



November 27, 2012

Mr. James K. Moore, P.E.
Manager, Corrective Action Unit
Illinois Environmental Protection Agency
Bureau of Land
1021 North Grand Avenue East
Springfield, Illinois 62794

**Subject: Village of Roxana Public Works Soil Vapor Extraction Well Ambient Air
Assessment - 2012
Roxana, Illinois
119115002 – Madison County
Equilon Enterprises LLC d/b/a Shell Oil Products US**

Dear Mr. Moore:

On behalf of Shell Oil Products US (SOPUS), URS Corporation is submitting the enclosed report for your review. The report presents the results of sampling conducted in conjunction with sampling by Phillips 66.

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

Sincerely,
URS Corporation, on behalf of Shell Oil Products US

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R E P O R T

**VILLAGE OF ROXANA
PUBLIC WORKS SOIL VAPOR
EXTRACTION WELL AMBIENT
AIR ASSESSMENT-2012**

Roxana, Illinois

Prepared for:

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

November 2012



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TABLE OF CONTENTS

SECTION 1	INTRODUCTION	1-1
SECTION 2	SOIL VAPOR EXTRACTION WELL AMBIENT AIR SAMPLING AND ANALYTICAL PROCEDURES	2-1
	2.1 Soil Vapor Extraction Well Ambient Air Sampling	2-1
	2.1.1 Baseline Ambient Air Sampling	2-1
	2.1.2 Extraction Well Ambient Air Sampling	2-2
	2.2 Health & Safety, Decontamination and Investigation Derived Waste	2-2
	2.3 Sample Handling and Laboratory Testing	2-3
	2.4 Data Quality Review and Data Management.....	2-3
SECTION 3	SOIL VAPOR EXTRACTION WELL AMBIENT AIR SAMPLING RESULTS.....	3-1
	3.1 Data Quality Review Results	3-1
	3.2 Soil Vapor Extraction Well Ambient Air Analytical Results.....	3-1
SECTION 4	SUMMARY	4-1

List of Tables

Table 1	Village of Roxana Public Works Facility Ambient Air Field Measurements
Table 2	Village of Roxana Public Works Facility Summary of Soil Vapor Extraction Well Ambient Air Analytical Results - VOCS
Table 3	Village of Roxana Public Works Facility Summary of Soil Vapor Extraction Well Ambient Air Tentatively Identified Compounds

List of Figures

Figure 1	Sampling Area Location Map
Figure 2	Soil Vapor Extraction Well Ambient Air Sampling Locations
Figure 3	Benzene Soil Vapor Extraction Well Ambient Air Analytical Results

List of Appendices

Appendix A	Photographic Log
Appendix B	Data Review and Laboratory Analytical Reports

Phillips 66 (P66)¹ conducted a sampling event on October 15, 2012 to assess ambient air conditions at the Village of Roxana (Village) Public Works Facility (**Figure 1**). The sampling focused on soil vapor extraction (SVE) wells that were installed by Shell Oil Products US (SOPUS) as part of an SVE system. URS Corporation, on behalf of SOPUS, conducted air monitoring and collected air samples concurrent with the monitoring and sampling performed by P66's contractor for the work, Center for Toxicology and Environmental Health (CTEH). Representatives from SOPUS, P66, the Village, and Illinois Environmental Protection Agency (IEPA) were present during ambient air sampling.

This report describes the monitoring, sampling procedures, and presents a summary of the results.

¹ ConocoPhillips Company announced the separation of the Refining and Marketing business from the Exploration & Production business on July 14, 2011. The separation included an ownership change as well as a name change that became effective May 1, 2012. Phillips 66 is now the operator of the WRB WRR.

On October 15, 2012 the collection of ambient air field measurements and stainless steel canister samples associated with SVE system wells at the Village Public Works Facility were performed in conjunction with work by CTEH for Phillips 66.

2.1 SOIL VAPOR EXTRACTION WELL AMBIENT AIR SAMPLING

The collection of ambient air samples at six SVE locations and two baseline locations within the Village Public Works Facility were included in the SOPUS program, which are listed below and shown on **Figure 2**.

<u>SVE Well</u>	<u>Canister Location</u>
SVE-21	60 feet downwind (East)
SVE-22	60 feet downwind (East)
SVE-23	60 feet downwind (East)
SVE-24	60 feet downwind (East)
SVE-26	60 feet downwind (East)
SVE-27	60 feet downwind (East)

<u>Baseline</u>	<u>Canister Location</u>
Upwind	Southwest Corner Village Public Works Facility
Downwind	Northeast Corner Village Public Works Facility

2.1.1 BASELINE AMBIENT AIR SAMPLING

Prior to stainless steel canister sampling, the wind direction was jointly determined by the parties and recorded. During this sampling event, the wind direction was consistently from west to east. This was checked prior to sampling each well. Stainless steel canister sampling began with a baseline downwind sample and upwind sample while the SVE wells were closed.

The 1-liter stainless steel canister was set on a tripod at the designated location (3 to 5 feet above ground) and approximately 60 feet downwind and upwind from the Village Public Works Facility. The upwind sample was collected from the southwest portion of the property. The downwind sample was collected from the northeast portion of the property. The stainless steel canister flow controller was opened to initiate sample collection; the flow controllers were set to fill the canister in approximately 15 minutes. Ambient air readings were collected and recorded

periodically over the course of the 15 minute sampling event using an UltraRAE 3000 (benzene-specific) and a ppbRAE 3000 for Volatile Organic Compounds (VOCs). Measurements were recorded in the breathing zone at the designated baseline downwind and upwind stainless steel canister locations.

2.1.2 EXTRACTION WELL AMBIENT AIR SAMPLING

After the completion of baseline sampling, one at a time, the following protocol was followed at each individual SVE well located in the Public Works property. A 1-liter stainless steel canister was set on a tripod (3 to 5 feet above ground) approximately 60 feet downwind from each SVE well. The stainless steel canister flow controller was opened to initiate sample collection and the SVE well cap was opened. The stainless steel canister flow controllers were set to fill the canister in approximately 15 minutes. At the wellhead, within the vicinity of SVE well, and at the canister sample location, VOC and benzene readings were collected and recorded at both ground and breathing zone levels for approximately 10 minutes. The VOC and benzene readings are presented in **Table 1**. After approximately 10 minutes, the SVE well was closed. The stainless steel canister collected ambient air for an additional 5 minutes after the SVE well was closed. A photographic log of the sampling locations is included in **Appendix A**.

2.2 HEALTH & SAFETY, DECONTAMINATION, AND INVESTIGATION DERIVED WASTE

Health & Safety

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

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

URS field personnel primarily wore U.S. Environmental Protection Agency (USEPA) modified Level D personal protective equipment (PPE), which included hard hat, steel-toed boots, safety glasses, and safety vests.

A ppbRAE 3000 with a 10.6 electron volt (eV) probe and UltraRAE 3000 with benzene specific measuring tubes were used during the field activities to monitor air quality. Field instruments were calibrated prior to use in accordance with the manufacturer's specifications.

Investigation Derived Waste

Investigation derived waste (IDW) for this sampling event included PPE and expendable materials (e.g., gloves and tubing), which has a low probability of impact. The expendable materials were collected in trash bags and disposed with municipal waste.

2.3 SAMPLE HANDLING AND LABORATORY TESTING**Sample Handling**

Stainless-steel canisters were labeled with a sample ID, site name, sampler initials, sample date and time, the parameters to be analyzed, and pre- and post- sampling vacuum readings. After collection, the samples were logged on a chain of custody (COC) form and packaged in a UN certified box to prevent damage during shipment. The samples were then delivered under the proper COC documentation to the laboratory.

Laboratory Testing

Eurofins Air Toxics, Inc. (Eurofins) of Folsom, California provided canisters for this program and conducted the laboratory testing using VOCs via Modified USEPA Total Organic-15 (TO-15) for soil vapor².

The laboratory reported results between the method detection limit (MDL) and reporting limit (RL). Although results reported in this range are "J"-flagged as estimated, these data may be beneficial in cases where analytes would otherwise be reported as non-detect at elevated RLs. The laboratory provided URS with a list of their "base" RL capability for target analytes. Sample RLs are a product of base RL, pressurization dilution factor, and analytical dilution factor. Thus the sample RL will increase with increases in dilution factor. Results that were reported below the RLs but above the MDL were "J"-flagged as estimated concentrations by the laboratory.

The laboratory reported the top ten tentatively identified compounds (TICs), if present, via library search.

2.4 DATA QUALITY REVIEW AND DATA MANAGEMENT

Laboratory data were provided in electronic form, and analytical data were independently reviewed and qualified by URS. One hundred percent of the data were subjected to a data quality review (Level III review). Evaluation of the data followed procedures outlined in the USEPA National Functional Guidelines for Superfund Organic Methods Data Review (USEPA,

² The analyte list includes constituents in the P66 Air Sampling Plan.

SECTION TWO

Soil Vapor Extraction Well Ambient Air Sampling and Analytical Procedures

2008). Specific criteria reviewed included sample receipt condition and holding times, method blanks, surrogate spike recoveries, laboratory control samples, results reported from dilutions, and field duplicate results. The laboratory assigned data qualifiers on the basis of their quality control or to indicate sample analysis information (e.g., dilutions). Data qualifiers were also added by URS, as appropriate, and are included on the data tables and laboratory result pages. Laboratory data reports along with data reviews are included in **Appendix B**.

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

The following documentation was completed and supplements the COC records:

- Field logbooks;
- Field equipment calibration forms; and
- Safety documentation.

SECTION THREE Soil Vapor Extraction Well Ambient Air Sampling Results

3.1 DATA QUALITY REVIEW RESULTS

A total of 8 investigative and 1 field duplicate samples were collected for analysis. Compounds qualified by URS due to method blank contamination, field duplicate results, and quality control sample recoveries are specified in the data reviews (**Appendix B**). Based on method blanks, laboratory control sample recoveries, results reported from dilutions, and field duplicate results, soil vapor results reported for the analyses performed were accepted for their intended use.

3.2 SOIL VAPOR ANALYTICAL RESULTS

The following TO-15 analytes were detected in ambient air samples during this program:

TO-15 Detections

Acetone*	Ethylbenzene*
Benzene	4-Ethyltoluene*
Bromomethane*	Heptane*
2-Butanone*	Hexane
Carbon disulfide*	Methyl tert-butyl ether*
Carbon tetrachloride*	2-Propanol*
Chlorobenzene*	Tetrahydrofuran*
Chloroform*	Toluene*
Cyclohexane*	Trichloroethene*
1,2 Dichlorobenzene*	Trichlorofluoromethane*
1,4 Dichlorobenzene*	2,2,4-Trimethylpentane*
Dichlorodifluoromethane*	m,p-Xylene*

*Asterisk denotes constituent detected at an estimated concentration below the reporting limit.

A summary of the analytical results is presented in **Table 2**. A tabular summary of the tentatively identified compound results is presented in **Table 3**.

Benzene was selected as the analyte to characterize ambient air. Benzene concentrations from the six locations and the baseline samples within the Village Public Works Facility ranged from not detected at a reporting limit of 0.0051 mg/m³ (SVE-22-Downwind) to 0.039 mg/m³ (SVE-23-Downwind). The results for benzene in SVE well ambient air samples collected in the Village Public Works Facility are depicted on **Figure 3**.

URS conducted SVE well ambient air sampling on behalf of SOPUS in the Village Public Works Facility in conjunction with CTEH ambient air sampling from the SVE system wells. SVE well ambient air samples were collected from six SVE wells and at two baseline locations on October 15, 2012.

**TABLE 1
VILLAGE OF ROXANA PUBLIC WORKS FACILITY
AMBIENT AIR FIELD MEASUREMENTS**

Sample Location	Sample Number	Reading Type	Time of Reading	ppbRae 3000 (ppm)	UltraRAE 3000 Benzene (ppm)	Comments
DOWNWIND AND UPWIND CANISTERS						
Downwind Baseline	1	BZ	9:08 AM	0.081	0.0	measurements prior to sampling
Downwind Baseline	2	BZ	9:21 AM	0.075	0.0	measurements prior to sampling
Upwind Baseline	3	BZ	9:21 AM	0.0	0.0	measurements prior to sampling
Downwind and Upwind Baseline Canister Start Time 9:24 AM						
Downwind Baseline	4	BZ	9:27 AM	0.071	0.0	
Upwind Baseline	5	BZ	9:29 AM	0.0	0.0	
Downwind Baseline	6	BZ	9:30 AM	0.069	NA	insufficient time to collect benzene reading.
Upwind Baseline	7	BZ	9:34 AM	0.0	0.0	
Upwind Baseline	8	BZ	9:38 AM	0.0	0.0	
Downwind and Upwind Baseline Canister Stop Time 9:41 AM						
SVE-21 canister						
SVE-21 Canister Start Time and Wellhead Opened 10:11 AM						
SVE-21	9	WH	10:12 AM	0.0	0.0	Reading taken at SVE-21
SVE-21	10	BZ	10:12 AM	0.0	0.0	Reading taken at SVE-21
SVE-21	11	BZ	10:16 AM	0.082	0.0	Reading taken at sample canister location
SVE-21	12	WH	10:19 AM	0.0	0.0	Reading taken at SVE-21
SVE-21	13	BZ	10:21 AM	0.0	0.0	Reading taken at SVE-21
SVE-21	14	BZ	10:21 AM	0.08	0.0	Reading taken at sample canister location
SVE-21 Wellhead Closed 10:21 AM						
SVE-21 Canister Stop Time 10:26 AM						
SVE-27 CANISTER						
SVE-27 Canister Start Time and Wellhead Opened 10:51 AM						
SVE-27	15	WH	10:53 AM	0.079	0.0	Reading taken at SVE-27
SVE-27	16	BZ	10:54 AM	0.14	0.0	Reading taken at sample canister location
SVE-27	17	BZ	10:57 AM	0.0	0.0	Reading taken at SVE-27
SVE-27	18	BZ	10:58 AM	0.087	0.0	Reading taken at sample canister location
SVE-27	19	WH	10:59 AM	0.0	0.0	Reading taken at SVE-27
SVE-27 Wellhead Closed 11:01 AM						
SVE-27	20	BZ	11:05 AM	0.076	0.0	Reading taken at sample canister location
SVE-27 Canister Stop Time 11:06 AM						
SVE-26 CANISTER						
SVE-26 canister Start Time and Wellhead Opened 11:19 AM						
SVE-26	21	WH	11:20 AM	0.0	0.0	Reading taken at SVE-26
SVE-26	22	BZ	11:21 AM	0.064	0.0	Reading taken at sample canister location
SVE-26	23	BZ	11:23 AM	0.0	0.0	Reading taken at SVE-26
SVE-26	24	WH	11:26 AM	0.0	0.0	Reading taken at SVE-26
SVE-26	25	BZ	11:27 AM	0.061	0.0	Reading taken at sample canister location
SVE-26 Wellhead Closed 11:29 AM						
SVE-26	26	BZ	11:33 AM	0.062	NA	Insufficient time to collect benzene reading. Reading taken at sample canister location
SVE-26 Canister Stop Time 11:34 AM						
SVE-22 CANISTER						
SVE-22 canister Start Time and Wellhead Opened 11:51 AM						
SVE-22	27	WH	11:51 AM	0.0	0.0	Reading taken at SVE-22
SVE-22	28	BZ	11:53 AM	0.061	0.0	Reading taken at sample canister location
SVE-22	29	BZ	11:56 AM	0.0	0.0	Reading taken at SVE-22
SVE-22	30	BZ	11:57 AM	0.056	0.0	Reading taken at sample canister location
SVE-22	31	WH	11:59 AM	0.0	0.0	Reading taken at SVE-22
SVE-22 Wellhead Closed 12:01 PM						
SVE-22	32	BZ	12:03 PM	0.052	0.0	Reading taken at sample canister location
SVE-22 Canister Stop Time 12:06 PM						
SVE-23 CANISTER						
SVE-23 canister Start Time and Wellhead Opened 12:21 PM						
SVE-23	33	WH	12:21 PM	0.047	0.0	Reading taken at SVE-23
SVE-23	34	BZ	12:21 PM	0.092	0.0	Reading taken at sample canister location
SVE-23	35	BZ	12:24 PM	0.102	0.0	Reading taken at SVE-23
SVE-23	36	BZ	12:26 PM	0.222	0.0	Reading taken at sample canister location
SVE-23	37	WH	12:29 PM	0.0	0.0	Reading taken at SVE-23
SVE-23 Wellhead Closed 12:31 PM						
SVE-23	38	BZ	12:32 PM	0.05	0.0	Reading taken at sample canister location
SVE-23 Canister Stop Time 12:36 PM						
SVE-24 CANISTER						
SVE-24 canister Start Time and Wellhead Opened 12:45 PM						
SVE-24	39	WH	12:45 PM	1.01	0.05	Reading taken at SVE-24
SVE-24	40	BZ	12:45 PM	0.064	0.0	Reading taken at sample canister location
SVE-24	41	BZ	12:50 PM	0.06	0.0	Reading taken at sample canister location
SVE-24	42	WH	12:53 PM	8.8	0.80	Reading taken at SVE-24
SVE-24	43	WH	12:55 PM	4.7	0.85	Reading taken at SVE-24
SVE-24 Wellhead Closed 12:55 PM						
SVE-24	44	BZ	12:56 PM	0.06	0.0	Reading taken at sample canister location
SVE-24 Canister Stop Time 1:00 PM						

