URS

October 24, 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 Benzene 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. Based on discussion with the Illinois Attorney General's Office, Illinois Environmental Protection Agency, and Phillips 66 (P66), SOPUS agreed to conduct simultaneous vapor monitor port sampling at specific locations within the residential area of the Village of Roxana, Roxana Public Works Yard, and the adjoining portions of the Wood River Refinery. Vapor monitoring port sampling was conducted in conjunction with ambient air sampling by P66.

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

Kelly Hurst
Senior Environmental Scientist

Robert Billman, P.G.
Senior Project Manager

Enclosures: Report

Cc: Kevin Dyer, SOPUS

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

REPORT

VILLAGE OF ROXANA BENZENE ASSESSMENT – 2012

Roxana, Illinois

Prepared for:

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

October 2012

URS Corporation
1001 Highlands Plaza Drive West, Suite 300
St. Louis, MO 63110
(314) 429-0100
Project 21562735.10100

TABLE OF CONTENTS

List of Tables

List of Figures

List of Appendices

Based on the May 23, 2012 meeting held between Illinois Environmental Protection Agency (IEPA), the Illinois Attorney General's (IAG) Office and Phillips 66 (P66)[1], P66 implemented a monitoring program[2] to determine whether there were ambient air benzene levels above background levels at or near the west fence line of the WRB Refining, LP (WRB)[3] Wood River Refinery (WRR), and if so, to try to determine the source. The WRR established an air monitoring program to be conducted over a three-month period. Multiple fixed sampling location stations were established within and outside the refinery. P66 retained Center for Toxicology and Environmental Health, LLC (CTEH) to implement this program.

Based on discussion with the IAG, IEPA, and P66, Shell Oil Products US (SOPUS) agreed to conduct simultaneous vapor monitor port (VMP) sampling at specific locations within the residential area of the Village of Roxana (Village), Roxana Public Works Yard, and the adjoining portions of the WRR (**Figure 1**).

[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.
[2] Phillips 66 Air Sampling Plan, dated June 8, 2012
[3] WRB, formed January 1, 2007, is a 50/50 joint venture between ConocoPhillips (COP) and EnCana US Refineries, LLC (now known as Cenovus Energy, Inc.).

From August 8, 2012 through September 28, 2012 soil vapor sampling was performed concurrently with ambient air sampling conducted by CTEH.

2.1 VAPOR MONITORING PORT SAMPLING

Seven VMP locations were included in the SOPUS program, listed below and shown on **Figure 2**. The following VMPs were sampled at the first interval vapor port, which is color coded yellow.

VMP Location	VMP Depth
Village of Roxana	
VMP-4	5-foot depth
VMP-21	5-foot depth
VMP-42	10-foot depth
Roxana Public Works Yard	
VMP-10	5-foot depth
VMP-11	5-foot depth
VMP-13	5-foot depth
WRR - Main Property	
VMP-16	5-foot depth

VMP Sampling

The sampling was performed in accordance with SOP No. 44R2 – Soil Vapor Purging and Sampling and ASTM D-7663-12. These procedures are summarized below.

Prior to VMP sampling, an initial stainless-steel canister vacuum check was performed. A designated pressure gauge provided by the laboratory was attached to the stainless-steel canister inlet, and the stainless-steel canister valve was opened completely. The pressure gauge reading was recorded as "Initial Vacuum Reading" on the stainless-steel canister tag and the field form. This demonstrated that the canister showed a vacuum of 26 to 30 inches of mercury (Hg). If the canister displayed an initial vacuum of less than 26 inches of Hg, the canister was set aside and returned to the laboratory.

In addition, each flow controller was subjected to an isolated vacuum check to ensure that connectors did not leak. This was conducted by attaching a plug to one end of the flow controller and a barbed connector to the other. A 15 mL hand pump with a vacuum gauge was then attached to the barb. The hand pump evacuated the air inside the flow controller until a vacuum of at least 10 inches Hg was achieved. If the vacuum change over five minutes was less than or equal to 0.5 inches of Hg, the controller was considered acceptable for sampling use.

The following steps were used to collect each VMP sample:

- Upon arrival at a sampling location, the sampling crew opened the vapor port vault and checked the integrity of each individual VMP. This included checking that each VMP was closed with either a Swagelok® stainless-steel reducer and plug or a 4-way stopcock, and each VMP was properly labeled to identify the proper depth. The shallowest VMP (labeled yellow) was used during this sampling event.
- The sample train was set up as shown in **Figure 3**. A hose barb connector was connected directly to the VMP using compression ferrule connections. The sample train was then attached using Tygoprene® tubing. A flow controller, provided by the laboratory, was then connected to the stainless-steel canister inlet. Flow controllers were not reused during the sampling event. Each flow controller is pre-set by the laboratory to collect the sample over a half-hour period. For a 1-Liter stainless-steel canister, one half-hour is a standard collection time (~28 ml/min). Once the sample train was assembled, a vacuum leak check was performed. The stainless-steel canister and Valve #1 were kept in the "off" or "closed" position. Valve #2 was then turned to the "open" position. A 15 mL hand pump was attached to sample train at Valve #2. Air was withdrawn from the sampling apparatus until a vacuum between 15 and 20 inches Hg was achieved. The vacuum was observed for at least five minutes, and if the change in vacuum over five minutes was less than or equal to 0.5 inch Hg, the sample train was acceptable. If the change in vacuum over five minutes was greater than 0.5 inch Hg the fittings and connections were checked, tightened or replaced and leak check was repeated.
- An enclosure was then placed over the VMP and assembled sample train as shown in the photo below. The enclosure has openings for:
  - The introduction of tracer gas (i.e., helium);
  - Pressure relief to the atmosphere and access for a tracer gas monitoring device;
  - Tygoprene® tubing to connect to the peristaltic pump for Valve #1 (out) and Valve #2 (out and in).

- The enclosure has sufficient glove access to open or close all valves within. The enclosure was sealed to the ground at each location with a hydrated bentonite seal.
- Helium gas was introduced into the enclosure by manually controlling the regulator on the helium tank until the atmosphere reached a concentration of approximately 50% helium.
- Three well volumes were purged from each VMP prior to sampling using a 15 mL hand pump[4]. After purging was completed, a Tedlar bag sample was collected using a peristaltic pump. A Dielectric Technologies MGD-2002 field analyzer was then used to detect if helium was present in the Tedlar bag sample. This process assessed the vacuum of the sample train and integrity of the VMP. If the helium concentration in the Tedlar bag sample was greater than or equal to10% concentration of the helium in the enclosure, the Tedlar bag sample was additionally screened for methane by using a Landtec landfill gas detector. The presence of methane can cause a false positive helium reading on the MGD-2002 field analyzer.

[4] The purge volume was calculated using the following assumptions: vapor port tubing (1/8-in diameter): 2.41 ml/foot (single volume) and sample train assembly (1/4-in diameter): 9.65 mL/foot (single volume).

- Once the initial helium leak check was completed, the stainless-steel canister valve was opened to collect a sample for approximately 30 minutes or until a vacuum gauge reading of 5 inches Hg was observed. After sample completion, the stainless-steel canister valve was closed (isolating it from the sample train) and soil vapor was bypassed to the second Tedlar bag sample.
- Field duplicates were collected by including an additional T-connection in the sample train and attaching a second stainless-steel canister with a separate flow controller. Both the original and duplicate samples were started at the same time.
- The second Tedlar bag was filled following the completion of the stainless-steel canister sampling. Soil vapor readings were taken from the Tedlar bag sample for total volatile organics with a MiniRae 3000 photoionization detector (PID) and a Thermo Scientific TVA 1000 Vapor Analyzer - Flame Ionization Detector (FID); and for carbon dioxide (CO_2), methane (CH_4), lower explosive limit (LEL), and oxygen (O_2) with a Landtec GEM 2000 landfill gas meter. Readings were also obtained and recorded for helium with a MGD-2002 field analyzer. This check was used to verify the sample train integrity during and at the completion of sampling. If the helium readings were greater than or equal to 10% of the concentration of the helium in the enclosure, the VMP is required to be resampled.
- At the completion of sampling, the stainless-steel canister and flow controller were removed and separated from the sample train and a final vacuum reading was taken with a designated pressure gauge provided by the laboratory. The VMP plug was reinstalled or the 4-way stopcock was closed to maintain port integrity. The stainless-steel canisters were then maintained in a safe location to minimize temperature change and protected from damage prior to shipping.
- Field data pertaining to canister identification data (ID), start and finish time, initial and final vacuum readings, purge volumes, and leak checks for each VMP were recorded in field logbooks. Data from portable field analyzers, such as, a PID, FID, landfill gas meter, and helium gas detector, were recorded in the field logbook.

Additional Notes on VMP Sampling

Saturated VMP Screens – During this sampling program, there were no VMPs that held a vacuum or produced water.

Resamples – During this sampling program, there were no sample canisters that required resampling due to laboratory analysis for helium and found to exceed 10% of the helium in the shroud.

Helium Leaks – VMP-4-5 and VMP-16-5 failed to pass the helium leak check in the field when sampling was initially attempted. Resampling was reattempted on the same day and valid samples were obtained.

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 and at the start of work each day, a daily safety meeting was held. The purpose of this meeting was to discuss the day's planned activities and to address any potential health and safety concerns. As a part of the daily safety meeting, job 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. In addition, work within the WRR was performed wearing flame retardant clothing (FRCs) per WRR requirements, where required.

A PID with a 10.6 electron volt (eV) probe, combustible gas indicator (CGI), UltraRAE with benzene specific measuring tubes, and individual hydrogen sulfide gas detectors (for locations inside WRR) were used during the field activities to monitor air quality. Field instruments were calibrated prior to use each day in accordance with the manufacturer's specifications.

Decontamination

Field personnel and equipment underwent decontamination procedures to ensure the health and safety of those present, to maintain sample integrity, and to minimize cross contamination. Non-disposable/reusable sampling equipment (e.g., compression fittings) was decontaminated prior to the collection of each analytical sample by spraying with Alconox or Liquinox and distilled water. For vapor sampling equipment, a 15 mL hand pump was attached to the sampling apparatus and ambient air was pumped into the sampling apparatus to remove any internal dust particles or moisture. Personnel and small equipment decontamination was performed at the sample locations.

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. Due to the potential flammable nature of the vapor in the stainless-steel canisters, some soil vapor samples were shipped as hazardous materials according to applicable International Civil Aviation Organization (ICAO) regulations.

Laboratory Testing

Eurofins Air Toxics, Inc. (Eurofins) of Folsom, California provided canisters for this program and conducted the laboratory testing using the following test methods:

- Volatile Organic Compounds (VOCs) via Modified USEPA Total Organic-15 (TO-15) (including butane and isopentane) for soil vapor[5], and
- Natural gases (defined for purposes of this report as oxygen, nitrogen, carbon monoxide, methane, carbon dioxide, ethane, and ethene) via Modified ASTM D-1946 + helium.

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.

[5] The analyte list includes constituents on the SOPUS Roxana quarterly soil vapor program plus those on the P66 Air Sampling Plan dated June 8, 2012.

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, 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 A**.

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

3.1 DATA QUALITY REVIEW RESULTS

A total of 56 investigative and 6 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 A**). 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 soil vapor during this sampling program:

TO-15 Detections

Acetone	Heptane
Benzene	Hexane
Butane	Isopentane
2-Butanone	Isopropylbenzene (Cumene)
Carbon disulfide	4-Methyl-2-pentanone
Chlorobenzene	2-Propanol
Chloroform	Propylene
Chloromethane	Tetrachloroethene
Cyclohexane	Tetrahydrofuran
1,3 Dichlorobenzene	Toluene
1,4 Dichlorobenzene	Trichloroethene
1,2 Dichloroethane	1,2,4-Trimethylbenzene
Trans-1,3-Dichloropropene	1,3,5-Trimethylbenzene
1,4-Dioxane	2,2,4-Trimethylpentane
Ethanol	m,p-Xylene
Ethylbenzene	o-Xylene
4-Ethyltoluene	

Cumulative tabular summaries of the analytical results are presented in **Table 1**. A cumulative tabular summary of the results for natural gases are presented in **Table 2**. Cumulative tabular summaries of the tentatively identified compound results are presented in **Table 3**. Field measurements from this event are presented on **Table 4**. The laboratory analytical reports for the soil vapor samples collected from August 8, 2012 through September 28, 2012 can be viewed in **Appendix A**.

Benzene was selected as the key analyte to characterize soil vapor, in the paragraphs below.

Village

Benzene concentrations from the three locations within the Village ranged from an estimated 0.0017 mg/m^3 (VMP-21-5) on August 14, 2012 and (VMP-42-10) on September 27, 2012 to 0.26 mg/m^3 (VMP-4-5) on August 30, 2012. The cumulative results for benzene in soil vapor for samples collected in the Village are depicted on **Figure 4**.

Roxana Public Works Yard

Benzene concentrations from the three locations within the Roxana Public Works Yard ranged from an estimated 0.00073 mg/m^3 (VMP-10-5) on August 15, 2012 to 0.14 mg/m^3 (VMP-11-5) on August 31, 2012. The cumulative results for benzene in soil vapor for samples collected in the Roxana Public Works Yard are depicted on **Figure 4**.

WRR

Benzene concentrations from one location sampled within the WRR ranged from a not detected at a reporting limit of 0.025 mg/m^3 (VMP-16-5) on August 14, 2012 to an estimated 11 mg/m^3 (VMP-16-5) on September 17, 2012. The cumulative results for benzene in soil vapor for samples collected in the WRR are depicted on **Figure 4**.

URS conducted soil vapor sampling on behalf of SOPUS in the Village, Roxana Public Works Yard, and WRR in conjunction with CTEH ambient air sampling. Soil vapor samples were collected from seven VMPs from August 8, 2012 through September 28, 2012 concurrently during ambient air sampling that was conducted by CTEH.

TABLE 1
WEEK 1-8 CUMULATIVE SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS: VOCS

