilution was required, the methanol vial was not analyzed; therefore, no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

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

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS ID	Parameter	Analyte	LCS Recovery	LCS Criteria
566159-1-BKS	VOCs	Acetone	178	60-140
566159-1-BKS	VOCs	2-Butanone	163	60-140

Analytical data reported as nondetect 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
GP-5-27	VOCs	4-Bromofluorobenzene	155	58-152
GP-5-27	VOCs	Toluene-d ₈	157	73-132
GP-5-27D	VOCs	4-Bromofluorobenzene	222	58-152
GP-5-27D	VOCs	Toluene-d ₈	158	73-132
GP-5-27-RE	VOCs	4-Bromofluorobenzene	153	58-152
GP-5-27-RE	VOCs	Toluene-d ₈	144	73-132

Analytical data that required qualification based on surrogate data are included in the table below. Sample GP-5-27-RE did not require qualification because results were reported from the original analysis since sample GP-5-27-RE was only analyzed to confirm surrogate recoveries outside evaluation criteria in sample GP-5-27. Analytical data reported as nondetect and associated with surrogate recoveries above evaluation criteria indicating a possible high bias did not require qualification.

Sample ID	Parameter	Analyte	Qualification
GP-5-27	VOCs	Benzene	J
GP-5-27	VOCs	Methyl tert-butyl-ether	J
GP-5-27	VOCs	tert-butylbenzene	J
GP-5-27	VOCs	sec-butylbenzene	J
GP-5-27	VOCs	n-Butylbenzene	J
GP-5-27	VOCs	p-Isopropyltoluene	J
GP-5-27	VOCs	Ethylbenzene	J
GP-5-27	VOCs	Isopropylbenzene	J
GP-5-27	VOCs	n-Propylbenzene	J

Sample ID	Parameter	Analyte	Qualification
GP-5-27	VOCs	Toluene	J
GP-5-27	VOCs	1,2,4-Trimethylbenzene	J
GP-5-27	VOCs	1,3,5-Trimethylbenzene	J
GP-5-27	VOCs	<i>o</i> -Xylene	J
GP-5-27	VOCs	<i>m,p</i> -Xylenes	J
GP-5-27D	VOCs	Benzene	J
GP-5-27D	VOCs	Methyl tert-butyl-ether	J
GP-5-27D	VOCs	tert-butylbenzene	J
GP-5-27D	VOCs	sec-butylbenzene	J
GP-5-27D	VOCs	n-Butylbenzene	J
GP-5-27D	VOCs	<i>p</i> -Isopropyltoluene	J
GP-5-27D	VOCs	Ethylbenzene	J
GP-5-27D	VOCs	Isopropylbenzene	J
GP-5-27D	VOCs	n-Propylbenzene	J
GP-5-27D	VOCs	Toluene	J
GP-5-27D	VOCs	1,2,4-Trimethylbenzene	J
GP-5-27D	VOCs	1,3,5-Trimethylbenzene	J
GP-5-27D	VOCs	<i>o</i> -Xylene	J
GP-5-27D	VOCs	<i>m,p</i> -Xylenes	J

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

Yes, sample GP-5-19 was spiked and analyzed for VOCs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD Criteria
GP-5-19	VOCs	tert-butylbenzene	146/121	16	75-125/25
GP-5-19	VOCs	sec-butylbenzene	139/115	25	75-125/25
GP-5-19	VOCs	2-Chlorotoluene	128/111	13	73-125/25
GP-5-19	VOCs	<i>p</i> -Isopropyltoluene	135/115	14	75-125/25
GP-5-19	VOCs	Isopropylbenzene	141/115	18	75-125/25
GP-5-19	VOCs	n-Propylbenzene	139/115	17	75-125/25
GP-5-19	VOCs	1,1,2,2-Tetrachloroethane	135/119	10	74-125/31
GP-5-19	VOCs	1,2,4-Trichlorobenzene	57/64	14	75-135/25
GP-5-19	VOCs	1,2,3-Trichlorobenzene	50/55	12	75-137/25
GP-5-19	VOCs	1,2,3-Trichloropropane	130/119	7	75-125/20
GP-5-19	VOCs	1,3,5-Trimethylbenzene	135/115	14	70-130/25
GP-5-19	VOCs	Vinyl acetate	154/140	7	75-125/20

USEPA National Functional Guidelines for Superfund Organic Methods Data Review indicates that organic data does not require qualification based on MS/MSD data alone and LCS recoveries were within evaluation criteria; therefore, no qualification of data was required.

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

Yes, samples GP-5-10 and GP-3-24 were duplicated and analyzed for percent moisture.

Were laboratory duplicate sample RPDs within criteria?

Yes

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
GP-5-27	GP-5-27D

Were field duplicates within evaluation criteria?

No, analytes listed in the table below were previously qualified due to high surrogate recoveries; therefore, no additional qualification of data was required.

Field ID	Field Duplicate ID	Parameter	Analyte	RPD
GP-5-27	GP-5-27D	VOCs	Benzene	138
GP-5-27	GP-5-27D	VOCs	Methyl tert-butyl-ether	119
GP-5-27	GP-5-27D	VOCs	tert-butylbenzene	114
GP-5-27	GP-5-27D	VOCs	sec-butylbenzene	113
GP-5-27	GP-5-27D	VOCs	n-Butylbenzene	115
GP-5-27	GP-5-27D	VOCs	p-Isopropyltoluene	131
GP-5-27	GP-5-27D	VOCs	Ethylbenzene	143
GP-5-27	GP-5-27D	VOCs	Isopropylbenzene	141
GP-5-27	GP-5-27D	VOCs	n-Propylbenzene	144
GP-5-27	GP-5-27D	VOCs	Toluene	127
GP-5-27	GP-5-27D	VOCs	1,2,4-Trimethylbenzene	111
GP-5-27	GP-5-27D	VOCs	1,3,5-Trimethylbenzene	165
GP-5-27	GP-5-27D	VOCs	o-Xylene	164
GP-5-27	GP-5-27D	VOCs	m,p-Xylenes	144

11.0 Sample Dilutions

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

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes, professional judgment was used to qualify the common laboratory contaminants, acetone and 2-butanone reported at concentrations less than two times (2X) the RL.

Field ID	Analyte	New RL	Qualification	Comment
GP-5-10	Acetone	-	U	Professional Judgment
GP-3-17	Acetone	-	U	Professional Judgment
GP-3-17	2-Butanone	-	U	Professional Judgment

Analytical Report 376527

for

URS Corporation-St. Louis

Project Manager: Wendy Pennington

900 S Central Ave

Roxana/21562289

25-JUN-10



Reviewed
on
7/8/2010

4143 Greenbriar Dr., Stafford, TX 77477

Ph:(281) 240-4200 Fax:(281) 240-4280

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-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: FL00449):

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



25-JUN-10

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

Reference: XENCO Report No: **376527**
900 S 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 376527. 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. 376527 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 376527**URS Corporation-St. Louis, St. Louis, MO**
900 S Central Ave

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
GP-5-10 ✓	S	Jun-09-10 08:55		376527-001
GP-5-19 ✓	S	Jun-09-10 09:00		376527-002
GP-5-27 ✓	S	Jun-09-10 09:05		376527-003
GP-5-27D ✓	S	Jun-09-10 09:05		376527-004
GP-3-24EB ✓	W	Jun-09-10 13:15		376527-005
GP-3-17 ✓	S	Jun-09-10 13:35		376527-006
GP-3-24 ✓	S	Jun-09-10 13:40		376527-007



CASE NARRATIVE

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



Project ID: Roxana/21562289
Work Order Number: 376527

Report Date: 25-JUN-10
Date Received: 06/10/2010

Sample receipt non conformances and Comments:

Trip Blank for this shipment reporting on report 376532 as 376532-008.

Sample GP-5-27 and GP-5-27D received 1 dry sodium bisulfate vial. Sample GP-3-17 methanol vial received without methanol. Samples were prepped from p-moist jar on 6/11/10 as 5035, in the laboratory to have extra sample in case reanalysis would be needed, then frozen.

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-810255 Percent Moisture

None

Batch: LBA-811362 VOAs by SW-846 8260B
SW8260B

Batch 811362, Bromomethane, Chloromethane, Vinyl Chloride recovered below QC limits in the Matrix Spike.

Samples affected are: 376527-005.

The Laboratory Control Sample for Bromomethane, Chloromethane, Vinyl Chloride is within laboratory Control Limits

SW8260B

Batch 811362, 2-Butanone, Acetone recovered above QC limits in the laboratory control sample.

No samples reporting hits for these compounds.

Samples affected are: 376527-005.



CASE NARRATIVE

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



Project ID: Roxana/21562289
Work Order Number: 376527

Report Date: 25-JUN-10
Date Received: 06/10/2010

Batch: LBA-811640 VOAs by SW-846 8260B
SW8260B

Batch 811640, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. 1,1,2,2-Tetrachloroethane, 1,2,3-Trichloropropane, 1,3,5-Trimethylbenzene, 2-Chlorotoluene, Sec-Butylbenzene, isopropylbenzene, n-Propylbenzene, p-Cymene (p-Isopropyltoluene), tert-Butylbenzene recovered above QC limits in the Matrix Spike. Vinyl Acetate recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 376527-002, -006, -004, -003, -001, -007.

The Laboratory Control Sample for 1,2,3-Trichloropropane, Vinyl Acetate, 2-Chlorotoluene, tert-Butylbenzene, 1,3,5-Trimethylbenzene, Sec-Butylbenzene, 1,1,2,2-Tetrachloroethane, 1,2,4-Trichlorobenzene, n-Propylbenzene, p-Cymene (p-Isopropyltoluene), 1,2,3-Trichlorobenzene, isopropylbenzene is within laboratory Control Limits

SW8260B

Batch 811640, 4-Bromofluorobenzene, Toluene-D8 recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis

Samples affected are: 376527-003, 376527-004.

Sample: 376527-003 SW8260B / Solid

For SS confirmation purposes only. "RE" analysis was extracted from jar received, 5035 prep was done in laboratory.



Certificate of Analysis Summary 376527

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

Project Id: Roxana/21562289
Contact: Wendy Pennington
Project Location: Roxana, IL



Date Received in Lab: Thu Jun-10-10 09:00 am
Report Date: 25-JUN-10
Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	376527-001	376527-002	376527-003	376527-004	376527-005	376527-006
	Field Id:	GP-5-10	GP-5-19	GP-5-27	GP-5-27D	GP-3-24EB	GP-3-17
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	WATER	SOIL
	Sampled:	Jun-09-10 08:55	Jun-09-10 09:00	Jun-09-10 09:05	Jun-09-10 09:05	Jun-09-10 13:15	Jun-09-10 13:35
Percent Moisture	Extracted:						
	Analyzed:	Jun-11-10 09:01	Jun-11-10 09:03	Jun-11-10 09:04	Jun-11-10 09:05		Jun-11-10 09:07
	Units/RL:	% RL 31.1 1.00	% RL 21.9 1.00	% RL 13.7 1.00	% RL 14.1 1.00		% RL 23.8 1.00

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



Project Id: Roxana/21562289
Contact: Wendy Pennington
Project Location: Roxana, IL

Date Received in Lab: Thu Jun-10-10 09:00 am
Report Date: 25-JUN-10

Project Manager: Debbie Simmons

Analysis Requested		Lab Id:	376527-001	376527-002	376527-003	376527-004	376527-005	376527-006
		Field Id:	GP-5-10	GP-5-19	GP-5-27	GP-5-27D	GP-3-24EB	GP-3-17
		Depth:						
		Matrix:	SOIL	SOIL	SOIL	SOIL	WATER	SOIL
		Sampled:	Jun-09-10 08:55	Jun-09-10 09:00	Jun-09-10 09:05	Jun-09-10 09:05	Jun-09-10 13:15	Jun-09-10 13:35
VOAs by SW-846 8260B	Extracted:	Jun-20-10 14:10	Jun-20-10 14:20	Jun-20-10 14:32	Jun-20-10 14:36	Jun-18-10 15:43	Jun-20-10 14:40	
	Analyzed:	Jun-21-10 13:52	Jun-21-10 14:15	Jun-21-10 15:21	Jun-21-10 16:07	Jun-18-10 19:33	Jun-21-10 14:37	
	Units/RL:	mg/kg RL: 0.127	mg/kg RL: 0.101	mg/kg RL: 0.077	mg/kg RL: 0.094	ug/L RL: 100	mg/kg RL: 0.110	
	Acetone	U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005	
	Benzene	U 0.006	U 0.005	U 0.004	0.186 J 0.005	U 5.00	U 0.005	
	Bromobenzene		U 0.005	U 0.004	U 0.005	U 5.00	U 0.005	
	Bromochloromethane	U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005	
	Bromodichloromethane	U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005	
	Bromoform	U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005	
	Bromomethane	U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005	
	2-Butanone	U 0.063	U 0.051	U 0.038	U 0.047	U 50.0	0.055 U 0.055	
	MTBE	0.002 J 0.006	0.003 J 0.005	0.032 J 0.004	0.126 J 0.005	U 5.00	0.013 0.005	
	tert-Butylbenzene	U 0.006	U 0.005	0.012 J 0.004	0.044 J 0.005	U 5.00	U 0.005	
	Sec-Butylbenzene	U 0.006	U 0.005	0.029 J 0.004	0.105 J 0.005	U 5.00	U 0.005	
	n-Butylbenzene	U 0.006	U 0.005	0.046 J 0.004	0.170 J 0.005	U 5.00	U 0.005	
Carbon Disulfide	U 0.063	U 0.051	U 0.038	U 0.047	U 50.0	U 0.055		
Carbon Tetrachloride	U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005		
Chlorobenzene	U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005		
Chloroethane	U 0.013	U 0.010	U 0.008	U 0.009	U 10.0	U 0.011		
Chloroform	U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005		
Chloromethane	U 0.013	U 0.010	U 0.008	U 0.009	U 10.0	U 0.011		
2-Chlorotoluene	U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005		
4-Chlorotoluene	U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005		
p-Cymene (n-Isopropyltoluene)	U 0.006	U 0.005	0.006 J 0.004	0.029 J 0.005	U 5.00	U 0.005		
1,2-Dibromo-3-Chloropropane	U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005		
Dibromochloromethane	U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005		
Dibromomethane	U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005		
2,2-Dichlorobenzene	U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005		

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Carlos Castro
Managing Director, Texas



Project Location: Roxana, IL

Report Date: 25-JUN-10

Project Manager: Debbie Simmons

Analysis Requested		Lab Id: Field Id: Depth: Matrix: Sampled:	376527-001 GP-5-10	SOIL	Jun-09-10 08:55	376527-002 GP-5-19	SOIL	Jun-09-10 09:00	376527-003 GP-5-27	SOIL	Jun-09-10 09:05	376527-004 GP-5-27D	SOIL	Jun-09-10 13:15	376527-005 GP-3-24EB	WATER	Jun-09-10 13:35	376527-006 GP-3-17	SOIL	Jun-20-10 14:40 Jun-21-10 14:37
		Extracted: Analyzed: Units/RL:	Jun-20-10 14:10 Jun-21-10 13:52	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	ug/L RL	mg/kg RL	mg/kg RL	ug/L RL	mg/kg RL					
VOAs by SW-846 8260B																				

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Managing Director, Texas



Certificate of Analysis Summary 376527

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

Project Name: 900 S Central Ave

Project Id: Roxana/21562289

Contact: Wendy Pennington

Project Location: Roxana, IL



Date Received in Lab: Thu Jun-10 09:00 am

Report Date: 25-JUN-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	376527-001	376527-002	376527-003	376527-004	376527-005	376527-006
	Field Id:	GP-5-10	GP-5-19	GP-5-27	GP-5-27D	GP-3-24EB	GP-3-17
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	WATER	SOIL
VOAs by SW-846 8260B	Sampled:	Jun-09-10 08:55	Jun-09-10 09:00	Jun-09-10 09:05	Jun-09-10 09:05	Jun-09-10 13:15	Jun-09-10 13:35
	Extracted:	Jun-20-10 14:10	Jun-20-10 14:20	Jun-20-10 14:32	Jun-20-10 14:36	Jun-18-10 15:43	Jun-20-10 14:40
	Analyzed:	Jun-21-10 13:52	Jun-21-10 14:15	Jun-21-10 15:21	Jun-21-10 16:07	Jun-18-10 19:33	Jun-21-10 14:37
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	ug/L RL	mg/kg RL
1,2,3-Trichlorobenzene		U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005
1,1,2-Trichloroethane		U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005
1,1,1-Trichloroethane		U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005
Trichloroethene		U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005
Trichlorofluoromethane		U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005
1,2,3-Trichloropropane		U 0.006	U 0.005	U 0.004	U 0.005	U 5.00	U 0.005
1,2,4-Trimethylbenzene		U 0.006	U 0.005	0.0023" 0.004	0.0143" 0.005	U 5.00	U 0.005
1,3,5-Trimethylbenzene		U 0.006	U 0.005	0.0023" 0.004	0.0213" 0.005	U 5.00	U 0.005
Vinyl Acetate		U 0.063	U 0.051	U 0.038	U 0.047	U 50.0	U 0.055
Vinyl Chloride		U 0.003	U 0.002	U 0.002	U 0.002	U 2.00	U 0.002
o-Xylene		U 0.006	U 0.005	0.0013" 0.004	0.0103" 0.005	U 5.00	U 0.005
m,p-Xylenes		U 0.013	U 0.010	0.0053" 0.008	0.0313" 0.009	U 10.0	U 0.011

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 376527

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

Project Id: Roxana/21562289
Contact: Wendy Pennington
Project Location: Roxana, IL

Project Name: 900 S Central Ave

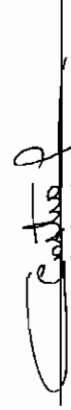
Date Received in Lab: Thu Jun-10-10 09:00 am
Report Date: 25-JUN-10
Project Manager: Debbie Simmons



Analysis Requested	Lab Id:	376527-007				
	Field Id:	GP-3-24				
	Depth:					
	Matrix:	SOIL				
	Sampled:	Jun-09-10 13:40				
Percent Moisture	Extracted:					
	Analyzed:	Jun-11-10 09:06				
	Units/RL:	% RL				
Percent Moisture		13.8 1.00				

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 376527

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



Project Id: Roxana/21562289
Contact: Wendy Pennington
Project Location: Roxana, IL

Date Received in Lab: Thu Jun-10-10 09:00 am
Report Date: 25-JUN-10
Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	376527-007				
	Field Id:	GP-3-24				
	Depth:					
	Matrix:	SOIL				
	Sampled:	Jun-09-10 13:40				
VOAs by SW-846 8260B	Extracted:	Jun-20-10 14:44				
	Analyzed:	Jun-21-10 14:59				
	Units/RL:	mg/kg RL				
	Acetone	U 0.097				
	Benzene	0.007 0.005				
	Bromobenzene	U 0.005				
	Bromochloromethane	U 0.005				
	Bromodichloromethane	U 0.005				
	Bromoform	U 0.005				
	Bromomethane	U 0.005				
	2-Butanone	U 0.049				
	MTBE	U 0.005				
	tert-Butylbenzene	U 0.005				
	Sec-Butylbenzene	U 0.005				
	n-Butylbenzene	U 0.005				
Carbon Disulfide	U 0.049					
Carbon Tetrachloride	U 0.005					
Chlorobenzene	U 0.005					
Chloroethane	U 0.010					
Chloroform	U 0.005					
Chloromethane	U 0.010					
2-Chlorotoluene	U 0.005					
4-Chlorotoluene	U 0.005					
p-Cymene (p-Isopropyltoluene)	U 0.005					
1,2-Dibromo-3-Chloropropane	U 0.005					
Dibromochloromethane	U 0.005					
Dibromomethane	U 0.005					
1,2-Dichlorobenzene	U 0.005					

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 376527

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

Project Id: Roxana/21562289
Contact: Wendy Pennington
Project Location: Roxana, IL



Date Received in Lab: Thu Jun-10-10 09:00 am
Report Date: 25-JUN-10
Project Manager: Debbie Simmons

Analysis Requested	Lab Id:		376527-007	GP-3-24	SOIL	Jun-09-10 13:40	Jun-20-10 14:44	Jun-21-10 14:59	mg/kg	RL
	Field Id:	Depth:								
VOAs by SW-846 8260B	Matrix:	Sampled:	Extracted:	Analyzed:	Units/RL:					
	1,3-Dichlorobenzene				U 0.005					
	1,4-Dichlorobenzene				U 0.005					
	Dichlorodifluoromethane				U 0.005					
	1,2-Dichloroethane				U 0.005					
	1,1-Dichloroethane				U 0.005					
	trans-1,2-dichloroethene				U 0.005					
	cis-1,2-Dichloroethene				U 0.005					
	1,1-Dichloroethene				U 0.005					
	2,2-Dichloropropane				U 0.005					
	1,3-Dichloropropane				U 0.005					
	1,2-Dichloropropane				U 0.005					
	trans-1,3-dichloropropene				U 0.005					
	1,1-Dichloropropene				U 0.005					
	cis-1,3-Dichloropropene				U 0.005					
	Ethylbenzene				U 0.005					
	Hexachlorobutadiene				U 0.005					
	isopropylbenzene				U 0.005					
	Methylene Chloride				U 0.020					
	n-Propylbenzene				U 0.005					
	Styrene				U 0.005					
	1,1,1,2-Tetrachloroethane				U 0.005					
	1,1,2,2-Tetrachloroethane				U 0.005					
	Tetrachloroethylene				U 0.005					
	Toluene				U 0.005					
	1,2,4-Trichlorobenzene				U 0.005					