NOTES:

BZ = Breathing Zone
 WH = Well Head
 NA = Not Applicable
 ppb = Parts Per Billion
 ppm = Parts Per Million

TABLE 2
VILLAGE OF ROXANA PUBLIC WORKS FACILITY
SUMMARY OF SOIL VAPOR EXTRACTION WELL AMBIENT AIR ANALYTICAL RESULTS: VOCS

Location	Time	Sample ID	Sample Date	Acetone			Allyl chloride (3-Chloropropene)			alpha-Chlorotoluene			Benzene			Bromodichloromethane		
				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
Baseline-Downwind	924	Baseline-Downwind-101512	10/15/2012	0.017	J		<0.018	U		<0.0073	J	U	0.0011	J		<0.0094	U	
Baseline-Upwind	924	Baseline-Upwind-101512	10/15/2012	0.0093	J		<0.018	U		<0.0073	J	U	0.0019	J		<0.0094	J	U
SVE-21-Downwind	1011	SVE-21-Downwind-101512	10/15/2012	0.012	J		<0.018	U		<0.0077	U		0.0012	J		<0.0099	U	
		SVE-21-Downwind-101512-Dup	10/15/2012	0.009	J		<0.018	U		<0.0077	U		0.0012	J		<0.0099	U	
SVE-22-Downwind	1151	SVE-22-Downwind-101512	10/15/2012	0.012	J		<0.02	U		<0.0082	U		<0.0051	U		<0.011	U	
SVE-23-Downwind	1221	SVE-23-Downwind-101512	10/15/2012	0.015	J		<0.017	U		<0.007	U		0.039			<0.009	U	
SVE-24-Downwind	1245	SVE-24-Downwind-101512	10/15/2012	0.0083	J		<0.018	U		<0.0075	U		0.002	J		<0.0097	U	
SVE-26-Downwind	1119	SVE-26-Downwind-101512	10/15/2012	0.012	J		<0.019	U		<0.008	U		0.0011	J		<0.01	U	
SVE-27-Downwind	1051	SVE-27-Downwind-101512	10/15/2012	0.014	J		<0.019	U		<0.008	U		0.018			<0.01	U	

TABLE 2
VILLAGE OF ROXANA PUBLIC WORKS FACILITY
SUMMARY OF SOIL VAPOR EXTRACTION WELL AMBIENT AIR ANALYTICAL RESULTS: VOCS

Location	Bromoform			Bromomethane			1,3-Butadiene			2-Butanone			Carbon disulfide			Carbon tetrachloride			Chlorobenzene		
	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
Baseline-Downwind	<0.014	U		<0.055	U		<0.0031	U		<0.017	U		<0.018	U		0.0018	J		<0.0065	J	U
Baseline-Upwind	<0.014	U		0.0016	J		<0.0031	U		<0.017	U		<0.018	J	U	<0.0089	U		<0.0065	J	U
SVE-21-Downwind	<0.015	U		<0.057	U		<0.0033	U		<0.017	U		<0.018	J	U	<0.0093	U		<0.0068	J	U
	<0.015	U		<0.057	U		<0.0033	U		<0.017	U		<0.018	J	U	<0.0093	U		<0.0068	J	U
SVE-22-Downwind	<0.016	U		<0.062	U		<0.0035	U		<0.019	U		<0.02	J	U	<0.01	U		<0.0073	J	U
SVE-23-Downwind	<0.014	U		<0.052	U		<0.003	U		<0.016	U		<0.017	J	U	0.0013	J		<0.0062	J	U
SVE-24-Downwind	<0.015	U		<0.056	U		<0.0032	U		<0.017	U		<0.018	J	U	<0.0091	U		<0.0066	J	U
SVE-26-Downwind	<0.016	U		<0.06	U		<0.0034	U		<0.018	U		0.003	J		<0.0098	U		0.0045	J	
SVE-27-Downwind	<0.016	U		<0.06	U		<0.0034	U		0.004	J		<0.019	J	U	<0.0098	U		<0.0072	J	U

TABLE 2
VILLAGE OF ROXANA PUBLIC WORKS FACILITY
SUMMARY OF SOIL VAPOR EXTRACTION WELL AMBIENT AIR ANALYTICAL RESULTS: VOCS

Location	Chlorodibromomethane			Chloroethane			Chloroform			Chloromethane			Cyclohexane			1,2-Dibromoethane			1,2-Dichlorobenzene		
	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
Baseline-Downwind	<0.012	U		<0.015	U		0.0036	J		<0.029	U		<0.0048	U		<0.011	U		<0.0085	J	U
Baseline-Upwind	<0.012	U		<0.015	U		0.0017	J		<0.029	U		<0.0048	U		<0.011	U		<0.0085	J	U
SVE-21-Downwind	<0.013	U		<0.016	U		<0.0072	U		<0.03	U		<0.0051	U		<0.011	U		<0.0089	J	U
	<0.013	U		<0.016	U		<0.0072	U		<0.03	U		<0.0051	U		<0.011	U		<0.0089	J	U
SVE-22-Downwind	<0.014	U		<0.017	U		<0.0078	U		<0.033	U		<0.0055	U		<0.012	U		<0.0096	U	
SVE-23-Downwind	<0.011	U		<0.014	U		<0.0066	U		<0.028	U		0.0037	J		<0.01	U		<0.0081	U	
SVE-24-Downwind	<0.012	U		<0.015	U		<0.007	U		<0.03	U		<0.005	U		<0.011	U		<0.0087	U	
SVE-26-Downwind	<0.013	U		<0.016	U		<0.0076	U		<0.032	U		<0.0054	U		<0.012	U		0.0019	J	
SVE-27-Downwind	<0.013	U		<0.016	U		<0.0076	U		<0.032	U		0.0018	J		<0.012	U		<0.0093	U	

TABLE 2
VILLAGE OF ROXANA PUBLIC WORKS FACILITY
SUMMARY OF SOIL VAPOR EXTRACTION WELL AMBIENT AIR ANALYTICAL RESULTS: VOCS

Location	1,3-Dichlorobenzene			1,4-Dichlorobenzene			Dichlorodifluoromethane			1,1-Dichloroethane			1,2-Dichloroethane			1,1-Dichloroethene			cis-1,2-Dichloroethene		
	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
Baseline-Downwind	<0.0085	J	U	<0.0085	J	U	0.0032	J		<0.0057	U		<0.0057	J	U	<0.0056	U		<0.0056	U	
Baseline-Upwind	<0.0085	J	U	<0.0085	J	U	0.0028	J		<0.0057	U		<0.0057	J	U	<0.0056	U		<0.0056	U	
SVE-21-Downwind	<0.0089	J	U	<0.0089	J	U	0.0029	J		<0.006	U		<0.006	U		<0.0059	U		<0.0059	U	
	<0.0089	J	U	<0.0089	J	U	0.0029	J		<0.006	U		<0.006	J	U	<0.0059	U		<0.0059	U	
SVE-22-Downwind	<0.0096	U		<0.0096	J	U	0.0031	J		<0.0064	U		<0.0064	U		<0.0063	U		<0.0063	U	
SVE-23-Downwind	<0.0081	U		<0.0081	J	U	0.0028	J		<0.0054	U		<0.0054	J	U	<0.0053	U		<0.0053	U	
SVE-24-Downwind	<0.0087	U		<0.0087	J	U	0.0027	J		<0.0058	U		<0.0058	J	U	<0.0057	U		<0.0057	U	
SVE-26-Downwind	<0.0093	U		0.0028	J		0.0039	J		<0.0063	U		<0.0063	U		<0.0062	U		<0.0062	U	
SVE-27-Downwind	<0.0093	U		<0.0093	J	U	0.0033	J		<0.0063	U		<0.0063	U		<0.0062	U		<0.0062	U	

TABLE 2
VILLAGE OF ROXANA PUBLIC WORKS FACILITY
SUMMARY OF SOIL VAPOR EXTRACTION WELL AMBIENT AIR ANALYTICAL RESULTS: VOCS

Location	trans-1,2-Dichloroethene			Dichloromethane (Methylene chloride)			1,2-Dichloropropane			cis-1,3-Dichloropropene			trans-1,3-Dichloropropene			1,4-Dioxane			Ethyl Acetate		
	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
Baseline-Downwind	<0.0056	U		<0.049	J	U	<0.0065	U		<0.0064	U		<0.0064	U		<0.02	U		<0.02	U	
Baseline-Upwind	<0.0056	U		<0.049	J	U	<0.0065	U		<0.0064	U		<0.0064	U		<0.02	U		<0.02	U	
SVE-21-Downwind	<0.0059	U		<0.051	U		<0.0068	U		<0.0067	U		<0.0067	U		<0.021	U		<0.021	U	
	<0.0059	U		<0.051	U		<0.0068	U		<0.0067	U		<0.0067	U		<0.021	U		<0.021	U	
SVE-22-Downwind	<0.0063	U		<0.055	U		<0.0074	U		<0.0072	U		<0.0072	U		<0.023	U		<0.023	U	
SVE-23-Downwind	<0.0053	U		<0.047	U		<0.0062	U		<0.0061	U		<0.0061	U		<0.019	U		<0.019	U	
SVE-24-Downwind	<0.0057	U		<0.05	J	U	<0.0067	U		<0.0066	U		<0.0066	U		<0.021	U		<0.021	U	
SVE-26-Downwind	<0.0062	U		<0.054	U		<0.0072	U		<0.007	U		<0.007	U		<0.022	U		<0.022	U	
SVE-27-Downwind	<0.0062	U		<0.054	U		<0.0072	U		<0.007	U		<0.007	U		<0.022	U		<0.022	U	

TABLE 2
VILLAGE OF ROXANA PUBLIC WORKS FACILITY
SUMMARY OF SOIL VAPOR EXTRACTION WELL AMBIENT AIR ANALYTICAL RESULTS: VOCS

Location	Ethylbenzene			4-Ethyltoluene			Freon 113			Freon 114			Heptane			Hexane			2-Hexanone (Methyl N-Butyl Ketone)		
	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
Baseline-Downwind	<0.0061	U		<0.0069	U		<0.011	U		<0.0098	U		<0.0058	U		0.0014	J		<0.023	U	
Baseline-Upwind	0.0019	J		0.0029	J		<0.011	U		<0.0098	U		0.0011	J		0.0018	J		<0.023	U	
SVE-21-Downwind	<0.0064	U		<0.0073	U		<0.011	U		<0.01	U		0.0015	J		0.0019	J		<0.024	U	
	<0.0064	U		<0.0073	U		<0.011	U		<0.01	U		0.0012	J		0.0027	J		<0.024	U	
SVE-22-Downwind	<0.0069	U		<0.0078	U		<0.012	U		<0.011	U		<0.0065	U		<0.0056	U		<0.026	U	
SVE-23-Downwind	<0.0058	U		<0.0066	U		<0.01	U		<0.0094	U		0.0052	J		0.011			<0.022	U	
SVE-24-Downwind	<0.0063	U		<0.0071	U		<0.011	U		<0.01	U		<0.0059	U		0.00074	J		<0.024	U	
SVE-26-Downwind	<0.0068	U		<0.0076	U		<0.012	U		<0.011	U		0.002	J		0.0017	J		<0.025	U	
SVE-27-Downwind	<0.0068	U		<0.0076	U		<0.012	U		<0.011	U		0.0039	J		0.0059			<0.025	U	

TABLE 2
VILLAGE OF ROXANA PUBLIC WORKS FACILITY
SUMMARY OF SOIL VAPOR EXTRACTION WELL AMBIENT AIR ANALYTICAL RESULTS: VOCS

Location	4-Methyl-2-pentanone (Methyl Isobutyl Ketone)			Methyl tert-butyl ether (MTBE)			2-Propanol			Propylene			Styrene			1,1,2,2-Tetrachloroethane			Tetrachloroethene		
	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
Baseline-Downwind	<0.0058	U		0.0004	J		0.0028	J		<0.0097	U		<0.006	U		<0.0097	U		<0.0096	U	
Baseline-Upwind	<0.0058	U		<0.0051	U		<0.014	U		<0.0097	U		<0.006	U		<0.0097	U		<0.0096	J	U
SVE-21-Downwind	<0.0061	U		<0.0053	U		0.0024	J		<0.01	U		<0.0063	U		<0.01	U		<0.01	U	
	<0.0061	U		<0.0053	U		<0.014	U		<0.01	U		<0.0063	U		<0.01	U		<0.01	U	
SVE-22-Downwind	<0.0065	U		<0.0058	U		0.003	J		<0.011	U		<0.0068	U		<0.011	U		<0.011	U	
SVE-23-Downwind	<0.0055	U		<0.0048	U		0.002	J		<0.0092	U		<0.0057	U		<0.0092	U		<0.0091	U	
SVE-24-Downwind	<0.0059	U		<0.0052	U		0.0026	J		0.0025	J		<0.0062	U		<0.0099	U		<0.0098	U	
SVE-26-Downwind	<0.0064	U		<0.0056	U		0.0024	J		<0.011	U		<0.0066	U		<0.011	U		<0.01	U	
SVE-27-Downwind	<0.0064	U		<0.0056	U		0.0021	J		<0.011	U		<0.0066	U		<0.011	U		<0.01	U	

TABLE 2
VILLAGE OF ROXANA PUBLIC WORKS FACILITY
SUMMARY OF SOIL VAPOR EXTRACTION WELL AMBIENT AIR ANALYTICAL RESULTS: VOCS

Location	Tetrahydrofuran			Toluene			1,1,1-Trichloroethane (Methyl chloroform)			1,1,2-Trichloroethane			Trichloroethene			Trichlorofluoromethane			1,2,4-Trimethylbenzene		
	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
Baseline-Downwind	0.0024	J		0.0024	J		<0.0077	U		<0.0077	U		<0.0076	U		0.0017	J		<0.0069	J	U
Baseline-Upwind	<0.0042	U		0.0031	J		<0.0077	U		<0.0077	U		0.0024	J		0.0019	J		<0.0069	J	U
SVE-21-Downwind	<0.0044	U		0.0028	J		<0.0081	U		<0.0081	U		<0.008	U		<0.0083	U		<0.0073	U	
	<0.0044	U		0.0021	J		<0.0081	U		<0.0081	U		<0.008	U		0.0022	J		<0.0073	U	
SVE-22-Downwind	<0.0047	U		<0.006	J	U	<0.0087	U		<0.0087	U		<0.0086	U		0.0014	J		<0.0078	U	
SVE-23-Downwind	<0.004	U		0.0041	J		<0.0073	U		<0.0073	U		<0.0072	U		0.0018	J		<0.0066	U	
SVE-24-Downwind	<0.0043	U		<0.0054	J	U	<0.0079	U		<0.0079	U		<0.0078	U		0.0016	J		<0.0071	U	
SVE-26-Downwind	<0.0046	U		0.0015	J		<0.0085	U		<0.0085	U		<0.0084	U		<0.0087	U		<0.0076	U	
SVE-27-Downwind	<0.0046	U		0.0034	J		<0.0085	U		<0.0085	U		<0.0084	U		0.0016	J		<0.0076	U	

TABLE 2
VILLAGE OF ROXANA PUBLIC WORKS FACILITY
SUMMARY OF SOIL VAPOR EXTRACTION WELL AMBIENT AIR ANALYTICAL RESULTS: VOCS