Location	Depth	Sample ID	Sample Date	Acetone			Allyl chloride (3-			alpha-Chlorotoluene			Benzene			Bromodichloromethane			Bromoform			Bromomethane			1,3-Butadiene		
				Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals
VMP-4	5 ft	VMP-4-5-080812	8/8/2012	0.077			<0.012	U		<0.0051	U		0.077			<0.0066	U		0.0024	J		<0.038	U		<0.0022	U	
		VMP-4-5-081412	8/14/2012	0.11			<0.017	U		<0.0071	U		0.0089			<0.0092	U		<0.014	U		<0.054	U		<0.003	U	
		VMP-4-5-082012	8/20/2012	0.088	J	J	<0.019	U		<0.0078	U		0.039			<0.01	U		<0.016	U		<0.059	U		<0.0034	U	UJ
		VMP-4-5-083012	8/30/2012	0.067	J	J	<0.024	U		<0.01	U		0.26			<0.013	U		<0.02	U		<0.075	U		<0.0043	U	
		VMP-4-5-090512	9/5/2012	0.037			<0.018	U		<0.0077	U		0.035			<0.0099	U		<0.015	U		<0.057	U		<0.0033	U	
		VMP-4-5-091112	9/11/2012	0.056			<0.018	U		<0.0073	U		0.08			<0.0094	U		<0.014	U		<0.055	U		<0.0031	U	
		VMP-4-5-091712	9/17/2012	0.026	J		<0.019	U		<0.0078	U		0.08			<0.01	U		<0.016	U		<0.059	U		<0.0034	U	
		VMP-4-5-092712	9/27/2012	0.038			<0.016	U		<0.0065	U		0.011			<0.0084	U		<0.013	U		<0.049	U		<0.0028	U	
VMP-10	5 ft	VMP-10-5-080912	8/9/2012	0.053			<0.011	U		0.00085	J		0.0097			<0.0061	U		<0.0094	U		<0.036	U		<0.002	U	
		VMP-10-5-081512	8/15/2012	0.02	J		<0.012	U		0.0016	J		0.00073	J		<0.0065	U		<0.01	U		<0.037	U		<0.0021	U	
		VMP-10-5-082112	8/21/2012	0.012	J	J	<0.019	U		<0.0078	U		0.0029	J		<0.01	U		<0.016	U		<0.059	U		<0.0034	U	UJ
		VMP-10-5-083112	8/31/2012	0.026	J	J	<0.018	U		<0.0075	U		0.039			<0.0097	U		<0.015	U		<0.056	U		<0.0032	U	
		VMP-10-5-090612	9/6/2012	0.085			<0.019	U		<0.008	U		0.037			<0.01	U		<0.016	U		<0.06	U		<0.0034	U	
		VMP-10-5-091212	9/12/2012	0.035	J		<0.02	U		<0.0082	J	U	0.0084			<0.011	U		<0.016	U		<0.062	U		<0.0035	U	
		VMP-10-5-091812	9/18/2012	0.03	J		<0.018	U		<0.0075	U		0.015			<0.0097	U		<0.015	U		<0.056	U		<0.0032	U	
		VMP-10-5-092812	9/28/2012	0.041			<0.019	U		<0.008	J	U	0.0011	J		0.0016	J		<0.016	U		<0.06	U		<0.0034	U	
		VMP-10-5-092812-Dup	9/28/2012	0.045			<0.019	U		<0.0078	J	U	0.0043	J		<0.01	U		<0.016	U		<0.059	U		<0.0034	U	
VMP-11	5 ft	VMP-11-5-080912	8/9/2012	0.018	J		<0.012	U		<0.0049	U		0.013			<0.0064	U		<0.0099	U		<0.037	U		<0.0021	U	
		VMP-11-5-081512	8/15/2012	0.0081	J		<0.014	U		<0.006	U		0.0011	J		<0.0077	U		<0.012	U		<0.045	U		<0.0025	U	
		VMP-11-5-082112	8/21/2012	0.014	J	J	<0.018	U		0.0016	J		0.0065			<0.0094	U		<0.014	U		<0.055	U		<0.0031	U	UJ
		VMP-11-5-082112-Dup	8/21/2012	0.0098	J	J	<0.018	U		<0.0073	U		0.0082			<0.0094	U		0.0034	J		<0.055	U		<0.0031	U	UJ
		VMP-11-5-083112	8/31/2012	0.035	J	J	<0.018	U		<0.0073	U		0.14			0.0039	J		0.014	J		0.0037	J		<0.0031	U	
		VMP-11-5-090612	9/6/2012	0.08			<0.019	U		<0.0078	U		0.0037	J		<0.01	U		<0.016	U		<0.059	U		<0.0034	U	
		VMP-11-5-091212	9/12/2012	0.044			<0.018	U		<0.0077	U		0.014			<0.0099	U		<0.015	U		<0.057	U		<0.0033	U	
		VMP-11-5-091812	9/18/2012	0.02	J		<0.018	U		<0.0074	U		0.028			<0.0096	U		<0.015	U		<0.056	U		<0.0032	U	
		VMP-11-5-092812	9/28/2012	0.015	J		<0.018	U		<0.0077	U		0.011			<0.0099	U		<0.015	U		<0.057	U		<0.0033	U	
		VMP-11-5-092812-Dup	9/28/2012	0.017	J		<0.018	U		<0.0075	U		0.014			<0.0097	U		<0.015	U		<0.056	U		<0.0032	U	
VMP-13	5 ft	VMP-13-5-080912	8/9/2012	0.022	J		<0.015	U		0.00092	J		0.021			<0.0079	U		<0.012	U		<0.046	U		<0.0026	U	
		VMP-13-5-081512	8/15/2012	0.016	J		<0.015	U		<0.0064	U		0.0048			<0.0082	U		<0.013	U		<0.048	U		<0.0027	U	
		VMP-13-5-082112	8/21/2012	0.025	J	J	<0.018	U		0.0016	J		0.026			<0.0097	U		<0.015	U		<0.056	U		<0.0032	U	UJ
		VMP-13-5-083112	8/31/2012	0.033	J	J	<0.018	U		<0.0075	U		0.12			<0.0097	U		<0.015	U		<0.056	U		<0.0032	U	
		VMP-13-5-090612	9/6/2012	0.06			<0.015	U		<0.0063	U		0.013			<0.0081	U		<0.012	U		<0.047	U		<0.0027	U	
		VMP-13-5-091212	9/12/2012	0.061			<0.019	U		<0.0078	U		0.0099			<0.01	U		<0.016	U		<0.059	U		<0.0034	U	
		VMP-13-5-091212-Dup	9/12/2012	0.045			<0.016	U		<0.0068	U		0.0055			<0.0088	U		<0.014	U		<0.051	U		<0.0029	U	
		VMP-13-5-091812	9/18/2012	0.021	J		<0.019	U		<0.0078	U		0.003	J		<0.01	U		<0.016	U		<0.058	U		<0.0033	U	
		VMP-13-5-092812	9/28/2012	0.078			<0.018	U		0.0048	J		0.024			<0.0094	U		0.004	J		<0.055	U		<0.0031	U	
VMP-16	5 ft	VMP-16-5-080812	8/8/2012	<4.4	U		<2.3	U		<0.97	U		0.094	J		<1.2	U		<1.9	U		<7.3	U		<0.41	U	
		VMP-16-5-081412	8/14/2012	0.026	J	J	<0.1	U		<0.041	U		<0.025	U		<0.053	U		<0.082	U		<0.31	U		<0.018	U	
		VMP-16-5-082012	8/20/2012	0.13	J	J	<0.32	U		<0.13	U		0.27		J	<0.17	U		<0.27	U		<1	U		<0.057	U	UJ
		VMP-16-5-083012	8/30/2012	0.28	J		<0.76	U		<0.31	U		<0.19	U		<0.4	U		<0.62	U		<2.3	U		<0.13	U	
		VMP-16-5-090512	9/5/2012	54			<18	U		<7.7	U		7.4			<9.9	U		<15	U		<57	U		<3.3	U	
		VMP-16-5-091112	9/11/2012	<0.35	U		<0.18	U		<0.077	U		0.012	J		<0.099	U		<0.15	U		<0.57	U		<0.033	U	
		VMP-16-5-091712	9/17/2012	110	J		<71	U		<29	U		11	J		<38	U		<58	U		<220	U		<12	U	
		VMP-16-5-092712	9/27/2012	0.11			<0.017	U		<0.007	U		0.0068			<0.009	U		<0.014	U		<0.052	U		<0.003	U	
VMP-21	5 ft	VMP-21-5-080812	8/8/2012	0.69			<0.016	U		<0.0064	U		0.0024	J		0.0012	J		<0.013	U		<0.048	U		<0.0028	U	
		VMP-21-5-081412	8/14/2012	0.019	J		<0.012	U		<0.0049	U		0.0032			<0.0064	U		<0.0099	U		<0.037	U		<0.0021	U	
		VMP-21-5-081412-Dup	8/14/2012	0.011	J		<0.015	U		<0.0061	U		0.0017	J		<0.0079	U		<0.012	U		<0.046	U		<0.0026	U	
		VMP-21-5-082012	8/20/2012	0.028	J	J	<0.022	U		<0.0092	U		0.0086			<0.012	U		<0.018	U		<0.069	U		<0.0039	U	UJ
		VMP-21-5-083012	8/30/2012	0.027	J	J	<0.019	U		<0.0078	U		0.018			<0.01	U		<0.016	U		<0.059	U		<0.0034	U	
		VMP-21-5-090512	9/5/2012	0.029	J		<0.019	U		<0.0078	U		0.014			<0.01	U		<0.016	U		<0.059	U		<0.0034	U	
		VMP-21-5-091112	9/11/2012	0.042			<0.018	U		<0.0073	U		0.0088			<0.0094	U		<0.014	U		<0.055	U		<0.0031	U	
		VMP-21-5-091712	9/17/2012	0.02	J		<0.018	U		<0.0073	U		0.0028	J		<0.0095	U		<0.015	U		<0.055	U		<0.0031	U	
		VMP-21-5-092712	9/27/2012	0.025	J		<0.017	U		<0.0071	J	U	0.0041	J		<0.0092	U		<0.014	U		<0.054	U		<0.003	U	
VMP-42	10 ft	VMP-42-10-080812	8/8/2012	0.14			<0.012	U		<0.0051	U		0.13			<0.0066	U		<0.01	U		0.002	J		<0.0022	U	
		VMP-42-10-081412	8/14/2012	0.032			<0.012	U		<0.0052	U		0.0057			<0.0067	U		<0.01	U		<0.039	U		<0.0022	U	
		VMP-42-10-082012	8/20/2012	0.021	J	J	<0.019	U		0.0028	J		0.0074			<0.01	U		<0.016	U		<0.06	J	U	<0.0034	U	UJ
		VMP-42-10-083012	8/30/2012	0.043	J	J	<0.02	U		<0.0082	U		0.028			<0.011	U		<0.016	U		<0.062	U		<0.0035	U	
		VMP-42-10-090512	9/5/2012	0.06			<0.018	U		<0.0077	U		0.016			<0.0099	U		<0.015	U		<0.057	U		<0.0033	U	
		VMP-42-10-091112	9/11/2012	0.05			<0.019	U		<0.0078	U		0.014			<0.01	U		<0.016	U		<0.059	U		<0.0034	U	
		VMP-42-10-091712	9/17/2012	0.027	J		<0.018	U		<0.0074	U		0.045			<0.0096	U		<0.015	U		<0.056	U		<0.0032	U	
		VMP-42-10-092712	9/27/2012	0.026	J		<0.017	U		<0.007	U		0.0076			<0.009	U		<0.014	U		<0.052	U		<0.003	U	
		VMP-42-10-092712-Dup	9/27/2012	0.024	J		<0.016	U		<0.0067	U		0.0017	J		<0.0086	U		<0.013	U		<0.05	U		<0.0028	U	

Notes
Lab Qualifiers
J = Estimated value; e.g. results between the MDL and RL
U = Compound analyzed for but not detected above the RL
B = Compound present in laboratory blank greater than reporting limit
URS Qualifiers
J = Estimated detection
UJ = Estimated non-detect
U = Non-detect due to blank contamination

TABLE 1
WEEK 1-8 CUMULATIVE SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS: VOCS

Location	Depth	Sample ID	Sample Date	Butane			2-Butanone			Carbon disulfide			Carbon tetrachloride			Chlorobenzene			Chlorodibromomethane			Chloroethane			Chloroform			Chloromethane		
				Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals
VMP-4	5 ft	VMP-4-5-080812	8/8/2012	0.005	J		0.03			<0.012	J	U	<0.0062	U		<0.0045	J	U	<0.0083	U		<0.01	U		0.0012	J		<0.02	U	
		VMP-4-5-081412	8/14/2012	0.32			0.033			0.011	J		<0.0087	U		<0.0064	J	U	<0.012	U		<0.014	U		<0.0067	U		<0.028	U	
		VMP-4-5-082012	8/20/2012	<0.014	U		0.083			<0.019	J	U	<0.0095	U		<0.007	J	U	<0.013	U		<0.016	U		0.0019	J		<0.031	U	
		VMP-4-5-083012	8/30/2012	0.024			0.096			0.0077	J	J	<0.012	U		0.0082	J		<0.016	U		<0.02	U		0.0019	J		<0.04	U	
		VMP-4-5-090512	9/5/2012	<0.014	U		0.012	J		<0.018	J	U	<0.0093	U		<0.0068	J	U	<0.013	U		<0.016	U		<0.0072	U		<0.03	U	
		VMP-4-5-091112	9/11/2012	0.018			0.023			0.0052	J		<0.0089	U		0.0053	J		<0.012	U		<0.015	U		<0.0069	U		<0.029	U	
		VMP-4-5-091712	9/17/2012	<0.014	U		0.014	J		<0.019	U		<0.0095	U		<0.007	J	U	<0.013	U		<0.016	U		<0.0074	U		<0.031	U	
		VMP-4-5-092712	9/27/2012	<0.012	U		0.015			0.0037	J		<0.0079	U		<0.0058	J	U	<0.011	U		<0.013	U		0.0009	J		<0.026	U	
VMP-10	5 ft	VMP-10-5-080912	8/9/2012	0.0046	J		0.01	J		<0.011	J	U	<0.0058	U		<0.0042	J	U	<0.0078	U		<0.0096	U		<0.0045	U		<0.019	U	
		VMP-10-5-081512	8/15/2012	0.0049	J		<0.011	U		<0.012	J	U	<0.0061	U		<0.0044	J	U	<0.0082	U		<0.01	U		<0.0047	U		<0.02	U	
		VMP-10-5-082112	8/21/2012	<0.014	U		<0.018	U		<0.019	J	U	<0.0095	U		<0.007	J	U	<0.013	U		<0.016	U		<0.0074	U		<0.031	U	
		VMP-10-5-083112	8/31/2012	<0.014	U		0.034			0.0071	J	J	<0.0091	U		<0.0066	J	U	<0.012	U		<0.015	U		<0.007	U		<0.03	U	
		VMP-10-5-090612	9/6/2012	<0.015	U		0.042			<0.019	J	U	<0.0098	U		<0.0072	J	U	<0.013	U		<0.016	U		<0.0076	U		<0.032	U	
		VMP-10-5-091212	9/12/2012	<0.015	U		<0.019	U		0.0057	J		<0.01	U		<0.0073	J	U	<0.014	U		<0.017	U		<0.0078	U		<0.033	U	
		VMP-10-5-091812	9/18/2012	<0.014	U		<0.017	U		<0.018	J	U	<0.0091	U		<0.0066	J	U	<0.012	U		<0.015	U		<0.007	U		<0.03	U	
		VMP-10-5-092812	9/28/2012	<0.015	U		0.012	J		<0.019	J	U	<0.0098	U		<0.0081		U	<0.013	U		<0.016	U		<0.0076	J	U	<0.032	U	
		VMP-10-5-092812-Dup	9/28/2012	<0.014	U		0.009	J		<0.019	J	U	<0.0095	U		<0.0078		U	<0.013	U		<0.016	U		<0.0074	J	U	<0.031	U	
VMP-11	5 ft	VMP-11-5-080912	8/9/2012	0.0087	J		0.0047	J		<0.012	J	U	<0.006	U		<0.0044	J	U	<0.0081	U		<0.01	U		0.00064	J		<0.02	U	
		VMP-11-5-081512	8/15/2012	<0.011	U		<0.014	U		<0.014	J	U	<0.0072	U		<0.0053	J	U	<0.0098	U		<0.012	U		<0.0056	U		<0.024	U	
		VMP-11-5-082112	8/21/2012	<0.013	U		<0.017	U		<0.018	J	U	<0.0089	U		<0.0065	J	U	<0.012	U		<0.015	U		0.001	J		<0.029	U	
		VMP-11-5-082112-Dup	8/21/2012	<0.013	U		<0.017	U		<0.018	J	U	<0.0089	U		<0.0065	J	U	<0.012	U		<0.015	U		0.001	J		<0.029	U	
		VMP-11-5-083112	8/31/2012	<0.013	U		0.043			0.0098	J	J	<0.0089	U		<0.0065		U	0.006	J		<0.015	U		0.0041	J		<0.029	U	
		VMP-11-5-090612	9/6/2012	<0.014	U		0.044			<0.019	J	U	<0.0095	U		<0.007	J	U	<0.013	U		<0.016	U		<0.0074	U		<0.031	U	
		VMP-11-5-091212	9/12/2012	<0.014	U		0.0096	J		0.0056	J		<0.0093	U		<0.0068	J	U	<0.013	U		<0.016	U		<0.0072	U		<0.03	U	
		VMP-11-5-091812	9/18/2012	<0.014	U		0.0097	J		<0.018	J	U	<0.009	U		<0.0066	J	U	<0.012	U		<0.015	U		<0.007	U		<0.03	U	
		VMP-11-5-092812	9/28/2012	<0.014	U		<0.017	U		0.0032	J		<0.0093	U		<0.0068	J	U	<0.013	U		<0.016	U		0.00097	J		<0.03	U	
		VMP-11-5-092812-Dup	9/28/2012	<0.014	U		0.0047	J		0.0031	J		<0.0091	U		<0.0066	J	U	<0.012	U		<0.015	U		<0.007	U		<0.03	U	
VMP-13	5 ft	VMP-13-5-080912	8/9/2012	<0.011	U		<0.014	U		0.014	J		<0.0074	U		<0.0054	J	U	<0.01	U		<0.012	U		0.0052	J		<0.024	U	
		VMP-13-5-081512	8/15/2012	<0.012	U		0.0034	J		0.0083	J		<0.0077	U		<0.0057	J	U	<0.01	U		<0.013	U		0.0043	J		<0.025	U	
		VMP-13-5-082112	8/21/2012	<0.014	U		0.0045	J		0.012	J		<0.0091	U		<0.0066	J	U	<0.012	U		<0.015	U		0.003	J		<0.03	U	
		VMP-13-5-083112	8/31/2012	<0.014	U		0.036			0.012	J	J	<0.0091	U		<0.0066	J	U	<0.012	U		<0.015	U		0.0026	J		<0.03	U	
		VMP-13-5-090612	9/6/2012	<0.012	U		0.026			<0.015	J	U	<0.0076	U		<0.0056	J	U	<0.01	U		<0.013	U		0.004	J		<0.025	U	
		VMP-13-5-091212	9/12/2012	<0.014	U		0.01	J		0.019			<0.0095	U		<0.007	J	U	<0.013	U		<0.016	U		0.0031	J		<0.031	U	
		VMP-13-5-091212-Dup	9/12/2012	<0.012	U		0.0094	J		0.0058	J		<0.0083	U		<0.0061	J	U	<0.011	U		<0.014	U		0.0039	J		<0.027	U	
		VMP-13-5-091812	9/18/2012	<0.014	U		<0.018	U		0.0074	J		<0.0094	U		<0.0069	J	U	<0.013	U		<0.016	U		0.0017	J		<0.031	U	
		VMP-13-5-092812	9/28/2012	<0.013	U		0.022			0.0093	J		<0.0089	U		0.017			<0.012	U		<0.015	U		0.0044	J		0.013	J	
VMP-16	5 ft	VMP-16-5-080812	8/8/2012	<1.8	U		<2.2	U		0.61	J		<1.2	U		0.43	J		<1.6	U		<2	U		<0.91	U		<3.9	U	
		VMP-16-5-081412	8/14/2012	<0.076	U		<0.094	U		0.024	J	J	<0.05	U		0.023	J	J	<0.068	U		<0.084	U		0.0054	J	J	<0.16	U	
		VMP-16-5-082012	8/20/2012	0.45		J	<0.3	U		0.056	J	J	<0.16	U		0.074	J	J	<0.22	U		<0.27	U		<0.13	U		<0.53	U	
		VMP-16-5-083012	8/30/2012	<0.58	U		<0.71	U		0.48	J		<0.38	U		0.26	J		<0.52	U		<0.64	U		<0.3	U		0.23	J	
		VMP-16-5-090512	9/5/2012	64			<17	U		10	J		<9.3	U		6	J		<13	U		<16	U		<7.2	U		<30	U	
		VMP-16-5-091112	9/11/2012	<0.14	U		<0.17	U		0.025	J		<0.093	U		0.041	J		<0.13	U		<0.16	U		<0.072	U		<0.3	U	
		VMP-16-5-091712	9/17/2012	57			<67	U		12	J		<36	U		18	J		<48	U		<60	U		<28	U		<120	U	
		VMP-16-5-092712	9/27/2012	<0.013	U		0.035			0.0028	J		<0.0085	U		<0.0063	B	U	<0.011	U		<0.014	U		0.0079			<0.028	U	
VMP-21	5 ft	VMP-21-5-080812	8/8/2012	<0.012	U		0.015			0.024			<0.0078	U		<0.0057	J	U	<0.011	U		<0.013	U		0.0015	J		0.0097	J	
		VMP-21-5-081412	8/14/2012	<0.0091	U		0.0062	J		<0.012	J	U	<0.006	U		0.0034	J		<0.0081	U		<0.01	U		<0.0047	U		<0.02	U	
		VMP-21-5-081412-Dup	8/14/2012	<0.011	U		<0.014	U		0.008	J		<0.0074	U		<0.0054	J	U	<0.01	U		<0.012	U		<0.0057	U		<0.024	U	
		VMP-21-5-082012	8/20/2012	<0.017	U		0.017	J		<0.022	J	U	<0.011	U		<0.0081	J	U	<0.015	U		<0.019	U		<0.0086	U		<0.036	U	
		VMP-21-5-083012	8/30/2012	<0.014	U		0.043			<0.019	J	U	<0.0095	U		<0.007	J	U	<0.013	U		<0.016	U		<0.0074	U		<0.031	U	
		VMP-21-5-090512	9/5/2012	<0.014	U		0.019			<0.019	J	U	<0.0095	U		<0.007	J	U	<0.013	U		<0.016	U		<0.0074	U		<0.031	U	
		VMP-21-5-091112	9/11/2012	<0.013	U		0.0099	J		0.0027	J		<0.0089	U		<0.0065	J	U	<0.012	U		<0.015	U		<0.0069	U		<0.029	U	
		VMP-21-5-091712	9/17/2012	<0.013	U		0.011	J		<0.018	J	U	<0.0089	U		<0.0065	J	U	<0.012	U		<0.015	U		<0.0069	U		<0.029	U	
		VMP-21-5-092712	9/27/2012	<0.013	U		0.016	J		<0.017	U		<0.0087	U		<0.0064	J	U	<0.012	U		<0.014	U		<0.0067	U		<0.028	U	
VMP-42	10 ft	VMP-42-10-080812	8/8/2012	<0.0093	U		0.034			0.01	J		0.0013	J		<0.0053		U	<0.0083	U		0.0072	J		0.0084			0.032		
		VMP-42-10-081412	8/14/2012	<0.0096	U		0.02			<0.012	J	U	<0.0063	U		<0.0046	J	U	<0.0086	U		<0.011	U		0.0034	J		<0.021	U	
		VMP-42-10-082012	8/20/2012	<0.015	U		0.052			<0.019	J	U	<0.0098	U		<0.0072	J	U	<0.013	U		<0.016	U		0.0041	J		<0.032	U	
		VMP-42-10-083012	8/30/2012	<0.015	U		0.076			<0.02	J	U	<0.01	U		<0.0073	J	U	<0.014	U		<0.017	U		0.0034	J		<0.033	U	
		VMP-42-10-090512	9/5/2012	<0.014	U		0.027			<0.018	J	U	<0.0093	U		<0.0068	J	U	<0.013	U		<0.016	U		0.0041	J		<0.03	U	
		VMP-42-10-091112	9/11/2012	<0.014	U		0.026			0.0036	J		<0.0095	U		<0.007	J	U	<0.013	U		<0.016	U		0.0058	J		<0.031	U	
		VMP-42-10-091712	9/17/2012	<0.014	U		0.012	J		<0.018	J	U	<0.009	U		<0.0066	J	U	<0.012	U		<0.015	U		0.0066	J		<0.03	U	
		VMP-42-10-092712	9/27/2012	<0.013	U		0.01	J		0.0023	J		<0.0085	U		<0.007	B	U	<0.011	U		<0.014	U		0.005	J		<0.028	U	
		VMP-42-10-092712-Dup	9/27/2012	<0.012	U		0.0054	J		0.0024	J		<0.0081	U		<0.0059	J	U	<0.011	U		<0.014	U		0.0044	J		<0.027	U	