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Carlos Castro
Managing Director, Texas



Certificate of Analysis Summary 376527

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



Project Id: Roxana/21562289
Contact: Wendy Pennington
Project Location: Roxana, IL

Date Received in Lab: Thu Jun-10-10 09:00 am
Report Date: 25-JUN-10
Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	376527-007						
	Field Id:	GP-3-24						
	Depth:							
	Matrix:	SOIL						
	Sampled:	Jun-09-10 13:40						
	Extracted:	Jun-20-10 14:44						
VOAs by SW-846 8260B	Analyzed:	Jun-21-10 14:59						
	Units/RL:	mg/kg RL						
	1,2,3-Trichlorobenzene	U 0.005						
	1,1,2-Trichloroethane	U 0.005						
	1,1,1-Trichloroethane	U 0.005						
	Trichloroethene	U 0.005						
	Trichlorofluoromethane	U 0.005						
	1,2,3-Trichloropropane	U 0.005						
	1,2,4-Trimethylbenzene	U 0.005						
	1,3,5-Trimethylbenzene	U 0.005						
	Vinyl Acetate	U 0.049						
	Vinyl Chloride	U 0.002						
	o-Xylene	U 0.005						
	m,p-Xylenes	U 0.010						

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XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : Percent Moisture

Client : URS Corporation-St. Louis

Work Order #: 376527

Project ID: Roxana/21562289

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
GP-5-27	Jun. 9, 2010	Jun. 10, 2010				Jun.11, 2010	45	2	P
GP-3-24	Jun. 9, 2010	Jun. 10, 2010				Jun.11, 2010	45	2	P
GP-5-27D	Jun. 9, 2010	Jun. 10, 2010				Jun.11, 2010	45	2	P
GP-5-10	Jun. 9, 2010	Jun. 10, 2010				Jun.11, 2010	45	2	P
GP-5-19	Jun. 9, 2010	Jun. 10, 2010				Jun.11, 2010	45	2	P
GP-3-17	Jun. 9, 2010	Jun. 10, 2010				Jun.11, 2010	45	2	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : VOAs by SW-846 8260B

Client : URS Corporation-St. Louis

Work Order #: 376527

Project ID: Roxana/21562289

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
GP-5-19	Jun. 9, 2010	Jun. 10, 2010				Jun.21, 2010	14	12	P
GP-5-27D	Jun. 9, 2010	Jun. 10, 2010				Jun.21, 2010	14	12	P
GP-5-27	Jun. 9, 2010	Jun. 10, 2010				Jun.21, 2010	14	12	P
GP-3-24	Jun. 9, 2010	Jun. 10, 2010				Jun.21, 2010	14	12	P
GP-3-17	Jun. 9, 2010	Jun. 10, 2010				Jun.21, 2010	14	12	P
GP-5-10	Jun. 9, 2010	Jun. 10, 2010				Jun.21, 2010	14	12	P
GP-3-24EB	Jun. 9, 2010	Jun. 10, 2010				Jun.18, 2010	14	9	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 S Central Ave

Work Orders : 376527,

Project ID: Roxana/21562289

Lab Batch #: 811362

Sample: 566159-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/18/10 15:44

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0477	0.0500	95	74-124	
Dibromofluoromethane	0.0470	0.0500	94	75-131	
1,2-Dichloroethane-D4	0.0487	0.0500	97	63-144	
Toluene-D8	0.0482	0.0500	96	80-117	

Lab Batch #: 811362

Sample: 566159-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/18/10 16:53

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0488	0.0500	98	74-124	
Dibromofluoromethane	0.0481	0.0500	96	75-131	
1,2-Dichloroethane-D4	0.0463	0.0500	93	63-144	
Toluene-D8	0.0500	0.0500	100	80-117	

Lab Batch #: 811362

Sample: 376532-006 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/18/10 17:16

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	0.0473	0.0500	95	75-131	
1,2-Dichloroethane-D4	0.0480	0.0500	96	63-144	
Toluene-D8	0.0485	0.0500	97	80-117	

Lab Batch #: 811362

Sample: 376532-006 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/18/10 17:38

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0485	0.0500	97	74-124	
Dibromofluoromethane	0.0469	0.0500	94	75-131	
1,2-Dichloroethane-D4	0.0488	0.0500	98	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 Ave

Work Orders : 376527,

Project ID: Roxana/21562289

Lab Batch #: 811362

Sample: 376527-005 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/18/10 19:33

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0475	0.0500	95	74-124	
Dibromofluoromethane	0.0486	0.0500	97	75-131	
1,2-Dichloroethane-D4	0.0489	0.0500	98	63-144	
Toluene-D8	0.0494	0.0500	99	80-117	

Lab Batch #: 811640

Sample: 566342-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/10 12:42

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0504	0.0500	101	58-152	
Dibromofluoromethane	0.0480	0.0500	96	74-126	
1,2-Dichloroethane-D4	0.0463	0.0500	93	80-120	
Toluene-D8	0.0510	0.0500	102	73-132	

Lab Batch #: 811640

Sample: 566342-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 06/21/10 13:27

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0510	0.0500	102	58-152	
Dibromofluoromethane	0.0483	0.0500	97	74-126	
1,2-Dichloroethane-D4	0.0485	0.0500	97	80-120	
Toluene-D8	0.0503	0.0500	101	73-132	

Lab Batch #: 811640

Sample: 376527-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/21/10 13:52

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	58-152	
Dibromofluoromethane	0.0539	0.0500	108	74-126	
1,2-Dichloroethane-D4	0.0600	0.0500	120	80-120	
Toluene-D8	0.0493	0.0500	99	73-132	

* 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 Ave

Work Orders : 376527,

Project ID: Roxana/21562289

Lab Batch #: 811640

Sample: 376527-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/21/10 14:15

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0567	0.0500	113	58-152	
Dibromofluoromethane	0.0535	0.0500	107	74-126	
1,2-Dichloroethane-D4	0.0574	0.0500	115	80-120	
Toluene-D8	0.0508	0.0500	102	73-132	

Lab Batch #: 811640

Sample: 376527-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/21/10 14:37

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0619	0.0500	124	58-152	
Dibromofluoromethane	0.0508	0.0500	102	74-126	
1,2-Dichloroethane-D4	0.0481	0.0500	96	80-120	
Toluene-D8	0.0495	0.0500	99	73-132	

Lab Batch #: 811640

Sample: 376527-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/21/10 14:59

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0522	0.0500	104	58-152	
Dibromofluoromethane	0.0504	0.0500	101	74-126	
1,2-Dichloroethane-D4	0.0459	0.0500	92	80-120	
Toluene-D8	0.0500	0.0500	100	73-132	

Lab Batch #: 811640

Sample: 376527-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/21/10 15:21

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0773	0.0500	155	58-152	**
Dibromofluoromethane	0.0492	0.0500	98	74-126	
1,2-Dichloroethane-D4	0.0471	0.0500	94	80-120	
Toluene-D8	0.0786	0.0500	157	73-132	**

* 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 Ave

Work Orders : 376527,

Project ID: Roxana/21562289

Lab Batch #: 811640

Sample: 376527-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/21/10 16:07

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.1111	0.0500	222	58-152	**
Dibromofluoromethane	0.0452	0.0500	90	74-126	
1,2-Dichloroethane-D4	0.0461	0.0500	92	80-120	
Toluene-D8	0.0788	0.0500	158	73-132	**

Lab Batch #: 811640

Sample: 376527-003 / RE

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/21/10 16:29

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0764	0.0500	153	58-152	**
Dibromofluoromethane	0.0463	0.0500	93	74-126	
1,2-Dichloroethane-D4	0.0463	0.0500	93	80-120	
Toluene-D8	0.0721	0.0500	144	73-132	**

Lab Batch #: 811640

Sample: 376527-002 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/21/10 17:15

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0606	0.0500	121	58-152	
Dibromofluoromethane	0.0537	0.0500	107	74-126	
1,2-Dichloroethane-D4	0.0565	0.0500	113	80-120	
Toluene-D8	0.0499	0.0500	100	73-132	

Lab Batch #: 811640

Sample: 376527-002 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/21/10 17:37

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0547	0.0500	109	58-152	
Dibromofluoromethane	0.0501	0.0500	100	74-126	
1,2-Dichloroethane-D4	0.0503	0.0500	101	80-120	
Toluene-D8	0.0497	0.0500	99	73-132	

* 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 Ave

Work Orders : 376527,

Project ID: Roxana/21562289

Lab Batch #: 811640

Sample: 376527-004 / DL

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 06/21/10 17:59

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0544	0.0500	109	58-152	
Dibromofluoromethane	0.0444	0.0500	89	74-126	
1,2-Dichloroethane-D4	0.0451	0.0500	90	80-120	
Toluene-D8	0.0521	0.0500	104	73-132	

• 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 Ave

Work Order #: 376527

Project ID:

Roxana/21562289

Lab Batch #: 811362

Sample: 566159-1-BKS

Matrix: Water

Date Analyzed: 06/18/2010

Date Prepared: 06/18/2010

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	178	178	60-140	H
Benzene	<1.00	50.0	48.7	97	66-142	
Bromobenzene	<1.00	50.0	52.7	105	75-125	
Bromochloromethane	<1.00	50.0	50.2	100	73-125	
Bromodichloromethane	<1.00	50.0	53.2	106	75-125	
Bromoform	<1.00	50.0	55.9	112	75-125	
Bromomethane	<1.00	50.0	38.0	76	70-130	
2-Butanone	<10.0	100	163	163	60-140	H
MTBE	<1.00	50.0	44.8	90	65-135	
n-Butylbenzene	<1.00	50.0	50.1	100	75-125	
Sec-Butylbenzene	<1.00	50.0	54.3	109	75-125	
tert-Butylbenzene	<1.00	50.0	55.6	111	75-125	
Carbon Disulfide	<10.0	50.0	44.8	90	60-140	
Carbon Tetrachloride	<1.00	50.0	51.8	104	62-125	
Chlorobenzene	<1.00	50.0	53.8	108	60-133	
Chloroethane	<2.00	50.0	39.3	79	70-130	
Chloroform	<1.00	50.0	49.3	99	74-125	
Chloromethane	<2.00	50.0	40.2	80	70-130	
2-Chlorotoluene	<1.00	50.0	52.7	105	73-125	
4-Chlorotoluene	<1.00	50.0	50.4	101	74-125	
p-Cymene (p-Isopropyltoluene)	<1.00	50.0	49.9	100	75-125	
Dibromochloromethane	<1.00	50.0	58.1	116	73-125	
1,2-Dibromo-3-Chloropropane	<1.00	50.0	47.7	95	59-125	
Dibromomethane	<1.00	50.0	50.2	100	69-127	
1,2-Dichlorobenzene	<1.00	50.0	51.0	102	75-125	
1,3-Dichlorobenzene	<1.00	50.0	52.3	105	75-125	
1,4-Dichlorobenzene	<1.00	50.0	49.7	99	75-125	
Dichlorodifluoromethane	<1.00	50.0	49.2	98	70-130	
1,1-Dichloroethane	<1.00	50.0	50.3	101	72-125	
1,2-Dichloroethane	<1.00	50.0	48.4	97	68-127	
1,1-Dichloroethene	<1.00	50.0	50.6	101	59-172	
cis-1,2-Dichloroethene	<1.00	50.0	48.8	98	75-125	
trans-1,2-dichloroethene	<1.00	50.0	49.3	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

Project Name: 900 S Central Ave

Work Order #: 376527

Project ID:

Roxana/21562289

Lab Batch #: 811362

Sample: 566159-1-BKS

Matrix: Water

Date Analyzed: 06/18/2010

Date Prepared: 06/18/2010

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	51.1	102	74-125	
1,3-Dichloropropane	<1.00	50.0	50.6	101	75-125	
2,2-Dichloropropane	<1.00	50.0	47.7	95	75-125	
1,1-Dichloropropene	<1.00	50.0	45.7	91	75-125	
cis-1,3-Dichloropropene	<1.00	50.0	52.3	105	74-125	
trans-1,3-dichloropropene	<1.00	50.0	50.2	100	66-125	
Ethylbenzene	<1.00	50.0	52.2	104	75-125	
Hexachlorobutadiene	<1.00	50.0	52.6	105	75-125	
isopropylbenzene	<1.00	50.0	52.9	106	75-125	
Methylene Chloride	<1.00	50.0	50.1	100	75-125	
n-Propylbenzene	<1.00	50.0	55.1	110	75-125	
Styrene	<1.00	50.0	53.5	107	75-125	
1,1,1,2-Tetrachloroethane	<1.00	50.0	55.7	111	72-125	
1,1,2,2-Tetrachloroethane	<1.00	50.0	49.4	99	74-125	
Tetrachloroethylene	<1.00	50.0	55.0	110	71-125	
Toluene	<1.00	50.0	50.4	101	59-139	
1,2,3-Trichlorobenzene	<1.00	50.0	47.9	96	75-137	
1,2,4-Trichlorobenzene	<1.00	50.0	47.2	94	75-135	
1,1,1-Trichloroethane	<1.00	50.0	46.8	94	75-125	
1,1,2-Trichloroethane	<1.00	50.0	50.5	101	75-127	
Trichloroethene	<1.00	50.0	51.1	102	62-137	
Trichlorofluoromethane	<1.00	50.0	46.0	92	67-125	
1,2,3-Trichloropropane	<1.00	50.0	49.8	100	75-125	
1,2,4-Trimethylbenzene	<1.00	50.0	51.2	102	75-125	
1,3,5-Trimethylbenzene	<1.00	50.0	53.9	108	70-125	
o-Xylene	<1.00	50.0	54.2	108	75-125	
m,p-Xylenes	<2.00	100	105	105	75-125	
Vinyl Acetate	<10.0	100	122	122	60-140	
Vinyl Chloride	<0.400	50.0	38.9	78	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 Ave

Work Order #: 376527

Project ID:

Roxana/21562289

Lab Batch #: 811640

Sample: 566342-1-BKS

Matrix: Solid

Date Analyzed: 06/21/2010

Date Prepared: 06/21/2010

Analyst: ZHO

Reporting Units: mg/kg

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	<0.020	0.100	0.096	96	50-150	
Benzene	<0.001	0.050	0.047	94	66-142	
Bromobenzene	<0.001	0.050	0.049	98	75-125	
Bromochloromethane	<0.001	0.050	0.046	92	73-125	
Bromodichloromethane	<0.001	0.050	0.049	98	75-125	
Bromoform	<0.001	0.050	0.045	90	75-125	
Bromomethane	<0.001	0.050	0.041	82	65-135	
2-Butanone	<0.010	0.100	0.106	106	75-125	
MTBE	<0.001	0.050	0.044	88	65-135	
tert-Butylbenzene	<0.001	0.050	0.055	110	75-125	
Sec-Butylbenzene	<0.001	0.050	0.054	108	75-125	
n-Butylbenzene	<0.001	0.050	0.053	106	75-125	
Carbon Disulfide	<0.010	0.050	0.050	100	65-135	
Carbon Tetrachloride	<0.001	0.050	0.049	98	62-125	
Chlorobenzene	<0.001	0.050	0.050	100	60-133	
Chloroethane	<0.002	0.050	0.041	82	65-135	
Chloroform	<0.001	0.050	0.047	94	74-125	
Chloromethane	<0.002	0.050	0.040	80	65-135	
2-Chlorotoluene	<0.001	0.050	0.051	102	73-125	
4-Chlorotoluene	<0.001	0.050	0.051	102	74-125	
p-Cymene (p-Isopropyltoluene)	<0.001	0.050	0.054	108	75-125	
1,2-Dibromo-3-Chloropropane	<0.001	0.050	0.042	84	59-125	
Dibromochloromethane	<0.001	0.050	0.047	94	73-125	
Dibromomethane	<0.001	0.050	0.045	90	69-127	
1,2-Dichlorobenzene	<0.001	0.050	0.048	96	75-125	
1,3-Dichlorobenzene	<0.001	0.050	0.050	100	75-125	
1,4-Dichlorobenzene	<0.001	0.050	0.048	96	75-125	
Dichlorodifluoromethane	<0.001	0.050	0.044	88	65-135	
1,2-Dichloroethane	<0.001	0.050	0.046	92	68-127	
1,1-Dichloroethane	<0.001	0.050	0.050	100	72-125	
trans-1,2-dichloroethene	<0.001	0.050	0.047	94	75-125	
cis-1,2-Dichloroethene	<0.001	0.050	0.045	90	75-125	
1,1-Dichloroethene	<0.001	0.050	0.047	94	59-172	

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 Ave

Work Order #: 376527

Project ID:

Roxana/21562289

Lab Batch #: 811640

Sample: 566342-1-BKS

Matrix: Solid

Date Analyzed: 06/21/2010

Date Prepared: 06/21/2010

Analyst: ZHO

Reporting Units: mg/kg

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
2,2-Dichloropropane	<0.001	0.050	0.052	104	75-125	
1,3-Dichloropropane	<0.001	0.050	0.045	90	75-125	
1,2-Dichloropropane	<0.001	0.050	0.049	98	74-125	
trans-1,3-dichloropropene	<0.001	0.050	0.050	100	66-125	
1,1-Dichloropropene	<0.001	0.050	0.045	90	75-125	
cis-1,3-Dichloropropene	<0.001	0.050	0.052	104	74-125	
Ethylbenzene	<0.001	0.050	0.050	100	75-125	
Hexachlorobutadiene	<0.001	0.050	0.049	98	75-125	
isopropylbenzene	<0.001	0.050	0.053	106	75-125	
Methylene Chloride	<0.004	0.050	0.044	88	75-125	
n-Propylbenzene	<0.001	0.050	0.054	108	75-125	
Styrene	<0.001	0.050	0.051	102	75-125	
1,1,1,2-Tetrachloroethane	<0.001	0.050	0.049	98	72-125	
1,1,2,2-Tetrachloroethane	<0.001	0.050	0.047	94	74-125	
Tetrachloroethylene	<0.001	0.050	0.051	102	71-125	
Toluene	<0.001	0.050	0.050	100	59-139	
1,2,4-Trichlorobenzene	<0.001	0.050	0.048	96	75-135	
1,2,3-Trichlorobenzene	<0.001	0.050	0.046	92	75-137	
1,1,2-Trichloroethane	<0.001	0.050	0.047	94	75-127	
1,1,1-Trichloroethane	<0.001	0.050	0.046	92	75-125	
Trichloroethene	<0.001	0.050	0.050	100	62-137	
Trichlorofluoromethane	<0.001	0.050	0.047	94	67-125	
1,2,3-Trichloropropane	<0.001	0.050	0.048	96	75-125	
1,2,4-Trimethylbenzene	<0.001	0.050	0.051	102	75-125	
1,3,5-Trimethylbenzene	<0.001	0.050	0.054	108	70-130	
Vinyl Acetate	<0.010	0.100	0.125	125	75-125	
Vinyl Chloride	<0.001	0.050	0.042	84	65-135	
o-Xylene	<0.001	0.050	0.051	102	75-125	
m,p-Xylenes	<0.002	0.100	0.101	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