Location	1,3,5-Trimethylbenzene			2,2,4-Trimethylpentane			Vinyl acetate			Vinyl Bromide			Vinyl chloride			m,p-Xylene			o-Xylenes		
	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
Baseline-Downwind	<0.0069	U		<0.0066	U		<0.02	U		<0.025	U		<0.0036	U		<0.0061	J	U	<0.0061	U	
Baseline-Upwind	<0.0069	J	U	<0.0066	U		<0.02	U		<0.025	U		<0.0036	U		0.0026	J		<0.0061	U	
SVE-21-Downwind	<0.0073	U		<0.0069	U		<0.021	U		<0.026	U		<0.0038	U		<0.0064	U		<0.0064	U	
	<0.0073	U		<0.0069	U		<0.021	U		<0.026	U		<0.0038	U		<0.0064	J	U	<0.0064	U	
SVE-22-Downwind	<0.0078	U		<0.0074	U		<0.022	U		<0.028	U		<0.0041	U		<0.0069	U		<0.0069	U	
SVE-23-Downwind	<0.0066	U		0.0034	J		<0.019	U		<0.024	U		<0.0034	U		<0.0058	J	U	<0.0058	U	
SVE-24-Downwind	<0.0071	U		<0.0068	U		<0.02	U		<0.025	U		<0.0037	U		<0.0063	U		<0.0063	U	
SVE-26-Downwind	<0.0076	U		<0.0073	U		<0.022	U		<0.027	U		<0.004	U		<0.0068	U		<0.0068	U	
SVE-27-Downwind	<0.0076	U		0.0012	J		<0.022	U		<0.027	U		<0.004	U		<0.0068	J	U	<0.0068	U	

NOTES:

Sampling Locations

Upwind = Upwind approximately 60 feet west of SVE-24

Downwind = Downwind approximately 60 feet east of SVE-21

Lab Qualifiers

J = Estimated value; results between the MDL and RL

U = Compound analyzed for but not detected above the RL

URS Qualifiers

U = Non-detect due to blank contamination

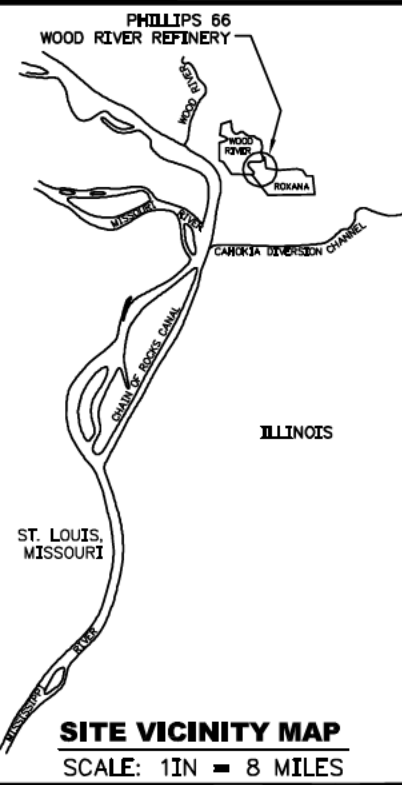
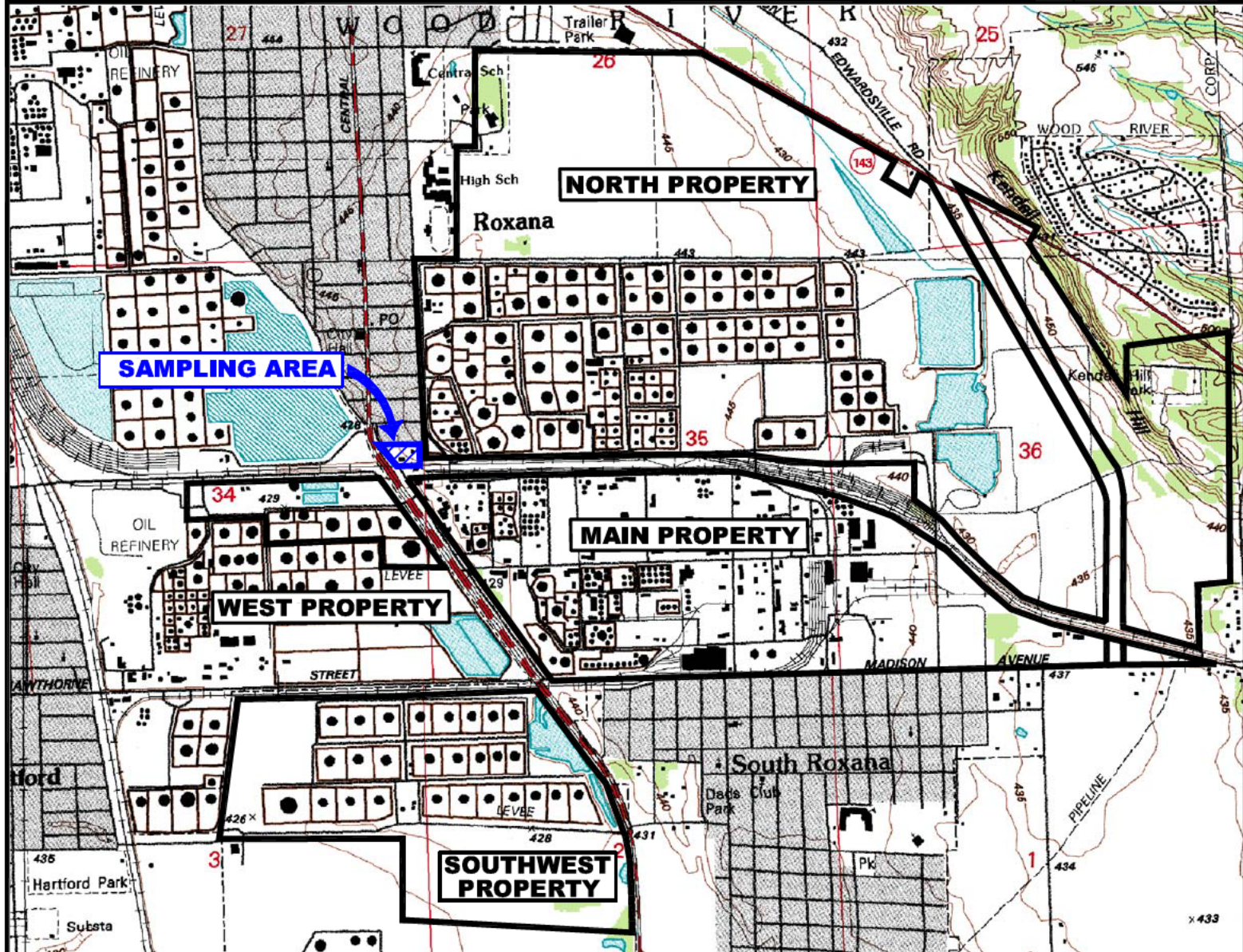
TABLE 3
VILLAGE OF ROXANA PUBLIC WORKS FACILITY
SUMMARY OF SOIL VAPOR EXTRACTION WELL AMBIENT AIR TENTATIVELY IDENTIFIED COMPOUNDS

Location	Sample ID	Sample Date	Chemical Group	Chemical	Result	Units	Lab Qualifier	URS Qualifiers
SVE-23-Downwind	SVE-23-Downwind-101512	10/15/2012	VOCs	Unknown	8.7	PPBV	J	
				Unknown	9.6	PPBV	J	

NOTES:

Lab Qualifiers

J = Estimated value



SITE VICINITY MAP
SCALE: 1IN = 8 MILES

LEGEND

- WOOD RIVER REFINERY PROPERTY BOUNDARY
- SAMPLING AREA

CONTOUR INTERVAL = 5 FT



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

SHELL OIL PRODUCTS US
SOIL VAPOR EXTRACTION WELL AMBIENT AIR ASSESSMENT
ROXANA, ILLINOIS

PROJECT NO.
21562735

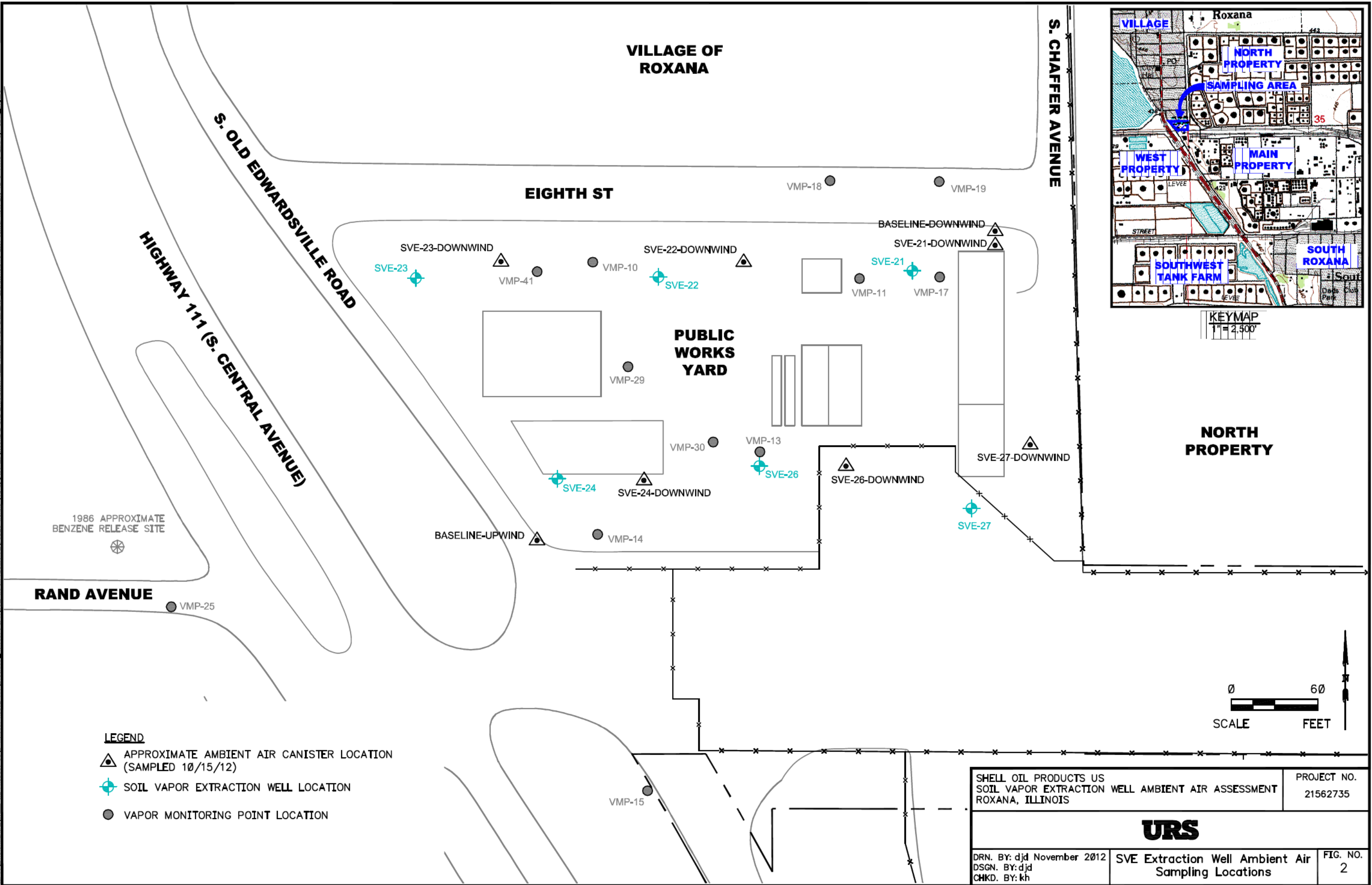


DRN. BY: djd November 2012
DSGN. BY: djd
CHKD. BY: kh

Sampling Area
Location Map

FIG. NO.
1




P:\ENVIRONMENTAL\SHELL OIL PRODUCT USA\B-ROXANA-ROUTE 111\21562735-ROXANA I & A\SOIL VAPOR EXTRACTION WELL AMBIENT AIR SAMPLING LOCATIONS.DWG Last edited: NOV. 20. 12 @ 11:13 a.m. by: david_dingire



1986 APPROXIMATE BENZENE RELEASE SITE

RAND AVENUE

LEGEND

-  APPROXIMATE AMBIENT AIR CANISTER LOCATION (SAMPLED 10/15/12)
-  SOIL VAPOR EXTRACTION WELL LOCATION
-  VAPOR MONITORING POINT LOCATION

SHELL OIL PRODUCTS US
 SOIL VAPOR EXTRACTION WELL AMBIENT AIR ASSESSMENT
 ROXANA, ILLINOIS

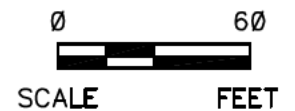
PROJECT NO.
 21562735

URS

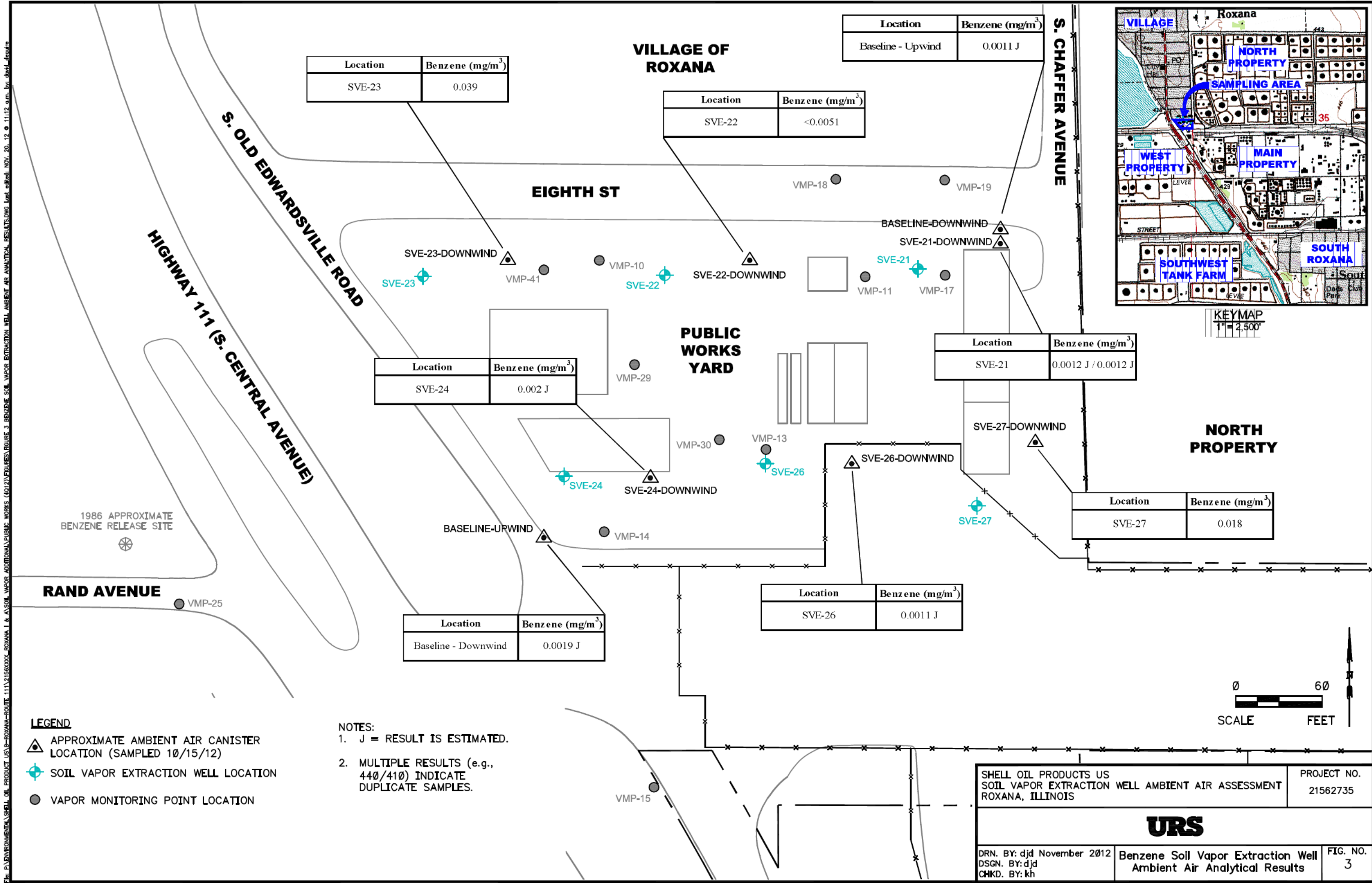
DRN. BY: djd November 2012
 DSGN. BY: djd
 CHKD. BY: kh

SVE Extraction Well Ambient Air
 Sampling Locations

FIG. NO.
 2



P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\B-ROXANA-ROUTE 111\2156XXXX-ROXANA I & A\SOIL VAPOR EXTRACTION WELL AMBIENT AIR ANALYTICAL RESULTS.DWG Last edited: NOV. 20. 12. 11:12 am. by: david.degrain



Location	Benzene (mg/m ³)
SVE-23	0.039

Location	Benzene (mg/m ³)
SVE-22	<0.0051

Location	Benzene (mg/m ³)
Baseline - Upwind	0.0011 J

Location	Benzene (mg/m ³)
SVE-24	0.002 J

Location	Benzene (mg/m ³)
SVE-21	0.0012 J / 0.0012 J

Location	Benzene (mg/m ³)
SVE-27	0.018

Location	Benzene (mg/m ³)
Baseline - Downwind	0.0019 J

Location	Benzene (mg/m ³)
SVE-26	0.0011 J

- LEGEND**
- ▲ APPROXIMATE AMBIENT AIR CANISTER LOCATION (SAMPLED 10/15/12)
 - ⊕ SOIL VAPOR EXTRACTION WELL LOCATION
 - VAPOR MONITORING POINT LOCATION

- NOTES:**
1. J = RESULT IS ESTIMATED.
 2. MULTIPLE RESULTS (e.g., 440/410) INDICATE DUPLICATE SAMPLES.