Notes
Lab Qualifiers
J = Estimated value; e.g. results between the MDL and RL
U = Compound analyzed for but not detected above the RL
B = Compound present in laboratory blank greater than reporting l
URS Qualifiers
J = Estimated detection
UJ = Estimated non-detect
U = Non-detect due to blank contamination

TABLE 1
WEEK 1-8 CUMULATIVE SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS: VOCS

Location	Depth	Sample ID	Sample Date	Cyclohexane			1,2-Dibromoethane			1,2-Dichlorobenzene			1,3-Dichlorobenzene			1,4-Dichlorobenzene			Dichlorodifluoromethane			1,1-Dichloroethane			1,2-Dichloroethane			1,1-Dichloroethene		
				Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals
VMP-4	5 ft	VMP-4-5-080812	8/8/2012	0.002	J		<0.0075	U		<0.0059	J	U	0.0019	J		<0.0059	J	U	0.0025	J		<0.004	U		0.00052	J		<0.0039	U	
		VMP-4-5-081412	8/14/2012	0.048			<0.011	U		<0.0083	U		<0.0083	U		<0.0083	J	U	0.003	J	J	<0.0056	U		0.00072	J		<0.0055	U	
		VMP-4-5-082012	8/20/2012	<0.0052	U		<0.012	U		0.0017	J		<0.0091	J	U	<0.0091	J	U	0.0038	J		<0.0061	U		<0.0061	U		<0.006	U	
		VMP-4-5-083012	8/30/2012	<0.0067	U		<0.015	U		<0.012	J	U	<0.012	J	U	<0.012	J	U	0.003	J	J	<0.0078	U		<0.0078	U		<0.0077	U	
		VMP-4-5-090512	9/5/2012	<0.0051	U		0.0035	J		<0.0089	U		<0.0089	J	U	<0.0089	J	U	0.0027	J		<0.006	U		<0.006	U		<0.0059	U	
		VMP-4-5-091112	9/11/2012	<0.0048	U		<0.011	U		0.0016	J		0.0031	J		0.0026	J		0.0022	J		<0.0057	U		<0.0057	U		<0.0056	U	
		VMP-4-5-091712	9/17/2012	<0.0052	U		<0.012	U		<0.0091	U		<0.0091	U		0.0014	J		0.0019	J		<0.0061	U		<0.0061	U		<0.006	U	
		VMP-4-5-092712	9/27/2012	0.0007	J		<0.0097	U		<0.0076	U		<0.0076	U		<0.0076	J	U	0.0027	J		<0.0051	U		<0.0051	U		<0.005	U	
VMP-10	5 ft	VMP-10-5-080912	8/9/2012	0.0011	J		<0.007	U		<0.0055	J	U	0.0014	J		<0.0055	J	U	0.0024	J		<0.0037	U		0.00058	J		<0.0036	U	
		VMP-10-5-081512	8/15/2012	0.0017	J		<0.0074	U		<0.0058	J	U	0.0015	J		<0.0058	J	U	0.0035	J	J	<0.0039	U		<0.0039	U		<0.0038	U	
		VMP-10-5-082112	8/21/2012	<0.0052	U		<0.012	U		<0.0091	U		<0.0091	U		<0.0091	J	U	0.0031	J		<0.0061	U		<0.0061	U		<0.006	U	
		VMP-10-5-083112	8/31/2012	<0.005	U		<0.011	U		<0.0087	U		<0.0087	U		<0.0087	J	U	0.0022	J	J	<0.0058	U		<0.0058	U		<0.0057	U	
		VMP-10-5-090612	9/6/2012	0.0016	J		<0.012	U		<0.0093	J	U	<0.0093	J	U	<0.0093	J	U	0.0023	J		<0.0063	U		0.00094	J		<0.0062	U	
		VMP-10-5-091212	9/12/2012	0.0021	J		<0.012	U		<0.0096	U		<0.0096	U		<0.0096	J	U	0.0024	J		<0.0064	U		<0.0064	U		<0.0063	U	
		VMP-10-5-091812	9/18/2012	<0.005	U		<0.011	U		<0.0087	U		<0.0087	U		<0.0087	U		0.002	J		<0.0058	U		<0.0058	U		<0.0057	U	
		VMP-10-5-092812	9/28/2012	<0.0054	U		<0.012	U		<0.0093	J	U	<0.0093	J	U	<0.0093	J	U	0.0028	J		<0.0063	U		<0.0063	U		<0.0062	U	
		VMP-10-5-092812-Dup	9/28/2012	<0.0052	U		<0.012	U		<0.0091	J	U	<0.0091	J	U	<0.0091	J	U	0.0022	J		<0.0061	U		<0.0061	U		<0.006	U	
VMP-11	5 ft	VMP-11-5-080912	8/9/2012	0.0047			<0.0073	U		<0.0057	U		0.0018	J		<0.0057	J	U	0.0029	J		<0.0039	U		0.00064	J		<0.0038	U	
		VMP-11-5-081512	8/15/2012	0.0011	J		<0.0088	U		<0.0069	U		<0.0069	U		<0.0069	U		0.0028	J	J	<0.0046	U		<0.0046	U		<0.0046	U	
		VMP-11-5-082112	8/21/2012	<0.0048	U		<0.011	U		0.0017	J		<0.0085	J	U	<0.0085	J	U	0.0041	J		<0.0057	U		<0.0057	U		<0.0056	U	
		VMP-11-5-082112-Dup	8/21/2012	<0.0048	U		<0.011	U		<0.0085	U		<0.0085	U		<0.0085	J	U	0.0037	J		<0.0057	U		<0.0057	J	U	<0.0056	U	
		VMP-11-5-083112	8/31/2012	<0.0048	U		<0.011	U		<0.0085	U		<0.0085	U		<0.0085	J	U	0.0034	J	J	<0.0057	U		<0.0057	U		<0.0056	U	
		VMP-11-5-090612	9/6/2012	0.0022	J		<0.012	U		<0.0091	J	U	<0.0091	J	U	<0.0091	J	U	0.0022	J		<0.0061	U		<0.0061	U		<0.006	U	
		VMP-11-5-091212	9/12/2012	0.002	J		<0.011	U		<0.0089	U		<0.0089	J	U	<0.0089	J	U	0.0021	J		<0.006	U		<0.006	U		<0.0059	U	
		VMP-11-5-091812	9/18/2012	0.0022	J		<0.011	U		<0.0086	U		<0.0086	U		<0.0086	U		0.0018	J		<0.0058	U		<0.0058	U		<0.0057	U	
		VMP-11-5-092812	9/28/2012	<0.0051	U		<0.011	U		<0.0089	U		<0.0089	U		<0.0089	J	U	0.0028	J		<0.006	U		<0.006	U		<0.0059	U	
		VMP-11-5-092812-Dup	9/28/2012	<0.005	U		<0.011	U		<0.0087	U		<0.0087	U		<0.0087	U		0.0029	J		<0.0058	U		<0.0058	U		<0.0057	U	
VMP-13	5 ft	VMP-13-5-080912	8/9/2012	0.01			<0.0091	U		<0.0071	U		0.002	J		<0.0071	J	U	0.0036	J		<0.0048	U		<0.0048	U		<0.0047	U	
		VMP-13-5-081512	8/15/2012	<0.0042	U		<0.0094	U		<0.0074	U		<0.0074	U		<0.0074	J	U	0.0033	J	J	<0.005	U		<0.005	U		<0.0049	U	
		VMP-13-5-082112	8/21/2012	0.0016	J		<0.011	U		<0.0087	U		<0.0087	J	U	<0.0087	J	U	0.0038	J		<0.0058	U		<0.0058	U		<0.0057	U	
		VMP-13-5-083112	8/31/2012	<0.005	U		<0.011	U		<0.0087	J	U	<0.0087	J	U	<0.0087	J	U	0.0034	J	J	<0.0058	U		<0.0058	U		<0.0057	U	
		VMP-13-5-090612	9/6/2012	<0.0042	U		<0.0093	U		<0.0073	J	U	<0.0073	J	U	<0.0073	J	U	0.003	J		<0.0049	U		<0.0049	U		<0.0048	U	
		VMP-13-5-091212	9/12/2012	<0.0052	U		<0.012	U		<0.0091	U		<0.0091	J	U	<0.0091	J	U	0.0026	J		<0.0061	U		<0.0061	U		<0.006	U	
		VMP-13-5-091212-Dup	9/12/2012	<0.0045	U		<0.01	U		<0.0079	U		<0.0079	J	U	<0.0079	J	U	0.0026	J		<0.0053	U		<0.0053	U		<0.0052	U	
		VMP-13-5-091812	9/18/2012	<0.0052	U		<0.012	U		<0.009	U		<0.009	U		0.0011	J		0.0018	J		<0.0061	U		<0.0061	U		<0.0059	U	
		VMP-13-5-092812	9/28/2012	0.0017	J		0.01	J		0.0076	J		0.01			0.012			0.0025	J		0.0008	J		<0.0057	U		<0.0056	U	
VMP-16	5 ft	VMP-16-5-080812	8/8/2012	<0.64	U		<1.4	U		<1.1	U		<1.1	U		<1.1	U		<0.92	U		<0.76	U		0.08	J		<0.74	U	
		VMP-16-5-081412	8/14/2012	0.0062	J	J	<0.061	U		<0.048	U		<0.048	U		<0.048	U		<0.039	U		<0.032	U		<0.032	U		<0.032	U	
		VMP-16-5-082012	8/20/2012	0.57		J	<0.2	U		<0.16	U		<0.16	U		<0.16	U		<0.13	U		<0.1	U		<0.1	U		<0.1	U	
		VMP-16-5-083012	8/30/2012	<0.21	U		<0.46	U		<0.36	U		<0.36	U		0.048	J		<0.3	U		<0.24	U		<0.24	U		<0.24	U	
		VMP-16-5-090512	9/5/2012	<5.1	U		<11	U		<8.9	U		<8.9	U		2	J		<7.3	U		<6	U		1.6	J		<5.9	U	
		VMP-16-5-091112	9/11/2012	<0.051	U		<0.11	U		<0.089	U		<0.089	U		<0.089	U		<0.073	U		<0.06	U		<0.06	U		<0.059	U	
		VMP-16-5-091712	9/17/2012	<19	U		<43	U		<34	U		<34	U		<34	U		<28	U		<23	U		<23	U		<22	U	
		VMP-16-5-092712	9/27/2012	<0.0046	U		<0.01	U		<0.0081	U		<0.0081	U		<0.0081	J	U	0.0031	J		<0.0054	U		<0.0054	U		<0.0053	U	
VMP-21	5 ft	VMP-21-5-080812	8/8/2012	0.0016	J		0.003	J		<0.0075	J	U	0.0018	J		<0.0075	J	U	0.0033	J		<0.005	U		<0.005	U		<0.0049	U	
		VMP-21-5-081412	8/14/2012	<0.0033	U		<0.0073	U		<0.0057	U		0.0014	J		<0.0057	J	U	0.0027	J	J	<0.0039	U		<0.0039	U		<0.0038	U	
		VMP-21-5-081412-Dup	8/14/2012	<0.004	U		<0.009	U		<0.0071	U		<0.0071	U		<0.0071	U		0.0039	J	J	<0.0048	U		<0.0048	U		<0.0046	U	
		VMP-21-5-082012	8/20/2012	<0.0061	U		<0.014	U		<0.011	U		<0.011	J	U	<0.011	J	U	0.0034	J		<0.0072	U		<0.0072	U		<0.007	U	
		VMP-21-5-083012	8/30/2012	0.0011	J		<0.012	U		<0.0091	J	U	<0.0091	J	U	<0.0091	J	U	0.0024	J	J	<0.0061	U		<0.0061	U		<0.006	U	
		VMP-21-5-090512	9/5/2012	0.00093	J		0.0032	J		<0.0091	J	U	<0.0091	J	U	<0.0091	J	U	0.0027	J		<0.0061	U		0.0017	J		<0.006	U	
		VMP-21-5-091112	9/11/2012	0.0015	J		<0.011	U		<0.0085	U		<0.0085	J	U	<0.0085	J	U	0.0019	J		<0.0057	U		<0.0057	U		<0.0056	U	
		VMP-21-5-091712	9/17/2012	<0.0049	U		<0.011	U		<0.0085	U		<0.0085	U		0.0013	J		0.0014	J		<0.0057	U		<0.0057	U		<0.0056	U	
		VMP-21-5-092712	9/27/2012	<0.0048	U		<0.011	U		<0.0083	J	U	<0.0083	J	U	<0.0083	J	U	0.0023	J		<0.0056	U		<0.0056	U		<0.0055	U	
VMP-42	10 ft	VMP-42-10-080812	8/8/2012	<0.0034	U		0.002	J		<0.0059	J	U	0.0017	J		<0.0059	J	U	0.0026	J		<0.004	U		0.0045			<0.0039	U	
		VMP-42-10-081412	8/14/2012	0.0018	J		<0.0077	U		<0.006	U		0.0016	J		<0.006	J	U	0.0035	J	J	<0.0041	U		0.00058	J		<0.004	U	
		VMP-42-10-082012	8/20/2012	<0.0054	U		<0.012	U		<0.0093	U		<0.0093	J	U	<0.0093	J	U	0.003	J		<0.0063	U		<0.0063	U		<0.0062	U	
		VMP-42-10-083012	8/30/2012	<0.0055	U		<0.012	U		<0.0096	J	U	<0.0096	U		0.0038	J		0.0034	J	J	<0.0064	U		<0.0064	U		<0.0063	U	
		VMP-42-10-090512	9/5/2012	<0.0051	U		0.0034	J		<0.0089	J	U	<0.0089	J	U	<0.0089	J	U	0.0025	J		<0.006	U		0.0011	J		<0.0059	U	
		VMP-42-10-091112	9/11/2012	<0.0052	U		<0.012	U		<0.0091	J	U	<0.0091	J	U	<0.0091	J	U	<0.0075	U		<0.0061	U		<0.0061	J	U	<0.006	U	
		VMP-42-10-091712	9/17/2012	0.0057			<0.011	U		<0.0086	U		<0.0086	U		0.0016	J		0.0024	J		<0.0058	U		<0.0058	U		<0.0057	U	
		VMP-42-10-092712	9/27/2012	<0.0046	U		<0.01	U		<0.0081	J	U	<0.0081	J	U	<0.0081	J	U	0.0026	J		<0.0054	U		<0.0054	U		<0.0053	U	
		VMP-42-10-092712-Dup	9/27/2012	<0.0044	U		<0.0099	U		<0.0078	U		<0.0078	U		<0.0078	J	U	0.0027	J		<0.0052	U		<0.0052	U		<0.0051	U	