Work Order #: 376527

Lab Batch ID: 811362

Date Analyzed: 06/18/2010

Reporting Units: ug/L

Project ID: Roxana/21562289

QC- Sample ID: 376532-006 S

Date Prepared: 06/18/2010

Batch #: 1

Analyst: ZHO

Matrix: Water

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	112	112	100	113	113	1	60-140	21	
Benzene	<5.00	50.0	40.2	80	50.0	41.3	83	3	66-142	21	
Bromobenzene	<5.00	50.0	44.3	89	50.0	43.6	87	2	75-125	20	
Bromochloromethane	<5.00	50.0	39.9	80	50.0	40.9	82	2	73-125	20	
Bromodichloromethane	<5.00	50.0	42.3	85	50.0	43.7	87	3	75-125	20	
Bromoform	<5.00	50.0	46.8	94	50.0	46.8	94	0	75-125	20	
Bromomethane	<5.00	50.0	33.4	67	50.0	37.5	75	12	70-130	20	X
2-Butanone	<50.0	100	97.4	97	100	95.1	95	2	60-140	20	
MTBE	<5.00	50.0	35.8	72	50.0	37.8	76	5	65-135	20	
n-Butylbenzene	<5.00	50.0	43.4	87	50.0	44.0	88	1	75-125	20	
Sec-Butylbenzene	<5.00	50.0	46.2	92	50.0	48.0	96	4	75-125	20	
tert-Butylbenzene	<5.00	50.0	47.6	95	50.0	49.9	100	5	75-125	20	
Carbon Disulfide	<50.0	50.0	35.7	71	50.0	38.2	76	7	60-140	20	
Carbon Tetrachloride	<5.00	50.0	42.9	86	50.0	46.1	92	7	62-125	20	
Chlorobenzene	<5.00	50.0	45.5	91	50.0	45.4	91	0	60-133	21	
Chloroethane	<10.0	50.0	36.3	73	50.0	38.2	76	5	70-130	20	
Chloroform	<5.00	50.0	39.5	79	50.0	40.8	82	3	74-125	20	
Chloromethane	<10.0	50.0	34.3	69	50.0	39.3	79	14	70-130	20	X
2-Chlorotoluene	<5.00	50.0	43.9	88	50.0	45.7	91	4	73-125	20	
4-Chlorotoluene	<5.00	50.0	42.5	85	50.0	43.3	87	2	74-125	20	
p-Cymene (p-Isopropyltoluene)	<5.00	50.0	42.5	85	50.0	43.4	87	2	75-125	20	
Dibromochloromethane	<5.00	50.0	48.6	97	50.0	48.5	97	0	73-125	20	
1,2-Dibromo-3-Chloropropane	<5.00	50.0	42.7	85	50.0	41.4	83	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 $[G] = 100 \times (F-A)/E$

Work Order #: 376527

Lab Batch ID: 811362

Date Analyzed: 06/18/2010

Reporting Units: ug/L

Project ID: Roxana/21562289

QC- Sample ID: 376532-006 S

Date Prepared: 06/18/2010

Batch #: 1

Analyst: ZHO

Matrix: Water

VOAs by SW-846 8260B		Analytes										Control Limits %RPD	Control Limits %R	RPD %	Spiked Dup. %R [G]	Duplicate Spiked Sample Result [F]	Spiked Sample %R [D]	Spike Added [B]	Spiked Sample Result [C]	Parent Sample Result [A]
	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																			
	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 $[D] = 100 \times (C-A)/B$
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 Ave

Work Order #: 376527

Lab Batch ID: 811362

Date Analyzed: 06/18/2010

Reporting Units: ug/L

Project ID: Roxana/21562289

QC- Sample ID: 376532-006 S

Date Prepared: 06/18/2010

Batch #: 1 Matrix: Water

Analyst: ZHO

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	41.5	83	50.0	40.2	80	3	74-125	31	
Tetrachloroethylene		<5.00	50.0	47.8	96	50.0	46.9	94	2	71-125	20	
Toluene		<5.00	50.0	41.8	84	50.0	42.5	85	2	59-139	21	
1,2,3-Trichlorobenzene		<5.00	50.0	42.8	86	50.0	43.1	86	1	75-137	20	
1,2,4-Trichlorobenzene		<5.00	50.0	42.0	84	50.0	41.9	84	0	75-135	20	
1,1,1-Trichloroethane		<5.00	50.0	37.4	75	50.0	40.0	80	7	75-125	20	
1,1,2-Trichloroethane		<5.00	50.0	51.4	103	50.0	51.4	103	0	75-127	20	
Trichloroethene		<5.00	50.0	42.4	85	50.0	43.3	87	2	62-137	24	
Trichlorofluoromethane		<5.00	50.0	44.6	89	50.0	48.5	97	8	67-125	20	
1,2,3-Trichloropropane		<5.00	50.0	42.1	84	50.0	41.7	83	1	75-125	20	
1,2,4-Trimethylbenzene		<5.00	50.0	42.1	84	50.0	43.6	87	4	75-125	20	
1,3,5-Trimethylbenzene		<5.00	50.0	45.0	90	50.0	45.9	92	2	70-125	20	
o-Xylene		<5.00	50.0	44.3	89	50.0	47.2	94	6	75-125	20	
m,p-Xylenes		<10.0	100	88.0	88	100	89.1	89	1	75-125	20	
Vinyl Acetate		<50.0	100	104	104	100	104	104	0	60-140	20	
Vinyl Chloride		<2.00	50.0	35.8	72	50.0	39.9	80	11	75-125	20	X

 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, EQI = Estimated Quantitation Limit

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

Work Order #: 376527

Lab Batch ID: 811640

Date Analyzed: 06/21/2010

Reporting Units: mg/kg

Project ID: Roxana/21562289

QC- Sample ID: 376527-002 S

Date Prepared: 06/20/2010

Batch #: 1 Matrix: Soil

Analyst: ZHO

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	
Acetone	<0.101	0.126	135	0.095	0.106	112	17	50-150	21		
Benzene	<0.005	0.047	102	0.047	0.043	91	9	66-142	21		
Bromobenzene	<0.005	0.046	122	0.047	0.051	109	9	75-125	25		
Bromochloromethane	<0.005	0.046	109	0.047	0.046	98	8	73-125	20		
Bromodichloromethane	<0.005	0.046	100	0.047	0.045	96	2	75-125	20		
Bromoform	<0.005	0.046	80	0.047	0.041	87	10	75-125	20		
Bromomethane	<0.005	0.046	109	0.047	0.043	91	15	65-135	20		
2-Butanone	<0.051	0.093	119	0.095	0.103	108	7	75-125	20		
MTBE	0.003	0.046	113	0.047	0.054	109	2	65-135	20		
tert-Butylbenzene	<0.005	0.046	146	0.047	0.057	121	16	75-125	25	X	
Sec-Butylbenzene	<0.005	0.046	139	0.047	0.054	115	17	75-125	25	X	
n-Butylbenzene	<0.005	0.046	124	0.047	0.051	109	11	75-125	25		
Carbon Disulfide	<0.051	0.046	111	0.047	0.043	91	17	65-135	20		
Carbon Tetrachloride	<0.005	0.046	91	0.047	0.040	85	5	62-125	20		
Chlorobenzene	<0.005	0.046	107	0.047	0.048	102	2	60-133	21		
Chloroethane	<0.010	0.046	104	0.047	0.042	89	13	65-135	20		
Chloroform	<0.005	0.046	109	0.047	0.046	98	8	74-125	20		
Chloromethane	<0.010	0.046	104	0.047	0.040	85	18	65-135	20		
2-Chlorotoluene	<0.005	0.046	128	0.047	0.052	111	13	73-125	25	X	
4-Chlorotoluene	<0.005	0.046	122	0.047	0.049	104	13	74-125	25		
p-Cymene (p-Isopropyltoluene)	<0.005	0.046	135	0.047	0.054	115	14	75-125	25	X	
1,2-Dibromo-3-Chloropropane	<0.005	0.046	104	0.047	0.050	106	4	59-125	28		
Dibromochloromethane	<0.005	0.046	93	0.047	0.044	94	2	73-125	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 Ave

Work Order #: 376527

Lab Batch ID: 811640

Date Analyzed: 06/21/2010

Reporting Units: mg/kg

Project ID: Roxana/21562289

QC- Sample ID: 376527-002 S

Date Prepared: 06/20/2010

Batch #: 1

Analyst: ZHO

Matrix: Soil

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	<0.005	0.046	100	0.047	0.044	94	4	69-127	23	
1,2-Dichlorobenzene	<0.005	0.046	98	0.047	0.044	94	2	75-125	25	
1,3-Dichlorobenzene	<0.005	0.046	104	0.047	0.046	98	4	75-125	25	
1,4-Dichlorobenzene	<0.005	0.046	100	0.047	0.044	94	4	75-125	25	
Dichlorodifluoromethane	<0.005	0.046	107	0.047	0.041	87	18	65-135	23	
1,2-Dichloroethane	<0.005	0.046	102	0.047	0.043	91	9	68-127	20	
1,1-Dichloroethane	<0.005	0.046	117	0.047	0.048	102	12	72-125	20	
trans-1,2-dichloroethene	<0.005	0.046	111	0.047	0.044	94	15	75-125	20	
cis-1,2-Dichloroethene	<0.005	0.046	109	0.047	0.045	96	11	75-125	20	
1,1-Dichloroethene	<0.005	0.046	107	0.047	0.042	89	15	59-172	22	
2,2-Dichloropropane	<0.005	0.046	120	0.047	0.050	106	10	75-125	25	
1,3-Dichloropropane	<0.005	0.046	104	0.047	0.047	100	2	75-125	25	
1,2-Dichloropropane	<0.005	0.046	109	0.047	0.046	98	8	74-125	20	
trans-1,3-dichloropropene	<0.005	0.046	107	0.047	0.047	100	4	66-125	20	
1,1-Dichloropropene	<0.005	0.046	93	0.047	0.039	83	10	75-125	25	
cis-1,3-Dichloropropene	<0.005	0.046	111	0.047	0.048	102	6	74-125	20	
Ethylbenzene	<0.005	0.046	107	0.047	0.046	98	6	75-125	20	
Hexachlorobutadiene	<0.005	0.046	104	0.047	0.046	98	4	75-125	25	
isopropylbenzene	<0.005	0.046	141	0.047	0.054	115	18	75-125	25	X
Methylene Chloride	<0.020	0.046	109	0.047	0.046	98	8	75-125	35	
n-Propylbenzene	<0.005	0.046	139	0.047	0.054	115	17	75-125	25	X
Styrene	<0.005	0.046	100	0.047	0.046	98	0	75-125	51	
1,1,1,2-Tetrachloroethane	<0.005	0.046	102	0.047	0.048	102	2	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 #: 376527

Lab Batch ID: 811640

Date Analyzed: 06/21/2010

Reporting Units: mg/kg

Project ID: Roxana/21562289

QC- Sample ID: 376527-002 S

Date Prepared: 06/20/2010

Batch #: 1

Matrix: Soil

Analyst: ZHO

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	<0.005	0.046	0.062	135	0.047	0.056	119	10	74-125	31	(X)
Tetrachloroethylene	<0.005	0.046	0.050	109	0.047	0.045	96	11	71-125	20	
Toluene	<0.005	0.046	0.048	104	0.047	0.044	94	9	59-139	21	
1,2,4-Trichlorobenzene	<0.005	0.046	0.026	57	0.047	0.030	64	14	75-135	25	(X)
1,2,3-Trichlorobenzene	<0.005	0.046	0.023	50	0.047	0.026	55	12	75-137	25	(X)
1,1,2-Trichloroethane	<0.005	0.046	0.047	102	0.047	0.046	98	2	75-127	20	
1,1,1-Trichloroethane	<0.005	0.046	0.047	102	0.047	0.042	89	11	75-125	20	
Trichloroethene	<0.005	0.046	0.047	102	0.047	0.043	91	9	62-137	24	
Trichlorofluoromethane	<0.005	0.046	0.052	113	0.047	0.045	96	14	67-125	20	
1,2,3-Trichloropropane	<0.005	0.046	0.060	130	0.047	0.056	119	7	75-125	20	(X)
1,2,4-Trimethylbenzene	<0.005	0.046	0.057	124	0.047	0.051	109	11	75-125	25	
1,3,5-Trimethylbenzene	<0.005	0.046	0.062	135	0.047	0.054	115	14	70-130	25	(X)
Vinyl Acetate	<0.051	0.093	0.143	154	0.095	0.133	140	7	75-125	20	(X)
Vinyl Chloride	<0.002	0.046	0.050	109	0.047	0.042	89	17	65-135	20	
o-Xylene	<0.005	0.046	0.051	111	0.047	0.049	104	4	75-125	20	
m,p-Xylenes	<0.010	0.093	0.099	106	0.095	0.092	97	7	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

Project Name: 900 S Central Ave

Work Order #: 376527

Lab Batch #: 810255

Date Analyzed: 06/11/2010

QC- Sample ID: 376527-001 D

Reporting Units: %

Date Prepared: 06/11/2010

Batch #: 1

Project ID: Roxana/21562289

Analyst: JSO

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	31.1	31.7	2	20	

Lab Batch #: 810255

Date Analyzed: 06/11/2010

QC- Sample ID: 376575-007 D

Reporting Units: %

Date Prepared: 06/11/2010

Batch #: 1

Analyst: JSO

Matrix: Soil

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	25.9	25.0	4	20	

Spike Relative Difference $RPD = 200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit



Shell Oil Products Chain Of Custody Record

URS

LAB (LOCATION)

☒ XEROX ()
☐ CALCUSCENCE ()
☐ OTHER ()
☐ SFL ()

Lab Vendor # 1646596 (Zancho)

Please Check Appropriate Box:

☒ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SOACH ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name:

WENDY PENNINGTON

PO #

SAP #

DATE: 6/9/10

PAGE 1 of 1

LABOR CODE

URS CORPORATION

1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110

PROJECT CONTACT PERSON (or PO Representative)

WENDY PENNINGTON

TELEPHONE 314-743-4166 or 314-452-8928 314-429-0462

FAX 314-743-4166 or 314-452-8928 314-429-0462

TURNAROUND TIME (CALENDAR DAYS):

☒ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS

☐ LA - RWQCB REPORT FORMAT ☐ LIST AGENCY:

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

TEMPERATURE ON RECEIPT C° Cooler #1 84°C Cooler #2 0-9°C Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:

* Please Include "J" values on Reports.

* Please provide sample receipt upon login.

REFER TO TB on COC for water samples dated 6/9/10

☒ SHELL CONTRACT RATE APPLIES

☐ STATE REIMBURSEMENT RATE APPLIES

☐ EOD NOT NEEDED

☐ RECEIPT VERIFICATION REQUESTED

☐ PROVIDE LEDD DISK

☐ PROVIDE LEDD DISK

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FIELD NOTES:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes

PID (ppm)

Requested Analysis

W. Pennington, K. Hurst

ROXANA / 21562289

DATE: 6/9/10

PAGE 1 of 1

LABOR CODE

URS CORPORATION

1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110

PROJECT CONTACT PERSON (or PO Representative)

WENDY PENNINGTON

TELEPHONE 314-743-4166 or 314-452-8928 314-429-0462

FAX 314-743-4166 or 314-452-8928 314-429-0462

TURNAROUND TIME (CALENDAR DAYS):

☒ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS

☐ LA - RWQCB REPORT FORMAT ☐ LIST AGENCY:

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

TEMPERATURE ON RECEIPT C° Cooler #1 84°C Cooler #2 0-9°C Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:

* Please Include "J" values on Reports.

* Please provide sample receipt upon login.

REFER TO TB on COC for water samples dated 6/9/10

☒ SHELL CONTRACT RATE APPLIES

☐ STATE REIMBURSEMENT RATE APPLIES

☐ EOD NOT NEEDED

☐ RECEIPT VERIFICATION REQUESTED

☐ PROVIDE LEDD DISK

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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: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

Client: URS
Date/Time: 6/10/10
Lab ID #: 376527
Initials: TT/ds

JC/ds

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>2560</u>	Cooler 2 No. <u>2667</u>	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
<u>52 lbs</u>	<u>0.4 °C</u>	<u>26 lbs</u>	<u>0.9 °C</u>	

Nonconformance Documentation

Contact: Jeff Adams Contacted by: Debbie Simmons Date/Time: 6/10/10 (Sodium Bisulfate)
Regarding: Sample GP5-27, & GP-5-27 D received 1 vial dry
Sample GP-3-17 methanol vial received w/o methanol
Corrective Action Taken: Samples were prepped from p-moist jar on 6/11/10 as 3035 in laboratory to have extra sample in case reanalysis needed, then frozen.

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

Roxana Groundwater Data Review

Laboratory SDG: 376532

Reviewer: Elizabeth Kunkel

Date Reviewed: 7/21/2010

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

Work Plan: Dissolved Phase Groundwater Investigation and P-60 Free Phase Product Delineation (2009)

Sample Identification	Sample Identification
GP-5-39.5EB	GP-5-31.5
GP-5-39.5	GP-3-29.5
GP-3-29.5D	GP-3-37.5
TB060910	

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 and VOC MS/MSD recoveries were outside evaluation criteria in sample GP-3-37.5. Additionally, samples were diluted due to high levels of target analytes.

The cooler receipt form indicated that samples in two out of two coolers were received by the laboratory at 0.4°C and 0.9°C which are outside 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?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS Recovery	LCS Criteria
566159-1-BKS	VOCs	Acetone	178	60-140
566159-1-BKS	VOCs	2-Butanone	163	60-140

Analytical data reported as nondetect 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 GP-3-37.5 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
GP-3-37.5	SVOCs	Aniline	4/0	NC	5-115/25
GP-3-37.5	SVOCs	Bis(2-chloroisopropyl) ether	68/64	6	65-135/25
GP-3-37.5	SVOCs	4-Chloroaniline	10/8	22	9-128/25
GP-3-37.5	SVOCs	3,3-Dichlorobenzidine	0/0	NC	12-147/25
GP-3-37.5	SVOCs	Hexachlorocyclopentadiene	18/18	0	41-125/25
GP-3-37.5	SVOCs	2-Nitroaniline	66/64	3	65-135/25
GP-3-37.5	SVOCs	3-Nitroaniline	68/60	13	65-135/25
GP-3-37.5	SVOCs	Pyridine	0/0	NC	16-86/28
GP-3-37.5	VOCs	Bromomethane	67/75	12	70-130/20
GP-3-37.5	VOCs	Chloromethane	69/79	14	70-130/20
GP-3-37.5	VOCs	Vinyl chloride	72/80	11	75-125/20

USEPA National Functional Guidelines for Superfund Organic Methods Data Review indicates that organic data does not require qualification based on MS/MSD data alone and LCS recoveries were within evaluation criteria; therefore, no qualification of data was required.

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
GP-3-29.5	GP-3-29.5D

Were field duplicates within evaluation criteria?

Yes

11.0 Sample Dilutions

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

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

Analytical Report 376532

for

URS Corporation-St. Louis

Project Manager: Wendy Pennington

900 S. Central Ave

Roxana/21562289

24-JUN-10



Reviewed
on
7/21/2010

4143 Greenbriar Dr., Stafford, TX 77477

Ph:(281) 240-4200 Fax:(281) 240-4280

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-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: FL00449):

Florida(E86240),South Carolina(96031001), Louisiana(04154), Georgia(917)

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



24-JUN-10

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

Reference: XENCO Report No: **376532**
900 S. 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 376532. 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. 376532 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 376532

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

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
GP-5-39.5EB ✓	W	Jun-09-10 09:55		376532-001
GP-5-31.5 ✓	W	Jun-09-10 10:30		376532-002
GP-5-39.5 ✓	W	Jun-09-10 11:40		376532-003
GP-3-29.5 ✓	W	Jun-09-10 14:40		376532-004
GP-3-29.5D ✓	W	Jun-09-10 14:40		376532-005
GP-3-37.5 ✓	W	Jun-09-10 15:50		376532-006
TB060910 ✓	W	Jun-09-10 15:50		376532-007



CASE NARRATIVE

Client Name: URS Corporation-St. Louis

Project Name: 900 S. Central Ave



Project ID: Roxana/21562289

Work Order Number: 376532

Report Date: 24-JUN-10

Date Received: 06/10/2010

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-810583 SVOAs by SW-846 8270C

3,3-Dichlorobenzidine, Aniline (Phenylamine, Aminobenzene), Hexachlorocyclopentadiene, Pyridine recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. 2-Nitroaniline, 3-Nitroaniline, 4-Chloroaniline, bis(2-chloroisopropyl) ether recovered below QC limits in the Matrix Spike Duplicate.

Samples affected are: 376532-001, -002, -006, -005, -003, -004.

The Laboratory Control Sample for bis(2-chloroisopropyl) ether, 4-Chloroaniline, 2-Nitroaniline, Hexachlorocyclopentadiene, 3-Nitroaniline, Aniline (Phenylamine, Aminobenzene), 3,3-Dichlorobenzidine, Pyridine is within laboratory Control Limits

Batch: LBA-811362 VOAs by SW-846 8260B

2-Butanone, Acetone recovered above QC limits in the laboratory control sample. No samples reporting hits for these compounds.

Samples affected are: 376532-001, -006, -002, -005, -003, -007, -004.

SW8260B

Batch 811362, Bromomethane, Chloromethane, Vinyl Chloride recovered below QC limits in the Matrix Spike.

Samples affected are: 376532-001, -006, -002, -005, -003, -007, -004.