SHELL OIL PRODUCTS US
 SOIL VAPOR EXTRACTION WELL AMBIENT AIR ASSESSMENT
 ROXANA, ILLINOIS

PROJECT NO.
 21562735

URS

DRN. BY: djd November 2012
 DSGN. BY: djd
 CHKD. BY: kh

Benzene Soil Vapor Extraction Well
 Ambient Air Analytical Results

FIG. NO.
 3



KEYMAP
 1" = 2,500'



PHOTOGRAPHIC LOG

Client Name:
Shell Oil Products US

Site Location:
Village of Roxana Public Works Facility

Project No.
21562735.10100

Photo No.
1

Date
10/15/12

Description:

Baseline Downwind (URS and CTEH Canisters)
(UltraRAE and ppbRAE monitoring at canister location)



Photo No.
2

Date
10/15/12

Description:

Baseline Upwind (URS and CTEH Canisters)
(UltraRAE and ppbRAE monitoring at canister location)




Client Name: Shell Oil Products US		Site Location: Village of Roxana Public Works Facility	Project No.: 21562735.10100
Photo No. 3	Date 10/15/12	 A photograph showing SVE-21 monitoring equipment (UltraRAE and ppbRAE) at a wellhead. The equipment is positioned around a concrete structure with a central wellhead opening. A red handheld device is visible on the right, and a white cap is on the wellhead. The area is surrounded by green vegetation.	
Description: SVE-21 (UltraRAE and ppbRAE monitoring at wellhead)			

Photo No. 4	Date 10/15/12	 A photograph showing SVE-21 Downwind and Duplicate Canister (URS Canisters) mounted on a tripod. The equipment is positioned on a concrete sidewalk next to a grassy area. In the background, there is a fenced industrial facility with power lines and a building.
Description: SVE-21 Downwind and Duplicate Canister (URS Canisters)		

Client Name:
Shell Oil Products US

Site Location:
Village of Roxana Public Works Facility

Project No.
21562735.10100

Photo No.
5

Date
10/15/12

Description:

SVE-22 (UltraRAE and ppbRAE monitoring at wellhead)



Photo No.
6

Date
10/15/12

Description:

SVE-22 Downwind (URS and CTEH Canisters)



Client Name:
Shell Oil Products US

Site Location:
Village of Roxana Public Works Facility

Project No.
21562735.10100

Photo No.
7

Date
10/15/12

Description:

SVE-23 (UltraRAE and ppbRAE monitoring at wellhead)



Photo No.
8

Date
10/15/12

Description:

SVE-23 Downwind (URS and CTEH Canisters)




Client Name: Shell Oil Products US		Site Location: Village of Roxana Public Works Facility	Project No.: 21562735.10100
Photo No. 9	Date 10/15/12		
Description: SVE-24 Downwind (URS and CTEH Canisters)			

Photo No. 10	Date 10/15/12		
Description: SVE-26 Downwind (URS and CTEH Canisters) (UltraRAE and ppbRAE monitoring at canister location)			



PHOTOGRAPHIC LOG


Client Name: Shell Oil Products US		Site Location: Village of Roxana Public Works Facility	Project No. 21562735.10100
Photo No. 11	Date 10/15/12		
Description: SVE-27 (UltraRAE and ppbRAE monitoring at wellhead)			

Photo No. 12	Date 10/15/12		
Description: SVE-27 Downwind (URS and CTEH Canisters) (UltraRAE and ppbRAE monitoring at canister location)			

Roxana Public Works Soil Vapor – 2012 Data Review

Laboratory SDG: 1210326R1

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 10/23/2012

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

Sample Identification	Sample Identification
Baseline-Upwind-101512	Baseline-Downwind-101512
SVE-21-Downwind-101512	SVE-21-Downwind-101512-Dup
SVE-27-Downwind-101512	SVE-26-Downwind-101512
SVE-22-Downwind-101512	SVE-23-Downwind-101512
SVE-24-Downwind-101512	

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, TO-15 CCV and LCS recoveries for 1,2-dichloroethane were outside evaluation criteria. Additionally, although not indicated in the laboratory case narrative, analytes were detected in the method blank. These issues are addressed further in the appropriate sections below.

No problems were indicated in the cooler receipt form, however the report was revised on October 23, 2012 to include previously requested laboratory values between the MDL (method detection limit) and RL (reporting limit).

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
1210326R1-10A	TO-15	Carbon disulfide	0.38 ppbv / 1.2 µg/m ³
1210326R1-10A	TO-15	Methylene chloride	0.18 ppbv / 0.61 µg/m ³
1210326R1-10A	TO-15	1,1,1-Trichloroethane	0.041 ppbv / 0.22 µg/m ³
1210326R1-10A	TO-15	1,2-Dichloroethane	0.11 ppbv / 0.45 µg/m ³
1210326R1-10A	TO-15	Bromodichloromethane	0.077 ppbv / 0.51 µg/m ³

Blank ID	Parameter	Analyte	Concentration/ Amount
1210326R1-10A	TO-15	cis-1,3-Dichloropropene	0.10 ppbv / 0.48 µg/m ³
1210326R1-10A	TO-15	Toluene	0.094 ppbv / 0.35 µg/m ³
1210326R1-10A	TO-15	Tetrachloroethene	0.13 ppbv / 0.91 µg/m ³
1210326R1-10A	TO-15	Chlorobenzene	0.39 ppbv / 1.8 µg/m ³
1210326R1-10A	TO-15	Ethyl benzene	0.077 ppbv / 0.34 µg/m ³
1210326R1-10A	TO-15	m,p-Xylene	0.11 ppbv / 0.49 µg/m ³
1210326R1-10A	TO-15	1,3,5-Trimethylbenzene	0.12 ppbv / 0.57 µg/m ³
1210326R1-10A	TO-15	1,2,4-Trimethylbenzene	0.15 ppbv / 0.76 µg/m ³
1210326R1-10A	TO-15	1,3-Dichlorobenzene	0.30 ppbv / 1.8 µg/m ³
1210326R1-10A	TO-15	1,4-Dichlorobenzene	0.36 ppbv / 2.2 µg/m ³
1210326R1-10A	TO-15	alpha-Chlorotoluene	0.14 ppbv / 0.70 µg/m ³
1210326R1-10A	TO-15	1,2-Dichlorobenzene	0.26 ppbv / 1.5 µg/m ³

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
Baseline-Upwind-101512	TO-15	Carbon disulfide	-	U
Baseline-Upwind-101512	TO-15	Methylene chloride	-	U
Baseline-Upwind-101512	TO-15	1,2-Dichloroethane	-	U
Baseline-Upwind-101512	TO-15	Bromodichloromethane	-	U
Baseline-Upwind-101512	TO-15	Tetrachloroethene	-	U
Baseline-Upwind-101512	TO-15	Chlorobenzene	-	U
Baseline-Upwind-101512	TO-15	1,3,5-Trimethylbenzene	-	U
Baseline-Upwind-101512	TO-15	1,2,4-Trimethylbenzene	-	U
Baseline-Upwind-101512	TO-15	1,3-Dichlorobenzene	-	U
Baseline-Upwind-101512	TO-15	1,4-Dichlorobenzene	-	U
Baseline-Upwind-101512	TO-15	alpha-Chlorotoluene	-	U
Baseline-Upwind-101512	TO-15	1,2-Dichlorobenzene	-	U
Baseline-Downwind-101512	TO-15	Methylene chloride	-	U
Baseline-Downwind-101512	TO-15	1,2-Dichloroethane	-	U
Baseline-Downwind-101512	TO-15	Chlorobenzene	-	U

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
Baseline-Downwind-101512	TO-15	m,p-Xylene	-	U
Baseline-Downwind-101512	TO-15	1,2,4-Trimethylbenzene	-	U
Baseline-Downwind-101512	TO-15	1,3-Dichlorobenzene	-	U
Baseline-Downwind-101512	TO-15	1,4-Dichlorobenzene	-	U
Baseline-Downwind-101512	TO-15	alpha-Chlorotoluene	-	U
Baseline-Downwind-101512	TO-15	1,2-Dichlorobenzene	-	U
SVE-21-Downwind-101512	TO-15	Carbon disulfide	-	U
SVE-21-Downwind-101512	TO-15	Chlorobenzene	-	U
SVE-21-Downwind-101512	TO-15	1,3-Dichlorobenzene	-	U
SVE-21-Downwind-101512	TO-15	1,4-Dichlorobenzene	-	U
SVE-21-Downwind-101512	TO-15	1,2-Dichlorobenzene	-	U
SVE-21-Downwind-101512-Dup	TO-15	Carbon disulfide	-	U
SVE-21-Downwind-101512-Dup	TO-15	1,2-Dichloroethane	-	U
SVE-21-Downwind-101512-Dup	TO-15	Chlorobenzene	-	U
SVE-21-Downwind-101512-Dup	TO-15	m,p-Xylene	-	U
SVE-21-Downwind-101512-Dup	TO-15	1,3-Dichlorobenzene	-	U
SVE-21-Downwind-101512-Dup	TO-15	1,4-Dichlorobenzene	-	U
SVE-21-Downwind-101512-Dup	TO-15	1,2-Dichlorobenzene	-	U
SVE-27-Downwind-101512	TO-15	Carbon disulfide	-	U
SVE-27-Downwind-101512	TO-15	Chlorobenzene	-	U
SVE-27-Downwind-101512	TO-15	m,p-Xylene	-	U
SVE-27-Downwind-101512	TO-15	1,4-Dichlorobenzene	-	U
SVE-26-Downwind-101512	TO-15	Carbon disulfide	-	U
SVE-26-Downwind-101512	TO-15	Toluene	-	U
SVE-26-Downwind-101512	TO-15	Chlorobenzene	-	U

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
SVE-26-Downwind-101512	TO-15	1,4-Dichlorobenzene	-	U
SVE-26-Downwind-101512	TO-15	1,2-Dichlorobenzene	-	U
SVE-22-Downwind-101512	TO-15	Carbon disulfide	-	U
SVE-22-Downwind-101512	TO-15	Toluene	-	U
SVE-22-Downwind-101512	TO-15	Chlorobenzene	-	U
SVE-22-Downwind-101512	TO-15	1,4-Dichlorobenzene	-	U
SVE-23-Downwind-101512	TO-15	Carbon disulfide	-	U
SVE-23-Downwind-101512	TO-15	1,2-Dichloroethane	-	U
SVE-23-Downwind-101512	TO-15	Chlorobenzene	-	U
SVE-23-Downwind-101512	TO-15	m,p-Xylene	-	U
SVE-23-Downwind-101512	TO-15	1,4-Dichlorobenzene	-	U
SVE-24-Downwind-101512	TO-15	Carbon disulfide	-	U
SVE-24-Downwind-101512	TO-15	Methylene chloride	-	U
SVE-24-Downwind-101512	TO-15	1,2-Dichloroethane	-	U
SVE-24-Downwind-101512	TO-15	Toluene	-	U
SVE-24-Downwind-101512	TO-15	Chlorobenzene	-	U
SVE-24-Downwind-101512	TO-15	1,4-Dichlorobenzene	-	U

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	LCS/LCSD RPD	LCS/LCSD/ RPD Criteria
1210326-12A/AA	TO-15	1,2-Dichloroethane	135/128	5	70-130/25

Analytical data which were reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. LCS recoveries for non-standard compounds, ethyl acetate and vinyl bromide, could not be evaluated due to the absence of these compounds in the spiking mixture. CCV recoveries for ethyl acetate and vinyl bromide were within acceptance criteria and did

not require qualification. No qualification was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

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

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

9.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
SVE-21-Downwind-101512	SVE-21-Downwind-101512-Dup

Were field duplicate sample RPDs within evaluation criteria?

Yes

10.0 Sample Dilutions

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

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

11.0 Additional Qualifications

Were additional qualifications applied?

No, however the CCV percent recovery for 1,2-dichloroethane was outside evaluation criteria as summarized in the table below.

CCV ID	Parameter	Analyte	CCV Recovery	CCV Criteria
1210326-11A	TO-15	1,2-Dichloroethane	131	70-130

Data associated with the CCV recovery above evaluation criteria was also associated with LCS/LCSD recoveries outside evaluation criteria. Previous qualifications based on LCS/LCSD recoveries are discussed in section 5.0 of this data review. No additional qualification of data is required.



10/23/2012

Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Public Works
Project #:
Workorder #: 1210326R1

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 10/16/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15/TICs 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: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner
Project Manager

*Reviewed
on
10/23/12*

A Eurofins Lancaster Laboratories Company

Eurofins Air Toxics, Inc.

180 Blue Ravine Road, Suite B
Folsom, CA 95630

T : 916-985-1000
F : 916-985-1020
www.airtoxics.com

WORK ORDER #: 1210326R1

Work Order Summary

CLIENT:	Ms. Elizabeth Kunkel 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:	314-743-4179	P.O. #	21562735.10100
FAX:		PROJECT #	Roxana Public Works
DATE RECEIVED:	10/16/2012	CONTACT:	Kelly Buettner
DATE COMPLETED:	10/19/2012		
DATE REISSUED:	10/23/2012		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	Baseline-Upwind-101512 ✓	Modified TO-15/TICs	8.5 "Hg	15 psi
02A	Baseline-Downwind-101512 ✓	Modified TO-15/TICs	8.5 "Hg	15 psi
03A	SVE-21-Downwind-101512 ✓	Modified TO-15/TICs	9.5 "Hg	15 psi
04A	SVE-21-Downwind-101512-Dup ✓	Modified TO-15/TICs	9.5 "Hg	15 psi
05A	SVE-27-Downwind-101512 ✓	Modified TO-15/TICs	10.5 "Hg	15 psi
06A	SVE-26-Downwind-101512 ✓	Modified TO-15/TICs	10.5 "Hg	15 psi
07A	SVE-22-Downwind-101512 ✓	Modified TO-15/TICs	11.0 "Hg	15 psi
08A	SVE-23-Downwind-101512 ✓	Modified TO-15/TICs	7.5 "Hg	15 psi
09A	SVE-24-Downwind-101512 ✓	Modified TO-15/TICs	9.0 "Hg	15 psi
10A	Lab Blank	Modified TO-15/TICs	NA	NA
11A	CCV	Modified TO-15/TICs	NA	NA
12A	LCS	Modified TO-15/TICs	NA	NA
12AA	LCSD	Modified TO-15/TICs	NA	NA

CERTIFIED BY: 
 Technical Director

DATE: 10/23/12

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291, TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.

Eurofins 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 Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020



**LABORATORY NARRATIVE
EPA Method TO-15
URS Corporation
Workorder# 1210326R1**

Nine 1 Liter Summa Canister (100% Certified) samples were received on October 16, 2012. The laboratory performed analysis via 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.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The reported CCV for each daily batch may be derived from more than one analytical file due to the client's request for non-standard compounds.

Non-standard compounds may have different acceptance criteria than the standard TO-14A/TO-15 compound list as per contract or verbal agreement.

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

THE WORKORDER WAS REISSUED ON OCTOBER 23, 2012 TO REPORT 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 (0.2 PPBV FOR COMPOUNDS REPORTED AT 0.5 PPBV AND 0.8 PPBV FOR COMPOUNDS REPORTED AT 2.0 PPBV) 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 and/or LCS.