Notes
Lab Qualifiers
J = Estimated value; e.g. results between the MDL and RL
U = Compound analyzed for but not detected above the RL
B = Compound present in laboratory blank greater than reporting l
URS Qualifiers
J = Estimated detection
UJ = Estimated non-detect
U = Non-detect due to blank contamination

TABLE 1
WEEK 1-8 CUMULATIVE SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS: VOCS

Location	Depth	Sample ID	Sample Date	cis-1,2-Dichloroethene			trans-1,2-Dichloroethene			Dichloromethane (Methylene			1,2-Dichloropropane			cis-1,3-Dichloropropene			trans-1,3-Dichloropropene			1,4-Dioxane			Ethanol			Ethyl Acetate		
				Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals
VMP-4	5 ft	VMP-4-5-080812	8/8/2012	<0.0039	U		<0.0039	U		0.0024	J		<0.0045	U		<0.0044	U		<0.0044	U		<0.014	U		0.062			<0.014	U	
		VMP-4-5-081412	8/14/2012	<0.0055	U		<0.0055	U		<0.048	U		<0.0064	U		<0.0063	U		<0.0063	U		<0.02	U		0.097			<0.02	U	
		VMP-4-5-082012	8/20/2012	<0.006	U		<0.006	U		0.0054	J		<0.007	U		<0.0069	J	U	<0.0069	J	U	0.0085	J		0.074		J	<0.022	U	
		VMP-4-5-083012	8/30/2012	<0.0077	U		<0.0077	U		0.0023	J		<0.0089	U		<0.0088	U		<0.0088	U		<0.028	U		0.14			<0.028	U	
		VMP-4-5-090512	9/5/2012	<0.0059	U		<0.0059	U		<0.051	U		<0.0068	U		<0.0067	U		<0.0067	J	U	<0.021	U		0.04			<0.021	U	
		VMP-4-5-091112	9/11/2012	<0.0056	U		<0.0056	U		0.0026	J		<0.0065	U		<0.0064	U		<0.0064	U		<0.02	U		0.038			<0.02	U	
		VMP-4-5-091712	9/17/2012	<0.006	U		<0.006	U		0.0011	J		<0.007	U		<0.0069	U		<0.0069	U		<0.022	U		0.039			<0.022	U	
		VMP-4-5-092712	9/27/2012	<0.005	U		<0.005	U		<0.044	J	U	<0.0058	U		<0.0057	U		<0.0057	U		<0.018	U		0.012			<0.018	U	
VMP-10	5 ft	VMP-10-5-080912	8/9/2012	<0.0036	U		<0.0036	U		<0.032	J	U	<0.0042	U		<0.0042	U		<0.0042	U		<0.013	U		<0.0069	U		<0.013	U	
		VMP-10-5-081512	8/15/2012	<0.0038	U		<0.0038	U		0.0014	J		<0.0044	U		<0.0044	U		<0.0044	U		<0.014	U		0.0072	J		<0.014	U	
		VMP-10-5-082112	8/21/2012	<0.006	U		<0.006	U		0.0018	J		<0.007	U		<0.0069	U		<0.0069	U		<0.022	U		0.0034	J	J	<0.022	U	
		VMP-10-5-083112	8/31/2012	<0.0057	U		<0.0057	U		<0.05	U		<0.0067	U		<0.0066	U		<0.0066	U		<0.021	U		0.048			<0.021	U	
		VMP-10-5-090612	9/6/2012	<0.0062	U		<0.0062	U		<0.054	J	U	<0.0072	U		<0.007	U		<0.007	J	U	<0.022	U		0.08			<0.022	U	
		VMP-10-5-091212	9/12/2012	<0.0063	U		<0.0063	U		0.0013	J		<0.0074	U		<0.0072	U		<0.0072	U		<0.023	U		<0.012	U		<0.023	U	
		VMP-10-5-091812	9/18/2012	<0.0057	U		<0.0057	U		0.00059	J		<0.0067	U		<0.0066	U		<0.0066	U		<0.021	U		<0.011	U		<0.021	U	
		VMP-10-5-092812	9/28/2012	<0.0062	U		0.0022	J		<0.054	J	U	<0.0072	U		<0.007	U		<0.007	J	U	<0.022	U		0.005	J		<0.022	U	
		VMP-10-5-092812-Dup	9/28/2012	<0.006	U		<0.006	U		0.0022	J		<0.007	U		<0.0069	U		<0.0069	J	U	<0.022	U		0.004	J		<0.022	U	
VMP-11	5 ft	VMP-11-5-080912	8/9/2012	<0.0038	U		<0.0038	U		0.0033	J		<0.0044	U		<0.0043	U		<0.0043	U		<0.014	U		<0.0072	U		<0.014	U	
		VMP-11-5-081512	8/15/2012	<0.0046	U		<0.0046	U		0.0017	J		<0.0053	U		<0.0052	U		<0.0052	U		<0.016	U		<0.0087	U		<0.016	U	
		VMP-11-5-082112	8/21/2012	<0.0056	U		<0.0056	U		<0.049	U		<0.0065	U		<0.0064	U		<0.0064	J	U	<0.02	U		0.0043	J	J	<0.02	U	
		VMP-11-5-082112-Dup	8/21/2012	<0.0056	U		<0.0056	U		<0.049	J	U	<0.0065	U		<0.0064	U		<0.0064	J	U	<0.02	U		<0.011	U	UJ	<0.02	U	
		VMP-11-5-083112	8/31/2012	<0.0056	U		<0.0056	U		<0.049	U		<0.0065	U		<0.0064	U		<0.0064	U		<0.02	U		0.068			<0.02	U	
		VMP-11-5-090612	9/6/2012	<0.006	U		<0.006	U		<0.053	U		<0.007	U		<0.0069	U		<0.0069	J	U	<0.022	U		0.077			<0.022	U	
		VMP-11-5-091212	9/12/2012	<0.0059	U		<0.0059	U		0.0054	J		<0.0068	U		<0.0067	U		<0.0067	U		<0.021	U		<0.011	U		<0.021	U	
		VMP-11-5-091812	9/18/2012	<0.0057	U		<0.0057	U		0.0009	J		<0.0066	U		<0.0065	U		<0.0065	U		<0.021	U		0.017			<0.021	U	
		VMP-11-5-092812	9/28/2012	<0.0059	U		<0.0059	U		0.0017	J		<0.0068	U		<0.0067	U		<0.0067	U		<0.021	U		0.0035	J		<0.021	U	
		VMP-11-5-092812-Dup	9/28/2012	<0.0057	U		<0.0057	U		0.0024	J		<0.0067	U		<0.0066	U		<0.0066	U		<0.021	U		0.004	J		<0.021	U	
VMP-13	5 ft	VMP-13-5-080912	8/9/2012	<0.0047	U		<0.0047	U		0.0031	J		<0.0054	U		<0.0054	U		<0.0054	U		<0.017	U		<0.0089	U		<0.017	U	
		VMP-13-5-081512	8/15/2012	<0.0049	U		<0.0049	U		<0.043	U		<0.0057	U		<0.0056	U		<0.0056	U		<0.018	U		0.0049	J		<0.018	U	
		VMP-13-5-082112	8/21/2012	<0.0057	U		<0.0057	U		<0.05	U		<0.0067	U		<0.0066	J	U	<0.0066	U		<0.021	U		0.016		J	<0.021	U	
		VMP-13-5-083112	8/31/2012	<0.0057	U		<0.0057	U		<0.05	U		<0.0067	U		<0.0066	U		<0.0066	U		<0.021	U		0.065			<0.021	U	
		VMP-13-5-090612	9/6/2012	<0.0048	U		<0.0048	U		<0.042	J	U	<0.0056	U		<0.0055	U		<0.0055	U		<0.017	U		0.036			<0.017	U	
		VMP-13-5-091212	9/12/2012	<0.006	U		<0.006	U		<0.053	U		<0.007	U		<0.0069	U		<0.0069	U		<0.022	U		0.0071	J		<0.022	U	
		VMP-13-5-091212-Dup	9/12/2012	<0.0052	U		<0.0052	U		0.0014	J		<0.0061	U		<0.006	U		0.0019	J		<0.019	U		0.0099			<0.019	U	
		VMP-13-5-091812	9/18/2012	<0.0059	U		<0.0059	U		0.0017	J		<0.0069	U		<0.0068	U		<0.0068	U		<0.022	U		0.0041	J		<0.022	U	
		VMP-13-5-092812	9/28/2012	0.0022	J		0.0026	J		0.0033	J		<0.0065	U		0.0045	J		0.0067			<0.02	U		0.0067	J		<0.02	U	
VMP-16	5 ft	VMP-16-5-080812	8/8/2012	<0.74	U		<0.74	U		0.15	J		<0.86	U		<0.85	U		<0.85	U		<2.7	U		<1.4	U		<2.7	U	
		VMP-16-5-081412	8/14/2012	<0.032	U		<0.032	U		0.0034	J	J	<0.037	U		<0.036	U		<0.036	U		<0.11	U		<0.06	U		<0.11	U	
		VMP-16-5-082012	8/20/2012	<0.1	U		<0.1	U		<0.9	U		<0.12	U		<0.12	U		<0.12	U		<0.37	U		<0.2	U	UJ	<0.37	U	
		VMP-16-5-083012	8/30/2012	<0.24	U		<0.24	U		0.11	J		<0.28	U		<0.27	U		<0.27	U		<0.87	U		<0.46	U	UJ	<0.87	U	
		VMP-16-5-090512	9/5/2012	<5.9	U		<5.9	U		<51	U		<6.8	U		<6.7	U		<6.7	U		<21	U		<11	U		<21	U	
		VMP-16-5-091112	9/11/2012	<0.059	U		<0.059	U		<0.51	U		<0.068	U		<0.067	U		<0.067	U		<0.21	U		<0.11	U		<0.21	U	
		VMP-16-5-091712	9/17/2012	<22	U		<22	U		<200	U		<26	U		<26	U		<26	U		<81	U		<42	U		<81	U	
		VMP-16-5-092712	9/27/2012	<0.0053	U		<0.0053	U		0.0022	J		<0.0062	U		<0.0061	U		<0.0061	U		<0.019	U		0.014			<0.019	U	
VMP-21	5 ft	VMP-21-5-080812	8/8/2012	<0.0049	U		<0.0049	U		<0.043	J	U	<0.0058	U		<0.0056	U		<0.0056	U		<0.018	U		0.011			<0.018	U	
		VMP-21-5-081412	8/14/2012	<0.0038	U		<0.0038	U		0.0012	J		<0.0044	U		<0.0043	U		<0.0043	U		<0.014	U		0.0037	J		<0.014	U	
		VMP-21-5-081412-Dup	8/14/2012	<0.0046	U		<0.0046	U		0.0021	J		<0.0054	U		<0.0053	U		<0.0053	U		<0.017	U		<0.0088	U		<0.017	U	
		VMP-21-5-082012	8/20/2012	<0.007	U		<0.007	U		<0.061	U		<0.0082	U		<0.008	U		<0.008	U		<0.026	U		0.014		J	<0.026	U	
		VMP-21-5-083012	8/30/2012	0.0029	J		<0.006	U		0.0012	J		<0.007	U		0.0015	J		<0.0069	U		<0.022	U		0.044			<0.022	U	
		VMP-21-5-090512	9/5/2012	<0.006	U		<0.006	U		0.0031	J		<0.007	U		<0.0069	U		<0.0069	J	U	<0.022	U		0.028			<0.022	U	
		VMP-21-5-091112	9/11/2012	<0.0056	U		<0.0056	U		<0.049	U		<0.0065	U		<0.0064	U		0.0016	J		<0.02	U		0.017			<0.02	U	
		VMP-21-5-091712	9/17/2012	<0.0056	U		<0.0056	U		0.00053	J		<0.0065	U		<0.0064	U		<0.0064	U		<0.02	U		0.011			<0.02	U	
		VMP-21-5-092712	9/27/2012	<0.0055	U		<0.0055	U		0.003	J		<0.0064	U		<0.0063	U		<0.0063	U		0.0049	J		0.013			<0.02	U	
VMP-42	10 ft	VMP-42-10-080812	8/8/2012	<0.0039	U		<0.0039	U		0.0054	J		<0.0045	U		<0.0044	U		0.0019	J		0.06			0.08			<0.014	U	
		VMP-42-10-081412	8/14/2012	<0.004	U		<0.004	U		0.002	J		<0.0046	U		<0.0046	U		<0.0046	U		<0.014	U		0.029			<0.014	U	
		VMP-42-10-082012	8/20/2012	<0.0062	U		<0.0062	U		0.0043	J		<0.0072	U		<0.007	J	U	<0.007	J	U	<0.022	U		0.043		J	<0.022	U	
		VMP-42-10-083012	8/30/2012	<0.0063	U		0.0015	J	J	0.0022	J		<0.0074	U		<0.0072	U		<0.0072	U		<0.023	U		0.093			<0.023	U	
		VMP-42-10-090512	9/5/2012	<0.0059	U		<0.0059	U		0.0032	J		<0.0068	U		<0.0067	U		<0.0067	U		<0.021	U		0.021			<0.021	U	
		VMP-42-10-091112	9/11/2012	<0.006	U		<0.006	U		<0.053	U		<0.007	U		<0.0069	U		<0.0069	U		<0.022	U		0.034			<0.022	U	
		VMP-42-10-091712	9/17/2012	<0.0057	U		<0.0057	U		0.00087	J		<0.0066	U		<0.0065	U		<0.0065	U		<0.021	U		0.03			<0.021	U	
		VMP-42-10-092712	9/27/2012	<0.0053	U		<0.0053	U		<0.047	J	U	<0.0062	U		<0.0061	U		<0.0061	U		<0.019	U		0.0065	J		<0.019	U	
		VMP-42-10-092712-Dup	9/27/2012	<0.0051	U		<0.0051	U		<0.045	J	U	<0.006	U		<0.0058	U		<0.0058	U		<0.018	U		0.0075	J		<0.018	U	

Notes
Lab Qualifiers
J = Estimated value; e.g. results between the MDL and RL
U = Compound analyzed for but not detected above the RL
B = Compound present in laboratory blank greater than reporting l
URS Qualifiers
J = Estimated detection
UJ = Estimated non-detect
U = Non-detect due to blank contamination

TABLE 1
WEEK 1-8 CUMULATIVE SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS: VOCS