The Laboratory Control Sample for Bromomethane, Chloromethane, Vinyl Chloride is within laboratory Control Limits

Certificate of Analysis Summary 376532

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

Project Name: 900 S. Central Ave



Project Id: Roxana/21562289
 Contact: Wendy Pennington
 Project Location: Roxana, IL

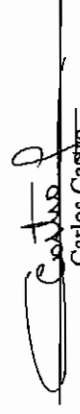
Date Received in Lab: Thu Jun-10-10 09:00 am
 Report Date: 24-JUN-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id: Field Id: Depth: Matrix: Sampled:	376532-001 GP-5-39.5EB WATER Jun-09-10 09:55	376532-002 GP-5-31.5 WATER Jun-09-10 10:30	376532-003 GP-5-39.5 WATER Jun-09-10 11:40	376532-004 GP-3-29.5 WATER Jun-09-10 14:40	376532-005 GP-3-29.5D WATER Jun-09-10 14:40	376532-006 GP-3-37.5 WATER Jun-09-10 15:50
		Extracted: Analyzed: Units/RL:	Extracted: Analyzed: Units/RL:	Extracted: Analyzed: Units/RL:	Extracted: Analyzed: Units/RL:	Extracted: Analyzed: Units/RL:	Extracted: Analyzed: Units/RL:
SVOAs by SW-846 8270C							
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 0.040	U 0.040	U 0.040	U 0.040	U 0.040	U 0.040
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 0.060	U 0.060	U 0.060	U 0.060	U 0.060	U 0.060
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 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
bis(2-chloroethyl) ether		U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
bis(2-chloroisopropyl) ether		U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
bis(2-ethylhexyl) phthalate		U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
4-Bromophenyl-phenylether		U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
4-chloro-3-methylphenol		U 0.040	U 0.040	U 0.040	U 0.040	U 0.040	U 0.040
4-Chloroaniline		U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
2-Chloronaphthalene		U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
2-Chlorophenol		U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
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 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
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 376532

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



Project Id: Roxana/21562289
Contact: Wendy Pennington
Project Location: Roxana, IL

Date Received in Lab: Thu Jun-10-10 09:00 am
Report Date: 24-JUN-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	376532-001	376532-002	376532-003	376532-004	376532-005	376532-006
	Extracted:	Analyzed:	Units/RL:	mg/L	RL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SVOAs by SW-846 8270C											
3,3-Dichlorobenzidine						U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
2,4-Dichlorophenol						U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
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 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
4,6-dinitro-2-methyl phenol						U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
2,4-Dinitrophenol						U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
2,4-Dinitrotoluene						U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
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 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
Hexachlorobenzene						U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
Hexachlorocyclopentadiene						U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
Hexachloroethane						U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
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 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
2-Methylnaphthalene						U 0.010	0.012 0.010	0.006 J 0.010	U 0.010	U 0.010	U 0.010
2-methylphenol						U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
3&4-Methylphenol						U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
Naphthalene						U 0.010	U 0.010	U 0.010	U 0.010	U 0.010	U 0.010
2-Nitroaniline						U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
3-Nitroaniline						U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
4-Nitroaniline						U 0.040	U 0.040	U 0.040	U 0.040	U 0.040	U 0.040
Nitrobenzene						U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020

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Carlos Castro
Managing Director, Texas

Certificate of Analysis Summary 376532 URS Corporation-St. Louis, St. Louis, MO Project Name: 900 S. Central Ave

Project Id: Roxana/21562289
 Contact: Wendy Pennington
 Project Location: Roxana, IL



Date Received in Lab: Thu Jun-10-10 09:00 am
 Report Date: 24-JUN-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	Field Id:	Depth:	Matrix:	Sampled:	376532-001	376532-002	376532-003	376532-004	376532-005	376532-006
	GP-5-39.5EB	GP-5-31.5	GP-5-39.5	GP-5-39.5	GP-5-39.5	GP-5-39.5	GP-5-39.5	GP-5-39.5	GP-5-39.5	GP-5-39.5	GP-5-39.5
	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
	Jun-09-10 09:55	Jun-09-10 10:30	Jun-09-10 11:40	Jun-09-10 14:40	Jun-09-10 14:40	Jun-09-10 14:40	Jun-09-10 14:40	Jun-09-10 14:40	Jun-09-10 14:40	Jun-09-10 14:40	Jun-09-10 15:50
SVOAs by SW-846 8270C	Jun-11-10 07:39	Jun-11-10 07:42	Jun-11-10 07:45	Jun-11-10 07:48	Jun-11-10 07:51	Jun-11-10 07:54	Jun-11-10 07:54	Jun-11-10 07:54	Jun-11-10 07:54	Jun-11-10 07:54	Jun-11-10 07:54
	Jun-14-10 18:13	Jun-14-10 18:37	Jun-14-10 19:00	Jun-14-10 19:24	Jun-14-10 19:47	Jun-14-10 20:11	Jun-14-10 20:11	Jun-14-10 20:11	Jun-14-10 20:11	Jun-14-10 20:11	Jun-14-10 20:11
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL
2-Nitrophenol	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
4-Nitrophenol	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
N-Nitrosodi-n-Propylamine	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
N-Nitrosodiphenylamine	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
Pentachlorophenol	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
Phenanthrene	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
Phenol	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
Pyrene	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
Pyridine	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
2,4,5-Trichlorophenol	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020
2,4,6-Trichlorophenol	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020	U 0.020

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Carlos Castro
 Managing Director, Texas

Certificate of Analysis Summary 376532 URS Corporation-St. Louis, St. Louis, MO

Project Id: Roxana/21562289
 Contact: Wendy Pennington
 Project Location: Roxana, IL



Date Received in Lab: Thu Jun-10-10 09:00 am

Report Date: 24-JUN-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id: Field Id: Depth: Matrix: Sampled:	376532-001 GP-5-39.5EB WATER Jun-09-10 09:55	376532-002 GP-5-31.5 WATER Jun-09-10 10:30	376532-003 GP-5-39.5 WATER Jun-09-10 11:40	376532-004 GP-3-29.5 WATER Jun-09-10 14:40	376532-005 GP-3-29.5D WATER Jun-09-10 14:40	376532-006 GP-3-37.5 WATER Jun-09-10 15:50
		Extracted: Analyzed: Units/RL:	Extracted: Analyzed: Units/RL:	Extracted: Analyzed: Units/RL:	Extracted: Analyzed: Units/RL:	Extracted: Analyzed: Units/RL:	Extracted: Analyzed: Units/RL:
VOAs by SW-846 8260B		Jun-18-10 15:38 Jun-18-10 19:56 ug/L RL	Jun-18-10 18:04 Jun-19-10 00:01 ug/L RL	Jun-18-10 15:40 Jun-18-10 20:18 ug/L RL	Jun-18-10 15:41 Jun-18-10 20:40 ug/L RL	Jun-18-10 15:42 Jun-18-10 21:02 ug/L RL	Jun-18-10 15:31 Jun-18-10 16:30 ug/L RL
Acetone		U 100	U 100	U 100	U 100	U 100	U 100
Benzene		U 5.00	55.4 5.00	9.58 5.00	3.71 J 5.00	3.69 J 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	1.75 J 5.00	U 5.00	U 5.00	U 5.00
n-Butylbenzene		U 5.00	5.13 5.00	3.46 J 5.00	1.29 J 5.00	1.27 J 5.00	U 5.00
Sec-Butylbenzene		U 5.00	6.75 5.00	9.66 5.00	11.4 5.00	10.8 5.00	U 5.00
tert-Butylbenzene		U 5.00	4.26 J 5.00	3.50 J 5.00	1.07 J 5.00	1.13 J 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		U 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 Castro
 Managing Director, Texas

Certificate of Analysis Summary 376532

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

Project Id: Roxana/21562289
 Contact: Wendy Pennington
 Project Location: Roxana, IL



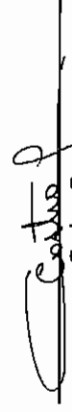
Date Received in Lab: Thu Jun-10-10 09:00 am
 Report Date: 24-JUN-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	376532-001	376532-002	376532-003	376532-004	376532-005	376532-006
	Field Id: Depth: Matrix: Sampled:	GP-5-39.5EB Jun-09-10 09:55 WATER Jun-18-10 15:38 Jun-18-10 19:56 ug/L RL	GP-5-31.5 Jun-09-10 10:30 WATER Jun-18-10 18:04 Jun-19-10 00:01 ug/L RL	GP-5-39.5 Jun-09-10 11:40 WATER Jun-18-10 15:40 Jun-18-10 20:18 ug/L RL	GP-3-29.5 Jun-09-10 14:40 WATER Jun-18-10 15:41 Jun-18-10 20:40 ug/L RL	GP-3-29.5D Jun-09-10 14:40 WATER Jun-18-10 15:42 Jun-18-10 21:02 ug/L RL	GP-3-37.5 Jun-09-10 15:50 WATER Jun-18-10 15:31 Jun-18-10 16:30 ug/L RL
VOAs by SW-846 8260B	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	25.6 5.00	3.23 J 5.00	91.8 5.00	91.6 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	38.1 5.00	6.52 5.00	89.1 5.00	88.6 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	2.49 J 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

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 Carlos Castro
 Managing Director, Texas



Certificate of Analysis Summary 376532

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

Project Id: Roxana/21562289
Contact: Wendy Pennington
Project Location: Roxana, IL



Date Received in Lab: Thu Jun-10-10 09:00 am
Report Date: 24-JUN-10

Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	376532-001	376532-002	376532-003	376532-004	376532-005	376532-006
	Field Id:	GP-5-39.5EB	GP-5-31.5	GP-5-39.5	GP-3-29.5	GP-3-29.5D	GP-3-37.5
	Depth:						
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	Sampled:	Jun-09-10 09:55	Jun-09-10 10:30	Jun-09-10 11:40	Jun-09-10 14:40	Jun-09-10 14:40	Jun-09-10 15:50
VOAs by SW-846 8260B	Extracted:	Jun-18-10 15:38	Jun-18-10 18:04	Jun-18-10 15:40	Jun-18-10 15:41	Jun-18-10 15:42	Jun-18-10 15:31
	Analyzed:	Jun-18-10 19:56	Jun-19-10 00:01	Jun-18-10 20:18	Jun-18-10 20:40	Jun-18-10 21:02	Jun-18-10 16:30
	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 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	1.15 J 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	3.55 J 5.00	U 5.00	U 5.00	U 5.00	U 5.00
	m,p-Xylenes	U 10.0	14.5 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 376532

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

Project Id: Roxana/21562289
Contact: Wendy Pennington
Project Location: Roxana, IL



Date Received in Lab: Thu Jun-10-10 09:00 am
Report Date: 24-JUN-10
Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	376532-007			
	Field Id:	TB060910			
	Depth:				
	Matrix:	WATER			
	Sampled:	Jun-09-10 15:50			
VOAs by SW-846 8260B	Extracted:	Jun-18-10 15:30			
	Analyzed:	Jun-18-10 16:08			
	Units/RL:	ug/L RL			
Acetone		U 100			
Benzene		U 5.00			
Bromobenzene		U 5.00			
Bromochloromethane		U 5.00			
Bromodichloromethane		U 5.00			
Bromoform		U 5.00			
Bromomethane		U 5.00			
2-Butanone		U 50.0			
MTBE		U 5.00			
n-Butylbenzene		U 5.00			
Sec-Butylbenzene		U 5.00			
tert-Butylbenzene		U 5.00			
Carbon Disulfide		U 50.0			
Carbon Tetrachloride		U 5.00			
Chlorobenzene		U 5.00			
Chloroethane		U 10.0			
Chloroform		U 5.00			
Chloromethane		U 10.0			
2-Chlorotoluene		U 5.00			
4-Chlorotoluene		U 5.00			
p-Cymene (p-Isopropyltoluene)		U 5.00			
Dibromochloromethane		U 5.00			
1,2-Dibromo-3-Chloropropane		U 5.00			
Dibromomethane		U 5.00			
1,2-Dichlorobenzene		U 5.00			

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Carlos Castro
Managing Director, Texas

Certificate of Analysis Summary 376532 URS Corporation-St. Louis, St. Louis, MO

Project Id: Roxana/21562289
 Contact: Wendy Pennington
 Project Location: Roxana, IL



Date Received in Lab: Thu Jun-10-10 09:00 am
 Report Date: 24-JUN-10
 Project Manager: Debbie Simmons

Analysis Requested	Lab Id: Field Id: Depth: Matrix: Sampled:	376532-007 TB060910 WATER Jun-09-10 15:50				
VOAs by SW-846 8260B	Extracted: Analyzed: Units/RL:	Jun-18-10 15:30 Jun-18-10 16:08 ug/L RL				
1,3-Dichlorobenzene		U 5.00				
1,4-Dichlorobenzene		U 5.00				
Dichlorodifluoromethane		U 5.00				
1,1-Dichloroethane		U 5.00				
1,2-Dichloroethane		U 5.00				
1,1-Dichloroethene		U 5.00				
cis-1,2-Dichloroethene		U 5.00				
trans-1,2-dichloroethene		U 5.00				
1,2-Dichloropropane		U 5.00				
1,3-Dichloropropane		U 5.00				
2,2-Dichloropropane		U 5.00				
1,1-Dichloropropene		U 5.00				
cis-1,3-Dichloropropene		U 5.00				
trans-1,3-dichloropropene		U 5.00				
Ethylbenzene		U 5.00				
Hexachlorobutadiene		U 5.00				
isopropylbenzene		U 5.00				
Methylene Chloride		U 5.00				
n-Propylbenzene		U 5.00				
Styrene		U 5.00				
1,1,1,2-Tetrachloroethane		U 5.00				
1,1,2,2-Tetrachloroethane		U 5.00				
Tetrachloroethylene		U 5.00				
Toluene		U 5.00				
1,2,3-Trichlorobenzene		U 5.00				

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Carlos Castro
 Managing Director, Texas



Certificate of Analysis Summary 376532

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



Project Id: Roxana/21562289
Contact: Wendy Pennington
Project Location: Roxana, IL

Date Received in Lab: Thu Jun-10-10 09:00 am
Report Date: 24-JUN-10
Project Manager: Debbie Simmons

Analysis Requested	Lab Id:	376532-007			
	Field Id:	TB060910			
	Depth:				
	Matrix:	WATER			
	Sampled:	Jun-09-10 15:50			
	Extracted:	Jun-18-10 15:30			
	Analyzed:	Jun-18-10 16:08			
	Units/RL:	ug/L RL			
VOAs by SW-846 8260B					
1,2,4-Trichlorobenzene		U 5.00			
1,1,1-Trichloroethane		U 5.00			
1,1,2-Trichloroethane		U 5.00			
Trichloroethene		U 5.00			
Trichlorofluoromethane		U 5.00			
1,2,3-Trichloropropane		U 5.00			
1,2,4-Trimethylbenzene		U 5.00			
1,3,5-Trimethylbenzene		U 5.00			
o-Xylene		U 5.00			
m,p-Xylenes		U 10.0			
Vinyl Acetate		U 50.0			
Vinyl Chloride		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 #: 376532

Project ID: Roxana/21562289

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
GP-3-29.5D	Jun. 9, 2010	Jun. 10, 2010				Jun.18, 2010	14	9	P
GP-3-29.5	Jun. 9, 2010	Jun. 10, 2010				Jun.18, 2010	14	9	P
GP-5-39.5	Jun. 9, 2010	Jun. 10, 2010				Jun.18, 2010	14	9	P
GP-5-39.5EB	Jun. 9, 2010	Jun. 10, 2010				Jun.18, 2010	14	9	P
GP-5-31.5	Jun. 9, 2010	Jun. 10, 2010				Jun.19, 2010	14	10	P
TB060910	Jun. 9, 2010	Jun. 10, 2010				Jun.18, 2010	14	9	P
GP-3-37.5	Jun. 9, 2010	Jun. 10, 2010				Jun.18, 2010	14	9	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : SVOAs by SW-846 8270C

Client : URS Corporation-St. Louis

Work Order #: 376532

Project ID: Roxana/21562289

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
GP-3-29.5D	Jun. 9, 2010	Jun. 10, 2010	Jun. 11, 2010	7	2	Jun.14, 2010	40	3	P
GP-5-39.5	Jun. 9, 2010	Jun. 10, 2010	Jun. 11, 2010	7	2	Jun.14, 2010	40	3	P
GP-5-39.5EB	Jun. 9, 2010	Jun. 10, 2010	Jun. 11, 2010	7	2	Jun.14, 2010	40	3	P
GP-5-31.5	Jun. 9, 2010	Jun. 10, 2010	Jun. 11, 2010	7	2	Jun.14, 2010	40	3	P
GP-3-37.5	Jun. 9, 2010	Jun. 10, 2010	Jun. 11, 2010	7	2	Jun.14, 2010	40	3	P
GP-3-29.5	Jun. 9, 2010	Jun. 10, 2010	Jun. 11, 2010	7	2	Jun.14, 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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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 Ave

Work Orders : 376532,

Project ID: Roxana/21562289

Lab Batch #: 810583

Sample: 565508-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/14/10 17:02

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	0.032	0.050	64	21-100	
Nitrobenzene-d5	0.047	0.050	94	35-114	
Phenol-d6	0.023	0.050	46	10-94	
Terphenyl-D14	0.050	0.050	100	33-141	
2,4,6-Tribromophenol	0.038	0.050	76	10-123	

Lab Batch #: 810583

Sample: 565508-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/14/10 17:26

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.044	0.050	88	43-116	
2-Fluorophenol	0.030	0.050	60	21-100	
Nitrobenzene-d5	0.040	0.050	80	35-114	
Phenol-d6	0.025	0.050	50	10-94	
Terphenyl-D14	0.045	0.050	90	33-141	
2,4,6-Tribromophenol	0.039	0.050	78	10-123	

Lab Batch #: 810583

Sample: 565508-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/14/10 17:50

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.041	0.050	82	43-116	
2-Fluorophenol	0.028	0.050	56	21-100	
Nitrobenzene-d5	0.038	0.050	76	35-114	
Phenol-d6	0.024	0.050	48	10-94	
Terphenyl-D14	0.042	0.050	84	33-141	
2,4,6-Tribromophenol	0.036	0.050	72	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 Ave

Work Orders : 376532,

Project ID: Roxana/21562289

Lab Batch #: 810583

Sample: 376532-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/14/10 18:13

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	0.020	0.050	40	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	0.027	0.050	54	10-123	

Lab Batch #: 810583

Sample: 376532-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/14/10 18:37

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.036	0.050	72	43-116	
2-Fluorophenol	0.021	0.050	42	21-100	
Nitrobenzene-d5	0.032	0.050	64	35-114	
Phenol-d6	0.013	0.050	26	10-94	
Terphenyl-D14	0.038	0.050	76	33-141	
2,4,6-Tribromophenol	0.037	0.050	74	10-123	

Lab Batch #: 810583

Sample: 376532-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/14/10 19:00

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	0.022	0.050	44	21-100	
Nitrobenzene-d5	0.031	0.050	62	35-114	
Phenol-d6	0.013	0.050	26	10-94	
Terphenyl-D14	0.037	0.050	74	33-141	
2,4,6-Tribromophenol	0.033	0.050	66	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 Ave

Work Orders : 376532,

Project ID: Roxana/21562289

Lab Batch #: 810583

Sample: 376532-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/14/10 19:24

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.033	0.050	66	43-116	
2-Fluorophenol	0.021	0.050	42	21-100	
Nitrobenzene-d5	0.030	0.050	60	35-114	
Phenol-d6	0.013	0.050	26	10-94	
Terphenyl-D14	0.035	0.050	70	33-141	
2,4,6-Tribromophenol	0.032	0.050	64	10-123	

Lab Batch #: 810583

Sample: 376532-005 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/14/10 19:47

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.031	0.050	62	43-116	
2-Fluorophenol	0.022	0.050	44	21-100	
Nitrobenzene-d5	0.029	0.050	58	35-114	
Phenol-d6	0.012	0.050	24	10-94	
Terphenyl-D14	0.035	0.050	70	33-141	
2,4,6-Tribromophenol	0.032	0.050	64	10-123	

Lab Batch #: 810583

Sample: 376532-006 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/14/10 20:11

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	0.020	0.050	40	21-100	
Nitrobenzene-d5	0.029	0.050	58	35-114	
Phenol-d6	0.013	0.050	26	10-94	
Terphenyl-D14	0.035	0.050	70	33-141	
2,4,6-Tribromophenol	0.031	0.050	62	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 Ave

Work Orders : 376532,

Project ID: Roxana/21562289

Lab Batch #: 810583

Sample: 376532-006 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/14/10 20:34

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.039	0.050	78	43-116	
2-Fluorophenol	0.023	0.050	46	21-100	
Nitrobenzene-d5	0.035	0.050	70	35-114	
Phenol-d6	0.019	0.050	38	10-94	
Terphenyl-D14	0.040	0.050	80	33-141	
2,4,6-Tribromophenol	0.038	0.050	76	10-123	

Lab Batch #: 810583

Sample: 376532-006 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/14/10 20:57

SURROGATE RECOVERY STUDY

SVOAs by SW-846 8270C	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
2-Fluorobiphenyl	0.037	0.050	74	43-116	
2-Fluorophenol	0.022	0.050	44	21-100	
Nitrobenzene-d5	0.033	0.050	66	35-114	
Phenol-d6	0.018	0.050	36	10-94	
Terphenyl-D14	0.039	0.050	78	33-141	
2,4,6-Tribromophenol	0.036	0.050	72	10-123	

Lab Batch #: 811362

Sample: 566159-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/18/10 15:44

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0477	0.0500	95	74-124	
Dibromofluoromethane	0.0470	0.0500	94	75-131	
1,2-Dichloroethane-D4	0.0487	0.0500	97	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.



Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Ave

Work Orders : 376532,

Project ID: Roxana/21562289

Lab Batch #: 811362

Sample: 376532-007 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/18/10 16:08

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0458	0.0500	92	74-124	
Dibromofluoromethane	0.0473	0.0500	95	75-131	
1,2-Dichloroethane-D4	0.0464	0.0500	93	63-144	
Toluene-D8	0.0491	0.0500	98	80-117	

Lab Batch #: 811362

Sample: 376532-006 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/18/10 16:30

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0472	0.0500	94	74-124	
Dibromofluoromethane	0.0470	0.0500	94	75-131	
1,2-Dichloroethane-D4	0.0457	0.0500	91	63-144	
Toluene-D8	0.0491	0.0500	98	80-117	

Lab Batch #: 811362

Sample: 566159-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/18/10 16:53

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0488	0.0500	98	74-124	
Dibromofluoromethane	0.0481	0.0500	96	75-131	
1,2-Dichloroethane-D4	0.0463	0.0500	93	63-144	
Toluene-D8	0.0500	0.0500	100	80-117	

Lab Batch #: 811362

Sample: 376532-006 S / MS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/18/10 17:16

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	0.0473	0.0500	95	75-131	
1,2-Dichloroethane-D4	0.0480	0.0500	96	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] = $100 * A / B$

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

Form 2 - Surrogate Recoveries

Project Name: 900 S. Central Ave

Work Orders : 376532,

Project ID: Roxana/21562289

Lab Batch #: 811362

Sample: 376532-006 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/18/10 17:38

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0485	0.0500	97	74-124	
Dibromofluoromethane	0.0469	0.0500	94	75-131	
1,2-Dichloroethane-D4	0.0488	0.0500	98	63-144	
Toluene-D8	0.0492	0.0500	98	80-117	

Lab Batch #: 811362

Sample: 376532-001 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/18/10 19:56

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0472	0.0500	94	74-124	
Dibromofluoromethane	0.0467	0.0500	93	75-131	
1,2-Dichloroethane-D4	0.0474	0.0500	95	63-144	
Toluene-D8	0.0485	0.0500	97	80-117	

Lab Batch #: 811362

Sample: 376532-003 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/18/10 20:18

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0470	0.0500	94	74-124	
Dibromofluoromethane	0.0478	0.0500	96	75-131	
1,2-Dichloroethane-D4	0.0439	0.0500	88	63-144	
Toluene-D8	0.0521	0.0500	104	80-117	

Lab Batch #: 811362

Sample: 376532-004 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/18/10 20:40

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0463	0.0500	93	74-124	
Dibromofluoromethane	0.0481	0.0500	96	75-131	
1,2-Dichloroethane-D4	0.0471	0.0500	94	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 Ave

Work Orders : 376532,

Project ID: Roxana/21562289

Lab Batch #: 811362

Sample: 376532-005 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/18/10 21:02

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0478	0.0500	96	74-124	
Dibromofluoromethane	0.0465	0.0500	93	75-131	
1,2-Dichloroethane-D4	0.0453	0.0500	91	63-144	
Toluene-D8	0.0502	0.0500	100	80-117	

Lab Batch #: 811362

Sample: 376532-002 / SMP

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 06/19/10 00:01

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
4-Bromofluorobenzene	0.0456	0.0500	91	74-124	
Dibromofluoromethane	0.0475	0.0500	95	75-131	
1,2-Dichloroethane-D4	0.0446	0.0500	89	63-144	
Toluene-D8	0.0513	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.

Project Name: 900 S. Central Ave

Work Order #: 376532

Project ID:

Roxana/21562289

Lab Batch #: 811362

Sample: 566159-1-BKS

Matrix: Water

Date Analyzed: 06/18/2010

Date Prepared: 06/18/2010

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	178	178	60-140	H
Benzene	<1.00	50.0	48.7	97	66-142	
Bromobenzene	<1.00	50.0	52.7	105	75-125	
Bromochloromethane	<1.00	50.0	50.2	100	73-125	
Bromodichloromethane	<1.00	50.0	53.2	106	75-125	
Bromoform	<1.00	50.0	55.9	112	75-125	
Bromomethane	<1.00	50.0	38.0	76	70-130	
2-Butanone	<10.0	100	163	163	60-140	H
MTBE	<1.00	50.0	44.8	90	65-135	
n-Butylbenzene	<1.00	50.0	50.1	100	75-125	
Sec-Butylbenzene	<1.00	50.0	54.3	109	75-125	
tert-Butylbenzene	<1.00	50.0	55.6	111	75-125	
Carbon Disulfide	<10.0	50.0	44.8	90	60-140	
Carbon Tetrachloride	<1.00	50.0	51.8	104	62-125	
Chlorobenzene	<1.00	50.0	53.8	108	60-133	
Chloroethane	<2.00	50.0	39.3	79	70-130	
Chloroform	<1.00	50.0	49.3	99	74-125	
Chloromethane	<2.00	50.0	40.2	80	70-130	
2-Chlorotoluene	<1.00	50.0	52.7	105	73-125	
4-Chlorotoluene	<1.00	50.0	50.4	101	74-125	
p-Cymene (p-Isopropyltoluene)	<1.00	50.0	49.9	100	75-125	
Dibromochloromethane	<1.00	50.0	58.1	116	73-125	
1,2-Dibromo-3-Chloropropane	<1.00	50.0	47.7	95	59-125	
Dibromomethane	<1.00	50.0	50.2	100	69-127	
1,2-Dichlorobenzene	<1.00	50.0	51.0	102	75-125	
1,3-Dichlorobenzene	<1.00	50.0	52.3	105	75-125	
1,4-Dichlorobenzene	<1.00	50.0	49.7	99	75-125	
Dichlorodifluoromethane	<1.00	50.0	49.2	98	70-130	
1,1-Dichloroethane	<1.00	50.0	50.3	101	72-125	
1,2-Dichloroethane	<1.00	50.0	48.4	97	68-127	
1,1-Dichloroethene	<1.00	50.0	50.6	101	59-172	
cis-1,2-Dichloroethene	<1.00	50.0	48.8	98	75-125	
trans-1,2-dichloroethene	<1.00	50.0	49.3	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

Project Name: 900 S. Central Ave

Work Order #: 376532

Project ID:

Roxana/21562289

Lab Batch #: 811362

Sample: 566159-1-BKS

Matrix: Water

Date Analyzed: 06/18/2010

Date Prepared: 06/18/2010

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	51.1	102	74-125	
1,3-Dichloropropane	<1.00	50.0	50.6	101	75-125	
2,2-Dichloropropane	<1.00	50.0	47.7	95	75-125	
1,1-Dichloropropene	<1.00	50.0	45.7	91	75-125	
cis-1,3-Dichloropropene	<1.00	50.0	52.3	105	74-125	
trans-1,3-dichloropropene	<1.00	50.0	50.2	100	66-125	
Ethylbenzene	<1.00	50.0	52.2	104	75-125	
Hexachlorobutadiene	<1.00	50.0	52.6	105	75-125	
isopropylbenzene	<1.00	50.0	52.9	106	75-125	
Methylene Chloride	<1.00	50.0	50.1	100	75-125	
n-Propylbenzene	<1.00	50.0	55.1	110	75-125	
Styrene	<1.00	50.0	53.5	107	75-125	
1,1,1,2-Tetrachloroethane	<1.00	50.0	55.7	111	72-125	
1,1,2,2-Tetrachloroethane	<1.00	50.0	49.4	99	74-125	
Tetrachloroethylene	<1.00	50.0	55.0	110	71-125	
Toluene	<1.00	50.0	50.4	101	59-139	
1,2,3-Trichlorobenzene	<1.00	50.0	47.9	96	75-137	
1,2,4-Trichlorobenzene	<1.00	50.0	47.2	94	75-135	
1,1,1-Trichloroethane	<1.00	50.0	46.8	94	75-125	
1,1,2-Trichloroethane	<1.00	50.0	50.5	101	75-127	
Trichloroethene	<1.00	50.0	51.1	102	62-137	
Trichlorofluoromethane	<1.00	50.0	46.0	92	67-125	
1,2,3-Trichloropropane	<1.00	50.0	49.8	100	75-125	
1,2,4-Trimethylbenzene	<1.00	50.0	51.2	102	75-125	
1,3,5-Trimethylbenzene	<1.00	50.0	53.9	108	70-125	
o-Xylene	<1.00	50.0	54.2	108	75-125	
m,p-Xylenes	<2.00	100	105	105	75-125	
Vinyl Acetate	<10.0	100	122	122	60-140	
Vinyl Chloride	<0.400	50.0	38.9	78	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 Ave

Work Order #: 376532

Analyst: KAN

Lab Batch ID: 810583

Sample: 565508-1-BKS

Date Prepared: 06/11/2010

Batch #: 1

Project ID: Roxana/21562289

Date Analyzed: 06/14/2010

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	<0.002	0.050	0.047	94	0.05	0.045	90	4	27-132	31	
	Acenaphthylene	<0.002	0.050	0.047	94	0.05	0.045	90	4	46-108	25	
	Aniline (Phenylamine, Aminobenzene)	<0.002	0.050	0.034	68	0.05	0.033	66	3	5-115	25	
	Anthracene	<0.002	0.050	0.049	98	0.05	0.048	96	2	47-145	25	
	Benzo(a)anthracene	<0.002	0.050	0.050	100	0.05	0.049	98	2	33-143	25	
	Benzo(a)pyrene	<0.002	0.050	0.049	98	0.05	0.048	96	2	65-135	25	
	Benzo(b)fluoranthene	<0.002	0.050	0.048	96	0.05	0.049	98	2	24-159	25	
	Benzo(k)fluoranthene	<0.002	0.050	0.052	104	0.05	0.051	102	2	25-125	25	
	Benzo(g,h,i)perylene	<0.002	0.050	0.047	94	0.05	0.045	90	4	65-135	25	
	Benzoic Acid	<0.019	0.150	0.061	41	0.15	0.059	39	3	30-115	40	
	Benzyl Butyl Phthalate	<0.002	0.050	0.050	100	0.05	0.049	98	2	65-135	25	
	bis(2-chloroethoxy) methane	<0.002	0.050	0.040	80	0.05	0.038	76	5	54-188	25	
	bis(2-chloroethyl) ether	<0.002	0.050	0.044	88	0.05	0.042	84	5	65-135	25	
	bis(2-chloroisopropyl) ether	<0.002	0.050	0.038	76	0.05	0.036	72	5	65-135	25	
	bis(2-ethylhexyl) phthalate	<0.002	0.050	0.051	102	0.05	0.049	98	4	8-158	25	
	4-Bromophenyl-phenylether	<0.002	0.050	0.046	92	0.05	0.045	90	2	65-135	25	
	4-chloro-3-methylphenol	<0.002	0.050	0.045	90	0.05	0.043	86	5	16-129	33	
	4-Chloroaniline	<0.002	0.050	0.041	82	0.05	0.040	80	2	9-128	25	
	2-Chloronaphthalene	<0.002	0.050	0.046	92	0.05	0.044	88	4	65-135	25	
	2-Chlorophenol	<0.002	0.050	0.043	86	0.05	0.041	82	5	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 Ave
Work Order #: 376532
Analyst: KAN
Lab Batch ID: 810583
Sample: 565508-1-BKS
Units: mg/L
Date Prepared: 06/11/2010
Batch #: 1
Project ID: Roxana/21562289
Date Analyzed: 06/14/2010
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	<0.002	0.050	0.046	92	0.05	0.044	88	4	65-135	25	
Chrysene	<0.002	0.050	0.050	100	0.05	0.048	96	4	65-135	25	
Dibenz(a,h)anthracene	<0.002	0.050	0.049	98	0.05	0.047	94	4	50-125	25	
Dibenzofuran	<0.002	0.050	0.046	92	0.05	0.045	90	2	52-125	25	
di-n-Butyl Phthalate	<0.005	0.050	0.048	96	0.05	0.047	94	2	49-135	50	
3,3-Dichlorobenzidine	<0.004	0.050	0.048	96	0.05	0.047	94	2	12-147	25	
2,4-Dichlorophenol	<0.002	0.050	0.044	88	0.05	0.042	84	5	65-135	25	
Diethyl Phthalate	<0.002	0.050	0.040	80	0.05	0.038	76	5	37-125	50	
Dimethyl Phthalate	<0.002	0.050	0.046	92	0.05	0.044	88	4	25-175	50	
2,4-Dimethylphenol	<0.002	0.050	0.044	88	0.05	0.042	84	5	32-119	25	
4,6-dinitro-2-methyl phenol	<0.002	0.050	0.053	106	0.05	0.053	106	0	2-181	25	
2,4-Dinitrophenol	<0.002	0.050	0.045	90	0.05	0.044	88	2	65-135	25	
2,4-Dinitrotoluene	<0.002	0.050	0.046	92	0.05	0.045	90	2	22-135	38	
2,6-Dinitrotoluene	<0.002	0.050	0.048	96	0.05	0.046	92	4	49-122	38	
di-n-Octyl Phthalate	<0.002	0.050	0.055	110	0.05	0.053	106	4	43-134	50	
Fluoranthene	<0.002	0.050	0.049	98	0.05	0.048	96	2	47-125	25	
Fluorene	<0.002	0.050	0.048	96	0.05	0.046	92	4	48-139	25	
Hexachlorobenzene	<0.002	0.050	0.044	88	0.05	0.044	88	0	46-133	25	
Hexachlorocyclopentadiene	<0.002	0.050	0.034	68	0.05	0.033	66	3	41-125	25	
Hexachloroethane	<0.002	0.050	0.045	90	0.05	0.043	86	5	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 Ave
Work Order #: 376532
Analyst: KAN
Lab Batch ID: 810583
Sample: 565508-1-BKS
Units: mg/L
Date Prepared: 06/11/2010
Batch #: 1
Project ID: Roxana/21562289
Date Analyzed: 06/14/2010
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	<0.002	0.050	0.049	98	0.05	0.047	94	4	27-160	25	
Isophorone	<0.003	0.050	0.041	82	0.05	0.040	80	2	26-175	25	
2-Methylnaphthalene	<0.002	0.050	0.046	92	0.05	0.044	88	4	25-175	25	
2-methylphenol	<0.003	0.050	0.041	82	0.05	0.039	78	5	14-176	25	
3&4-Methylphenol	<0.003	0.100	0.034	34	0.1	0.033	33	3	14-176	25	
Naphthalene	<0.002	0.050	0.045	90	0.05	0.043	86	5	26-175	25	
2-Nitroaniline	<0.002	0.050	0.037	74	0.05	0.035	70	6	65-135	25	
3-Nitroaniline	<0.004	0.050	0.049	98	0.05	0.047	94	4	65-135	25	
4-Nitroaniline	<0.002	0.050	0.047	94	0.05	0.045	90	4	65-135	25	
Nitrobenzene	<0.002	0.050	0.043	86	0.05	0.041	82	5	65-135	25	
2-Nitrophenol	<0.002	0.050	0.048	96	0.05	0.046	92	4	65-135	25	
4-Nitrophenol	<0.002	0.050	0.029	58	0.05	0.028	56	4	10-80	50	
N-Nitrosodi-n-Propylamine	<0.002	0.050	0.041	82	0.05	0.039	78	5	22-134	38	
N-Nitrosodiphenylamine	<0.003	0.050	0.047	94	0.05	0.046	92	2	2-196	25	
Pentachlorophenol	<0.002	0.050	0.014	28	0.05	0.013	26	7	17-117	50	
Phenanthrene	<0.002	0.050	0.048	96	0.05	0.047	94	2	65-135	25	
Phenol	<0.002	0.050	0.023	46	0.05	0.027	54	16	12-110	25	
Pyrene	<0.002	0.050	0.050	100	0.05	0.049	98	2	23-152	31	
Pyridine	<0.007	0.050	0.022	44	0.05	0.021	42	5	16-86	28	
2,4,5-Trichlorophenol	<0.002	0.050	0.044	88	0.05	0.041	82	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

Project Name: 900 S. Central Ave

Work Order #: 376532

Analyst: KAN

Lab Batch ID: 810583

Sample: 565508-1-BKS

Units: mg/L

Project ID: Roxana/21562289

Date Analyzed: 06/14/2010

Matrix: Water

Date Prepared: 06/11/2010

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	0.047	94	0.05	0.045	90	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 #: 376532

Lab Batch ID: 810583

Date Analyzed: 06/14/2010

Reporting Units: mg/L

Project ID: Roxana/21562289

QC-Sample ID: 376532-006 S

Date Prepared: 06/11/2010

Batch #: 1

Matrix: Water

Analyst: KAN

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
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	0.050	0.042	84	0.050	0.040	80	5	27-132	31	
Acenaphthylene	<0.010	0.050	0.042	84	0.050	0.040	80	5	46-108	25	
Aniline (Phenylamine, Aminobenzene)	<0.040	0.050	0.002	4	0.050	<0.040	0	NC	5-115	25	X
Anthracene	<0.010	0.050	0.043	86	0.050	0.042	84	2	47-145	25	
Benzo(a)anthracene	<0.010	0.050	0.045	90	0.050	0.044	88	2	33-143	25	
Benzo(a)pyrene	<0.010	0.050	0.044	88	0.050	0.043	86	2	65-135	25	
Benzo(b)fluoranthene	<0.010	0.050	0.039	78	0.050	0.039	78	0	24-159	25	
Benzo(k)fluoranthene	<0.010	0.050	0.044	88	0.050	0.044	88	0	25-125	25	
Benzo(g,h,i)perylene	<0.010	0.050	0.042	84	0.050	0.041	82	2	65-135	25	
Benzoic Acid	<0.060	0.150	0.084	56	0.150	0.083	55	1	30-115	40	
Benzyl Butyl Phthalate	<0.010	0.050	0.046	92	0.050	0.045	90	2	65-135	25	
bis(2-chloroethoxy) methane	<0.020	0.050	0.035	70	0.050	0.033	66	6	54-188	25	
bis(2-chloroethyl) ether	<0.020	0.050	0.038	76	0.050	0.036	72	5	65-135	25	
bis(2-chloroisopropyl) ether	<0.020	0.050	0.034	68	0.050	0.032	64	6	65-135	25	X
bis(2-ethylhexyl) phthalate	<0.010	0.050	0.047	94	0.050	0.047	94	0	8-158	25	
4-Bromophenyl-phenylether	<0.020	0.050	0.041	82	0.050	0.040	80	2	65-135	25	
4-chloro-3-methylphenol	<0.020	0.050	0.042	84	0.050	0.041	82	2	16-129	33	
4-Chloroaniline	<0.040	0.050	0.005	10	0.050	0.004	8	22	9-128	25	X
2-Chloronaphthalene	<0.020	0.050	0.041	82	0.050	0.039	78	5	65-135	25	
2-Chlorophenol	<0.020	0.050	0.038	76	0.050	0.037	74	3	16-116	40	
4-Chlorophenyl Phenyl Ether	<0.020	0.050	0.041	82	0.050	0.039	78	5	65-135	25	
Chrysene	<0.010	0.050	0.045	90	0.050	0.044	88	2	65-135	25	
Dibenz(a,h)anthracene	<0.010	0.050	0.044	88	0.050	0.042	84	5	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 Ave

Work Order #: 376532

Lab Batch ID: 810583

Date Analyzed: 06/14/2010

Reporting Units: mg/L

Project ID: Roxana/21562289

QC- Sample ID: 376532-006 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: KAN