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



Air Toxics

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

Client Sample ID: Baseline-Upwind-101512

Lab ID#: 1210326R1-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.57 J	7.0	2.8 J
Bromomethane	14	0.41 J	55	1.6 J
Freon 11	1.4	0.33 J	7.9	1.9 J
Acetone	14	3.9 J	33	9.3 J
Carbon Disulfide	5.6	1.0 J u	18	3.3 J u
Methylene Chloride	14	0.37 J u	49	1.3 J u
Hexane	1.4	0.50 J	5.0	1.8 J
Chloroform	1.4	0.35 J	6.9	1.7 J
Benzene	1.4	0.60 J	4.5	1.9 J
1,2-Dichloroethane	1.4	0.35 J u	5.7	1.4 J u
Heptane	1.4	0.26 J	5.8	1.1 J
Trichloroethene	1.4	0.44 J	7.6	2.4 J
Bromodichloromethane	1.4	0.21 J u	9.4	1.4 J u
Toluene	1.4	0.81 J	5.3	3.1 J
Tetrachloroethene	1.4	0.34 J u	9.6	2.3 J u
Chlorobenzene	1.4	1.1 J u	6.5	5.1 J u
Ethyl Benzene	1.4	0.43 J	6.1	1.9 J
m,p-Xylene	1.4	0.61 J	6.1	2.6 J
4-Ethyltoluene	1.4	0.59 J	6.9	2.9 J
1,3,5-Trimethylbenzene	1.4	0.31 J u	6.9	1.5 J u
1,2,4-Trimethylbenzene	1.4	0.46 J u	6.9	2.3 J u
1,3-Dichlorobenzene	1.4	0.67 J u	8.5	4.0 J u
1,4-Dichlorobenzene	1.4	0.89 J u	8.5	5.4 J u
alpha-Chlorotoluene	1.4	0.27 J u	7.3	1.4 J u
1,2-Dichlorobenzene	1.4	0.51 J u	8.5	3.1 J u

Client Sample ID: Baseline-Downwind-101512

Lab ID#: 1210326R1-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.66 J	7.0	3.2 J
Freon 11	1.4	0.30 J	7.9	1.7 J
Acetone	14	7.3 J	33	17 J

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

Client Sample ID: Baseline-Downwind-101512

Lab ID#: 1210326R1-02A

2-Propanol	5.6	1.1 J	14	2.8 J
Methylene Chloride	14	0.35 J u	49	1.2 J u
Methyl tert-butyl ether	1.4	0.11 J	5.1	0.40 J
Hexane	1.4	0.38 J	5.0	1.4 J
Tetrahydrofuran	1.4	0.83 J	4.2	2.4 J
Chloroform	1.4	0.74 J	6.9	3.6 J
Carbon Tetrachloride	1.4	0.28 J	8.9	1.8 J
Benzene	1.4	0.35 J	4.5	1.1 J
1,2-Dichloroethane	1.4	0.20 J u	5.7	0.80 J u
Toluene	1.4	0.63 J	5.3	2.4 J
Chlorobenzene	1.4	1.1 J u	6.5	5.2 J u
m,p-Xylene	1.4	0.27 J u	6.1	1.2 J u
1,2,4-Trimethylbenzene	1.4	0.22 J u	6.9	1.1 J u
1,3-Dichlorobenzene	1.4	0.51 J u	8.5	3.0 J u
1,4-Dichlorobenzene	1.4	0.53 J u	8.5	3.2 J u
alpha-Chlorotoluene	1.4	0.26 J u	7.3	1.4 J u
1,2-Dichlorobenzene	1.4	0.35 J u	8.5	2.1 J u

Client Sample ID: SVE-21-Downwind-101512

Lab ID#: 1210326R1-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.59 J	7.3	2.9 J
Acetone	15	4.9 J	35	12 J
2-Propanol	5.9	0.98 J	14	2.4 J
Carbon Disulfide	5.9	1.3 J u	18	4.1 J u
Hexane	1.5	0.55 J	5.2	1.9 J
Benzene	1.5	0.39 J	4.7	1.2 J
Heptane	1.5	0.36 J	6.1	1.5 J
Toluene	1.5	0.76 J	5.6	2.8 J
Chlorobenzene	1.5	1.3 J u	6.8	5.9 J u
1,3-Dichlorobenzene	1.5	0.43 J u	8.9	2.6 J u
1,4-Dichlorobenzene	1.5	0.51 J u	8.9	3.1 J u
1,2-Dichlorobenzene	1.5	0.32 J u	8.9	1.9 J u



Air Toxics

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

Client Sample ID: SVE-21-Downwind-101512-Dup

Lab ID#: 1210326R1-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.59 J	7.3	2.9 J
Freon 11	1.5	0.40 J	8.3	2.2 J
Acetone	15	3.8 J	35	9.0 J
Carbon Disulfide	5.9	1.3 J u	18	4.1 J u
Hexane	1.5	0.76 J	5.2	2.7 J
Benzene	1.5	0.39 J	4.7	1.2 J
1,2-Dichloroethane	1.5	0.18 J u	6.0	0.72 J u
Heptane	1.5	0.29 J	6.1	1.2 J
Toluene	1.5	0.55 J	5.6	2.1 J
Chlorobenzene	1.5	1.2 J u	6.8	5.6 J u
m,p-Xylene	1.5	0.25 J u	6.4	1.1 J u
1,3-Dichlorobenzene	1.5	0.36 J u	8.9	2.2 J u
1,4-Dichlorobenzene	1.5	0.45 J u	8.9	2.7 J u
1,2-Dichlorobenzene	1.5	0.34 J u	8.9	2.0 J u

Client Sample ID: SVE-27-Downwind-101512

Lab ID#: 1210326R1-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.6	0.67 J	7.7	3.3 J
Freon 11	1.6	0.29 J	8.7	1.6 J
Acetone	16	6.1 J	37	14 J
2-Propanol	6.2	0.87 J	15	2.1 J
Carbon Disulfide	6.2	0.95 J u	19	2.9 J u
Hexane	1.6	1.7	5.5	5.9 u
2-Butanone (Methyl Ethyl Ketone)	6.2	1.4 J	18	4.0 J
Cyclohexane	1.6	0.53 J	5.4	1.8 J
2,2,4-Trimethylpentane	1.6	0.26 J	7.3	1.2 J
Benzene	1.6	5.6	5.0	18
Heptane	1.6	0.96 J	6.4	3.9 J
Toluene	1.6	0.92 J	5.8	3.4 J
Chlorobenzene	1.6	1.1 J u	7.2	5.1 J u
m,p-Xylene	1.6	0.26 J u	6.8	1.2 J u



Air Toxics

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

Client Sample ID: SVE-27-Downwind-101512

Lab ID#: 1210326R1-05A

1,4-Dichlorobenzene	1.6	0.26 J u	9.3	1.6 J u
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Client Sample ID: SVE-26-Downwind-101512

Lab ID#: 1210326R1-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.6	0.78 J	7.7	3.9 J
Acetone	16	5.2 J	37	12 J
2-Propanol	6.2	0.98 J	15	2.4 J
Carbon Disulfide	6.2	0.95 J u	19	3.0 J u
Hexane	1.6	0.49 J	5.5	1.7 J
Benzene	1.6	0.35 J	5.0	1.1 J
Heptane	1.6	0.48 J	6.4	2.0 J
Toluene	1.6	0.41 J u	5.8	1.5 J u
Chlorobenzene	1.6	0.99 J u	7.2	4.5 J u
1,4-Dichlorobenzene	1.6	0.46 J u	9.3	2.8 J u
1,2-Dichlorobenzene	1.6	0.31 J u	9.3	1.0 J u

Client Sample ID: SVE-22-Downwind-101512

Lab ID#: 1210326R1-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.6	0.62 J	7.9	3.1 J
Freon 11	1.6	0.26 J	9.0	1.4 J
Acetone	16	5.1 J	38	12 J
2-Propanol	6.4	1.2 J	16	3.0 J
Carbon Disulfide	6.4	0.90 J u	20	2.8 J u
Toluene	1.6	0.30 J u	6.0	1.1 J u
Chlorobenzene	1.6	1.1 J u	7.3	5.0 J u
1,4-Dichlorobenzene	1.6	0.30 J u	9.6	1.8 J u

Client Sample ID: SVE-23-Downwind-101512

Lab ID#: 1210326R1-08A



Air Toxics

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

Client Sample ID: SVE-23-Downwind-101512

Lab ID#: 1210326R1-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.57 J	6.6	2.8 J
Freon 11	1.3	0.31 J	7.6	1.8 J
Acetone	13	6.5 J	32	15 J
2-Propanol	5.4	0.81 J	13	2.0 J
Carbon Disulfide	5.4	0.94 J u	17	2.9 J u
Hexane	1.3	3.0	4.7	11
Cyclohexane	1.3	1.1 J	4.6	3.7 J
Carbon Tetrachloride	1.3	0.21 J	8.5	1.3 J
2,2,4-Trimethylpentane	1.3	0.73 J	6.3	3.4 J
Benzene	1.3	12	4.3	39
1,2-Dichloroethane	1.3	0.20 J u	5.4	0.82 J u
Heptane	1.3	1.3 J	5.5	5.2 J
Toluene	1.3	1.1 J	5.1	4.1 J
Chlorobenzene	1.3	0.99 J u	6.2	4.6 J u
m,p-Xylene	1.3	0.35 J u	5.8	1.5 J u
1,4-Dichlorobenzene	1.3	0.18 J u	8.1	1.1 J u

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	9.6 J
Unknown	NA	NA	8.7 J

Client Sample ID: SVE-24-Downwind-101512

Lab ID#: 1210326R1-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.55 J	7.1	2.7 J
Freon 11	1.4	0.28 J	8.1	1.6 J
Acetone	14	3.5 J	34	8.3 J
2-Propanol	5.8	1.1 J	14	2.6 J
Carbon Disulfide	5.8	1.0 J u	18	3.3 J u
Methylene Chloride	14	0.41 J u	50	1.4 J u
Hexane	1.4	0.21 J	5.1	0.74 J

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

Client Sample ID: SVE-24-Downwind-101512
Lab ID#: 1210326R1-09A

Benzene	1.4	0.63 J	4.6	2.0 J
1,2-Dichloroethane	1.4	0.19 J u	5.8	0.77 J u
Toluene	1.4	0.29 J u	5.4	1.1 J u
Chlorobenzene	1.4	0.95 J u	6.6	4.4 J u
1,4-Dichlorobenzene	1.4	0.21 J u	8.7	1.3 J u
Propylene	5.8	1.4 J	9.9	2.5 J



Air Toxics

Client Sample ID: Baseline-Upwind-101512

Lab ID#: 1210326R1-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101708r1	Date of Collection:	10/15/12 9:41:00 AM
Dil. Factor:	2.82	Date of Analysis:	10/17/12 11:45 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.57 J	7.0	2.8 J
Freon 114	1.4	Not Detected	9.8	Not Detected
Chloromethane	14	Not Detected	29	Not Detected
Vinyl Chloride	1.4	Not Detected	3.6	Not Detected
1,3-Butadiene	1.4	Not Detected	3.1	Not Detected
Bromomethane	14	0.41 J	55	1.6 J
Chloroethane	5.6	Not Detected	15	Not Detected
Freon 11	1.4	0.33 J	7.9	1.9 J
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.6	Not Detected
Acetone	14	3.9 J	33	9.3 J
2-Propanol	5.6	Not Detected	14	Not Detected
Carbon Disulfide	5.6	1.0 J u	18	3.3 J u
3-Chloropropene	5.6	Not Detected	18	Not Detected
Methylene Chloride	14	0.37 J u	49	1.3 J u
Methyl tert-butyl ether	1.4	Not Detected	5.1	Not Detected
trans-1,2-Dichloroethene	1.4	Not Detected	5.6	Not Detected
Hexane	1.4	0.50 J	5.0	1.8 J
1,1-Dichloroethane	1.4	Not Detected	5.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.6	Not Detected	17	Not Detected
cis-1,2-Dichloroethene	1.4	Not Detected	5.6	Not Detected
Tetrahydrofuran	1.4	Not Detected	4.2	Not Detected
Chloroform	1.4	0.35 J	6.9	1.7 J
1,1,1-Trichloroethane	1.4	Not Detected	7.7	Not Detected
Cyclohexane	1.4	Not Detected	4.8	Not Detected
Carbon Tetrachloride	1.4	Not Detected	8.9	Not Detected
2,2,4-Trimethylpentane	1.4	Not Detected	6.6	Not Detected
Benzene	1.4	0.60 J	4.5	1.9 J
1,2-Dichloroethane	1.4	0.35 J u	5.7	1.4 J u
Heptane	1.4	0.26 J	5.8	1.1 J
Trichloroethene	1.4	0.44 J	7.6	2.4 J
1,2-Dichloropropane	1.4	Not Detected	6.5	Not Detected
1,4-Dioxane	5.6	Not Detected	20	Not Detected
Bromodichloromethane	1.4	0.21 J u	9.4	1.4 J u
cis-1,3-Dichloropropene	1.4	Not Detected	6.4	Not Detected
4-Methyl-2-pentanone	1.4	Not Detected	5.8	Not Detected
Toluene	1.4	0.81 J	5.3	3.1 J
trans-1,3-Dichloropropene	1.4	Not Detected	6.4	Not Detected
1,1,2-Trichloroethane	1.4	Not Detected	7.7	Not Detected
Tetrachloroethene	1.4	0.34 J u	9.6	2.3 J u
2-Hexanone	5.6	Not Detected	23	Not Detected
Dibromochloromethane	1.4	Not Detected	12	Not Detected



Air Toxics

Client Sample ID: Baseline-Upwind-101512

Lab ID#: 1210326R1-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101708r1	Date of Collection:	10/15/12 9:41:00 AM
Dil. Factor:	2.82	Date of Analysis:	10/17/12 11:45 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	1.1 J u	6.5	5.1 J u
Ethyl Benzene	1.4	0.43 J	6.1	1.9 J
m,p-Xylene	1.4	0.61 J	6.1	2.6 J
o-Xylene	1.4	Not Detected	6.1	Not Detected
Styrene	1.4	Not Detected	6.0	Not Detected
Bromoform	1.4	Not Detected	14	Not Detected
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.7	Not Detected
4-Ethyltoluene	1.4	0.59 J	6.9	2.9 J
1,3,5-Trimethylbenzene	1.4	0.31 J u	6.9	1.5 J u
1,2,4-Trimethylbenzene	1.4	0.46 J u	6.9	2.3 J u
1,3-Dichlorobenzene	1.4	0.67 J u	8.5	4.0 J u
1,4-Dichlorobenzene	1.4	0.89 J u	8.5	5.4 J u
alpha-Chlorotoluene	1.4	0.27 J u	7.3	1.4 J u
1,2-Dichlorobenzene	1.4	0.51 J u	8.5	3.1 J u
Ethyl Acetate	5.6	Not Detected	20	Not Detected
Propylene	5.6	Not Detected	9.7	Not Detected
Vinyl Acetate	5.6	Not Detected	20	Not Detected
Vinyl Bromide	5.6	Not Detected	25	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
None Identified			

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	117	70-130
4-Bromofluorobenzene	85	70-130