Location	Depth	Sample ID	Sample Date	Ethylbenzene			4-Ethyltoluene			Freon 113			Freon 114			Heptane			Hexachlorobutadiene			Hexane			2-Hexanone (Methyl N-Butyl			Isopentane		
				Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals
VMP-4	5 ft	VMP-4-5-080812	8/8/2012	0.005			0.0025	J		<0.0075	U		<0.0068	U		0.012			<0.042	U		0.0028	J		0.0043	J		0.006	J	
		VMP-4-5-081412	8/14/2012	0.0034	J		0.0018	J		<0.01	U		<0.0096	U		0.015			<0.059	U		0.24			<0.023	U		0.55		
		VMP-4-5-082012	8/20/2012	0.0033	J		0.0052	J		<0.012	U		<0.01	U		<0.0062	U		<0.065	U		0.004	J		<0.025	U		0.006	J	
		VMP-4-5-083012	8/30/2012	0.0039	J		0.0067	J		<0.015	U		<0.014	U		<0.0079	U		<0.082	U		0.0032	J		<0.032	U		0.032		
		VMP-4-5-090512	9/5/2012	0.0026	J		<0.0073	U		<0.011	U		<0.01	U		<0.0061	U		<0.063	U		0.001	J		<0.024	U		<0.017	U	
		VMP-4-5-091112	9/11/2012	0.0021	J		0.0046	J		<0.011	U		<0.0098	U		0.0038	J		<0.06	U		<0.005	U		<0.023	U		0.03		
		VMP-4-5-091712	9/17/2012	0.0014	J		<0.0074	U		<0.012	U		<0.01	U		0.0032	J		<0.065	U		0.0017	J		<0.025	U		<0.018	U	
		VMP-4-5-092712	9/27/2012	0.001	J		<0.0062	U		<0.0096	U		<0.0088	U		0.00096	J		<0.054	U		<0.0044	U		<0.021	U		<0.015	U	
VMP-10	5 ft	VMP-10-5-080912	8/9/2012	<0.004	U		<0.0045	U		<0.007	U		<0.0064	U		0.0053			<0.039	U		0.0044			<0.015	U		0.0068	J	
		VMP-10-5-081512	8/15/2012	<0.0042	J	U	<0.0047	U		<0.0074	U		<0.0067	U		<0.004	U		<0.041	U		0.0013	J		<0.016	U		0.0058	J	
		VMP-10-5-082112	8/21/2012	0.0011	J		<0.0074	U		<0.012	U		<0.01	U		<0.0062	U		<0.065	U		0.0022	J		<0.025	U		0.0073	J	
		VMP-10-5-083112	8/31/2012	0.0022	J		0.0038	J		<0.011	U		<0.01	U		<0.0059	U		<0.062	U		<0.0051	U		<0.024	U		<0.017	U	
		VMP-10-5-090612	9/6/2012	0.0028	J		0.0024	J		<0.012	U		<0.011	U		0.0031	J		<0.066	U		0.003	J		<0.025	U		0.0077	J	
		VMP-10-5-091212	9/12/2012	0.0029	J		0.0034	J		<0.012	U		<0.011	U		0.0043	J		<0.068	U		0.0048	J		<0.026	U		0.019		
		VMP-10-5-091812	9/18/2012	<0.0063	U		<0.0071	U		<0.011	U		<0.01	U		0.0012	J		<0.062	U		0.0012	J		<0.024	U		<0.017	U	
		VMP-10-5-092812	9/28/2012	<0.0068	U		0.002	J		<0.012	U		<0.011	U		0.0021	J		<0.066	U		0.0014	J		<0.025	U		0.0046	J	
		VMP-10-5-092812-Dup	9/28/2012	<0.0066	U		<0.0074	U		<0.012	U		<0.01	U		0.0028	J		<0.065	U		0.0019	J		<0.025	U		<0.018	U	
VMP-11	5 ft	VMP-11-5-080912	8/9/2012	<0.0041	J	U	<0.0047	U		<0.0073	U		<0.0067	U		0.0011	J		<0.041	U		0.0028	J		<0.016	U		0.0089	J	
		VMP-11-5-081512	8/15/2012	<0.005	U		<0.0056	U		<0.0088	U		<0.008	U		<0.0047	U		<0.049	U		<0.004	U		<0.019	U		<0.014	U	
		VMP-11-5-082112	8/21/2012	<0.0061	U		<0.0069	U		<0.011	U		<0.0098	U		<0.0058	U		<0.06	U		<0.005	J	U	<0.023	U		0.0044	J	
		VMP-11-5-082112-Dup	8/21/2012	<0.0061	U		<0.0069	U		<0.011	U		<0.0098	U		0.0015	J		<0.06	U		0.0026	J		<0.023	U		0.0048	J	
		VMP-11-5-083112	8/31/2012	0.0023	J		0.0026	J		<0.011	U		<0.0098	U		0.0019	J		<0.06	U		<0.005	U		<0.023	U		<0.017	U	
		VMP-11-5-090612	9/6/2012	0.0026	J		<0.0074	U		<0.012	U		<0.01	U		<0.0062	U		<0.065	U		<0.0053	U		<0.025	U		0.023		
		VMP-11-5-091212	9/12/2012	<0.0064	U		<0.0073	U		<0.011	U		<0.01	U		<0.0061	U		<0.063	U		<0.0052	U		<0.024	U		0.0069	J	
		VMP-11-5-091812	9/18/2012	0.0016	J		0.0017	J		<0.011	U		<0.01	U		0.0026	J		<0.061	U		0.00057	J		<0.023	U		0.015	J	
		VMP-11-5-092812	9/28/2012	<0.0064	U		<0.0073	U		<0.011	U		<0.01	U		<0.0061	U		<0.063	U		0.0016	J		<0.024	U		<0.017	U	
		VMP-11-5-092812-Dup	9/28/2012	<0.0063	U		<0.0071	U		<0.011	U		<0.01	U		<0.0059	U		<0.062	U		<0.0051	U		<0.024	U		0.0064	J	
VMP-13	5 ft	VMP-13-5-080912	8/9/2012	<0.0051	J	U	0.0015	J		<0.009	U		<0.0082	U		<0.0048	U		<0.05	U		0.0025	J		<0.019	U		0.0066	J	
		VMP-13-5-081512	8/15/2012	<0.0053	U		<0.006	U		<0.0094	U		<0.0086	U		0.0016	J		<0.052	U		<0.0043	U		<0.02	U		0.0059	J	
		VMP-13-5-082112	8/21/2012	<0.0063	U		<0.0071	U		<0.011	U		<0.01	U		0.0044	J		<0.062	U		0.0036	J		<0.024	U		0.02		
		VMP-13-5-083112	8/31/2012	0.0024	J		<0.0071	U		<0.011	U		<0.01	U		0.0033	J		<0.062	U		0.0023	J		<0.024	U		0.0043	J	
		VMP-13-5-090612	9/6/2012	<0.0052	J	U	0.0029	J		<0.0093	U		<0.0084	U		<0.005	U		<0.052	U		0.0013	J		<0.02	U		<0.014	U	
		VMP-13-5-091212	9/12/2012	<0.0066	U		<0.0074	U		<0.012	U		<0.01	U		<0.0062	U		<0.065	U		0.0015	J		<0.025	U		<0.018	U	
		VMP-13-5-091212-Dup	9/12/2012	0.0015	J		<0.0065	U		<0.01	U		<0.0092	U		<0.0054	U		<0.056	U		0.0011	J		<0.022	U		0.004	J	
		VMP-13-5-091812	9/18/2012	<0.0065	U		<0.0074	U		<0.011	U		<0.01	U		0.0019	J		<0.064	U		0.0016	J		<0.024	U		<0.018	U	
		VMP-13-5-092812	9/28/2012	0.0017	J		0.0031	J		<0.011	U		<0.0098	U		0.0043	J		<0.06	U		0.003	J		<0.023	U		0.005	J	
VMP-16	5 ft	VMP-16-5-080812	8/8/2012	<0.81	U		<0.92	U		<1.4	U		<1.3	U		<0.77	U		<8	U		<0.66	U		<3.1	U		3.4		
		VMP-16-5-081412	8/14/2012	<0.034	U		<0.039	U		<0.061	U		<0.056	U		<0.032	U		<0.34	U		<0.028	U		<0.13	U		0.085	J	J
		VMP-16-5-082012	8/20/2012	<0.11	U		<0.13	U		<0.2	U		<0.18	U		<0.11	U		<1.1	U		<0.091	U		<0.42	U		9.9		J
		VMP-16-5-083012	8/30/2012	<0.26	U		<0.3	U		<0.46	U		<0.42	U		<0.25	U		<2.6	U		<0.21	U		<0.99	U		1.2		
		VMP-16-5-090512	9/5/2012	1.8	J		<7.3	U		<11	U		<10	U		<6.1	U		<63	U		<5.2	U		<24	U		1600		
		VMP-16-5-091112	9/11/2012	<0.064	U		<0.073	U		<0.11	U		<0.1	U		<0.061	U		<0.63	U		<0.052	U		<0.24	U		0.19		
		VMP-16-5-091712	9/17/2012	<24	U		<28	U		<43	U		<39	U		<23	U		<240	U		<20	U		<92	U		1500		
		VMP-16-5-092712	9/27/2012	0.004	J		<0.0066	U		<0.01	U		<0.0094	U		<0.0055	U		<0.057	U		<0.0047	U		<0.022	U		0.028		
VMP-21	5 ft	VMP-21-5-080812	8/8/2012	<0.0054	U		<0.0061	U		<0.0095	U		<0.0087	U		<0.0051	U		<0.053	U		<0.0044	U		<0.02	U		0.0044	J	
		VMP-21-5-081412	8/14/2012	<0.0041	U		0.017			<0.0073	U		<0.0067	U		0.0024	J		<0.041	U		0.00098	J		<0.016	U		<0.011	U	
		VMP-21-5-081412-Dup	8/14/2012	<0.0051	U		0.018			<0.009	U		<0.0082	U		0.0055			<0.05	U		<0.0041	U		<0.019	U		<0.014	U	
		VMP-21-5-082012	8/20/2012	0.0014	J		0.0022	J		<0.014	U		<0.012	U		0.002	J		<0.076	U		<0.0062	J	U	<0.029	U		<0.021	U	
		VMP-21-5-083012	8/30/2012	0.0021	J		<0.0074	U		<0.012	U		<0.01	U		0.0011	J		<0.065	U		<0.0053	U		<0.025	U		<0.018	U	
		VMP-21-5-090512	9/5/2012	<0.0066	J	U	0.0021	J		<0.012	U		<0.01	U		0.0027	J		<0.065	U		0.0013	J		<0.025	U		0.0075	J	
		VMP-21-5-091112	9/11/2012	0.003	J		0.0055	J		<0.011	U		<0.0098	U		0.0024	J		<0.06	U		0.0016	J		<0.023	U		0.0062	J	
		VMP-21-5-091712	9/17/2012	0.0017	J		0.0018	J		<0.011	U		<0.0099	U		0.0025	J		<0.06	U		0.00098	J		<0.023	U		<0.017	U	
		VMP-21-5-092712	9/27/2012	0.0018	J		0.0023	J		<0.01	U		<0.0096	U		<0.0056	U		<0.059	U		0.00052	J		<0.023	U		<0.016	U	
VMP-42	10 ft	VMP-42-10-080812	8/8/2012	0.0067			<0.0048	U		<0.0075	U		<0.0068	U		0.015			<0.042	U		0.0056			0.0055	J		0.023		
		VMP-42-10-081412	8/14/2012	<0.0044	J	U	0.0021	J		<0.0077	U		<0.007	U		0.0036	J		<0.043	U		0.0014	J		<0.016	U		<0.012	U	
		VMP-42-10-082012	8/20/2012	0.0027	J		0.0042	J		<0.012	U		<0.011	U		0.0035	J		<0.066	U		0.0025	J		<0.025	U		0.008	J	
		VMP-42-10-083012	8/30/2012	0.0015	J		0.0056	J		<0.012	U		<0.011	U		0.0092			<0.068	U		0.0036	J		<0.026	U		<0.019	U	
		VMP-42-10-090512	9/5/2012	0.0026	J		0.002	J		<0.011	U		<0.01	U		0.0068			<0.063	U		0.0037	J		<0.024	U		<0.017	U	
		VMP-42-10-091112	9/11/2012	0.004	J		0.0046	J		<0.012	U		<0.01	U		0.0039	J		<0.065	U		<0.0053	U		<0.025	U		0.0065	J	
		VMP-42-10-091712	9/17/2012	0.0023	J		0.0025	J		<0.011	U		<0.01	U		<0.0059	U		<0.061	U		0.00089	J		<0.023	U		0.021		
		VMP-42-10-092712	9/27/2012	0.0012	J		<0.0066	U		<0.01	U		<0.0094	U		<0.0055	U		<0.057	U		0.00097	J		<0.022	U		<0.016	U	
		VMP-42-10-092712-Dup	9/27/2012	<0.0056	U		<0.0063	U		<0.0099	U		<0.009	U		0.00073	J		<0.055	U		<0.0045	U		<0.021	U		<0.015	U	

Notes
Lab Qualifiers
J = Estimated value; e.g. results between the MDL and RL
U = Compound analyzed for but not detected above the RL
B = Compound present in laboratory blank greater than reporting l
URS Qualifiers
J = Estimated detection
UJ = Estimated non-detect
U = Non-detect due to blank contamination

TABLE 1
WEEK 1-8 CUMULATIVE SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS: VOCS