Matrix: Water

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	<0.020	0.041	82	0.050	0.040	80	2	52-125	25	
di-n-Butyl Phthalate	<0.010	0.043	86	0.050	0.042	84	2	49-135	50	
3,3-Dichlorobenzidine	<0.020	<0.020	0	0.050	<0.020	0	NC	12-147	25	X
2,4-Dichlorophenol	<0.020	0.040	80	0.050	0.039	78	3	65-135	25	
Diethyl Phthalate	<0.010	0.035	70	0.050	0.034	68	3	37-125	50	
Dimethyl Phthalate	<0.010	0.041	82	0.050	0.040	80	2	25-175	50	
2,4-Dimethylphenol	<0.020	0.040	80	0.050	0.036	72	11	32-119	25	
4,6-dinitro-2-methyl phenol	<0.020	0.053	106	0.050	0.052	104	2	2-181	25	
2,4-Dinitrophenol	<0.020	0.053	106	0.050	0.051	102	4	65-135	25	
2,4-Dinitrotoluene	<0.020	0.041	82	0.050	0.040	80	2	22-135	38	
2,6-Dinitrotoluene	<0.020	0.043	86	0.050	0.042	84	2	49-122	38	
di-n-Octyl Phthalate	<0.010	0.051	102	0.050	0.050	100	2	43-134	50	
Fluoranthene	<0.010	0.044	88	0.050	0.043	86	2	47-125	25	
Fluorene	<0.010	0.042	84	0.050	0.041	82	2	48-139	25	
Hexachlorobenzene	<0.020	0.040	80	0.050	0.038	76	5	46-133	25	
Hexachlorocyclopentadiene	<0.020	0.009	18	0.050	0.009	18	0	41-125	25	X
Hexachloroethane	<0.020	0.039	78	0.050	0.037	74	5	25-153	25	
Indeno(1,2,3-c,d)Pyrene	<0.010	0.044	88	0.050	0.043	86	2	27-160	25	
Isophorone	<0.020	0.037	74	0.050	0.035	70	6	26-175	25	
2-Methylnaphthalene	<0.010	0.041	82	0.050	0.039	78	5	25-175	25	
2-methylphenol	<0.020	0.036	72	0.050	0.035	70	3	14-176	25	
3&4-Methylphenol	<0.020	0.030	30	0.100	0.029	29	3	14-176	25	
Naphthalene	<0.010	0.041	82	0.050	0.039	78	5	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

Work Order #: 376532

Lab Batch ID: 810583

Date Analyzed: 06/14/2010

Reporting Units: mg/L

Project ID: Roxana/21562289

QC- Sample ID: 376532-006 S

Date Prepared: 06/11/2010

Batch #: 1

Analyst: KAN

Matrix: Water

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	0.033	66	0.050	0.032	64	3	65-135	25	X
3-Nitroaniline		<0.020	0.050	0.034	68	0.050	0.030	60	13	65-135	25	X
4-Nitroaniline		<0.040	0.050	0.037	74	0.050	0.036	72	3	65-135	25	
Nitrobenzene		<0.020	0.050	0.037	74	0.050	0.036	72	3	65-135	25	
2-Nitrophenol		<0.020	0.050	0.043	86	0.050	0.041	82	5	65-135	25	
4-Nitrophenol		<0.020	0.050	0.025	50	0.050	0.023	46	8	10-80	50	
N-Nitrosodi-n-Propylamine		<0.020	0.050	0.037	74	0.050	0.036	72	3	22-134	38	
N-Nitrosodiphenylamine		<0.020	0.050	0.042	84	0.050	0.041	82	2	2-196	25	
Pentachlorophenol		<0.020	0.050	0.027	54	0.050	0.025	50	8	17-117	50	
Phenanthrene		<0.010	0.050	0.043	86	0.050	0.042	84	2	65-135	25	
Phenol		<0.020	0.050	0.017	34	0.050	0.018	36	6	12-110	25	
Pyrene		<0.010	0.050	0.046	92	0.050	0.045	90	2	23-152	31	
Pyridine		<0.020	0.050	<0.020	0	0.050	<0.020	0	NC	16-86	28	X
2,4,5-Trichlorophenol		<0.020	0.050	0.041	82	0.050	0.040	80	2	65-135	25	
2,4,6-Trichlorophenol		<0.020	0.050	0.044	88	0.050	0.043	86	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 #: 376532

Lab Batch ID: 811362

Date Analyzed: 06/18/2010

Reporting Units: ug/L

Project ID: Roxana/21562289

QC- Sample ID: 376532-006 S

Date Prepared: 06/18/2010

Batch #: 1 Matrix: Water

Analyst: ZHO

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	112	112	100	113	113	1	60-140	21	
	Benzene	<5.00	50.0	40.2	80	50.0	41.3	83	3	66-142	21	
	Bromobenzene	<5.00	50.0	44.3	89	50.0	43.6	87	2	75-125	20	
	Bromochloromethane	<5.00	50.0	39.9	80	50.0	40.9	82	2	73-125	20	
	Bromodichloromethane	<5.00	50.0	42.3	85	50.0	43.7	87	3	75-125	20	
	Bromoform	<5.00	50.0	46.8	94	50.0	46.8	94	0	75-125	20	
	Bromomethane	<5.00	50.0	33.4	67	50.0	37.5	75	12	70-130	20	(X)
	2-Butanone	<50.0	100	97.4	97	100	95.1	95	2	60-140	20	
	MTBE	<5.00	50.0	35.8	72	50.0	37.8	76	5	65-135	20	
	n-Butylbenzene	<5.00	50.0	43.4	87	50.0	44.0	88	1	75-125	20	
	Sec-Butylbenzene	<5.00	50.0	46.2	92	50.0	48.0	96	4	75-125	20	
tert-Butylbenzene	<5.00	50.0	47.6	95	50.0	49.9	100	5	75-125	20		
Carbon Disulfide	<50.0	50.0	35.7	71	50.0	38.2	76	7	60-140	20		
Carbon Tetrachloride	<5.00	50.0	42.9	86	50.0	46.1	92	7	62-125	20		
Chlorobenzene	<5.00	50.0	45.5	91	50.0	45.4	91	0	60-133	21		
Chloroethane	<10.0	50.0	36.3	73	50.0	38.2	76	5	70-130	20		
Chloroform	<5.00	50.0	39.5	79	50.0	40.8	82	3	74-125	20		
Chloromethane	<10.0	50.0	34.3	69	50.0	39.3	79	14	70-130	20	(X)	
2-Chlorotoluene	<5.00	50.0	43.9	88	50.0	45.7	91	4	73-125	20		
4-Chlorotoluene	<5.00	50.0	42.5	85	50.0	43.3	87	2	74-125	20		
p-Cymene (p-Isopropyltoluene)	<5.00	50.0	42.5	85	50.0	43.4	87	2	75-125	20		
Dibromochloromethane	<5.00	50.0	48.6	97	50.0	48.5	97	0	73-125	20		
1,2-Dibromo-3-Chloropropane	<5.00	50.0	42.7	85	50.0	41.4	83	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 Ave

Work Order #: 376532

Lab Batch ID: 811362

Date Analyzed: 06/18/2010

Reporting Units: ug/L

Project ID: Roxana/21562289

Batch #: 1 Matrix: Water

Analyst: ZHO

QC-Sample ID: 376532-006 S

Date Prepared: 06/18/2010

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
	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																					
	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 $[D] = 100 \cdot (C-A)/B$
 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, EQL = Estimated Quantitation Limit

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

Work Order #: 376532

Lab Batch ID: 811362

Date Analyzed: 06/18/2010

Reporting Units: ug/L

Project ID: Roxana/21562289

QC-Sample ID: 376532-006 S Batch #: 1 Matrix: Water

Date Prepared: 06/18/2010 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	50.0	41.5	83	50.0	40.2	80	3	74-125	31	
Tetrachloroethylene	50.0	47.8	96	50.0	46.9	94	2	71-125	20	
Toluene	50.0	41.8	84	50.0	42.5	85	2	59-139	21	
1,2,3-Trichlorobenzene	50.0	42.8	86	50.0	43.1	86	1	75-137	20	
1,2,4-Trichlorobenzene	50.0	42.0	84	50.0	41.9	84	0	75-135	20	
1,1,1-Trichloroethane	50.0	37.4	75	50.0	40.0	80	7	75-125	20	
1,1,2-Trichloroethane	50.0	51.4	103	50.0	51.4	103	0	75-127	20	
Trichloroethene	50.0	42.4	85	50.0	43.3	87	2	62-137	24	
Trichlorofluoromethane	50.0	44.6	89	50.0	48.5	97	8	67-125	20	
1,2,3-Trichloropropane	50.0	42.1	84	50.0	41.7	83	1	75-125	20	
1,2,4-Trimethylbenzene	50.0	42.1	84	50.0	43.6	87	4	75-125	20	
1,3,5-Trimethylbenzene	50.0	45.0	90	50.0	45.9	92	2	70-125	20	
o-Xylene	50.0	44.3	89	50.0	47.2	94	6	75-125	20	
m,p-Xylenes	100	88.0	88	100	89.1	89	1	75-125	20	
Vinyl Acetate	100	104	104	100	104	104	0	60-140	20	
Vinyl Chloride	50.0	35.8	72	50.0	39.9	80	11	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 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)

☒ XENCO ()
☐ CAUSANCE ()
☐ OTHER ()
☐ SFL ()

Lab Vendor # 1646595 (Xenoco)

Please Check Appropriate Box:
☒ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SDCM ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

SAMPLING COMPANY:

URS CORPORATION

ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110

PROJECT CONTACT (Signature & PO# Report to)

WENDY PENNINGTON

TELEPHONE: 314-743-4198 or 341-452-8929 314-429-0462

FAX: WENDY.PENNINGTON@URS.COM

TURNAROUND TIME (CALENDAR DAYS):

☒ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND☐ 1A - RMQCB REPORT FORMAT ☐ LIST AGENCY:DELIVERABLES: ☐ LEVEL 1 ☒ LEVEL 2 ☐ LEVEL 3 ☐ LEVEL 4 ☒ OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT C° Cooler #1 0-9°C Cooler #2 Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:

* Please include "J" values on Reports.

* Please provide sample receipt upon login.

☒ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☐ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE				NO. OF CONT.
		DATE	TIME		HCL	HNO3-H2SO4	NONE	OTHER	
	GP-5-39.5EB	6/9/10	0755	Water	3				4
	GP-5-31.5		1030		3				4
	GP-5-39.5		1140		3				4
	GP-3-29.5		1440		3				4
	GP-3-29.5D		1440		3				4
	GP-3-37.5		1550		3				4
	GP-3-37.5MS		1550		3				4
	GP-3-37.5MSD		1550	↓	3				4
	TB060910		↓						2

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Wendy Pennington

Retrieved by: (Signature)

Fedex

Date:

6/9/10

Time:

1730

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Wendy Pennington

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Fedex

Date:

6/10/10

Time:

0900

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XENCO Laboratories
Atlanta, Corpus Christi, Dallas,
Houston, Miami, Midland, Philadelphia,
San Antonio, Tampa

Document Title: Sample Receipt Checklist
Document No.: SYS - SRC
Revision/Date : No.00 , 05/18/10
Effective Date: 05/20/10
Page No.: 1 of 1

Prelogin / Nonconformance Report – Sample Log-In

Client: URS

Date/Time: 6/10/10

Lab ID #: 370532

Initials: TF

RE

Sample Receipt Checklist

1. Sample 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	N/A	
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)?	<u>Yes</u>	No	N/A	
17. Voc sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No. <u>2667</u>	Cooler 2 No. <u>2667</u>	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
<u>52</u> lbs <u>0.4</u> °C	<u>26</u> lbs <u>0.9</u> °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

Roxana Vapor Data Review

Laboratory SDG: 1006568

Reviewer: Elizabeth Kunkel

Date Reviewed: 7/22/2010

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

Work Plan: Dissolved Phase Groundwater Investigation and P-60 Free Phase Product Delineation (2009)

Sample Identification	Sample Identification
VMP-3-10	VMP-17-5
VMP-17-5-Dup	VMP-18-8.5
VMP-19-5	

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?

Although not indicated in the laboratory case narrative, 2-propanol results in field duplicate pair, VMP-17-5/VMP-17-5-Dup exceeded the calibration range of the instrument; therefore, professional judgment was used to qualify 2-propanol in these samples. Samples were diluted due to high levels of target analytes. The compounds, acetone and 2-butanol, in field duplicate samples, VMP-17-5 and VMP-17-5-Dup had a greater than two times the reporting limit (2X RL) difference between field duplicate sample results. The compound, 2-propanol, in field duplicate samples, VMP-17-5 and VMP-17-5-Dup had an RPD outside evaluation criteria. 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
1006568A-06B	TO-15	Carbon disulfide	0.17 ppbv/0.54 µg/m ³
1006568A-06B	TO-15	Trichloroethene	0.058 ppbv/0.31 µg/m ³
1006568A-06B	TO-15	Tetrachloroethene	0.064 ppbv/0.44 µg/m ³
1006568A-06B	TO-15	Chlorobenzene	0.093 ppbv/0.43 µg/m ³
1006568A-06B	TO-15	1,3-Dichlorobenzene	0.18 ppbv/1.1 µg/m ³
1006568A-06B	TO-15	1,4-Dichlorobenzene	0.20 ppbv/1.2 µg/m ³
1006568A-06B	TO-15	1,2-Dichlorobenzene	0.16 ppbv/0.96 µg/m ³
1006568A-06B	TO-15	1,2,4-Trichlorobenzene	0.50 ppbv/3.7 µg/m ³
1006568B-06A	Natural gas	Oxygen	0.010%
1006568B-06A	Natural gas	Nitrogen	0.051%

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
VMP-17-5	VOCs	Tetrachloroethene	-	U
VMP-17-5-Dup	VOCs	Carbon disulfide	-	U
VMP-17-5-Dup	VOCs	Tetrachloroethene	-	U
VMP-18-8.5	VOCs	Carbon disulfide	-	U
VMP-19-5	VOCs	Carbon disulfide	-	U
VMP-19-5	VOCs	Tetrachloroethene	-	U

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

MS/MSD samples are not applicable for vapor samples, due to inability to spike the samples.

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
VMP-17-5	VMP-17-5-Dup

Were field duplicates within evaluation criteria?

No, qualifications are summarized in the table below. The compound 2-propanol was qualified due results exceeding calibration range; therefore, no additional qualification of 2-propanol was required.

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
VMP-17-5	VMP-17-5-Dup	TO-15	Acetone	>2x RL	J
VMP-17-5	VMP-17-5-Dup	TO-15	2-Butanone	>2x RL	J
VMP-17-5	VMP-17-5-Dup	TO-15	2-Propanol	29	-

11.0 Sample Dilutions

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

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

Professional judgment was used to qualify 2-propanol in field duplicate samples, VMP-17-5 and VMP-17-5-Dup due to 2-propanol results having exceeded the calibration range of the instrument.

Sample ID	Analyte	Qualification	Comment
VMP-17-5	2-Propanol	J	Professional Judgment
VMP-17-5-Dup	2-Propanol	J	Professional Judgment

7/6/2010
Mr. Mike Miller
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Dissolved Phase
Project #: 21562289.00011
Workorder #: 1006568A

Dear Mr. Mike Miller

The following report includes the data for the above referenced project for sample(s) received on 6/22/2010 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Jacquelyn Luta at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Jacquelyn Luta
Project Manager

Reviewed
on
7/22/2010

WORK ORDER #: 1006568A

Work Order Summary

CLIENT: Mr. Mike Miller
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis, MO 63110

BILL TO: Accounts Payable Austin
URS Corporation
P.O. BOX 203970
Austin, TX 78720-1088

PHONE: 314-566-3073

P.O. #

FAX:

PROJECT # 21562289.00011 Roxana Dissolved

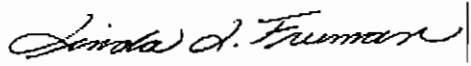
DATE RECEIVED: 06/22/2010

CONTACT: Phase
Jacquelyn Luta

DATE COMPLETED: 07/06/2010

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	VMP-3-10 ✓	Modified TO-15	10.0 "Hg	15 psi
02A	VMP-17-5 ✓	Modified TO-15	9.2 "Hg	15 psi
03A	VMP-17-5-DUP ✓	Modified TO-15	9.8 "Hg	15 psi
04A	VMP-18-8.5 ✓	Modified TO-15	9.0 "Hg	15 psi
05A	VMP-19-5 ✓	Modified TO-15	7.6 "Hg	15 psi
06A	Lab Blank	Modified TO-15	NA	NA
06B	Lab Blank	Modified TO-15	NA	NA
07A	CCV	Modified TO-15	NA	NA
07B	CCV	Modified TO-15	NA	NA
08A	LCS	Modified TO-15	NA	NA
08B	LCS	Modified TO-15	NA	NA

CERTIFIED BY:



Laboratory Director

DATE: 07/06/10

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
Modified TO-15
URS Corporation
Workorder# 1006568A**

Five 1 Liter Summa Canister samples were received on June 22, 2010. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Daily CCV	<= 30% Difference	<= 30% Difference; Compounds exceeding this criterion and associated data are flagged and narrated.
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified may be false positives.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

**Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS**

Client Sample ID: VMP-3-10

Lab ID#: 1006568A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	6100	1500 J	15000	3800 J
Hexane	1500	370000	5300	1300000
Cyclohexane	1500	290000	5200	1000000
2,2,4-Trimethylpentane	1500	750000	7100	3500000
Benzene	1500	2700	4800	8600
Heptane	1500	21000	6200	86000
m,p-Xylene	1500	670 J	6600	2900 J
Cumene	1500	560 J	7400	2800 J
Propylbenzene	1500	1100 J	7400	5600 J
4-Ethyltoluene	1500	640 J	7400	3100 J
1,3,5-Trimethylbenzene	1500	280 J	7400	1400 J
1,2,4-Trimethylbenzene	1500	870 J	7400	4300 J

Client Sample ID: VMP-17-5

Lab ID#: 1006568A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.45 J	7.2	2.2 J
Freon 11	1.4	0.23 J	8.2	1.3 J
Acetone	5.8	25 J	14	60 J
2-Propanol	5.8	840 J	14	2100 J
Hexane	1.4	120	5.1	410
2-Butanone (Methyl Ethyl Ketone)	1.4	6.2 J	4.3	18 J
Cyclohexane	1.4	100	5.0	360
2,2,4-Trimethylpentane	1.4	250	6.8	1200
Benzene	1.4	1.6	4.6	5.1
Heptane	1.4	5.7	6.0	23
Toluene	1.4	0.27 J	5.5	1.0 J
Tetrachloroethene	1.4	0.0 ND 0.24 u	9.9	0.018 u ND

**Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

Client Sample ID: VMP-17-5-DUP

Lab ID#: 1006568A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.39 J	7.4	2.0 J
Freon 11	1.5	0.18 J	8.4	0.99 J
Acetone	6.0	11 "J"	14	27 "J"
2-Propanol	6.0	630 E "J"	15	1600 E "J"
Carbon Disulfide	1.5	0.0 ND 0.32 u"	4.7	0.0 ND 0.99 u"
Hexane	1.5	100	5.3	350
2-Butanone (Methyl Ethyl Ketone)	1.5	0.95 "J"	4.4	2.8 "J"
Cyclohexane	1.5	94	5.2	320
2,2,4-Trimethylpentane	1.5	220	7.0	1000
Benzene	1.5	1.4 J	4.8	4.4 J
Heptane	1.5	4.6	6.1	19
Tetrachloroethene	1.5	0.0 ND 0.16 u"	10	0.0 ND 1.1 u"

Client Sample ID: VMP-18-8.5

Lab ID#: 1006568A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.50 J	7.1	2.5 J
Freon 11	1.4	0.21 J	8.1	1.2 J
Ethanol	5.8	5.9	11	11
Acetone	5.8	18	14	42
2-Propanol	5.8	5.0 J	14	12 J
Carbon Disulfide	1.4	0.0 ND 0.82 u"	4.5	0.0 ND 2.6 u"
Methylene Chloride	1.4	0.36 J	5.0	1.2 J
Hexane	1.4	0.61 J	5.1	2.1 J
2-Butanone (Methyl Ethyl Ketone)	1.4	1.5	4.3	4.4
Tetrahydrofuran	1.4	2.4	4.3	7.2
2,2,4-Trimethylpentane	1.4	1.8	6.8	8.4
Benzene	1.4	1.5	4.6	4.8
Heptane	1.4	0.32 J	5.9	1.3 J
Toluene	1.4	0.36 J	5.4	1.4 J

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: VMP-18-8.5

Lab ID#: 1006568A-04A

m,p-Xylene	1.4	0.30 J	6.3	1.3 J
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Client Sample ID: VMP-19-5

Lab ID#: 1006568A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.42 J	6.7	2.1 J
Freon 11	1.4	0.16 J	7.6	0.91 J
Ethanol	5.4	3.4 J	10	6.4 J
Acetone	5.4	18	13	42
2-Propanol	5.4	9.6	13	24
Carbon Disulfide	1.4	0.0 ND ~~0.41 u~~ "	4.2	0.0 ND ~~1.3 u~~ "
Methylene Chloride	1.4	0.31 J	4.7	1.1 J
Hexane	1.4	1.4	4.8	4.8
2-Butanone (Methyl Ethyl Ketone)	1.4	1.8	4.0	5.4
Chloroform	1.4	0.17 J	6.6	0.85 J
Cyclohexane	1.4	0.73 J	4.7	2.5 J
2,2,4-Trimethylpentane	1.4	2.7	6.3	13
Benzene	1.4	6.3	4.3	20
Heptane	1.4	0.30 J	5.6	1.2 J
Tetrachloroethene	1.4	0.0 ND ~~0.15 u~~ "	9.2	0.0 ND ~~1.0 u~~ "