Air Toxics

Client Sample ID: Baseline-Downwind-101512

Lab ID#: 1210326R1-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101709r1	Date of Collection:	10/15/12 9:41:00 AM
Dil. Factor:	2.82	Date of Analysis:	10/17/12 12:07 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.66 J	7.0	3.2 J
Freon 114	1.4	Not Detected	9.8	Not Detected
Chloromethane	14	Not Detected	29	Not Detected
Vinyl Chloride	1.4	Not Detected	3.6	Not Detected
1,3-Butadiene	1.4	Not Detected	3.1	Not Detected
Bromomethane	14	Not Detected	55	Not Detected
Chloroethane	5.6	Not Detected	15	Not Detected
Freon 11	1.4	0.30 J	7.9	1.7 J
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.6	Not Detected
Acetone	14	7.3 J	33	17 J
2-Propanol	5.6	1.1 J	14	2.8 J
Carbon Disulfide	5.6	Not Detected	18	Not Detected
3-Chloropropene	5.6	Not Detected	18	Not Detected
Methylene Chloride	14	0.35 J u	49	1.2 J u
Methyl tert-butyl ether	1.4	0.11 J	5.1	0.40 J
trans-1,2-Dichloroethene	1.4	Not Detected	5.6	Not Detected
Hexane	1.4	0.38 J	5.0	1.4 J
1,1-Dichloroethane	1.4	Not Detected	5.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.6	Not Detected	17	Not Detected
cis-1,2-Dichloroethene	1.4	Not Detected	5.6	Not Detected
Tetrahydrofuran	1.4	0.83 J	4.2	2.4 J
Chloroform	1.4	0.74 J	6.9	3.6 J
1,1,1-Trichloroethane	1.4	Not Detected	7.7	Not Detected
Cyclohexane	1.4	Not Detected	4.8	Not Detected
Carbon Tetrachloride	1.4	0.28 J	8.9	1.8 J
2,2,4-Trimethylpentane	1.4	Not Detected	6.6	Not Detected
Benzene	1.4	0.35 J	4.5	1.1 J
1,2-Dichloroethane	1.4	0.20 J u	5.7	0.80 J u
Heptane	1.4	Not Detected	5.8	Not Detected
Trichloroethene	1.4	Not Detected	7.6	Not Detected
1,2-Dichloropropane	1.4	Not Detected	6.5	Not Detected
1,4-Dioxane	5.6	Not Detected	20	Not Detected
Bromodichloromethane	1.4	Not Detected	9.4	Not Detected
cis-1,3-Dichloropropene	1.4	Not Detected	6.4	Not Detected
4-Methyl-2-pentanone	1.4	Not Detected	5.8	Not Detected
Toluene	1.4	0.63 J	5.3	2.4 J
trans-1,3-Dichloropropene	1.4	Not Detected	6.4	Not Detected
1,1,2-Trichloroethane	1.4	Not Detected	7.7	Not Detected
Tetrachloroethene	1.4	Not Detected	9.6	Not Detected
2-Hexanone	5.6	Not Detected	23	Not Detected
Dibromochloromethane	1.4	Not Detected	12	Not Detected



Air Toxics

Client Sample ID: Baseline-Downwind-101512

Lab ID#: 1210326R1-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101709r1	Date of Collection:	10/15/12 9:41:00 AM
Dil. Factor:	2.82	Date of Analysis:	10/17/12 12:07 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	1.1J U	6.5	5.2J U
Ethyl Benzene	1.4	Not Detected	6.1	Not Detected
m,p-Xylene	1.4	0.27J U	6.1	1.2J U
o-Xylene	1.4	Not Detected	6.1	Not Detected
Styrene	1.4	Not Detected	6.0	Not Detected
Bromoform	1.4	Not Detected	14	Not Detected
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.7	Not Detected
4-Ethyltoluene	1.4	Not Detected	6.9	Not Detected
1,3,5-Trimethylbenzene	1.4	Not Detected	6.9	Not Detected
1,2,4-Trimethylbenzene	1.4	0.22J U	6.9	1.1J U
1,3-Dichlorobenzene	1.4	0.51J U	8.5	3.0J U
1,4-Dichlorobenzene	1.4	0.53J U	8.5	3.2J U
alpha-Chlorotoluene	1.4	0.26J U	7.3	1.4J U
1,2-Dichlorobenzene	1.4	0.35J U	8.5	2.1J U
Ethyl Acetate	5.6	Not Detected	20	Not Detected
Propylene	5.6	Not Detected	9.7	Not Detected
Vinyl Acetate	5.6	Not Detected	20	Not Detected
Vinyl Bromide	5.6	Not Detected	25	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
None Identified			

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	111	70-130
4-Bromofluorobenzene	84	70-130



Air Toxics

Client Sample ID: SVE-21-Downwind-101512

Lab ID#: 1210326R1-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101710r1	Date of Collection:	10/15/12 10:26:00 A
Dil. Factor:	2.96	Date of Analysis:	10/17/12 12:29 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.59 J	7.3	2.9 J
Freon 114	1.5	Not Detected	10	Not Detected
Chloromethane	15	Not Detected	30	Not Detected
Vinyl Chloride	1.5	Not Detected	3.8	Not Detected
1,3-Butadiene	1.5	Not Detected	3.3	Not Detected
Bromomethane	15	Not Detected	57	Not Detected
Chloroethane	5.9	Not Detected	16	Not Detected
Freon 11	1.5	Not Detected	8.3	Not Detected
Freon 113	1.5	Not Detected	11	Not Detected
1,1-Dichloroethene	1.5	Not Detected	5.9	Not Detected
Acetone	15	4.9 J	35	12 J
2-Propanol	5.9	0.98 J	14	2.4 J
Carbon Disulfide	5.9	1.3 J u	18	4.1 J u
3-Chloropropene	5.9	Not Detected	18	Not Detected
Methylene Chloride	15	Not Detected	51	Not Detected
Methyl tert-butyl ether	1.5	Not Detected	5.3	Not Detected
trans-1,2-Dichloroethene	1.5	Not Detected	5.9	Not Detected
Hexane	1.5	0.55 J	5.2	1.9 J
1,1-Dichloroethane	1.5	Not Detected	6.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.9	Not Detected	17	Not Detected
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	7.2	Not Detected
1,1,1-Trichloroethane	1.5	Not Detected	8.1	Not Detected
Cyclohexane	1.5	Not Detected	5.1	Not Detected
Carbon Tetrachloride	1.5	Not Detected	9.3	Not Detected
2,2,4-Trimethylpentane	1.5	Not Detected	6.9	Not Detected
Benzene	1.5	0.39 J	4.7	1.2 J
1,2-Dichloroethane	1.5	Not Detected	6.0	Not Detected
Heptane	1.5	0.36 J	6.1	1.5 J
Trichloroethene	1.5	Not Detected	8.0	Not Detected
1,2-Dichloropropane	1.5	Not Detected	6.8	Not Detected
1,4-Dioxane	5.9	Not Detected	21	Not Detected
Bromodichloromethane	1.5	Not Detected	9.9	Not Detected
cis-1,3-Dichloropropene	1.5	Not Detected	6.7	Not Detected
4-Methyl-2-pentanone	1.5	Not Detected	6.1	Not Detected
Toluene	1.5	0.76 J	5.6	2.8 J
trans-1,3-Dichloropropene	1.5	Not Detected	6.7	Not Detected
1,1,2-Trichloroethane	1.5	Not Detected	8.1	Not Detected
Tetrachloroethene	1.5	Not Detected	10	Not Detected
2-Hexanone	5.9	Not Detected	24	Not Detected
Dibromochloromethane	1.5	Not Detected	13	Not Detected



Air Toxics

Client Sample ID: SVE-21-Downwind-101512

Lab ID#: 1210326R1-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101710r1	Date of Collection:	10/15/12 10:26:00 A
Dil. Factor:	2.96	Date of Analysis:	10/17/12 12:29 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dibromoethane (EDB)	1.5	Not Detected	11	Not Detected
Chlorobenzene	1.5	1.3J u	6.8	5.9J u
Ethyl Benzene	1.5	Not Detected	6.4	Not Detected
m,p-Xylene	1.5	Not Detected	6.4	Not Detected
o-Xylene	1.5	Not Detected	6.4	Not Detected
Styrene	1.5	Not Detected	6.3	Not Detected
Bromoform	1.5	Not Detected	15	Not Detected
1,1,2,2-Tetrachloroethane	1.5	Not Detected	10	Not Detected
4-Ethyltoluene	1.5	Not Detected	7.3	Not Detected
1,3,5-Trimethylbenzene	1.5	Not Detected	7.3	Not Detected
1,2,4-Trimethylbenzene	1.5	Not Detected	7.3	Not Detected
1,3-Dichlorobenzene	1.5	0.43J u	8.9	2.6J u
1,4-Dichlorobenzene	1.5	0.51J u	8.9	3.1J u
alpha-Chlorotoluene	1.5	Not Detected	7.7	Not Detected
1,2-Dichlorobenzene	1.5	0.32J u	8.9	1.9J u
Ethyl Acetate	5.9	Not Detected	21	Not Detected
Propylene	5.9	Not Detected	10	Not Detected
Vinyl Acetate	5.9	Not Detected	21	Not Detected
Vinyl Bromide	5.9	Not Detected	26	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
None Identified			

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	115	70-130
4-Bromofluorobenzene	85	70-130



Air Toxics

Client Sample ID: SVE-21-Downwind-101512-Dup

Lab ID#: 12I0326R1-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101711r1	Date of Collection:	10/15/12 10:26:00 A
Dil. Factor:	2.96	Date of Analysis:	10/17/12 12:55 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.59 J	7.3	2.9 J
Freon 114	1.5	Not Detected	10	Not Detected
Chloromethane	15	Not Detected	30	Not Detected
Vinyl Chloride	1.5	Not Detected	3.8	Not Detected
1,3-Butadiene	1.5	Not Detected	3.3	Not Detected
Bromomethane	15	Not Detected	57	Not Detected
Chloroethane	5.9	Not Detected	16	Not Detected
Freon 11	1.5	0.40 J	8.3	2.2 J
Freon 113	1.5	Not Detected	11	Not Detected
1,1-Dichloroethene	1.5	Not Detected	5.9	Not Detected
Acetone	15	3.8 J	35	9.0 J
2-Propanol	5.9	Not Detected	14	Not Detected
Carbon Disulfide	5.9	1.3 J u	18	4.1 J u
3-Chloropropene	5.9	Not Detected	18	Not Detected
Methylene Chloride	15	Not Detected	51	Not Detected
Methyl tert-butyl ether	1.5	Not Detected	5.3	Not Detected
trans-1,2-Dichloroethene	1.5	Not Detected	5.9	Not Detected
Hexane	1.5	0.76 J	5.2	2.7 J
1,1-Dichloroethane	1.5	Not Detected	6.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.9	Not Detected	17	Not Detected
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	7.2	Not Detected
1,1,1-Trichloroethane	1.5	Not Detected	8.1	Not Detected
Cyclohexane	1.5	Not Detected	5.1	Not Detected
Carbon Tetrachloride	1.5	Not Detected	9.3	Not Detected
2,2,4-Trimethylpentane	1.5	Not Detected	6.9	Not Detected
Benzene	1.5	0.39 J	4.7	1.2 J
1,2-Dichloroethane	1.5	0.18 J u	6.0	0.72 J u
Heptane	1.5	0.29 J	6.1	1.2 J
Trichloroethene	1.5	Not Detected	8.0	Not Detected
1,2-Dichloropropane	1.5	Not Detected	6.8	Not Detected
1,4-Dioxane	5.9	Not Detected	21	Not Detected
Bromodichloromethane	1.5	Not Detected	9.9	Not Detected
cis-1,3-Dichloropropene	1.5	Not Detected	6.7	Not Detected
4-Methyl-2-pentanone	1.5	Not Detected	6.1	Not Detected
Toluene	1.5	0.55 J	5.6	2.1 J
trans-1,3-Dichloropropene	1.5	Not Detected	6.7	Not Detected
1,1,2-Trichloroethane	1.5	Not Detected	8.1	Not Detected
Tetrachloroethene	1.5	Not Detected	10	Not Detected
2-Hexanone	5.9	Not Detected	24	Not Detected
Dibromochloromethane	1.5	Not Detected	13	Not Detected

Client Sample ID: SVE-21-Downwind-101512-Dup

Lab ID#: 1210326R1-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101711r1	Date of Collection:	10/15/12 10:26:00 A
Dil. Factor:	2.96	Date of Analysis:	10/17/12 12:55 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dibromoethane (EDB)	1.5	Not Detected	11	Not Detected
Chlorobenzene	1.5	1.2 J u	6.8	5.6 J u
Ethyl Benzene	1.5	Not Detected	6.4	Not Detected
m,p-Xylene	1.5	0.25 J u	6.4	1.1 J u
o-Xylene	1.5	Not Detected	6.4	Not Detected
Styrene	1.5	Not Detected	6.3	Not Detected
Bromoform	1.5	Not Detected	15	Not Detected
1,1,2,2-Tetrachloroethane	1.5	Not Detected	10	Not Detected
4-Ethyltoluene	1.5	Not Detected	7.3	Not Detected
1,3,5-Trimethylbenzene	1.5	Not Detected	7.3	Not Detected
1,2,4-Trimethylbenzene	1.5	Not Detected	7.3	Not Detected
1,3-Dichlorobenzene	1.5	0.36 J u	8.9	2.2 J u
1,4-Dichlorobenzene	1.5	0.45 J u	8.9	2.7 J u
alpha-Chlorotoluene	1.5	Not Detected	7.7	Not Detected
1,2-Dichlorobenzene	1.5	0.34 J u	8.9	2.0 J u
Ethyl Acetate	5.9	Not Detected	21	Not Detected
Propylene	5.9	Not Detected	10	Not Detected
Vinyl Acetate	5.9	Not Detected	21	Not Detected
Vinyl Bromide	5.9	Not Detected	26	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
None Identified			

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	120	70-130
4-Bromofluorobenzene	86	70-130



Air Toxics

Client Sample ID: SVE-27-Downwind-101512

Lab ID#: 1210326RI-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101718r1	Date of Collection:	10/15/12 11:06:00 A
Dil. Factor:	3.11	Date of Analysis:	10/17/12 04:05 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.6	0.67 J	7.7	3.3 J
Freon 114	1.6	Not Detected	11	Not Detected
Chloromethane	16	Not Detected	32	Not Detected
Vinyl Chloride	1.6	Not Detected	4.0	Not Detected
1,3-Butadiene	1.6	Not Detected	3.4	Not Detected
Bromomethane	16	Not Detected	60	Not Detected
Chloroethane	6.2	Not Detected	16	Not Detected
Freon 11	1.6	0.29 J	8.7	1.6 J
Freon 113	1.6	Not Detected	12	Not Detected
1,1-Dichloroethene	1.6	Not Detected	6.2	Not Detected
Acetone	16	6.1 J	37	14 J
2-Propanol	6.2	0.87 J	15	2.1 J
Carbon Disulfide	6.2	0.95 J u	19	2.9 J u
3-Chloropropene	6.2	Not Detected	19	Not Detected
Methylene Chloride	16	Not Detected	54	Not Detected
Methyl tert-butyl ether	1.6	Not Detected	5.6	Not Detected
trans-1,2-Dichloroethene	1.6	Not Detected	6.2	Not Detected
Hexane	1.6	1.7	5.5	5.9
1,1-Dichloroethane	1.6	Not Detected	6.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	6.2	1.4 J	18	4.0 J
cis-1,2-Dichloroethene	1.6	Not Detected	6.2	Not Detected
Tetrahydrofuran	1.6	Not Detected	4.6	Not Detected
Chloroform	1.6	Not Detected	7.6	Not Detected
1,1,1-Trichloroethane	1.6	Not Detected	8.5	Not Detected
Cyclohexane	1.6	0.53 J	5.4	1.8 J
Carbon Tetrachloride	1.6	Not Detected	9.8	Not Detected
2,2,4-Trimethylpentane	1.6	0.26 J	7.3	1.2 J
Benzene	1.6	5.6	5.0	18
1,2-Dichloroethane	1.6	Not Detected	6.3	Not Detected
Heptane	1.6	0.96 J	6.4	3.9 J
Trichloroethene	1.6	Not Detected	8.4	Not Detected
1,2-Dichloropropane	1.6	Not Detected	7.2	Not Detected
1,4-Dioxane	6.2	Not Detected	22	Not Detected
Bromodichloromethane	1.6	Not Detected	10	Not Detected
cis-1,3-Dichloropropene	1.6	Not Detected	7.0	Not Detected
4-Methyl-2-pentanone	1.6	Not Detected	6.4	Not Detected
Toluene	1.6	0.92 J	5.8	3.4 J
trans-1,3-Dichloropropene	1.6	Not Detected	7.0	Not Detected
1,1,2-Trichloroethane	1.6	Not Detected	8.5	Not Detected
Tetrachloroethene	1.6	Not Detected	10	Not Detected
2-Hexanone	6.2	Not Detected	25	Not Detected
Dibromochloromethane	1.6	Not Detected	13	Not Detected