Location	Depth	Sample ID	Sample Date	Isopropylbenzene (Cumene)			4-Methyl-2-pentanone (Methyl			Methyl tert-Butyl Ether (MTBE)			2-Propanol			n-Propylbenzene			Propylene			Styrene			1,1,2,2-Tetrachloroethane			Tetrachloroethene		
				Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals
VMP-4	5 ft	VMP-4-5-080812	8/8/2012	0.07			0.17			<0.0035	U		0.03			0.0016	J		<0.0067	U		0.0038	J		<0.0067	U		<0.0066	U	U
		VMP-4-5-081412	8/14/2012	0.02			0.08			<0.005	U		0.024			<0.0068	U		<0.0095	U		0.0019	J		<0.0095	U		<0.0094	U	
		VMP-4-5-082012	8/20/2012	0.14			0.27			<0.0055	U		0.044			0.0021	J		<0.01	U		0.0028	J		<0.01	U		<0.01	J	U
		VMP-4-5-083012	8/30/2012	0.17			0.33			<0.007	U		0.086			0.0024	J		<0.013	U		0.0044	J		<0.013	U		0.0031	J	
		VMP-4-5-090512	9/5/2012	0.0054	J		0.037			<0.0053	U		0.04			<0.0073	U		<0.01	U		<0.0063	U		<0.01	U		<0.01	U	
		VMP-4-5-091112	9/11/2012	0.038			0.27			<0.0051	U		0.031			0.0017	J		0.0047	J		0.0029	J		<0.0097	U		0.0048	J	
		VMP-4-5-091712	9/17/2012	0.0087			0.063			<0.0055	U		0.011	J		<0.0074	U		<0.01	U		<0.0064	U		<0.01	U		<0.01	U	
		VMP-4-5-092712	9/27/2012	0.018			0.076			<0.0045	U		0.0067	J		<0.0062	U		0.0032	J		<0.0054	U		<0.0086	U		<0.0085	U	
VMP-10	5 ft	VMP-10-5-080912	8/9/2012	<0.0045	U		<0.0037	U		<0.0033	U		0.0027	J		<0.0045	U		<0.0063	U		<0.0039	U		<0.0063	U		<0.0062	U	
		VMP-10-5-081512	8/15/2012	<0.0047	U		<0.004	U		<0.0035	U		0.0015	J		<0.0047	U		<0.0066	U		<0.0041	U		<0.0066	U		<0.0065	U	
		VMP-10-5-082112	8/21/2012	<0.0074	U		0.0027	J		<0.0055	U		<0.015	U		<0.0074	U		<0.01	U		<0.0064	U		<0.01	U		<0.01	U	
		VMP-10-5-083112	8/31/2012	0.065			0.11			<0.0052	U		0.023			0.0012	J		<0.0099	U		0.0018	J		<0.0099	U		<0.0098	U	
		VMP-10-5-090612	9/6/2012	0.077			0.16			<0.0056	U		0.057			0.0014	J		<0.011	U		0.0017	J		<0.011	U		0.0063	J	
		VMP-10-5-091212	9/12/2012	<0.0078	U		<0.0065	U		<0.0058	U		<0.016	U		<0.0078	U		<0.011	U		<0.0068	U		0.0014	J		<0.011	J	U
		VMP-10-5-091812	9/18/2012	<0.0071	U		<0.0059	U		<0.0052	U		<0.014	U		<0.0071	U		<0.0099	U		<0.0062	U		<0.0099	U		<0.0098	U	
		VMP-10-5-092812	9/28/2012	<0.0076	U		<0.0064	U		<0.0056	U		0.0044	J		<0.0076	J	U	0.0029	J		<0.0066	U		0.0015	J		0.0034	J	
		VMP-10-5-092812-Dup	9/28/2012	<0.0074	U		<0.0062	U		<0.0055	U		0.0059	J		<0.0074	J	U	0.0028	J		<0.0064	U		<0.01	U		0.003	J	
VMP-11	5 ft	VMP-11-5-080912	8/9/2012	0.00074	J		<0.0039	U		<0.0034	U		0.0053	J		0.00081	J		<0.0066	U		<0.0041	U		<0.0066	U		<0.0065	J	U
		VMP-11-5-081512	8/15/2012	<0.0056	U		<0.0047	U		<0.0041	U		0.0028	J		<0.0056	U		<0.0079	U		<0.0049	U		<0.0079	U		<0.0078	U	
		VMP-11-5-082112	8/21/2012	0.0011	J		<0.0058	U		<0.0051	U		<0.014	U		<0.0069	U		<0.0097	U		<0.006	U		<0.0097	U		<0.0096	J	U
		VMP-11-5-082112-Dup	8/21/2012	<0.0069	U		<0.0058	U		<0.0051	U		0.0023	J		<0.0069	U		0.0021	J		<0.006	U		0.0013	J		<0.0096	U	
		VMP-11-5-083112	8/31/2012	0.061			0.14			<0.0051	U		0.035			0.0016	J		<0.0097	U		0.0014	J		<0.0097	U		<0.0096	U	
		VMP-11-5-090612	9/6/2012	0.055			0.14			<0.0055	U		0.066			0.0014	J		<0.01	U		0.002	J		<0.01	U		0.003	J	
		VMP-11-5-091212	9/12/2012	0.001	J		0.0064			<0.0053	U		0.0044	J		<0.0073	U		<0.01	U		<0.0063	U		<0.01	U		0.096		
		VMP-11-5-091812	9/18/2012	0.0075			0.052			<0.0052	U		0.012	J		0.0011	J		<0.0098	U		<0.0061	U		<0.0098	U		<0.0097	U	
		VMP-11-5-092812	9/28/2012	<0.0073	U		<0.0061	U		<0.0053	U		0.0026	J		<0.0073	U		0.0026	J		<0.0063	U		<0.01	U		<0.01	U	
		VMP-11-5-092812-Dup	9/28/2012	<0.0071	U		<0.0059	U		<0.0052	U		0.0027	J		<0.0071	U		<0.0099	U		<0.0062	U		<0.0099	U		<0.0098	U	
VMP-13	5 ft	VMP-13-5-080912	8/9/2012	<0.0058	U		<0.0048	U		<0.0042	U		0.0092	J		<0.0058	U		<0.0081	U		<0.005	U		0.0014	J		<0.008	U	
		VMP-13-5-081512	8/15/2012	<0.006	U		<0.005	U		<0.0044	U		<0.012	U		<0.006	U		<0.0085	U		<0.0052	U		<0.0084	U		<0.0083	U	
		VMP-13-5-082112	8/21/2012	0.0011	J		<0.0059	U		<0.0052	U		<0.014	U		0.0011	J		0.0025	J		<0.0062	U		<0.0099	U		<0.0098	U	
		VMP-13-5-083112	8/31/2012	0.074			0.14			<0.0052	U		0.032			0.0011	J		<0.0099	U		0.0017	J		<0.0099	U		<0.0098	U	
		VMP-13-5-090612	9/6/2012	0.078			0.13			<0.0044	U		0.041			0.0011	J		<0.0083	U		0.0017	J		<0.0083	U		<0.0082	U	
		VMP-13-5-091212	9/12/2012	<0.0074	U		<0.0062	U		<0.0055	U		0.0027	J		<0.0074	U		0.0051	J		<0.0064	U		<0.01	U		<0.01	U	
		VMP-13-5-091212-Dup	9/12/2012	<0.0065	U		0.002	J		<0.0048	U		0.0026	J		<0.0065	U		0.002	J		<0.0056	U		<0.0091	U		<0.009	J	U
		VMP-13-5-091812	9/18/2012	<0.0074	U		<0.0061	U		<0.0054	U		<0.015	U		<0.0074	U		<0.01	U		<0.0064	U		<0.01	U		<0.01	U	
		VMP-13-5-092812	9/28/2012	0.0012	J		0.0027	J		<0.0051	U		0.0029	J		<0.0069	J	U	0.0069	J		0.0027	J		<0.0097	J	U	0.0064	J	
VMP-16	5 ft	VMP-16-5-080812	8/8/2012	<0.92	U		<0.77	U		<0.67	U		<1.8	U		<0.92	U		<1.3	U		<0.8	U		<1.3	U		<1.3	U	
		VMP-16-5-081412	8/14/2012	0.019	J	J	0.09		J	<0.029	U		0.033	J	J	<0.039	U		<0.055	U		<0.034	U		<0.054	U		<0.054	U	
		VMP-16-5-082012	8/20/2012	0.049	J	J	0.16		J	<0.093	U		<0.25	U		<0.13	U		<0.18	U		<0.11	U		<0.18	U		<0.18	U	
		VMP-16-5-083012	8/30/2012	0.084	J		<0.25	U		0.029	J		<0.59	U		<0.3	U		<0.42	U		<0.26	U		<0.42	U		<0.41	U	
		VMP-16-5-090512	9/5/2012	<7.3	U		<6.1	U		0.48	J		2.3	J		<7.3	U		<10	U		1.6	J		<10	U		<10	U	
		VMP-16-5-091112	9/11/2012	0.023	J		0.18			<0.053	U		0.039	J		<0.073	U		<0.1	U		<0.063	U		<0.1	U		<0.1	U	
		VMP-16-5-091712	9/17/2012	<28	U		<23	U		<20	U		<56	U		<28	U		<39	U		<24	U		<39	U		<38	U	
		VMP-16-5-092712	9/27/2012	0.028			0.1			<0.0048	U		0.0067	J		0.0046	J		0.0065	J		<0.0057	U		<0.0092	U		0.0025	J	
VMP-21	5 ft	VMP-21-5-080812	8/8/2012	<0.0061	U		0.003	J		<0.0045	U		0.0058	J		0.00088	J		0.0045	J		<0.0053	U		0.0014	J		<0.0084	J	U
		VMP-21-5-081412	8/14/2012	<0.0047	J	U	<0.0039	U		<0.0034	U		<0.0094	U		0.004	J		<0.0066	U		<0.0041	U		<0.0066	U		<0.0065	J	U
		VMP-21-5-081412-Dup	8/14/2012	<0.0058	J	U	<0.0048	U		<0.0042	U		<0.012	U		0.0045	J		<0.0081	U		<0.005	U		<0.0081	U		<0.008	U	
		VMP-21-5-082012	8/20/2012	0.058			0.12			<0.0064	U		0.014	J		0.0014	J		<0.012	U		<0.0075	U		<0.012	U		0.0052	J	
		VMP-21-5-083012	8/30/2012	0.064			0.15			<0.0055	U		0.041			0.0018	J		<0.01	U		0.0023	J		<0.01	U		0.0035	J	
		VMP-21-5-090512	9/5/2012	0.054			0.25			<0.0055	U		0.046			0.0011	J		<0.01	U		0.0022	J		<0.01	U		0.0032	J	
		VMP-21-5-091112	9/11/2012	0.014			0.097			<0.0051	U		0.016			<0.0069	J	U	<0.0097	U		<0.006	U		<0.0097	U		<0.0096	J	U
		VMP-21-5-091712	9/17/2012	0.012			0.1			<0.0051	U		0.011	J		<0.007	U		0.0022	J		<0.006	U		0.0014	J		0.0027	J	
		VMP-21-5-092712	9/27/2012	0.032			0.13			<0.005	U		0.049			0.0012	J		0.0031	J		0.0013	J		<0.0095	U		0.0044	J	
VMP-42	10 ft	VMP-42-10-080812	8/8/2012	0.079			0.15			<0.0035	U		0.03			0.0024	J		0.0083			0.0037	J		<0.0067	U		<0.0066	J	U
		VMP-42-10-081412	8/14/2012	0.025			0.11			<0.0036	U		0.035			0.00099	J		<0.0069	U		0.0014	J		<0.0069	U		<0.0068	U	
		VMP-42-10-082012	8/20/2012	0.075			0.18			<0.0056	U		0.028			0.0017	J		<0.011	U		0.003	J		<0.011	U		<0.01	U	
		VMP-42-10-083012	8/30/2012	0.16			0.31			<0.0058	U		0.084			0.0015	J		<0.011	U		0.0032	J		<0.011	U		<0.011	U	
		VMP-42-10-090512	9/5/2012	0.042			0.19			<0.0053	U		0.013	J		0.0018	J		<0.01	U		0.0023	J		<0.01	U		<0.01	U	
		VMP-42-10-091112	9/11/2012	0.04			0.27			<0.0055	U		0.05			0.0015	J		<0.01	U		0.0024	J		0.0038	J		<0.01	J	U
		VMP-42-10-091712	9/17/2012	0.013			0.071			<0.0052	U		0.011	J		0.0026	J		<0.0098	U		<0.0061	U		<0.0098	U		<0.0097	U	
		VMP-42-10-092712	9/27/2012	0.036			0.071			<0.0048	U		0.0056	J		<0.0066	J	U	<0.0092	U		<0.0057	U		<0.0092	U		0.003	J	
		VMP-42-10-092712-Dup	9/27/2012	0.028			0.061			<0.0046	U		0.0036	J		<0.0063	U		<0.0089	U		<0.0055	U		<0.0088	U		<0.0088	U	

Notes
Lab Qualifiers
J = Estimated value; e.g. results between the MDL and RL
U = Compound analyzed for but not detected above the RL
B = Compound present in laboratory blank greater than reporting l
URS Qualifiers
J = Estimated detection
UJ = Estimated non-detect
U = Non-detect due to blank contamination

TABLE 1
WEEK 1-8 CUMULATIVE SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS: VOCS

Location	Depth	Sample ID	Sample Date	Tetrahydrofuran			Toluene			1,2,4-Trichlorobenzene			1,1,1-Trichloroethane (Methyl			1,1,2-Trichloroethane			Trichloroethene			Trichlorofluoromethane			1,2,4-Trimethylbenzene			1,3,5-Trimethylbenzene		
				Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals
VMP-4	5 ft	VMP-4-5-080812	8/8/2012	0.0032			0.079			<0.029	U		<0.0053	U		<0.0053	U		<0.0053	U		0.0014	J		0.0025	J		0.0012	J	
		VMP-4-5-081412	8/14/2012	<0.0041	U		0.029			<0.041	U		<0.0075	U		<0.0075	U		0.0048	J		<0.0078	U		0.0026	J		0.0012	J	
		VMP-4-5-082012	8/20/2012	<0.0045	U	UJ	0.02			<0.045	U		<0.0083	U		<0.0083	U		<0.0081	U		0.0018	J		<0.0074	U		0.0019	J	
		VMP-4-5-083012	8/30/2012	<0.0057	U		0.033			<0.057	U		<0.01	U		<0.01	U		0.0099	J		<0.011	U		0.0066	J		0.0025	J	
		VMP-4-5-090512	9/5/2012	0.0039	J		0.012			<0.044	U		<0.0081	U		<0.0081	U		<0.008	U		0.002	J		0.0028	J		<0.0073	U	
		VMP-4-5-091112	9/11/2012	<0.0042	U		0.12			<0.042	U		<0.0077	U		<0.0077	U		<0.0076	J	U	<0.0079	U		0.0032	J		0.0023	J	
		VMP-4-5-091712	9/17/2012	0.0019	J		0.14			<0.045	U		<0.0083	U		<0.0083	U		<0.0081	U		<0.0085	U		0.0012	J		<0.0074	U	
		VMP-4-5-092712	9/27/2012	<0.0037	U		0.0035	J		<0.037	U		<0.0069	U		<0.0069	U		<0.0068	U		0.002	J		<0.0062	J	U	<0.0062	U	
VMP-10	5 ft	VMP-10-5-080912	8/9/2012	<0.0027	U		<0.0034	J	U	<0.027	U		<0.005	U		<0.005	U		<0.0049	U		0.0015	J		<0.0045	U		<0.0045	U	
		VMP-10-5-081512	8/15/2012	<0.0028	U		0.00098	J		<0.029	U		<0.0053	U		<0.0053	U		0.0047	J		0.002	J		<0.0047	U		<0.0047	U	
		VMP-10-5-082112	8/21/2012	<0.0045	U	UJ	<0.0057	J	U	<0.045	U		<0.0083	U		<0.0083	U		<0.0081	U		0.0019	J		<0.0074	U		<0.0074	U	
		VMP-10-5-083112	8/31/2012	<0.0043	U		0.0093			<0.043	U		<0.0079	U		<0.0079	U		0.0042	J		0.0018	J	J	0.0021	J		<0.0071	U	
		VMP-10-5-090612	9/6/2012	0.0045	J		0.021			<0.046	U		<0.0085	U		<0.0085	U		<0.0084	U		<0.0087	U		0.0029	J		0.0015	J	
		VMP-10-5-091212	9/12/2012	<0.0047	U		0.0096			<0.047	U		<0.0087	U		<0.0087	U		<0.0086	U		0.0016	J		0.0023	J		<0.0078	U	
		VMP-10-5-091812	9/18/2012	<0.0043	U		0.0016	J		<0.043	U		<0.0079	U		<0.0079	U		<0.0078	U		<0.0081	U		<0.0071	U		<0.0071	U	
		VMP-10-5-092812	9/28/2012	<0.0046	U		0.0011	J		<0.046	J	U	<0.0085	U	U	<0.0085	U		<0.0084	U		0.0016	J		<0.0076	J	U	<0.0076	J	U
		VMP-10-5-092812-Dup	9/28/2012	<0.0045	U		0.00096	J		<0.045	J	U	<0.0083	U		<0.0083	U		0.0019	J		0.0014	J		<0.0074	J	U	<0.0074	U	
VMP-11	5 ft	VMP-11-5-080912	8/9/2012	0.0032			<0.0036	J	U	<0.028	U		<0.0052	U		<0.0052	U		<0.0051	U		0.0014	J		0.00076	J		<0.0047	U	
		VMP-11-5-081512	8/15/2012	<0.0034	U		<0.0043	J	U	<0.034	U		<0.0063	U		<0.0063	U		0.0022	J		0.0015	J		<0.0056	U		<0.0056	U	
		VMP-11-5-082112	8/21/2012	<0.0042	U	UJ	<0.0053	J	U	<0.042	U		<0.0077	U		<0.0077	U		<0.0076	U		0.0025	J		<0.0069	U		<0.0069	U	
		VMP-11-5-082112-Dup	8/21/2012	<0.0042	U	UJ	<0.0053	J	U	<0.042	U		<0.0077	U		<0.0077	U		<0.0076	U		0.0023	J		<0.0069	U		<0.0069	U	
		VMP-11-5-083112	8/31/2012	<0.0042	U		0.013			<0.042	U		<0.0077	U		<0.0077	U		0.0045	J		0.0016	J	J	0.0031	J		0.0013	J	
		VMP-11-5-090612	9/6/2012	<0.0045	U		0.014			<0.045	U		<0.0083	U		<0.0083	U		<0.0081	U		<0.0085	U		0.0032	J		<0.0074	U	
		VMP-11-5-091212	9/12/2012	<0.0044	U		0.0031	J		<0.044	U		<0.0081	U		<0.0081	U		<0.008	J	U	0.0016	J		<0.0073	U		<0.0073	U	
		VMP-11-5-091812	9/18/2012	0.012			0.18			<0.042	U		<0.0078	U		<0.0078	U		<0.0077	U		<0.008	U		0.0016	J		<0.007	U	
		VMP-11-5-092812	9/28/2012	0.0018	J		<0.0056	U		<0.044	U		<0.0081	U		<0.0081	U		<0.008	U		0.0018	J		<0.0073	U		<0.0073	U	
		VMP-11-5-092812-Dup	9/28/2012	<0.0043	U		<0.0054	U		<0.043	U		<0.0079	U		<0.0079	U		<0.0078	U		<0.0081	U		<0.0071	U		<0.0071	U	
VMP-13	5 ft	VMP-13-5-080912	8/9/2012	<0.0035	U		<0.0044	J	U	<0.035	U		<0.0064	U		<0.0064	U		<0.0063	U		0.0026	J		0.0015	J		<0.0058	U	
		VMP-13-5-081512	8/15/2012	<0.0036	U		<0.0046	J	U	<0.036	U		<0.0067	U		<0.0067	U		0.019			0.0018	J		0.0011	J		<0.006	U	
		VMP-13-5-082112	8/21/2012	<0.0043	U	UJ	<0.0054	J	U	<0.043	U		<0.0079	U		<0.0079	U		<0.0078	U		0.0022	J		<0.0071	U		<0.0071	U	
		VMP-13-5-083112	8/31/2012	<0.0043	U		0.014			<0.043	U		<0.0079	U		<0.0079	U		0.0053	J		0.002	J	J	0.0029	J		<0.0071	U	
		VMP-13-5-090612	9/6/2012	0.0032	J		0.014			<0.036	U		<0.0066	U		<0.0066	U		<0.0065	U		0.0019	J		0.0035	J		0.0015	J	
		VMP-13-5-091212	9/12/2012	<0.0045	U		0.0028	J		<0.045	U		<0.0083	U		<0.0083	U		<0.0081	U		<0.0085	U		<0.0074	U		<0.0074	U	
		VMP-13-5-091212-Dup	9/12/2012	<0.0039	U		<0.005	J	U	<0.039	U		<0.0072	U		<0.0072	U		<0.0071	U		0.0016	J		<0.0065	U		<0.0065	U	
		VMP-13-5-091812	9/18/2012	0.0017	J		0.0039	J		<0.044	U		<0.0082	U		<0.0082	U		<0.0081	U		<0.0084	U		<0.0074	U		<0.0074	U	
		VMP-13-5-092812	9/28/2012	<0.0042	U		0.0023	J		<0.042	J	U	<0.0077	U		0.0026	J		0.0069	J		0.0017	J		<0.0069	J	U	<0.0069	J	U
VMP-16	5 ft	VMP-16-5-080812	8/8/2012	<0.55	U		0.16	J		<5.6	U		<1	U		<1	U		<1	U		<1	U		<0.92	U		<0.92	U	
		VMP-16-5-081412	8/14/2012	<0.023	U		0.021	J	J	<0.24	U		<0.043	U		<0.043	U		<0.043	U		<0.045	U		<0.039	U		<0.039	U	
		VMP-16-5-082012	8/20/2012	<0.076	U	UJ	<0.098	J	UJ	<0.77	U		<0.14	U		0.042	J	J	<0.14	U		<0.14	U		<0.13	U		<0.13	U	
		VMP-16-5-083012	8/30/2012	<0.18	U	UJ	0.23			<1.8	U		<0.33	U		<0.33	U		<0.32	U		<0.34	U		<0.3	U		<0.3	U	
		VMP-16-5-090512	9/5/2012	<4.4	U		14			<44	U		<8.1	U		<8.1	U		<8	U		<8.3	U		<7.3	U		<7.3	U	
		VMP-16-5-091112	9/11/2012	<0.044	U		0.1			<0.44	U		<0.081	U		<0.081	U		<0.08	U		<0.083	U		<0.073	U		<0.073	U	
		VMP-16-5-091712	9/17/2012	<17	U		6.6	J		<170	U		<31	U		<31	U		<30	U		<32	U		<28	U		<28	U	
		VMP-16-5-092712	9/27/2012	<0.004	U		0.0065			<0.04	U		<0.0073	U		<0.0073	U		<0.0072	U		<0.0076	U		0.0042	J		0.0022	J	
VMP-21	5 ft	VMP-21-5-080812	8/8/2012	0.006			<0.0047	J	U	<0.037	U		<0.0068	J	U	<0.0068	U		<0.0067	U		0.0019	J		0.00097	J		<0.0061	U	
		VMP-21-5-081412	8/14/2012	0.0016	J		<0.0036	J	U	<0.028	U		<0.0052	U		<0.0052	U		0.0063			0.0015	J		0.01			0.0061		
		VMP-21-5-081412-Dup	8/14/2012	<0.0035	U		<0.0044	J	U	<0.035	U		<0.0064	U		<0.0064	U		0.005	J		0.0023	J		0.0095			0.0053	J	
		VMP-21-5-082012	8/20/2012	<0.0052	U	UJ	0.01			<0.052	U		<0.0096	U		<0.0096	U		<0.0095	U		0.0021	J		0.0021	J		0.0016	J	
		VMP-21-5-083012	8/30/2012	<0.0045	U		0.014			<0.045	U		<0.0083	U		<0.0083	U		0.011			0.0018	J	J	0.004	J		0.0013	J	
		VMP-21-5-090512	9/5/2012	<0.0045	U		0.013			0.014	J		<0.0083	U		<0.0083	U		<0.0081	U		0.0014	J		0.0029	J		0.0014	J	
		VMP-21-5-091112	9/11/2012	<0.0042	U		0.06			<0.042	U		<0.0077	U		<0.0077	U		<0.0076	U		<0.0079	U		0.006	J		0.0017	J	
		VMP-21-5-091712	9/17/2012	0.0011	J		0.13			<0.042	U		<0.0077	U		<0.0077	U		<0.0076	U		<0.008	U		0.0011	J		<0.007	U	
		VMP-21-5-092712	9/27/2012	0.0023	J		0.0054			<0.041	U		<0.0075	U		<0.0075	U		<0.0074	U		0.0016	J		<0.0068	J	U	<0.0068	J	U
VMP-42	10 ft	VMP-42-10-080812	8/8/2012	0.0029			0.091			<0.029	U		<0.0053	U		<0.0053	U		<0.0053	U		0.0023	J		0.0038	J		0.0022	J	
		VMP-42-10-081412	8/14/2012	<0.003	U		0.031			<0.03	U		<0.0055	U		<0.0055	U		0.004	J		0.0015	J		0.0029	J		0.0012	J	
		VMP-42-10-082012	8/20/2012	0.0014	J	J	0.018			<0.046	U		<0.0085	U		<0.0085	U		<0.0084	U		0.0029	J		0.0037	J		0.0018	J	
		VMP-42-10-083012	8/30/2012	<0.0047	U		0.024			<0.047	U		<0.0087	U		<0.0087	U		0.0074	J		0.0016	J	J	0.0049	J		0.0021	J	
		VMP-42-10-090512	9/5/2012	0.0045			0.013			<0.044	U		<0.0081	U		<0.0081	U		<0.008	U		0.0018	J		0.0024	J		<0.0073	U	
		VMP-42-10-091112	9/11/2012	<0.0045	U		0.16			<0.045	U		<0.0083	U		<0.0083	U		<0.0081	J	U	<0.0085	U		0.0031	J		0.0024	J	
		VMP-42-10-091712	9/17/2012	<0.0042	U		0.11			<0.042	U		<0.0078	U		<0.0078	U		<0.0077	U		<0.008	U		0.0021	J		0.0015	J	
		VMP-42-10-092712	9/27/2012	<0.004	U		0.0041	J		<0.04	U		<0.0073	U		<0.0073	U		<0.0072	U		<0.0076	U		<0.0066	J	U	<0.0066	J	U
		VMP-42-10-092712-Dup	9/27/2012	<0.0038	U		0.0034	J		<0.038	U		<0.007	U		<0.007	U		<0.0069	U		0.0012	J		<0.0063	J	U	<0.0063	U	