Client Sample ID: VMP-3-10

Lab ID#: 1006568A-01A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	w062709	Date of Collection: 6/21/10 9:50:00 AM		
Dil. Factor:	303	Date of Analysis: 6/27/10 06:21 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1500	Not Detected	7500	Not Detected
Freon 114	1500	Not Detected	10000	Not Detected
Chloromethane	6100	Not Detected	12000	Not Detected
Vinyl Chloride	1500	Not Detected	3900	Not Detected
1,3-Butadiene	1500	Not Detected	3400	Not Detected
Bromomethane	1500	Not Detected	5900	Not Detected
Chloroethane	1500	Not Detected	4000	Not Detected
Freon 11	1500	Not Detected	8500	Not Detected
Ethanol	6100	Not Detected	11000	Not Detected
Freon 113	1500	Not Detected	12000	Not Detected
1,1-Dichloroethene	1500	Not Detected	6000	Not Detected
Acetone	6100	Not Detected	14000	Not Detected
2-Propanol	6100	1500 J	15000	3800 J
Carbon Disulfide	1500	Not Detected	4700	Not Detected
3-Chloropropene	6100	Not Detected	19000	Not Detected
Methylene Chloride	1500	Not Detected	5300	Not Detected
Methyl tert-butyl ether	1500	Not Detected	5500	Not Detected
trans-1,2-Dichloroethene	1500	Not Detected	6000	Not Detected
Hexane	1500	370000	5300	1300000
1,1-Dichloroethane	1500	Not Detected	6100	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1500	Not Detected	4500	Not Detected
cis-1,2-Dichloroethene	1500	Not Detected	6000	Not Detected
Tetrahydrofuran	1500	Not Detected	4500	Not Detected
Chloroform	1500	Not Detected	7400	Not Detected
1,1,1-Trichloroethane	1500	Not Detected	8300	Not Detected
Cyclohexane	1500	290000	5200	1000000
Carbon Tetrachloride	1500	Not Detected	9500	Not Detected
2,2,4-Trimethylpentane	1500	750000	7100	3500000
Benzene	1500	2700	4800	8600
1,2-Dichloroethane	1500	Not Detected	6100	Not Detected
Heptane	1500	21000	6200	86000
Trichloroethene	1500	Not Detected	8100	Not Detected
1,2-Dichloropropane	1500	Not Detected	7000	Not Detected
1,4-Dioxane	6100	Not Detected	22000	Not Detected
Bromodichloromethane	1500	Not Detected	10000	Not Detected
cis-1,3-Dichloropropene	1500	Not Detected	6900	Not Detected
4-Methyl-2-pentanone	1500	Not Detected	6200	Not Detected
Toluene	1500	Not Detected	5700	Not Detected
trans-1,3-Dichloropropene	1500	Not Detected	6900	Not Detected
1,1,2-Trichloroethane	1500	Not Detected	8300	Not Detected
Tetrachloroethene	1500	Not Detected	10000	Not Detected

Client Sample ID: VMP-3-10

Lab ID#: 1006568A-01A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	w062709	Date of Collection: 6/21/10 9:50:00 AM
Dil. Factor:	303	Date of Analysis: 6/27/10 06:21 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	6100	Not Detected	25000	Not Detected
Dibromochloromethane	1500	Not Detected	13000	Not Detected
1,2-Dibromoethane (EDB)	1500	Not Detected	12000	Not Detected
Chlorobenzene	1500	Not Detected	7000	Not Detected
Ethyl Benzene	1500	Not Detected	6600	Not Detected
m,p-Xylene	1500	670 J	6600	2900 J
o-Xylene	1500	Not Detected	6600	Not Detected
Styrene	1500	Not Detected	6400	Not Detected
Bromoform	1500	Not Detected	16000	Not Detected
Cumene	1500	560 J	7400	2800 J
1,1,2,2-Tetrachloroethane	1500	Not Detected	10000	Not Detected
Propylbenzene	1500	1100 J	7400	5600 J
4-Ethyltoluene	1500	640 J	7400	3100 J
1,3,5-Trimethylbenzene	1500	280 J	7400	1400 J
1,2,4-Trimethylbenzene	1500	870 J	7400	4300 J
1,3-Dichlorobenzene	1500	Not Detected	9100	Not Detected
1,4-Dichlorobenzene	1500	Not Detected	9100	Not Detected
alpha-Chlorotoluene	1500	Not Detected	7800	Not Detected
1,2-Dichlorobenzene	1500	Not Detected	9100	Not Detected
1,2,4-Trichlorobenzene	6100	Not Detected	45000	Not Detected
Hexachlorobutadiene	6100	Not Detected	65000	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: VMP-17-5

Lab ID#: 1006568A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p070312	Date of Collection: 6/21/10 11:45:00 AM
Dil. Factor:	2.91	Date of Analysis: 7/3/10 09:16 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.45 J	7.2	2.2 J
Freon 114	1.4	Not Detected	10	Not Detected
Chloromethane	5.8	Not Detected	12	Not Detected
Vinyl Chloride	1.4	Not Detected	3.7	Not Detected
1,3-Butadiene	1.4	Not Detected	3.2	Not Detected
Bromomethane	1.4	Not Detected	5.6	Not Detected
Chloroethane	1.4	Not Detected	3.8	Not Detected
Freon 11	1.4	0.23 J	8.2	1.3 J
Ethanol	5.8	Not Detected	11	Not Detected
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.8	Not Detected
Acetone	5.8	25	14	60
2-Propanol	5.8	840 E	14	2100 E
Carbon Disulfide	1.4	Not Detected	4.5	Not Detected
3-Chloropropene	5.8	Not Detected	18	Not Detected
Methylene Chloride	1.4	Not Detected	5.0	Not Detected
Methyl tert-butyl ether	1.4	Not Detected	5.2	Not Detected
trans-1,2-Dichloroethene	1.4	Not Detected	5.8	Not Detected
Hexane	1.4	120	5.1	410
1,1-Dichloroethane	1.4	Not Detected	5.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.4	6.2	4.3	18
cis-1,2-Dichloroethene	1.4	Not Detected	5.8	Not Detected
Tetrahydrofuran	1.4	Not Detected	4.3	Not Detected
Chloroform	1.4	Not Detected	7.1	Not Detected
1,1,1-Trichloroethane	1.4	Not Detected	7.9	Not Detected
Cyclohexane	1.4	100	5.0	360
Carbon Tetrachloride	1.4	Not Detected	9.2	Not Detected
2,2,4-Trimethylpentane	1.4	250	6.8	1200
Benzene	1.4	1.6	4.6	5.1
1,2-Dichloroethane	1.4	Not Detected	5.9	Not Detected
Heptane	1.4	5.7	6.0	23
Trichloroethene	1.4	Not Detected	7.8	Not Detected
1,2-Dichloropropane	1.4	Not Detected	6.7	Not Detected
1,4-Dioxane	5.8	Not Detected	21	Not Detected
Bromodichloromethane	1.4	Not Detected	9.7	Not Detected
cis-1,3-Dichloropropene	1.4	Not Detected	6.6	Not Detected
4-Methyl-2-pentanone	1.4	Not Detected	6.0	Not Detected
Toluene	1.4	0.27 J	5.5	1.0 J
trans-1,3-Dichloropropene	1.4	Not Detected	6.6	Not Detected
1,1,2-Trichloroethane	1.4	Not Detected	7.9	Not Detected
Tetrachloroethene	1.4	0.24 J	9.9	1.6 J

Client Sample ID: VMP-17-5

Lab ID#: 1006568A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p070312	Date of Collection: 6/21/10 11:45:00 AM
Dil. Factor:	2.91	Date of Analysis: 7/3/10 09:16 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	5.8	Not Detected	24	Not Detected
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	Not Detected	6.7	Not Detected
Ethyl Benzene	1.4	Not Detected	6.3	Not Detected
m,p-Xylene	1.4	Not Detected	6.3	Not Detected
o-Xylene	1.4	Not Detected	6.3	Not Detected
Styrene	1.4	Not Detected	6.2	Not Detected
Bromoform	1.4	Not Detected	15	Not Detected
Cumene	1.4	Not Detected	7.2	Not Detected
1,1,2,2-Tetrachloroethane	1.4	Not Detected	10	Not Detected
Propylbenzene	1.4	Not Detected	7.2	Not Detected
4-Ethyltoluene	1.4	Not Detected	7.2	Not Detected
1,3,5-Trimethylbenzene	1.4	Not Detected	7.2	Not Detected
1,2,4-Trimethylbenzene	1.4	Not Detected	7.2	Not Detected
1,3-Dichlorobenzene	1.4	Not Detected	8.7	Not Detected
1,4-Dichlorobenzene	1.4	Not Detected	8.7	Not Detected
alpha-Chlorotoluene	1.4	Not Detected	7.5	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.7	Not Detected
1,2,4-Trichlorobenzene	5.8	Not Detected	43	Not Detected
Hexachlorobutadiene	5.8	Not Detected	62	Not Detected

J = Estimated value.

E = Exceeds instrument calibration range.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	111	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: VMP-17-5-DUP

Lab ID#: 1006568A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p070313	Date of Collection:	6/21/10 11:45:00 AM	
Dil. Factor:	3.00	Date of Analysis:	7/3/10 09:35 AM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.39 J	7.4	2.0 J
Freon 114	1.5	Not Detected	10	Not Detected
Chloromethane	6.0	Not Detected	12	Not Detected
Vinyl Chloride	1.5	Not Detected	3.8	Not Detected
1,3-Butadiene	1.5	Not Detected	3.3	Not Detected
Bromomethane	1.5	Not Detected	5.8	Not Detected
Chloroethane	1.5	Not Detected	4.0	Not Detected
Freon 11	1.5	0.18 J	8.4	0.99 J
Ethanol	6.0	Not Detected	11	Not Detected
Freon 113	1.5	Not Detected	11	Not Detected
1,1-Dichloroethene	1.5	Not Detected	5.9	Not Detected
Acetone	6.0	11	14	27
2-Propanol	6.0	630 E	15	1600 E
Carbon Disulfide	1.5	0.32 J	4.7	0.99 J
3-Chloropropene	6.0	Not Detected	19	Not Detected
Methylene Chloride	1.5	Not Detected	5.2	Not Detected
Methyl tert-butyl ether	1.5	Not Detected	5.4	Not Detected
trans-1,2-Dichloroethene	1.5	Not Detected	5.9	Not Detected
Hexane	1.5	100	5.3	350
1,1-Dichloroethane	1.5	Not Detected	6.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.5	0.95 J	4.4	2.8 J
cis-1,2-Dichloroethene	1.5	Not Detected	5.9	Not Detected
Tetrahydrofuran	1.5	Not Detected	4.4	Not Detected
Chloroform	1.5	Not Detected	7.3	Not Detected
1,1,1-Trichloroethane	1.5	Not Detected	8.2	Not Detected
Cyclohexane	1.5	94	5.2	320
Carbon Tetrachloride	1.5	Not Detected	9.4	Not Detected
2,2,4-Trimethylpentane	1.5	220	7.0	1000
Benzene	1.5	1.4 J	4.8	4.4 J
1,2-Dichloroethane	1.5	Not Detected	6.1	Not Detected
Heptane	1.5	4.6	6.1	19
Trichloroethene	1.5	Not Detected	8.1	Not Detected
1,2-Dichloropropane	1.5	Not Detected	6.9	Not Detected
1,4-Dioxane	6.0	Not Detected	22	Not Detected
Bromodichloromethane	1.5	Not Detected	10	Not Detected
cis-1,3-Dichloropropene	1.5	Not Detected	6.8	Not Detected
4-Methyl-2-pentanone	1.5	Not Detected	6.1	Not Detected
Toluene	1.5	Not Detected	5.6	Not Detected
trans-1,3-Dichloropropene	1.5	Not Detected	6.8	Not Detected
1,1,2-Trichloroethane	1.5	Not Detected	8.2	Not Detected
Tetrachloroethene	1.5	0.16 J	10	1.1 J

Client Sample ID: VMP-17-5-DUP

Lab ID#: 1006568A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p070313	Date of Collection: 6/21/10 11:45:00 AM
Dil. Factor:	3.00	Date of Analysis: 7/3/10 09:35 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	6.0	Not Detected	24	Not Detected
Dibromochloromethane	1.5	Not Detected	13	Not Detected
1,2-Dibromoethane (EDB)	1.5	Not Detected	12	Not Detected
Chlorobenzene	1.5	Not Detected	6.9	Not Detected
Ethyl Benzene	1.5	Not Detected	6.5	Not Detected
m,p-Xylene	1.5	Not Detected	6.5	Not Detected
o-Xylene	1.5	Not Detected	6.5	Not Detected
Styrene	1.5	Not Detected	6.4	Not Detected
Bromoform	1.5	Not Detected	16	Not Detected
Cumene	1.5	Not Detected	7.4	Not Detected
1,1,2,2-Tetrachloroethane	1.5	Not Detected	10	Not Detected
Propylbenzene	1.5	Not Detected	7.4	Not Detected
4-Ethyltoluene	1.5	Not Detected	7.4	Not Detected
1,3,5-Trimethylbenzene	1.5	Not Detected	7.4	Not Detected
1,2,4-Trimethylbenzene	1.5	Not Detected	7.4	Not Detected
1,3-Dichlorobenzene	1.5	Not Detected	9.0	Not Detected
1,4-Dichlorobenzene	1.5	Not Detected	9.0	Not Detected
alpha-Chlorotoluene	1.5	Not Detected	7.8	Not Detected
1,2-Dichlorobenzene	1.5	Not Detected	9.0	Not Detected
1,2,4-Trichlorobenzene	6.0	Not Detected	44	Not Detected
Hexachlorobutadiene	6.0	Not Detected	64	Not Detected

J = Estimated value.

E = Exceeds instrument calibration range.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	107	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: VMP-18-8.5

Lab ID#: 1006568A-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

MODIFIED EPA METHOD 816-15 GC/MS FULL SCAN				
File Name:	p070314	Date of Collection: 6/18/10 11:53:00 AM		
Dil. Factor:	2.89	Date of Analysis: 7/3/10 09:57 AM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.50 J	7.1	2.5 J
Freon 114	1.4	Not Detected	10	Not Detected
Chloromethane	5.8	Not Detected	12	Not Detected
Vinyl Chloride	1.4	Not Detected	3.7	Not Detected
1,3-Butadiene	1.4	Not Detected	3.2	Not Detected
Bromomethane	1.4	Not Detected	5.6	Not Detected
Chloroethane	1.4	Not Detected	3.8	Not Detected
Freon 11	1.4	0.21 J	8.1	1.2 J
Ethanol	5.8	5.9	11	11
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Acetone	5.8	18	14	42
2-Propanol	5.8	5.0 J	14	12 J
Carbon Disulfide	1.4	0.82 J	4.5	2.6 J
3-Chloropropene	5.8	Not Detected	18	Not Detected
Methylene Chloride	1.4	0.36 J	5.0	1.2 J
Methyl tert-butyl ether	1.4	Not Detected	5.2	Not Detected
trans-1,2-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Hexane	1.4	0.61 J	5.1	2.1 J
1,1-Dichloroethane	1.4	Not Detected	5.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.4	1.5	4.3	4.4
cis-1,2-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Tetrahydrofuran	1.4	2.4	4.3	7.2
Chloroform	1.4	Not Detected	7.0	Not Detected
1,1,1-Trichloroethane	1.4	Not Detected	7.9	Not Detected
Cyclohexane	1.4	Not Detected	5.0	Not Detected
Carbon Tetrachloride	1.4	Not Detected	9.1	Not Detected
2,2,4-Trimethylpentane	1.4	1.8	6.8	8.4
Benzene	1.4	1.5	4.6	4.8
1,2-Dichloroethane	1.4	Not Detected	5.8	Not Detected
Heptane	1.4	0.32 J	5.9	1.3 J
Trichloroethene	1.4	Not Detected	7.8	Not Detected
1,2-Dichloropropane	1.4	Not Detected	6.7	Not Detected
1,4-Dioxane	5.8	Not Detected	21	Not Detected
Bromodichloromethane	1.4	Not Detected	9.7	Not Detected
cis-1,3-Dichloropropene	1.4	Not Detected	6.6	Not Detected
4-Methyl-2-pentanone	1.4	Not Detected	5.9	Not Detected
Toluene	1.4	0.36 J	5.4	1.4 J
trans-1,3-Dichloropropene	1.4	Not Detected	6.6	Not Detected
1,1,2-Trichloroethane	1.4	Not Detected	7.9	Not Detected
Tetrachloroethene	1.4	Not Detected	9.8	Not Detected

Client Sample ID: VMP-18-8.5

Lab ID#: 1006568A-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p070314	Date of Collection: 6/18/10 11:53:00 AM
Dil. Factor:	2.89	Date of Analysis: 7/3/10 09:57 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	5.8	Not Detected	24	Not Detected
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	Not Detected	6.6	Not Detected
Ethyl Benzene	1.4	Not Detected	6.3	Not Detected
m,p-Xylene	1.4	0.30 J	6.3	1.3 J
o-Xylene	1.4	Not Detected	6.3	Not Detected
Styrene	1.4	Not Detected	6.2	Not Detected
Bromoform	1.4	Not Detected	15	Not Detected
Cumene	1.4	Not Detected	7.1	Not Detected
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.9	Not Detected
Propylbenzene	1.4	Not Detected	7.1	Not Detected
4-Ethyltoluene	1.4	Not Detected	7.1	Not Detected
1,3,5-Trimethylbenzene	1.4	Not Detected	7.1	Not Detected
1,2,4-Trimethylbenzene	1.4	Not Detected	7.1	Not Detected
1,3-Dichlorobenzene	1.4	Not Detected	8.7	Not Detected
1,4-Dichlorobenzene	1.4	Not Detected	8.7	Not Detected
alpha-Chlorotoluene	1.4	Not Detected	7.5	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.7	Not Detected
1,2,4-Trichlorobenzene	5.8	Not Detected	43	Not Detected
Hexachlorobutadiene	5.8	Not Detected	62	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: VMP-19-5

Lab ID#: 1006568A-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: p070311 Date of Collection: 6/18/10 10:21:00 AM
Dil. Factor: 2.71 Date of Analysis: 7/3/10 08:57 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.42 J	6.7	2.1 J
Freon 114	1.4	Not Detected	9.5	Not Detected
Chloromethane	5.4	Not Detected	11	Not Detected
Vinyl Chloride	1.4	Not Detected	3.5	Not Detected
1,3-Butadiene	1.4	Not Detected	3.0	Not Detected
Bromomethane	1.4	Not Detected	5.3	Not Detected
Chloroethane	1.4	Not Detected	3.6	Not Detected
Freon 11	1.4	0.16 J	7.6	0.91 J
Ethanol	5.4	3.4 J	10	6.4 J
Freon 113	1.4	Not Detected	10	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.4	Not Detected
Acetone	5.4	18	13	42
2-Propanol	5.4	9.6	13	24
Carbon Disulfide	1.4	0.41 J	4.2	1.3 J
3-Chloropropene	5.4	Not Detected	17	Not Detected
Methylene Chloride	1.4	0.31 J	4.7	1.1 J
Methyl tert-butyl ether	1.4	Not Detected	4.9	Not Detected
trans-1,2-Dichloroethene	1.4	Not Detected	5.4	Not Detected
Hexane	1.4	1.4	4.8	4.8
1,1-Dichloroethane	1.4	Not Detected	5.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.4	1.8	4.0	5.4
cis-1,2-Dichloroethene	1.4	Not Detected	5.4	Not Detected
Tetrahydrofuran	1.4	Not Detected	4.0	Not Detected
Chloroform	1.4	0.17 J	6.6	0.85 J
1,1,1-Trichloroethane	1.4	Not Detected	7.4	Not Detected
Cyclohexane	1.4	0.73 J	4.7	2.5 J
Carbon Tetrachloride	1.4	Not Detected	8.5	Not Detected
2,2,4-Trimethylpentane	1.4	2.7	6.3	13
Benzene	1.4	6.3	4.3	20
1,2-Dichloroethane	1.4	Not Detected	5.5	Not Detected
Heptane	1.4	0.30 J	5.6	1.2 J
Trichloroethene	1.4	Not Detected	7.3	Not Detected
1,2-Dichloropropane	1.4	Not Detected	6.3	Not Detected
1,4-Dioxane	5.4	Not Detected	20	Not Detected
Bromodichloromethane	1.4	Not Detected	9.1	Not Detected
cis-1,3-Dichloropropene	1.4	Not Detected	6.1	Not Detected
4-Methyl-2-pentanone	1.4	Not Detected	5.6	Not Detected
Toluene	1.4	Not Detected	5.1	Not Detected
trans-1,3-Dichloropropene	1.4	Not Detected	6.1	Not Detected
1,1,2-Trichloroethane	1.4	Not Detected	7.4	Not Detected
Tetrachloroethene	1.4	0.15 J	9.2	1.0 J