Air Toxics

Client Sample ID: SVE-27-Downwind-101512

Lab ID#: 1210326R1-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101718r1	Date of Collection:	10/15/12 11:06:00 A
Dil. Factor:	3.11	Date of Analysis:	10/17/12 04:05 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dibromoethane (EDB)	1.6	Not Detected	12	Not Detected
Chlorobenzene	1.6	1.1 J U	7.2	5.1 J U
Ethyl Benzene	1.6	Not Detected	6.8	Not Detected
m,p-Xylene	1.6	0.26 J U	6.8	1.2 J U
o-Xylene	1.6	Not Detected	6.8	Not Detected
Styrene	1.6	Not Detected	6.6	Not Detected
Bromoform	1.6	Not Detected	16	Not Detected
1,1,2,2-Tetrachloroethane	1.6	Not Detected	11	Not Detected
4-Ethyltoluene	1.6	Not Detected	7.6	Not Detected
1,3,5-Trimethylbenzene	1.6	Not Detected	7.6	Not Detected
1,2,4-Trimethylbenzene	1.6	Not Detected	7.6	Not Detected
1,3-Dichlorobenzene	1.6	Not Detected	9.3	Not Detected
1,4-Dichlorobenzene	1.6	0.26 J U	9.3	1.6 J U
alpha-Chlorotoluene	1.6	Not Detected	8.0	Not Detected
1,2-Dichlorobenzene	1.6	Not Detected	9.3	Not Detected
Ethyl Acetate	6.2	Not Detected	22	Not Detected
Propylene	6.2	Not Detected	11	Not Detected
Vinyl Acetate	6.2	Not Detected	22	Not Detected
Vinyl Bromide	6.2	Not Detected	27	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
None Identified			

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	115	70-130
4-Bromofluorobenzene	86	70-130



Air Toxics

Client Sample ID: SVE-26-Downwind-101512

Lab ID#: 1210326R1-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101714r1	Date of Collection:	10/15/12 11:34:00 A
Dil. Factor:	3.11	Date of Analysis:	10/17/12 02:41 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.6	0.78 J	7.7	3.9 J
Freon 114	1.6	Not Detected	11	Not Detected
Chloromethane	16	Not Detected	32	Not Detected
Vinyl Chloride	1.6	Not Detected	4.0	Not Detected
1,3-Butadiene	1.6	Not Detected	3.4	Not Detected
Bromomethane	16	Not Detected	60	Not Detected
Chloroethane	6.2	Not Detected	16	Not Detected
Freon 11	1.6	Not Detected	8.7	Not Detected
Freon 113	1.6	Not Detected	12	Not Detected
1,1-Dichloroethene	1.6	Not Detected	6.2	Not Detected
Acetone	16	5.2 J	37	12 J
2-Propanol	6.2	0.98 J	15	2.4 J
Carbon Disulfide	6.2	0.95 J L1	19	3.0 J L1
3-Chloropropene	6.2	Not Detected	19	Not Detected
Methylene Chloride	16	Not Detected	54	Not Detected
Methyl tert-butyl ether	1.6	Not Detected	5.6	Not Detected
trans-1,2-Dichloroethene	1.6	Not Detected	6.2	Not Detected
Hexane	1.6	0.49 J	5.5	1.7 J
1,1-Dichloroethane	1.6	Not Detected	6.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	6.2	Not Detected	18	Not Detected
cis-1,2-Dichloroethene	1.6	Not Detected	6.2	Not Detected
Tetrahydrofuran	1.6	Not Detected	4.6	Not Detected
Chloroform	1.6	Not Detected	7.6	Not Detected
1,1,1-Trichloroethane	1.6	Not Detected	8.5	Not Detected
Cyclohexane	1.6	Not Detected	5.4	Not Detected
Carbon Tetrachloride	1.6	Not Detected	9.8	Not Detected
2,2,4-Trimethylpentane	1.6	Not Detected	7.3	Not Detected
Benzene	1.6	0.35 J	5.0	1.1 J
1,2-Dichloroethane	1.6	Not Detected	6.3	Not Detected
Heptane	1.6	0.48 J	6.4	2.0 J
Trichloroethene	1.6	Not Detected	8.4	Not Detected
1,2-Dichloropropane	1.6	Not Detected	7.2	Not Detected
1,4-Dioxane	6.2	Not Detected	22	Not Detected
Bromodichloromethane	1.6	Not Detected	10	Not Detected
cis-1,3-Dichloropropene	1.6	Not Detected	7.0	Not Detected
4-Methyl-2-pentanone	1.6	Not Detected	6.4	Not Detected
Toluene	1.6	0.41 J L1	5.8	1.5 J L1
trans-1,3-Dichloropropene	1.6	Not Detected	7.0	Not Detected
1,1,2-Trichloroethane	1.6	Not Detected	8.5	Not Detected
Tetrachloroethene	1.6	Not Detected	10	Not Detected
2-Hexanone	6.2	Not Detected	25	Not Detected
Dibromochloromethane	1.6	Not Detected	13	Not Detected



Air Toxics

Client Sample ID: SVE-26-Downwind-101512

Lab ID#: 1210326RI-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101714r1	Date of Collection:	10/15/12 11:34:00 A
Dil. Factor:	3.11	Date of Analysis:	10/17/12 02:41 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dibromoethane (EDB)	1.6	Not Detected	12	Not Detected
Chlorobenzene	1.6	0.99 J u	7.2	4.5 J u
Ethyl Benzene	1.6	Not Detected	6.8	Not Detected
m,p-Xylene	1.6	Not Detected	6.8	Not Detected
o-Xylene	1.6	Not Detected	6.8	Not Detected
Styrene	1.6	Not Detected	6.6	Not Detected
Bromoform	1.6	Not Detected	16	Not Detected
1,1,2,2-Tetrachloroethane	1.6	Not Detected	11	Not Detected
4-Ethyltoluene	1.6	Not Detected	7.6	Not Detected
1,3,5-Trimethylbenzene	1.6	Not Detected	7.6	Not Detected
1,2,4-Trimethylbenzene	1.6	Not Detected	7.6	Not Detected
1,3-Dichlorobenzene	1.6	Not Detected	9.3	Not Detected
1,4-Dichlorobenzene	1.6	0.46 J u	9.3	2.8 J u
alpha-Chlorotoluene	1.6	Not Detected	8.0	Not Detected
1,2-Dichlorobenzene	1.6	0.31 J u	9.3	1.9 J u
Ethyl Acetate	6.2	Not Detected	22	Not Detected
Propylene	6.2	Not Detected	11	Not Detected
Vinyl Acetate	6.2	Not Detected	22	Not Detected
Vinyl Bromide	6.2	Not Detected	27	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
None Identified			

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	121	70-130
4-Bromofluorobenzene	84	70-130



Air Toxics

Client Sample ID: SVE-22-Downwind-101512

Lab ID#: 1210326R1-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101715r1	Date of Collection:	10/15/12 12:06:00 P
Dil. Factor:	3.19	Date of Analysis:	10/17/12 02:59 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.6	0.62 J	7.9	3.1 J
Freon 114	1.6	Not Detected	11	Not Detected
Chloromethane	16	Not Detected	33	Not Detected
Vinyl Chloride	1.6	Not Detected	4.1	Not Detected
1,3-Butadiene	1.6	Not Detected	3.5	Not Detected
Bromomethane	16	Not Detected	62	Not Detected
Chloroethane	6.4	Not Detected	17	Not Detected
Freon 11	1.6	0.26 J	9.0	1.4 J
Freon 113	1.6	Not Detected	12	Not Detected
1,1-Dichloroethene	1.6	Not Detected	6.3	Not Detected
Acetone	16	5.1 J	38	12 J
2-Propanol	6.4	1.2 J	16	3.0 J
Carbon Disulfide	6.4	0.90 J u	20	2.8 J u
3-Chloropropene	6.4	Not Detected	20	Not Detected
Methylene Chloride	16	Not Detected	55	Not Detected
Methyl tert-butyl ether	1.6	Not Detected	5.8	Not Detected
trans-1,2-Dichloroethene	1.6	Not Detected	6.3	Not Detected
Hexane	1.6	Not Detected	5.6	Not Detected
1,1-Dichloroethane	1.6	Not Detected	6.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	6.4	Not Detected	19	Not Detected
cis-1,2-Dichloroethene	1.6	Not Detected	6.3	Not Detected
Tetrahydrofuran	1.6	Not Detected	4.7	Not Detected
Chloroform	1.6	Not Detected	7.8	Not Detected
1,1,1-Trichloroethane	1.6	Not Detected	8.7	Not Detected
Cyclohexane	1.6	Not Detected	5.5	Not Detected
Carbon Tetrachloride	1.6	Not Detected	10	Not Detected
2,2,4-Trimethylpentane	1.6	Not Detected	7.4	Not Detected
Benzene	1.6	Not Detected	5.1	Not Detected
1,2-Dichloroethane	1.6	Not Detected	6.4	Not Detected
Heptane	1.6	Not Detected	6.5	Not Detected
Trichloroethene	1.6	Not Detected	8.6	Not Detected
1,2-Dichloropropane	1.6	Not Detected	7.4	Not Detected
1,4-Dioxane	6.4	Not Detected	23	Not Detected
Bromodichloromethane	1.6	Not Detected	11	Not Detected
cis-1,3-Dichloropropene	1.6	Not Detected	7.2	Not Detected
4-Methyl-2-pentanone	1.6	Not Detected	6.5	Not Detected
Toluene	1.6	0.30 J u	6.0	1.1 J u
trans-1,3-Dichloropropene	1.6	Not Detected	7.2	Not Detected
1,1,2-Trichloroethane	1.6	Not Detected	8.7	Not Detected
Tetrachloroethene	1.6	Not Detected	11	Not Detected
2-Hexanone	6.4	Not Detected	26	Not Detected
Dibromochloromethane	1.6	Not Detected	14	Not Detected



Air Toxics

Client Sample ID: SVE-22-Downwind-101512

Lab ID#: 1210326R1-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101715r1	Date of Collection:	10/15/12 12:06:00 P
Dil. Factor:	3.19	Date of Analysis:	10/17/12 02:59 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dibromoethane (EDB)	1.6	Not Detected	12	Not Detected
Chlorobenzene	1.6	1.7 J	7.3	5.0 J
Ethyl Benzene	1.6	Not Detected	6.9	Not Detected
m,p-Xylene	1.6	Not Detected	6.9	Not Detected
o-Xylene	1.6	Not Detected	6.9	Not Detected
Styrene	1.6	Not Detected	6.8	Not Detected
Bromoform	1.6	Not Detected	16	Not Detected
1,1,2,2-Tetrachloroethane	1.6	Not Detected	11	Not Detected
4-Ethyltoluene	1.6	Not Detected	7.8	Not Detected
1,3,5-Trimethylbenzene	1.6	Not Detected	7.8	Not Detected
1,2,4-Trimethylbenzene	1.6	Not Detected	7.8	Not Detected
1,3-Dichlorobenzene	1.6	Not Detected	9.6	Not Detected
1,4-Dichlorobenzene	1.6	0.30 J	9.6	1.8 J
alpha-Chlorotoluene	1.6	Not Detected	8.2	Not Detected
1,2-Dichlorobenzene	1.6	Not Detected	9.6	Not Detected
Ethyl Acetate	6.4	Not Detected	23	Not Detected
Propylene	6.4	Not Detected	11	Not Detected
Vinyl Acetate	6.4	Not Detected	22	Not Detected
Vinyl Bromide	6.4	Not Detected	28	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
None Identified			

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	112	70-130
4-Bromofluorobenzene	87	70-130



Air Toxics

Client Sample ID: SVE-23-Downwind-101512

Lab ID#: 1210326R1-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101716r1	Date of Collection:	10/15/12 12:36:00 P
Dil. Factor:	2.69	Date of Analysis:	10/17/12 03:21 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.57 J	6.6	2.8 J
Freon 114	1.3	Not Detected	9.4	Not Detected
Chloromethane	13	Not Detected	28	Not Detected
Vinyl Chloride	1.3	Not Detected	3.4	Not Detected
1,3-Butadiene	1.3	Not Detected	3.0	Not Detected
Bromomethane	13	Not Detected	52	Not Detected
Chloroethane	5.4	Not Detected	14	Not Detected
Freon 11	1.3	0.31 J	7.6	1.8 J
Freon 113	1.3	Not Detected	10	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.3	Not Detected
Acetone	13	6.5 J	32	15 J
2-Propanol	5.4	0.81 J	13	2.0 J
Carbon Disulfide	5.4	0.94 J u	17	2.9 J u
3-Chloropropene	5.4	Not Detected	17	Not Detected
Methylene Chloride	13	Not Detected	47	Not Detected
Methyl tert-butyl ether	1.3	Not Detected	4.8	Not Detected
trans-1,2-Dichloroethene	1.3	Not Detected	5.3	Not Detected
Hexane	1.3	3.0	4.7	11
1,1-Dichloroethane	1.3	Not Detected	5.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.4	Not Detected	16	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.3	Not Detected
Tetrahydrofuran	1.3	Not Detected	4.0	Not Detected
Chloroform	1.3	Not Detected	6.6	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	7.3	Not Detected
Cyclohexane	1.3	1.1 J	4.6	3.7 J
Carbon Tetrachloride	1.3	0.21 J	8.5	1.3 J
2,2,4-Trimethylpentane	1.3	0.73 J	6.3	3.4 J
Benzene	1.3	12	4.3	39
1,2-Dichloroethane	1.3	0.20 J u	5.4	0.82 J u
Heptane	1.3	1.3 J	5.5	5.2 J
Trichloroethene	1.3	Not Detected	7.2	Not Detected
1,2-Dichloropropane	1.3	Not Detected	6.2	Not Detected
1,4-Dioxane	5.4	Not Detected	19	Not Detected
Bromodichloromethane	1.3	Not Detected	9.0	Not Detected
cis-1,3-Dichloropropene	1.3	Not Detected	6.1	Not Detected
4-Methyl-2-pentanone	1.3	Not Detected	5.5	Not Detected
Toluene	1.3	1.1 J	5.1	4.1 J
trans-1,3-Dichloropropene	1.3	Not Detected	6.1	Not Detected
1,1,2-Trichloroethane	1.3	Not Detected	7.3	Not Detected
Tetrachloroethene	1.3	Not Detected	9.1	Not Detected
2-Hexanone	5.4	Not Detected	22	Not Detected
Dibromochloromethane	1.3	Not Detected	11	Not Detected



Air Toxics

Client Sample ID: SVE-23-Downwind-101512

Lab ID#: 1210326R1-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101716r1	Date of Collection:	10/15/12 12:36:00 P
Dil. Factor:	2.69	Date of Analysis:	10/17/12 03:21 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dibromoethane (EDB)	1.3	Not Detected	10	Not Detected
Chlorobenzene	1.3	0.09 J U	6.2	4.6 J U
Ethyl Benzene	1.3	Not Detected	5.8	Not Detected
m,p-Xylene	1.3	0.35 J U	5.8	1.5 J U
o-Xylene	1.3	Not Detected	5.8	Not Detected
Styrene	1.3	Not Detected	5.7	Not Detected
Bromoform	1.3	Not Detected	14	Not Detected
1,1,2,2-Tetrachloroethane	1.3	Not Detected	9.2	Not Detected
4-Ethyltoluene	1.3	Not Detected	6.6	Not Detected
1,3,5-Trimethylbenzene	1.3	Not Detected	6.6	Not Detected
1,2,4-Trimethylbenzene	1.3	Not Detected	6.6	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	8.1	Not Detected
1,4-Dichlorobenzene	1.3	0.18 J U	8.1	4.4 J U
alpha-Chlorotoluene	1.3	Not Detected	7.0	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	8.1	Not Detected
Ethyl Acetate	5.4	Not Detected	19	Not Detected
Propylene	5.4	Not Detected	9.2	Not Detected
Vinyl Acetate	5.4	Not Detected	19	Not Detected
Vinyl Bromide	5.4	Not Detected	24	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Unknown	NA	NA	9.6 J
Unknown	NA	NA	8.7 J

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	118	70-130
4-Bromofluorobenzene	84	70-130



Air Toxics

Client Sample ID: SVE-24-Downwind-101512

Lab ID#: 1210326R1-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101717r1	Date of Collection:	10/15/12 1:00:00 PM
Dil. Factor:	2.89	Date of Analysis:	10/17/12 03:45 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.55 J	7.1	2.7 J
Freon 114	1.4	Not Detected	10	Not Detected
Chloromethane	14	Not Detected	30	Not Detected
Vinyl Chloride	1.4	Not Detected	3.7	Not Detected
1,3-Butadiene	1.4	Not Detected	3.2	Not Detected
Bromomethane	14	Not Detected	56	Not Detected
Chloroethane	5.8	Not Detected	15	Not Detected
Freon 11	1.4	0.28 J	8.1	1.6 J
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Acetone	14	3.5 J	34	8.3 J
2-Propanol	5.8	1.1 J	14	2.6 J
Carbon Disulfide	5.8	1.0 J L	18	3.3 J L
3-Chloropropene	5.8	Not Detected	18	Not Detected
Methylene Chloride	14	0.41 J L	50	1.4 J L
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	0.21 J	5.1	0.74 J
1,1-Dichloroethane	1.4	Not Detected	5.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.8	Not Detected	17	Not Detected
cis-1,2-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Tetrahydrofuran	1.4	Not Detected	4.3	Not Detected
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	Not Detected	6.8	Not Detected
Benzene	1.4	0.63 J	4.6	2.0 J
1,2-Dichloroethane	1.4	0.19 J L	5.8	0.77 J L
Heptane	1.4	Not Detected	5.9	Not Detected
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	0.29 J L	5.4	1.4 J L
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
2-Hexanone	5.8	Not Detected	24	Not Detected
Dibromochloromethane	1.4	Not Detected	12	Not Detected