Notes
Lab Qualifiers
J = Estimated value; e.g. results between the MDL and RL
U = Compound analyzed for but not detected above the RL
B = Compound present in laboratory blank greater than reporting l
URS Qualifiers
J = Estimated detection
UJ = Estimated non-detect
U = Non-detect due to blank contamination

TABLE 1
WEEK 1-8 CUMULATIVE SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS: VOCS

Location	Depth	Sample ID	Sample Date	2,2,4-Trimethylpentane			Vinyl acetate			Vinyl Bromide			Vinyl chloride			m,p-Xylene			o-Xylenes		
				Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals	Result (mg/m^3)	Lab Quals	URS Quals
VMP-4	5 ft	VMP-4-5-080812	8/8/2012	0.025			<0.014	U		<0.017	U		<0.0025	U		0.014			0.0048		
		VMP-4-5-081412	8/14/2012	0.052			<0.019	U		<0.024	U		<0.0035	U		0.0078			0.0024	J	
		VMP-4-5-082012	8/20/2012	0.0065	J		<0.021	U		<0.026	U		<0.0039	U		0.0068			0.003	J	
		VMP-4-5-083012	8/30/2012	0.0035	J		<0.027	U		<0.034	U		<0.0049	U		0.011			0.0043	J	
		VMP-4-5-090512	9/5/2012	0.0046	J		<0.021	U		<0.026	U		<0.0038	U		0.0044	J		0.002	J	
		VMP-4-5-091112	9/11/2012	0.023			<0.02	U		<0.025	U		<0.0036	U		0.007			0.0024	J	
		VMP-4-5-091712	9/17/2012	0.0041	J		<0.021	U		<0.026	U		<0.0039	U		0.0033	J		0.0017	J	
		VMP-4-5-092712	9/27/2012	0.019			<0.018	U		<0.022	U		<0.0032	U		0.0024	J		<0.0055	U	
VMP-10	5 ft	VMP-10-5-080912	8/9/2012	0.011			<0.013	U		<0.016	U		<0.0023	U		<0.004	J	U	<0.004	U	
		VMP-10-5-081512	8/15/2012	0.0014	J		<0.014	U		<0.017	U		<0.0025	U		<0.0042	U		<0.0042	U	
		VMP-10-5-082112	8/21/2012	0.0013	J		<0.021	U		<0.026	U		<0.0039	U		<0.0066	J	U	<0.0066	U	
		VMP-10-5-083112	8/31/2012	0.00094	J		<0.02	U		<0.025	U		<0.0037	U		0.0038	J		0.0015	J	
		VMP-10-5-090612	9/6/2012	0.023			<0.022	U		<0.027	U		<0.004	U		0.0057	J		0.0037	J	
		VMP-10-5-091212	9/12/2012	0.016			<0.022	U		<0.028	U		<0.0041	U		0.0096			0.0031	J	
		VMP-10-5-091812	9/18/2012	0.0071			<0.02	U		<0.025	U		<0.0037	U		<0.0063	U		<0.0063	U	
		VMP-10-5-092812	9/28/2012	<0.0073	U		<0.022	U		<0.027	U		<0.004	U		0.0013	J		<0.0068	U	
		VMP-10-5-092812-Dup	9/28/2012	<0.0071	U		<0.021	U		<0.026	U		<0.0039	U		<0.0066	U		<0.0066	U	
VMP-11	5 ft	VMP-11-5-080912	8/9/2012	0.027			<0.013	U		<0.017	U		<0.0024	U		<0.0041	J	U	<0.0041	U	
		VMP-11-5-081512	8/15/2012	0.0034	J		<0.016	U		<0.02	U		<0.0029	U		<0.005	U		<0.005	U	
		VMP-11-5-082112	8/21/2012	0.0017	J		<0.02	U		<0.025	U		<0.0036	U		<0.0061	U		<0.0061	U	
		VMP-11-5-082112-Dup	8/21/2012	0.0016	J		<0.02	U		<0.025	U		<0.0036	U		<0.0061	U		<0.0061	U	
		VMP-11-5-083112	8/31/2012	0.0019	J		<0.02	U		<0.025	U		<0.0036	U		0.0042	J		0.0016	J	
		VMP-11-5-090612	9/6/2012	0.13			<0.021	U		<0.026	U		<0.0039	U		0.0051	J		0.0021	J	
		VMP-11-5-091212	9/12/2012	0.023			<0.021	U		<0.026	U		<0.0038	U		0.0014	J		<0.0064	U	
		VMP-11-5-091812	9/18/2012	0.083			<0.02	U		<0.025	U		<0.0036	U		0.0035	J		0.0014	J	
		VMP-11-5-092812	9/28/2012	0.012			<0.021	U		<0.026	U		<0.0038	U		<0.0064	U		<0.0064	U	
		VMP-11-5-092812-Dup	9/28/2012	0.0023	J		<0.02	U		<0.025	U		<0.0037	U		<0.0063	U		<0.0063	U	
VMP-13	5 ft	VMP-13-5-080912	8/9/2012	0.018			<0.017	U		<0.021	U		<0.003	U		<0.0051	J	U	<0.0051	U	
		VMP-13-5-081512	8/15/2012	0.0073			<0.017	U		<0.022	U		<0.0031	U		<0.0053	U		<0.0053	U	
		VMP-13-5-082112	8/21/2012	0.04			<0.02	U		<0.025	U		<0.0037	U		<0.0063	U		<0.0063	U	
		VMP-13-5-083112	8/31/2012	0.024			<0.02	U		<0.025	U		<0.0037	U		0.0033	J		0.0019	J	
		VMP-13-5-090612	9/6/2012	0.0092			<0.017	U		<0.021	U		<0.0031	U		0.0053			0.0011	J	
		VMP-13-5-091212	9/12/2012	0.0039	J		<0.021	U		<0.026	U		<0.0039	U		<0.0066	U		<0.0066	U	
		VMP-13-5-091212-Dup	9/12/2012	<0.0062	J	U	<0.018	U		<0.023	U		<0.0034	U		<0.0057	U		<0.0057	U	
		VMP-13-5-091812	9/18/2012	0.0095			<0.021	U		<0.026	U		<0.0038	U		<0.0065	U		<0.0065	U	
		VMP-13-5-092812	9/28/2012	0.021			<0.02	U		<0.025	U		<0.0036	U		0.0022	J		0.0012	J	
VMP-16	5 ft	VMP-16-5-080812	8/8/2012	160			<2.6	U		<3.3	U		<0.48	U		0.14	J		<0.81	U	
		VMP-16-5-081412	8/14/2012	24			<0.11	U		<0.14	U		<0.02	U		<0.034	U		<0.034	U	
		VMP-16-5-082012	8/20/2012	220			<0.36	U		<0.45	U		<0.066	U		0.02	J	J	<0.11	U	
		VMP-16-5-083012	8/30/2012	48			<0.85	U		<1	U		<0.15	U		0.12	J		<0.26	U	
		VMP-16-5-090512	9/5/2012	8200			<21	U		<26	U		<3.8	U		2.6	J		1.7	J	
		VMP-16-5-091112	9/11/2012	22			<0.21	U		<0.26	U		<0.038	U		<0.064	U		<0.064	U	
		VMP-16-5-091712	9/17/2012	7300			<80	U		<99	U		<14	U		<24	U		<24	U	
		VMP-16-5-092712	9/27/2012	2.2			<0.019	U		<0.024	U		<0.0034	U		0.0044	J		0.0014	J	
VMP-21	5 ft	VMP-21-5-080812	8/8/2012	0.003	J		<0.018	U		<0.022	U		<0.0032	U		<0.0054	J	U	<0.0054	U	
		VMP-21-5-081412	8/14/2012	0.0018	J		<0.013	U		<0.017	U		<0.0024	U		0.0011	J		<0.0041	U	
		VMP-21-5-081412-Dup	8/14/2012	0.0019	J		<0.016	U		<0.02	U		<0.003	U		0.001	J		0.00097	J	
		VMP-21-5-082012	8/20/2012	0.0029	J		<0.025	U		<0.031	U		<0.0045	U		0.0029	J		<0.0077	U	
		VMP-21-5-083012	8/30/2012	0.0086			<0.021	U		<0.026	U		<0.0039	U		0.0046	J		0.002	J	
		VMP-21-5-090512	9/5/2012	0.011			<0.021	U		<0.026	U		<0.0039	U		0.004	J		0.0014	J	
		VMP-21-5-091112	9/11/2012	0.0076			<0.02	U		<0.025	U		<0.0036	U		0.011			0.0064		
		VMP-21-5-091712	9/17/2012	0.0034	J		<0.02	U		<0.025	U		<0.0036	U		0.0033	J		0.0014	J	
		VMP-21-5-092712	9/27/2012	0.0015	J		<0.019	U		<0.024	U		<0.0035	U		0.0034	J		0.0013	J	
VMP-42	10 ft	VMP-42-10-080812	8/8/2012	0.18			<0.014	U		<0.017	U		<0.0025	U		0.018			0.0055		
		VMP-42-10-081412	8/14/2012	0.017			<0.014	U		<0.018	U		<0.0026	U		0.0057			0.0023	J	
		VMP-42-10-082012	8/20/2012	0.055			<0.022	U		<0.027	U		<0.004	U		0.0073			0.0024	J	
		VMP-42-10-083012	8/30/2012	0.002	J		<0.022	U		<0.028	U		<0.0041	U		0.0087			0.0024	J	
		VMP-42-10-090512	9/5/2012	0.0033	J		<0.021	U		<0.026	U		<0.0038	U		0.0046	J		0.0025	J	
		VMP-42-10-091112	9/11/2012	0.003	J		<0.021	U		<0.026	U		<0.0039	U		0.008			0.0031	J	
		VMP-42-10-091712	9/17/2012	0.68			<0.02	U		<0.025	U		<0.0036	U		0.0037	J		0.0013	J	
		VMP-42-10-092712	9/27/2012	0.00094	J		<0.019	U		<0.024	U		<0.0034	U		0.0034	J		0.0015	J	
		VMP-42-10-092712-Dup	9/27/2012	<0.006	U		<0.018	U		<0.022	U		<0.0033	U		0.0029	J		<0.0056	U	

Notes
Lab Qualifiers
J = Estimated value; e.g. results between the MDL and RL
U = Compound analyzed for but not detected above the RL
B = Compound present in laboratory blank greater than reporting l
URS Qualifiers
J = Estimated detection
UJ = Estimated non-detect
U = Non-detect due to blank contamination

TABLE 2
WEEK 1-8 CUMULATIVE SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS: NATURAL GASES