Client Sample ID: VMP-19-5

Lab ID#: 1006568A-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p070311	Date of Collection: 6/18/10 10:21:00 AM
Dil. Factor:	2.71	Date of Analysis: 7/3/10 08:57 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	5.4	Not Detected	22	Not Detected
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	10	Not Detected
Chlorobenzene	1.4	Not Detected	6.2	Not Detected
Ethyl Benzene	1.4	Not Detected	5.9	Not Detected
m,p-Xylene	1.4	Not Detected	5.9	Not Detected
o-Xylene	1.4	Not Detected	5.9	Not Detected
Styrene	1.4	Not Detected	5.8	Not Detected
Bromoform	1.4	Not Detected	14	Not Detected
Cumene	1.4	Not Detected	6.7	Not Detected
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.3	Not Detected
Propylbenzene	1.4	Not Detected	6.7	Not Detected
4-Ethyltoluene	1.4	Not Detected	6.7	Not Detected
1,3,5-Trimethylbenzene	1.4	Not Detected	6.7	Not Detected
1,2,4-Trimethylbenzene	1.4	Not Detected	6.7	Not Detected
1,3-Dichlorobenzene	1.4	Not Detected	8.1	Not Detected
1,4-Dichlorobenzene	1.4	Not Detected	8.1	Not Detected
alpha-Chlorotoluene	1.4	Not Detected	7.0	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.1	Not Detected
1,2,4-Trichlorobenzene	5.4	Not Detected	40	Not Detected
Hexachlorobutadiene	5.4	Not Detected	58	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: Lab Blank

Lab ID#: 1006568A-06A

MODIFIED EPA METHOD TO-15 GC/MS

MODIFIED EPA METHOD 815 GC/MS				
File Name:	w062705a	Date of Collection: NA		
Dil. Factor:	1.00	Date of Analysis: 6/27/10 04:57 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5.0	Not Detected	25	Not Detected
Freon 114	5.0	Not Detected	35	Not Detected
Chloromethane	20	Not Detected	41	Not Detected
Vinyl Chloride	5.0	Not Detected	13	Not Detected
1,3-Butadiene	5.0	Not Detected	11	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	5.0	Not Detected	13	Not Detected
Freon 11	5.0	Not Detected	28	Not Detected
Ethanol	20	Not Detected	38	Not Detected
Freon 113	5.0	Not Detected	38	Not Detected
1,1-Dichloroethene	5.0	Not Detected	20	Not Detected
Acetone	20	Not Detected	48	Not Detected
2-Propanol	20	Not Detected	49	Not Detected
Carbon Disulfide	5.0	Not Detected	16	Not Detected
3-Chloropropene	20	Not Detected	63	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	5.0	Not Detected	18	Not Detected
trans-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Hexane	5.0	Not Detected	18	Not Detected
1,1-Dichloroethane	5.0	Not Detected	20	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Tetrahydrofuran	5.0	Not Detected	15	Not Detected
Chloroform	5.0	Not Detected	24	Not Detected
1,1,1-Trichloroethane	5.0	Not Detected	27	Not Detected
Cyclohexane	5.0	Not Detected	17	Not Detected
Carbon Tetrachloride	5.0	Not Detected	31	Not Detected
2,2,4-Trimethylpentane	5.0	Not Detected	23	Not Detected
Benzene	5.0	Not Detected	16	Not Detected
1,2-Dichloroethane	5.0	Not Detected	20	Not Detected
Heptane	5.0	Not Detected	20	Not Detected
Trichloroethene	5.0	Not Detected	27	Not Detected
1,2-Dichloropropane	5.0	Not Detected	23	Not Detected
1,4-Dioxane	20	Not Detected	72	Not Detected
Bromodichloromethane	5.0	Not Detected	34	Not Detected
cis-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
4-Methyl-2-pentanone	5.0	Not Detected	20	Not Detected
Toluene	5.0	Not Detected	19	Not Detected
trans-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
1,1,2-Trichloroethane	5.0	Not Detected	27	Not Detected
Tetrachloroethene	5.0	Not Detected	34	Not Detected

Client Sample ID: Lab Blank

Lab ID#: 1006568A-06A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	w062705a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/27/10 04:57 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	20	Not Detected	82	Not Detected
Dibromochloromethane	5.0	Not Detected	42	Not Detected
1,2-Dibromoethane (EDB)	5.0	Not Detected	38	Not Detected
Chlorobenzene	5.0	Not Detected	23	Not Detected
Ethyl Benzene	5.0	Not Detected	22	Not Detected
m,p-Xylene	5.0	Not Detected	22	Not Detected
o-Xylene	5.0	Not Detected	22	Not Detected
Styrene	5.0	Not Detected	21	Not Detected
Bromoform	5.0	Not Detected	52	Not Detected
Cumene	5.0	Not Detected	24	Not Detected
1,1,2,2-Tetrachloroethane	5.0	Not Detected	34	Not Detected
Propylbenzene	5.0	Not Detected	24	Not Detected
4-Ethyltoluene	5.0	Not Detected	24	Not Detected
1,3,5-Trimethylbenzene	5.0	Not Detected	24	Not Detected
1,2,4-Trimethylbenzene	5.0	Not Detected	24	Not Detected
1,3-Dichlorobenzene	5.0	Not Detected	30	Not Detected
1,4-Dichlorobenzene	5.0	Not Detected	30	Not Detected
alpha-Chlorotoluene	5.0	Not Detected	26	Not Detected
1,2-Dichlorobenzene	5.0	Not Detected	30	Not Detected
1,2,4-Trichlorobenzene	20	Not Detected	150	Not Detected
Hexachlorobutadiene	20	Not Detected	210	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: Lab Blank

Lab ID#: 1006568A-06B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p070306a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/3/10 02:22 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	0.50	0.17 J	1.6	0.54 J
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	0.50	Not Detected	1.7	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	0.058 J	2.7	0.31 J
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	0.064 J	3.4	0.44 J

Client Sample ID: Lab Blank

Lab ID#: 1006568A-06B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p070306a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/3/10 02:22 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	2.0	Not Detected	8.2	Not Detected
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	0.093 J	2.3	0.43 J
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	0.18 J	3.0	1.1 J
1,4-Dichlorobenzene	0.50	0.20 J	3.0	1.2 J
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	0.16 J	3.0	0.96 J
1,2,4-Trichlorobenzene	2.0	0.50 J	15	3.7 J
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: CCV

Lab ID#: 1006568A-07A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	w062702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/27/10 03:40 PM

Compound	%Recovery
Freon 12	99
Freon 114	97
Chloromethane	105
Vinyl Chloride	96
1,3-Butadiene	92
Bromomethane	98
Chloroethane	97
Freon 11	100
Ethanol	94
Freon 113	97
1,1-Dichloroethene	99
Acetone	102
2-Propanol	95
Carbon Disulfide	95
3-Chloropropene	91
Methylene Chloride	103
Methyl tert-butyl ether	91
trans-1,2-Dichloroethene	97
Hexane	95
1,1-Dichloroethane	99
2-Butanone (Methyl Ethyl Ketone)	95
cis-1,2-Dichloroethene	98
Tetrahydrofuran	103
Chloroform	101
1,1,1-Trichloroethane	95
Cyclohexane	94
Carbon Tetrachloride	98
2,2,4-Trimethylpentane	97
Benzene	94
1,2-Dichloroethane	102
Heptane	93
Trichloroethene	80
1,2-Dichloropropane	95
1,4-Dioxane	94
Bromodichloromethane	95
cis-1,3-Dichloropropene	90
4-Methyl-2-pentanone	101
Toluene	96
trans-1,3-Dichloropropene	88
1,1,2-Trichloroethane	95
Tetrachloroethene	96

Client Sample ID: CCV

Lab ID#: 1006568A-07A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	w062702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/27/10 03:40 PM

Compound	%Recovery
2-Hexanone	110
Dibromochloromethane	95
1,2-Dibromoethane (EDB)	96
Chlorobenzene	98
Ethyl Benzene	95
m,p-Xylene	95
o-Xylene	93
Styrene	93
Bromoform	92
Cumene	101
1,1,2,2-Tetrachloroethane	98
Propylbenzene	100
4-Ethyltoluene	104
1,3,5-Trimethylbenzene	100
1,2,4-Trimethylbenzene	102
1,3-Dichlorobenzene	101
1,4-Dichlorobenzene	102
alpha-Chlorotoluene	96
1,2-Dichlorobenzene	106
1,2,4-Trichlorobenzene	108
Hexachlorobutadiene	113

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: CCV

Lab ID#: 1006568A-07B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p070303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/3/10 12:25 AM

Compound	%Recovery
Freon 12	100
Freon 114	99
Chloromethane	92
Vinyl Chloride	98
1,3-Butadiene	93
Bromomethane	95
Chloroethane	96
Freon 11	101
Ethanol	89
Freon 113	96
1,1-Dichloroethene	96
Acetone	95
2-Propanol	96
Carbon Disulfide	93
3-Chloropropene	96
Methylene Chloride	97
Methyl tert-butyl ether	94
trans-1,2-Dichloroethene	96
Hexane	98
1,1-Dichloroethane	98
2-Butanone (Methyl Ethyl Ketone)	104
cis-1,2-Dichloroethene	99
Tetrahydrofuran	98
Chloroform	98
1,1,1-Trichloroethane	99
Cyclohexane	99
Carbon Tetrachloride	102
2,2,4-Trimethylpentane	101
Benzene	102
1,2-Dichloroethane	105
Heptane	108
Trichloroethene	101
1,2-Dichloropropane	104
1,4-Dioxane	101
Bromodichloromethane	100
cis-1,3-Dichloropropene	98
4-Methyl-2-pentanone	106
Toluene	101
trans-1,3-Dichloropropene	104
1,1,2-Trichloroethane	102
Tetrachloroethene	103

Client Sample ID: CCV

Lab ID#: 1006568A-07B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p070303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/3/10 12:25 AM

Compound	%Recovery
2-Hexanone	106
Dibromochloromethane	102
1,2-Dibromoethane (EDB)	104
Chlorobenzene	101
Ethyl Benzene	105
m,p-Xylene	104
o-Xylene	104
Styrene	105
Bromoform	101
Cumene	104
1,1,2,2-Tetrachloroethane	99
Propylbenzene	102
4-Ethyltoluene	106
1,3,5-Trimethylbenzene	107
1,2,4-Trimethylbenzene	108
1,3-Dichlorobenzene	99
1,4-Dichlorobenzene	100
alpha-Chlorotoluene	106
1,2-Dichlorobenzene	99
1,2,4-Trichlorobenzene	93
Hexachlorobutadiene	85

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: LCS

Lab ID#: 1006568A-08A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	w062703	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/27/10 04:07 PM

Compound	%Recovery
Freon 12	94
Freon 114	90
Chloromethane	96
Vinyl Chloride	89
1,3-Butadiene	90
Bromomethane	92
Chloroethane	89
Freon 11	93
Ethanol	81
Freon 113	81
1,1-Dichloroethene	81
Acetone	89
2-Propanol	79
Carbon Disulfide	84
3-Chloropropene	79
Methylene Chloride	85
Methyl tert-butyl ether	84
trans-1,2-Dichloroethene	87
Hexane	85
1,1-Dichloroethane	85
2-Butanone (Methyl Ethyl Ketone)	80
cis-1,2-Dichloroethene	85
Tetrahydrofuran	88
Chloroform	88
1,1,1-Trichloroethane	86
Cyclohexane	81
Carbon Tetrachloride	87
2,2,4-Trimethylpentane	85
Benzene	85
1,2-Dichloroethane	91
Heptane	80
Trichloroethene	76
1,2-Dichloropropane	87
1,4-Dioxane	85
Bromodichloromethane	83
cis-1,3-Dichloropropene	79
4-Methyl-2-pentanone	74
Toluene	83
trans-1,3-Dichloropropene	77
1,1,2-Trichloroethane	86
Tetrachloroethene	88

Client Sample ID: LCS

Lab ID#: 1006568A-08A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	w062703	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/27/10 04:07 PM

Compound	%Recovery
2-Hexanone	75
Dibromochloromethane	83
1,2-Dibromoethane (EDB)	89
Chlorobenzene	90
Ethyl Benzene	87
m,p-Xylene	84
o-Xylene	81
Styrene	79
Bromoform	76
Cumene	86
1,1,2,2-Tetrachloroethane	87
Propylbenzene	86
4-Ethyltoluene	90
1,3,5-Trimethylbenzene	89
1,2,4-Trimethylbenzene	87
1,3-Dichlorobenzene	89
1,4-Dichlorobenzene	91
alpha-Chlorotoluene	70
1,2-Dichlorobenzene	92
1,2,4-Trichlorobenzene	74
Hexachlorobutadiene	82

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: LCS

Lab ID#: 1006568A-08B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p070304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/3/10 01:24 AM

Compound	%Recovery
Freon 12	104
Freon 114	105
Chloromethane	98
Vinyl Chloride	103
1,3-Butadiene	102
Bromomethane	98
Chloroethane	99
Freon 11	107
Ethanol	100
Freon 113	93
1,1-Dichloroethene	91
Acetone	98
2-Propanol	99
Carbon Disulfide	99
3-Chloropropene	98
Methylene Chloride	95
Methyl tert-butyl ether	103
trans-1,2-Dichloroethene	100
Hexane	103
1,1-Dichloroethane	100
2-Butanone (Methyl Ethyl Ketone)	110
cis-1,2-Dichloroethene	103
Tetrahydrofuran	104
Chloroform	101
1,1,1-Trichloroethane	105
Cyclohexane	106
Carbon Tetrachloride	108
2,2,4-Trimethylpentane	108
Benzene	104
1,2-Dichloroethane	106
Heptane	111
Trichloroethene	103
1,2-Dichloropropane	108
1,4-Dioxane	106
Bromodichloromethane	103
cis-1,3-Dichloropropene	105
4-Methyl-2-pentanone	111
Toluene	100
trans-1,3-Dichloropropene	107
1,1,2-Trichloroethane	104
Tetrachloroethene	105

Client Sample ID: LCS

Lab ID#: 1006568A-08B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p070304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/3/10 01:24 AM

Compound	%Recovery
2-Hexanone	111
Dibromochloromethane	104
1,2-Dibromoethane (EDB)	111
Chlorobenzene	105
Ethyl Benzene	110
m,p-Xylene	109
o-Xylene	110
Styrene	109
Bromoform	104
Cumene	107
1,1,2,2-Tetrachloroethane	105
Propylbenzene	106
4-Ethyltoluene	110
1,3,5-Trimethylbenzene	114
1,2,4-Trimethylbenzene	114
1,3-Dichlorobenzene	107
1,4-Dichlorobenzene	108
alpha-Chlorotoluene	112
1,2-Dichlorobenzene	109
1,2,4-Trichlorobenzene	110
Hexachlorobutadiene	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	104	70-130



Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

CHAIN-OF-CUSTODY RECORD

Project Manager Jeff Adams
 Collected by: (Print and Sign) Michael Miller
 Company URS Corporation Suite 500
 Address 1001 Highland Plaza Dr W City St. Louis State MO Zip 63102
 Phone 314 429-0100 Fax 314 429-0462
 Email thomas.adams@urscorp.com

**180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020**

Page ____ of ____

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7/6/2010
Mr. Mike Miller
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Dissolved Phase
Project #: 21562289.00011
Workorder #: 1006568B

Dear Mr. Mike Miller

The following report includes the data for the above referenced project for sample(s) received on 6/22/2010 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Jacquelyn Luta at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Jacquelyn Luta
Project Manager

WORK ORDER #: 1006568B

Work Order Summary

CLIENT: Mr. Mike Miller
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis, MO 63110

BILL TO: Accounts Payable Austin
URS Corporation
P.O. BOX 203970
Austin, TX 78720-1088

PHONE: 314-566-3073

P.O. #

FAX:

PROJECT # 21562289.00011 Roxana Dissolved

DATE RECEIVED: 06/22/2010

CONTACT: Phase
Jacquelyn Luta

DATE COMPLETED: 07/06/2010

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	VMP-3-10 ✓	Modified ASTM D-1946	10.0 "Hg	15 psi
02A	VMP-17-5 ✓	Modified ASTM D-1946	9.2 "Hg	15 psi
03A	VMP-17-5-DUP ✓	Modified ASTM D-1946	9.8 "Hg	15 psi
04A	VMP-18-8.5 ✓	Modified ASTM D-1946	9.0 "Hg	15 psi
05A	VMP-19-5 ✓	Modified ASTM D-1946	7.6 "Hg	15 psi
06A	Lab Blank	Modified ASTM D-1946	NA	NA
06B	Lab Blank	Modified ASTM D-1946	NA	NA
07A	LCS	Modified ASTM D-1946	NA	NA

CERTIFIED BY:

Sandra A. Freeman

Laboratory Director

DATE: 07/06/10

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,

NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1006568B**

Five 1 Liter Summa Canister samples were received on June 22, 2010. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Since Nitrogen is used to pressurize samples, the reported Nitrogen values are calculated by adding all the sample components and subtracting from 100%.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>ASTM D-1946</i>	<i>ATL Modifications</i>
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections $> 5 \times$ the RL.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the detection limit.

M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: VMP-3-10

Lab ID#: 1006568B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	1.3
Nitrogen	0.30	60
Methane	0.00030	26
Carbon Dioxide	0.030	7.9
Ethane	0.0030	0.010

Client Sample ID: VMP-17-5

Lab ID#: 1006568B-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	12
Nitrogen	0.29	81
Methane	0.00029	0.00014 J
Carbon Dioxide	0.029	6.7

Client Sample ID: VMP-17-5-DUP

Lab ID#: 1006568B-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	12
Nitrogen	0.30	81
Methane	0.00030	0.00018 J
Carbon Dioxide	0.030	6.8

Client Sample ID: VMP-18-8.5

Lab ID#: 1006568B-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	11
Nitrogen	0.29	81
Methane	0.00029	0.000026 J

Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: VMP-18-8.5

Lab ID#: 1006568B-04A

Carbon Dioxide	0.029	7.7
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Client Sample ID: VMP-19-5

Lab ID#: 1006568B-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	12
Nitrogen	0.27	79
Carbon Dioxide	0.027	8.7
Helium	0.14	0.030

Client Sample ID: VMP-3-10

Lab ID#: 1006568B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9062315	Date of Collection: 6/21/10 9:50:00 AM
Dil. Factor:	3.03	Date of Analysis: 6/23/10 03:59 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	1.3
Nitrogen	0.30	60
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	26
Carbon Dioxide	0.030	7.9
Ethane	0.0030	0.010
Ethene	0.0030	Not Detected
Helium	0.15	Not Detected

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-17-5

Lab ID#: 1006568B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9062311	Date of Collection:	6/21/10 11:45:00 AM
Dil. Factor:	2.91	Date of Analysis:	6/23/10 12:52 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	12
Nitrogen	0.29	81
Carbon Monoxide	0.029	Not Detected
Methane	0.00029	0.00014 J
Carbon Dioxide	0.029	6.7
Ethane	0.0029	Not Detected
Ethene	0.0029	Not Detected
Helium	0.14	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-17-5-DUP

Lab ID#: 1006568B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9062312	Date of Collection: 6/21/10 11:45:00 AM
Dil. Factor:	3.00	Date of Analysis: 6/23/10 01:25 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	12
Nitrogen	0.30	81
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	0.00018 J
Carbon Dioxide	0.030	6.8
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-18-8.5

Lab ID#: 1006568B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9062313	Date of Collection:	6/18/10 11:53:00 AM
Dil. Factor:	2.89	Date of Analysis:	6/23/10 02:05 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	11
Nitrogen	0.29	81
Carbon Monoxide	0.029	Not Detected
Methane	0.00029	0.000026 J
Carbon Dioxide	0.029	7.7
Ethane	0.0029	Not Detected
Ethene	0.0029	Not Detected
Helium	0.14	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-19-5

Lab ID#: 1006568B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9062314	Date of Collection: 6/18/10 10:21:00 AM
Dil. Factor:	2.71	Date of Analysis: 6/23/10 03:32 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	12
Nitrogen	0.27	79
Carbon Monoxide	0.027	Not Detected
Methane	0.00027	Not Detected
Carbon Dioxide	0.027	8.7
Ethane	0.0027	Not Detected
Ethene	0.0027	Not Detected
Helium	0.14	0.030

Container Type: 1 Liter Summa Canister

Client Sample ID: Lab Blank

Lab ID#: 1006568B-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9062303a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/23/10 08:47 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.010 J
Nitrogen	0.10	0.051 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Client Sample ID: Lab Blank

Lab ID#: 1006568B-06B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9062302b	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/23/10 08:18 AM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.050	Not Detected

Container Type: NA - Not Applicable

Client Sample ID: LCS

Lab ID#: 1006568B-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9062325	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/23/10 10:22 PM

Compound	%Recovery
Oxygen	98
Nitrogen	100
Carbon Monoxide	100
Methane	101
Carbon Dioxide	100
Ethane	102
Ethene	101
Helium	99

Container Type: NA - Not Applicable