Air Toxics

Client Sample ID: SVE-24-Downwind-101512

Lab ID#: 1210326R1-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101717r1	Date of Collection:	10/15/12 1:00:00 PM
Dil. Factor:	2.89	Date of Analysis:	10/17/12 03:45 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	0.95 J U	6.6	4.4 J U
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
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.9	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	0.21 J U	8.7	1.3 J U
alpha-Chlorotoluene	1.4	Not Detected	7.5	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.7	Not Detected
Ethyl Acetate	5.8	Not Detected	21	Not Detected
Propylene	5.8	1.4 J	9.9	2.5 J
Vinyl Acetate	5.8	Not Detected	20	Not Detected
Vinyl Bromide	5.8	Not Detected	25	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
None Identified			

Container Type: 1 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	116	70-130
4-Bromofluorobenzene	86	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1210326R1-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101707ar1	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/17/12 11:09 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	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	0.38 J	6.2	1.2 J
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	0.18 J	17	0.61 J
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)	2.0	Not Detected	5.9	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	0.041 J	2.7	0.22 J
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	0.11 J	2.0	0.45 J
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
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	0.077 J	3.4	0.51 J
cis-1,3-Dichloropropene	0.50	0.10 J	2.3	0.48 J
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	0.094 J	1.9	0.35 J
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	0.13 J	3.4	0.91 J
2-Hexanone	2.0	Not Detected	8.2	Not Detected
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected

Client Sample ID: Lab Blank

Lab ID#: 1210326RI-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101707ar1	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	10/17/12 11:09 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	0.39 J	2.3	1.8 J
Ethyl Benzene	0.50	0.077 J	2.2	0.34 J
m,p-Xylene	0.50	0.11 J	2.2	0.49 J
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
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	0.12 J	2.4	0.57 J
1,2,4-Trimethylbenzene	0.50	0.15 J	2.4	0.76 J
1,3-Dichlorobenzene	0.50	0.30 J	3.0	1.8 J
1,4-Dichlorobenzene	0.50	0.36 J	3.0	2.2 J
alpha-Chlorotoluene	0.50	0.14 J	2.6	0.70 J
1,2-Dichlorobenzene	0.50	0.26 J	3.0	1.5 J
Ethyl Acetate	2.0	Not Detected	7.2	Not Detected
Propylene	2.0	Not Detected	3.4	Not Detected
Vinyl Acetate	2.0	Not Detected	7.0	Not Detected
Vinyl Bromide	2.0	Not Detected	8.7	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
None Identified			

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	110	70-130
4-Bromofluorobenzene	84	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1210326R1-11A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/17/12 08:35 AM

Compound	%Recovery
Freon 12	116
Freon 114	99
Chloromethane	110
Vinyl Chloride	90
1,3-Butadiene	84
Bromomethane	94
Chloroethane	92
Freon 11	115
Freon 113	95
1,1-Dichloroethene	87
Acetone	90
2-Propanol	94
Carbon Disulfide	92
3-Chloropropene	90
Methylene Chloride	102
Methyl tert-butyl ether	98
trans-1,2-Dichloroethene	95
Hexane	87
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	100
cis-1,2-Dichloroethene	96
Tetrahydrofuran	98
Chloroform	114
1,1,1-Trichloroethane	112
Cyclohexane	98
Carbon Tetrachloride	123
2,2,4-Trimethylpentane	92
Benzene	107
1,2-Dichloroethane	131 Q
Heptane	110
Trichloroethene	113
1,2-Dichloropropane	107
1,4-Dioxane	105
Bromodichloromethane	124
cis-1,3-Dichloropropene	116
4-Methyl-2-pentanone	92
Toluene	110
trans-1,3-Dichloropropene	117
1,1,2-Trichloroethane	118
Tetrachloroethene	107
2-Hexanone	96
Dibromochloromethane	121



Air Toxics

Client Sample ID: CCV

Lab ID#: 1210326R1-11A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/17/12 08:35 AM

Compound	%Recovery
1,2-Dibromoethane (EDB)	115
Chlorobenzene	99
Ethyl Benzene	110
m,p-Xylene	107
o-Xylene	106
Styrene	96
Bromoform	112
1,1,2,2-Tetrachloroethane	124
4-Ethyltoluene	110
1,3,5-Trimethylbenzene	107
1,2,4-Trimethylbenzene	102
1,3-Dichlorobenzene	107
1,4-Dichlorobenzene	107
alpha-Chlorotoluene	108
1,2-Dichlorobenzene	106
Ethyl Acetate	103
Propylene	103
Vinyl Acetate	92
Vinyl Bromide	79

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	107	70-130
1,2-Dichloroethane-d4	119	70-130
4-Bromofluorobenzene	86	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1210326R1-12A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101703	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/17/12 09:06 AM

Compound	%Recovery
Freon 12	127
Freon 114	106
Chloromethane	122
Vinyl Chloride	100
1,3-Butadiene	92
Bromomethane	98
Chloroethane	99
Freon 11	124
Freon 113	100
1,1-Dichloroethene	99
Acetone	103
2-Propanol	100
Carbon Disulfide	121
3-Chloropropene	114
Methylene Chloride	107
Methyl tert-butyl ether	105
trans-1,2-Dichloroethene	110
Hexane	91
1,1-Dichloroethane	107
2-Butanone (Methyl Ethyl Ketone)	102
cis-1,2-Dichloroethene	98
Tetrahydrofuran	98
Chloroform	118
1,1,1-Trichloroethane	118
Cyclohexane	102
Carbon Tetrachloride	130
2,2,4-Trimethylpentane	93
Benzene	109
1,2-Dichloroethane	135 Q
Heptane	106
Trichloroethene	119
1,2-Dichloropropane	108
1,4-Dioxane	102
Bromodichloromethane	127
cis-1,3-Dichloropropene	119
4-Methyl-2-pentanone	95
Toluene	110
trans-1,3-Dichloropropene	123
1,1,2-Trichloroethane	117
Tetrachloroethene	106
2-Hexanone	100
Dibromochloromethane	122



Air Toxics

Client Sample ID: LCS

Lab ID#: 12I0326R1-12A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101703	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/17/12 09:06 AM

Compound	%Recovery
1,2-Dibromoethane (EDB)	118
Chlorobenzene	102
Ethyl Benzene	109
m,p-Xylene	109
o-Xylene	109
Styrene	98
Bromoform	113
1,1,2,2-Tetrachloroethane	121
4-Ethyltoluene	104
1,3,5-Trimethylbenzene	100
1,2,4-Trimethylbenzene	92
1,3-Dichlorobenzene	99
1,4-Dichlorobenzene	97
alpha-Chlorotoluene	100
1,2-Dichlorobenzene	98
Ethyl Acetate	Not Spiked
Propylene	106
Vinyl Acetate	96
Vinyl Bromide	Not Spiked

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	122	70-130
4-Bromofluorobenzene	89	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1210326R1-12AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101704	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/17/12 09:24 AM

Compound	%Recovery
Freon 12	116
Freon 114	96
Chloromethane	114
Vinyl Chloride	90
1,3-Butadiene	82
Bromomethane	92
Chloroethane	89
Freon 11	114
Freon 113	94
1,1-Dichloroethene	95
Acetone	98
2-Propanol	93
Carbon Disulfide	112
3-Chloropropene	102
Methylene Chloride	101
Methyl tert-butyl ether	98
trans-1,2-Dichloroethene	104
Hexane	87
1,1-Dichloroethane	102
2-Butanone (Methyl Ethyl Ketone)	99
cis-1,2-Dichloroethene	94
Tetrahydrofuran	93
Chloroform	112
1,1,1-Trichloroethane	110
Cyclohexane	96
Carbon Tetrachloride	123
2,2,4-Trimethylpentane	88
Benzene	108
1,2-Dichloroethane	128
Heptane	108
Trichloroethene	116
1,2-Dichloropropane	107
1,4-Dioxane	102
Bromodichloromethane	123
cis-1,3-Dichloropropene	114
4-Methyl-2-pentanone	90
Toluene	107
trans-1,3-Dichloropropene	116
1,1,2-Trichloroethane	116
Tetrachloroethene	104
2-Hexanone	96
Dibromochloromethane	118



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1210326R1-12AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j101704	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/17/12 09:24 AM

Compound	%Recovery
1,2-Dibromoethane (EDB)	118
Chlorobenzene	99
Ethyl Benzene	110
m,p-Xylene	107
o-Xylene	106
Styrene	96
Bromoform	106
1,1,2,2-Tetrachloroethane	124
4-Ethyltoluene	106
1,3,5-Trimethylbenzene	105
1,2,4-Trimethylbenzene	98
1,3-Dichlorobenzene	106
1,4-Dichlorobenzene	104
alpha-Chlorotoluene	103
1,2-Dichlorobenzene	105
Ethyl Acetate	Not Spiked
Propylene	92
Vinyl Acetate	87
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	112	70-130
4-Bromofluorobenzene	86	70-130

1210326



Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD. Project Name: Roxana Public Works Project # 21562735.10100		Please Check Appropriate Box: <input checked="" type="checkbox"/> ENV. SERVICES <input type="checkbox"/> MOTIVA RETAIL <input type="checkbox"/> SHIL. RETAIL <input type="checkbox"/> MOTIVA SDACH <input type="checkbox"/> CONSULTANT <input type="checkbox"/> LUBES <input type="checkbox"/> SHELL PIPELINE <input type="checkbox"/> OTHER		Print Bill To Contact Name: Robert Mooshegian PO # _____		INCIDENT # (ENV. SERVICES): 9 7 2 1 6 6 4 0 SAP # _____		<input type="checkbox"/> CHECK IF NO INCIDENT # APPLIES DATE: 10/15/12 PAGE: 1 of 1																																																																																											
Lab Vendor # SAMPLING COMPANY URS CORPORATION ADDRESS 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110 CITY/STATE/ZIP ST. LOUIS, MO 63110 AIR TOXICS, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719 TELEPHONE: 314-429-0100 FAX: 314-429-0462 E-MAIL: Robert.Mooshegian@urs.com		LOG BOOK SITE ADDRESS, Street and City 900 SOUTH CENTRAL AVE -- ROXANA STATE: IL COUNTY: ILLINOIS ZIP: 62451 CONSULTANT PROJECT NAME: Elizabeth Kunkel, URS, St. Louis 314-743-4179 Elizabeth.Kunkel@URS.com Roxana Public Works M. Currier, A. Day		TURNOVER TIME (CALENDAR DAYS) <input checked="" type="checkbox"/> STANDARD (14 DAY) <input type="checkbox"/> 5 DAYS <input type="checkbox"/> 3 DAYS <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 24 HOURS <input type="checkbox"/> RESULTS NEEDED ON WEEKEND <input type="checkbox"/> LA - RWQCB REPORT FORMAT <input checked="" type="checkbox"/> LIST AGENCY		REQUESTED ANALYSIS Turn Around Time: <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush Specify: _____ Lab Use Only Pressurized by: _____ Date: _____ Pressurization Gas: N ₂ He																																																																																													
DELIVERABLES <input type="checkbox"/> LEVEL 1 <input type="checkbox"/> LEVEL 2 <input type="checkbox"/> LEVEL 3 <input checked="" type="checkbox"/> LEVEL 4 <input type="checkbox"/> OTHER (SPECIFY) _____ <input checked="" type="checkbox"/> SHELL CONTRACT RATE APPLIES <input type="checkbox"/> STATE REIMBURSEMENT RATE APPLIES <input type="checkbox"/> EDC NOT NEEDED <input checked="" type="checkbox"/> RECEIPT VERIFICATION REQUESTED		Method TO-15 - Roxana Public Works		ADDITIONAL NOTES: - 14 day hold time - Report results between MDL and RL - Level IV ECVP - ROXANA PUBLIC WORKS samples Custody Seal Intact? Y N None Temp N/A FedEx																																																																																															
<table border="1"> <thead> <tr> <th rowspan="2">Field Sample Identification</th> <th colspan="2">SAMPLING</th> <th rowspan="2">Canister Number</th> <th colspan="4">Canister Pressure/Vacuum</th> <th rowspan="2">Method TO-15 - Roxana Public Works</th> </tr> <tr> <th>DATE</th> <th>TIME</th> <th>Initial</th> <th>Final</th> <th>Receipt</th> <th>Final (psi)</th> </tr> </thead> <tbody> <tr> <td>Baseline-Upwind-101512 ✓</td> <td>10/15/12</td> <td>0924-0941</td> <td>2108</td> <td>-28.5</td> <td>-10.5</td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>Baseline-Downwind-101512 ✓</td> <td>10/15/12</td> <td>0924-0941</td> <td>36515</td> <td>-29</td> <td>-10</td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>SVE-21-Downwind-101512 ✓</td> <td>10/15/12</td> <td>1011-1026</td> <td>12373</td> <td>-28.5</td> <td>-11.5</td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>SVE-21-Downwind-101512-Dup ✓</td> <td>10/15/12</td> <td>1011-1026</td> <td>37411</td> <td>-30</td> <td>-11.5</td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>SVE-27-Downwind-101512 ✓</td> <td>10/15/12</td> <td>1051-1106</td> <td>34111</td> <td>-30</td> <td>-12.5</td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>SVE-26-Downwind-101512 ✓</td> <td>10/15/12</td> <td>1119-1134</td> <td>35599</td> <td>-29</td> <td>-12.5</td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>SVE-22-Downwind-101512 ✓</td> <td>10/15/12</td> <td>1151-1206</td> <td>15735</td> <td>-30</td> <td>-12.5</td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>SVE-23-Downwind-101512 ✓</td> <td>10/15/12</td> <td>1221-1236</td> <td>9445</td> <td>-30</td> <td>-9</td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>SVE-24-Downwind-101512 ✓</td> <td>10/15/12</td> <td>1245-1300</td> <td>37400</td> <td>-29</td> <td>-10.5</td> <td></td> <td></td> <td>X</td> </tr> </tbody> </table>		Field Sample Identification	SAMPLING		Canister Number	Canister Pressure/Vacuum				Method TO-15 - Roxana Public Works	DATE	TIME	Initial	Final	Receipt	Final (psi)	Baseline-Upwind-101512 ✓	10/15/12	0924-0941	2108	-28.5	-10.5			X	Baseline-Downwind-101512 ✓	10/15/12	0924-0941	36515	-29	-10			X	SVE-21-Downwind-101512 ✓	10/15/12	1011-1026	12373	-28.5	-11.5			X	SVE-21-Downwind-101512-Dup ✓	10/15/12	1011-1026	37411	-30	-11.5			X	SVE-27-Downwind-101512 ✓	10/15/12	1051-1106	34111	-30	-12.5			X	SVE-26-Downwind-101512 ✓	10/15/12	1119-1134	35599	-29	-12.5			X	SVE-22-Downwind-101512 ✓	10/15/12	1151-1206	15735	-30	-12.5			X	SVE-23-Downwind-101512 ✓	10/15/12	1221-1236	9445	-30	-9			X	SVE-24-Downwind-101512 ✓	10/15/12	1245-1300	37400	-29	-10.5			X	Received by: (Signature) _____ Date: 10/15/12 Time: 1630 FEDEX Received by: (Signature) _____ Date: 10/16/12 Time: 1000	
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SVE-21-Downwind-101512-Dup ✓	10/15/12	1011-1026	37411	-30	-11.5			X																																																																																											
SVE-27-Downwind-101512 ✓	10/15/12	1051-1106	34111	-30	-12.5			X																																																																																											
SVE-26-Downwind-101512 ✓	10/15/12	1119-1134	35599	-29	-12.5			X																																																																																											
SVE-22-Downwind-101512 ✓	10/15/12	1151-1206	15735	-30	-12.5			X																																																																																											
SVE-23-Downwind-101512 ✓	10/15/12	1221-1236	9445	-30	-9			X																																																																																											
SVE-24-Downwind-101512 ✓	10/15/12	1245-1300	37400	-29	-10.5			X																																																																																											