Location	Depth	Sample ID	Sample Date	Carbon Dioxide			Carbon Monoxide			Ethane			Ethene			Helium			Methane			Nitrogen			Oxygen		
				Result (%)	Lab Quals	URS Quals	Result (%)	Lab Quals	URS Quals	Result (%)	Lab Quals	URS Quals	Result (%)	Lab Quals	URS Quals	Result (%)	Lab Quals	URS Quals	Result (%)	Lab Quals	URS Quals	Result (%)	Lab Quals	URS Quals	Result (%)	Lab Quals	URS Quals
VMP-4	5 ft	VMP-4-5-080812	8/8/2012	1.4			<0.02	U		<0.002	U		<0.002	U		0.036	J		0.0002			80			18		
		VMP-4-5-081412	8/14/2012	1.3			<0.019	U		<0.0019	U		<0.0019	U		0.01	J		0.00017	J		81			18		
		VMP-4-5-082012	8/20/2012	1.2			<0.03	U		<0.003	U		<0.003	U		0.016	J		0.00019	J		81			18		
		VMP-4-5-083012	8/30/2012	1.2			<0.032	U		<0.0032	U		<0.0032	U		0.054	J		0.00019	J		81			18		
		VMP-4-5-090512	9/5/2012	1.7			<0.03	U		<0.003	U		<0.003	U		0.048	J		0.00016	J		80			18		
		VMP-4-5-091112	9/11/2012	1.7			<0.028	U		<0.0028	U		<0.0028	U		0.14			0.00016	J		80			18		
		VMP-4-5-091712	9/17/2012	1.1			<0.03	U		<0.003	U		<0.003	U		0.087	J		0.00016	J		80			19		
		VMP-4-5-092712	9/27/2012	0.82			<0.025	U		<0.0025	U		<0.0025	U		0.93			0.00013	J		79			19		
VMP-10	5 ft	VMP-10-5-080912	8/9/2012	1.9			<0.018	U		<0.0018	U		<0.0018	U		0.046	J		0.000035	J		80			18		
		VMP-10-5-081512	8/15/2012	1.6			<0.019	U		<0.0019	U		<0.0019	U		0.043	J		0.00004	J		79			19		
		VMP-10-5-082112	8/21/2012	1.5			<0.03	U		<0.003	U		<0.003	U		0.035	J		0.000033	J		80			19		
		VMP-10-5-083112	8/31/2012	1.5			<0.029	U		<0.0029	U		<0.0029	U		<0.14	U		0.00014	J		80			18		
		VMP-10-5-090612	9/6/2012	2			<0.031	U		<0.0031	U		<0.0031	U		<0.16	U		0.000038	J		80			18		
		VMP-10-5-091212	9/12/2012	2			<0.032	U		<0.0032	U		<0.0032	U		0.06			0.000034	J		80			18		
		VMP-10-5-091812	9/18/2012	1.6			<0.029	U		<0.0029	U		<0.0029	U		0.081	J		0.000047	J		80			18		
		VMP-10-5-092812	9/28/2012	1.7			<0.031	U		<0.0031	U		<0.0031	U		0.24			<0.00031	U		80			18		
		VMP-10-5-092812-Dup	9/28/2012	1.6			<0.03	U		<0.003	U		<0.003	U		0.026	J		<0.0003	U		80			18		
VMP-11	5 ft	VMP-11-5-080912	8/9/2012	2.6			<0.019	U		<0.0019	U		<0.0019	U		0.037	J		0.000056	J		79			18		
		VMP-11-5-081512	8/15/2012	2.1			<0.018	U		<0.0018	U		<0.0018	U		0.025	J		0.000055	J		80			18		
		VMP-11-5-082112	8/21/2012	2.1			<0.028	U		<0.0028	U		<0.0028	U		0.011	J		0.000062	J		80			18		
		VMP-11-5-082112-Dup	8/21/2012	2.1			<0.028	U		<0.0028	U		<0.0028	U		0.0095	J		0.000056	J		80			18		
		VMP-11-5-083112	8/31/2012	1.8			<0.028	U		<0.0028	U		<0.0028	U		<0.14	U		0.000048	J		80			18		
		VMP-11-5-090612	9/6/2012	2.4			<0.03	U		<0.003	U		<0.003	U		<0.15	U		0.000087	J		80			18		
		VMP-11-5-091212	9/12/2012	1.8			<0.06	U		<0.006	U		<0.006	U		0.063			0.000057	J		79			19		
		VMP-11-5-091812	9/18/2012	1.8			<0.029	U		<0.0029	U		<0.0029	U		0.016	J		0.000096	J		80			18		
		VMP-11-5-092812	9/28/2012	1.6			<0.03	U		<0.003	U		<0.003	U		0.031	J		0.000055	J		79			19		
		VMP-11-5-092812-Dup	9/28/2012	1.8			<0.039	U		<0.0039	U		<0.0039	U		0.022	J		0.000057	J		79			19		
VMP-13	5 ft	VMP-13-5-080912	8/9/2012	4.1			<0.024	U		<0.0024	U		<0.0024	U		0.048	J		0.000079	J		80			16		
		VMP-13-5-081512	8/15/2012	3.6			<0.02	U		<0.002	U		<0.002	U		0.058	J		0.000078	J		79			17		
		VMP-13-5-082112	8/21/2012	3			<0.029	U		<0.0029	U		<0.0029	U		0.038	J		0.00009	J		79			18		
		VMP-13-5-083112	8/31/2012	2.7			<0.029	U		<0.0029	U		<0.0029	U		0.016	J		0.000084	J		79			18		
		VMP-13-5-090612	9/6/2012	3.4			<0.024	U		<0.0024	U		<0.0024	U		<0.12	U		0.000076	J		80			17		
		VMP-13-5-091212	9/12/2012	2.8			<0.03	U		<0.003	U		<0.003	U		0.02	J		0.000062	J		80			17		
		VMP-13-5-091212-Dup	9/12/2012	2.8			<0.029	U		<0.0029	U		<0.0029	U		0.021	J		0.000065	J		80			17		
		VMP-13-5-091812	9/18/2012	2.4			<0.03	U		<0.003	U		<0.003	U		0.042	J		0.000057	J		80			18		
		VMP-13-5-092812	9/28/2012	2.4			<0.028	U		<0.0028	U		<0.0028	U		0.05	J		0.000073	J		81			17		
VMP-16	5 ft	VMP-16-5-080812	8/8/2012	14			<0.019	U		<0.0019	U		<0.0019	U		<0.094	U		0.0017			81			4.7		
		VMP-16-5-081412	8/14/2012	11			<0.02	U		<0.002	U		<0.002	U		<0.1	U		0.000075	J		83			6.4		
		VMP-16-5-082012	8/20/2012	15			<0.026	U		<0.0026	U		<0.0026	U		0.042	J		0.071			82			2.4		
		VMP-16-5-083012	8/30/2012	13			<0.03	U		<0.003	U		<0.003	U		<0.15	U		0.0041			82			4.6		
		VMP-16-5-090512	9/5/2012	17			<0.03	U		0.00034	J		<0.003	U		0.51			6.8			74			1.9		
		VMP-16-5-091112	9/11/2012	12			<0.03	U		<0.003	U		<0.003	U		0.024	J		0.00022	J		82			6		
		VMP-16-5-091712	9/17/2012	16			<0.028	U		0.0003	J		<0.0028	U		<0.14	U		7.9			74			1.4		
		VMP-16-5-092712	9/27/2012	6.3			<0.027	U		<0.0027	U		<0.0027	U		0.012	J		0.000036	J		81			13		
VMP-21	5 ft	VMP-21-5-080812	8/8/2012	6.5			<0.018	U		<0.0018	U		<0.0018	U		0.041	J		0.000077	J		79			14		
		VMP-21-5-081412	8/14/2012	5.9			<0.019	U		<0.0019	U		<0.0019	U		0.014	J		0.000053	J		79			15		
		VMP-21-5-081412-Dup	8/14/2012	5.7			<0.019	U		<0.0019	U		<0.0019	U		0.018	J		0.000065	J		79			15		
		VMP-21-5-082012	8/20/2012	5.7			<0.029	U		<0.0029	U		<0.0029	U		0.16			0.000071	J		79			15		
		VMP-21-5-083012	8/30/2012	5.2			<0.03	U		<0.003	U		<0.003	U		0.2			0.000046	J		80			15		
		VMP-21-5-090512	9/5/2012	5.6			<0.03	U		<0.003	U		<0.003	U		0.02	J		0.000045	J		80			14		
		VMP-21-5-091112	9/11/2012	5.9			<0.028	U		<0.0028	U		<0.0028	U		<0.14	U		0.000038	J		80			14		
		VMP-21-5-091712	9/17/2012	5.5			<0.028	U		<0.0028	U		<0.0028	U		0.038	J		0.000034	J		80			15		
		VMP-21-5-092712	9/27/2012	3.6			<0.033	U		<0.0033	U		<0.0033	U		0.027	J		0.000064	J		80			16		
VMP-42	10 ft	VMP-42-10-080812	8/8/2012	2.2			<0.02	U		<0.002	U		<0.002	U		0.0079	J		<0.0002	U		80			18		
		VMP-42-10-081412	8/14/2012	2			<0.02	U		<0.002	U		<0.002	U		<0.1	U		<0.0002	U		80			18		
		VMP-42-10-082012	8/20/2012	2			<0.031	U		<0.0031	U		<0.0031	U		0.024	J		<0.00031	U		79			19		
		VMP-42-10-083012	8/30/2012	1.8			<0.032	U		<0.0032	U		<0.0032	U		<0.16	U		<0.00032	U		80			18		
		VMP-42-10-090512	9/5/2012	1.8			<0.03	U		<0.003	U		<0.003	U		<0.15	U		<0.0003	U		79			19		
		VMP-42-10-091112	9/11/2012	1.6			<0.03	U		<0.003	U		<0.003	U		<0.15	U		0.00013	J		80			18		
		VMP-42-10-091712	9/17/2012	1.7			<0.029	U		<0.0029	U		<0.0029	U		<0.14	U		<0.00029	U		79			19		
		VMP-42-10-092712	9/27/2012	1.3			<0.027	U		<0.0027	U		<0.0027	U		<0.13	U		<0.00027	U		79			20		
		VMP-42-10-092712-Dup	9/27/2012	1.1			<0.026	U		<0.0026	U		<0.0026	U		<0.13	U		<0.00026	U		82			17		

Notes
Lab Qualifiers
J = Estimated value; e.g. results between the MDL and RL
U = Compound analyzed for but not detected above the RL
URS Qualifiers
J = Estimated detection
UJ = Estimated non-detect
U = Non-detect due to blank contamination

TABLE 3
WEEK 1-8 CUMULATIVE SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS

Location	Depth	Sample ID	Sample Date	Chemcial Group	Chemical	Result	Units	Lab Qualifier	URS Qualifiers
VMP-4	5 ft	VMP-4-5-080812	8/8/2012	VOCs	1-Pentanol, 4-methyl-2-propyl-	330	PPBV	NJ	
					Decane, 2,2,6-trimethyl-	440	PPBV	NJ	
					Decane, 2,2,7-trimethyl-	140	PPBV	NJ	
					Ethanone, 1-phenyl-	80	PPBV	NJ	
					Heptane, 2,2,4-trimethyl-	47	PPBV	NJ	
					Hexane, 2,2,5-trimethyl-	39	PPBV	NJ	
					Octane, 2,4,6-trimethyl-	150	PPBV	NJ	
					Unknown	150	PPBV	J	
					Unknown	45	PPBV	J	
					Unknown	55	PPBV	J	
		VMP-4-5-081412	8/14/2012	VOCs	1,3-Pentadiene, 2,4-dimethyl-	45	PPBV	NJ	
					Cyclohexane, 1,1,2-trimethyl-	220	PPBV	NJ	
					Decane, 2,2,5-trimethyl-	74	PPBV	NJ	
					Ethanone, 1-phenyl-	56	PPBV	NJ	
					Pentane	160	PPBV	NJ	
					Tetradecane, 2,5-dimethyl-	86	PPBV	NJ	
					Unknown	230	PPBV	J	
					Unknown	44	PPBV	J	
					Unknown	54	PPBV	J	
					Unknown	82	PPBV	J	
		VMP-4-5-082012	8/20/2012	VOCs	2-Hexenal, 2-ethyl-	110	PPBV	NJ	
					4-Nonene	100	PPBV	NJ	
					Cyclohexanone, 4-methyl-	240	PPBV	NJ	
					Cyclopropane, 1,1-dichloro-2-hexyl-	50	PPBV	NJ	
					Decane, 2,2,5-trimethyl-	50	PPBV	NJ	
					Decane, 2,2,7-trimethyl-	380	PPBV	NJ	
					Ethanone, 1-phenyl-	70	PPBV	NJ	
					Octane, 2,4,6-trimethyl-	160	PPBV	NJ	
					Oxirane, 2,3-dimethyl-	64	PPBV	NJ	
					Undecane, 2,2-dimethyl-	180	PPBV	NJ	
		VMP-4-5-083012	8/30/2012	VOCs	1-Pentanol, 4-methyl-2-propyl-	360	PPBV	NJ	
					2-Heptenal, (Z)-	89	PPBV	NJ	
					Decane, 2,2,7-trimethyl-	81	PPBV	NJ	
					Decane, 2,2-dimethyl-	590	PPBV	NJ	
					Ethanone, 1-phenyl-	71	PPBV	NJ	
					Heptane, 2,2,4,6,6-pentamethyl-	72	PPBV	NJ	
					Octane, 2,4,6-trimethyl-	250	PPBV	NJ	
					Undecane, 2,2-dimethyl-	220	PPBV	NJ	
					Unknown	160	PPBV	J	
					Unknown	200	PPBV	J	
		VMP-4-5-090512	9/5/2012	VOCs	1-Pentanol, 4-methyl-2-propyl-	65	PPBV	NJ	
					Decane, 6-ethyl-2-methyl-	34	PPBV	NJ	
					Ethanone, 1-phenyl-	11	PPBV	NJ	
					Undecane, 2,2-dimethyl-	23	PPBV	NJ	
					Unknown	110	PPBV	J	
					Unknown	12	PPBV	J	
					Unknown	57	PPBV	J	
					Unknown	7.7	PPBV	J	
					Unknown	9.9	PPBV	J	
		VMP-4-5-091112	9/11/2012	VOCs	Cyclohexanone, 4-methyl-	190	PPBV	NJ	
					Decane, 2,2,4-trimethyl-	97	PPBV	NJ	
					Decane, 2,2,5-trimethyl-	30	PPBV	NJ	
					Decane, 2,2,7-trimethyl-	260	PPBV	NJ	
					Ethanone, 1-phenyl-	71	PPBV	NJ	
					Octane, 2,4,6-trimethyl-	110	PPBV	NJ	
					Undecane, 2,2-dimethyl-	30	PPBV	NJ	
					Unknown	35	PPBV	J	
					Unknown	48	PPBV	J	
					Unknown	73	PPBV	J	
		VMP-4-5-091712	9/17/2012	VOCs	1-Hexene, 3-methyl-	23	PPBV	NJ	
					1-Hexyn-3-ol	14	PPBV	NJ	
					Acetaldehyde	8	PPBV	NJ	
					Decane, 2,2,5-trimethyl-	21	PPBV	NJ	
					Decane, 2,2,6-trimethyl-	66	PPBV	NJ	
					Decane, 2,2,8-trimethyl-	10	PPBV	NJ	
					Decanedioic acid, didecyl ester	27	PPBV	NJ	
					Hexanal	8.8	PPBV	NJ	
					Undecane, 4,6-dimethyl-	30	PPBV	NJ	
					Unknown	8.8	PPBV	J	
		VMP-4-5-092712	9/27/2012	VOCs	1-Hexene, 5-methyl-	12	PPBV	NJ	
					2-Decene, 8-methyl-, (Z)-	12	PPBV	NJ	
					Cyclopropane, 1-ethyl-2-heptyl-	20	PPBV	NJ	
					Decane, 2,2,5-trimethyl-	15	PPBV	NJ	
					Decane, 2,2,6-trimethyl-	27	PPBV	NJ	
					Decane, 2,6,7-trimethyl-	9.2	PPBV	NJ	
					Decane, 3,4-dimethyl-	21	PPBV	NJ	
					Eicosane, 10-methyl-	34	PPBV	NJ	
					Heptane, 4-ethyl-2,2,6,6-tetramethyl-	59	PPBV	NJ	
					Pentane, 2,3,3-trimethyl-	11	PPBV	NJ	

TABLE 3
WEEK 1-8 CUMULATIVE SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS

Location	Depth	Sample ID	Sample Date	Chemcial Group	Chemical	Result	Units	Lab Qualifier	URS Qualifiers
VMP-10	5 ft	VMP-10-5-080912	8/9/2012	VOCs	1-Propene, 2-methyl-	11	PPBV	NJ	
					Acetic acid	15	PPBV	NJ	
		VMP-10-5-081512	8/15/2012	VOCs	1-Propene, 2-methyl-	14	PPBV	NJ	
					Acetic acid	9.4	PPBV	NJ	
		VMP-10-5-082112	8/21/2012	VOCs	Cyclohexane, 1,1,2-trimethyl-	8.4	PPBV	NJ	
					Cyclohexane, 1,4-dimethyl-	9.2	PPBV	NJ	
					Ethanone, 1-phenyl-	9.8	PPBV	NJ	
					Propanoic acid, 3-ethoxy-, ethyl ester	12	PPBV	NJ	
		VMP-10-5-083112	8/31/2012	VOCs	Cycloheptane, methyl-	51	PPBV	NJ	
					Cyclohexanone, 4-methyl-	120	PPBV	NJ	
					Cyclopentane, 2-ethyl-1,1-dimethyl-	30	PPBV	NJ	
					Decane, 2,2,5-trimethyl-	96	PPBV	NJ	
					Decane, 2,2,6-trimethyl-	230	PPBV	NJ	
					Ethanone, 1-phenyl-	32	PPBV	NJ	
					Octane, 2,2,6-trimethyl-	30	PPBV	NJ	
					Octane, 2,4,6-trimethyl-	93	PPBV	NJ	
					Unknown	38	PPBV	J	
					Unknown	77	PPBV	J	
		VMP-10-5-090612	9/6/2012	VOCs	6-Oxabicyclo[3.1.0]hexane	44	PPBV	NJ	
					Cyclobutanone, 2,3,3-trimethyl-	36	PPBV	NJ	
					Decane, 2,2,4-trimethyl-	100	PPBV	NJ	
					Decane, 2,2,9-trimethyl-	60	PPBV	NJ	
					Decane, 2,9-dimethyl-	18	PPBV	NJ	
					Decane, 6-ethyl-2-methyl-	70	PPBV	NJ	
					Dodecane, 1-fluoro-	28	PPBV	NJ	
					Undecane, 2,2-dimethyl-	35	PPBV	NJ	
					Unknown	27	PPBV	J	
					Unknown	80	PPBV	J	
		VMP-10-5-091212	9/12/2012	VOCs	1-Propene, 2-methyl-	26	PPBV	NJ	
		VMP-10-5-091812	9/18/2012	VOCs	1-Propene, 2-methyl-	32	PPBV	NJ	
		VMP-10-5-092812-Dup	9/28/2012	VOCs	1-Propene, 2-methyl-	9.1	PPBV	NJ	
VMP-11	5 ft	VMP-11-5-080912	8/9/2012	VOCs	Acetic acid	32	PPBV	NJ	
					Hexane, 2,2,3-trimethyl-	5.4	PPBV	NJ	
					Octane, 4-methyl-	7.8	PPBV	NJ	
					Unknown	5.5	PPBV	J	
					Unknown	7.7	PPBV	J	
		VMP-11-5-081512	8/15/2012	VOCs	Unknown	5.9	PPBV	J	
		VMP-11-5-083112	8/31/2012	VOCs	1-Pentanol, 4-methyl-2-propyl-	150	PPBV	NJ	
					Cyclopentane, 1,2,3-trimethyl-, (1.alpha	32	PPBV	NJ	
					Cyclopentane, 1-methyl-2-propyl-	69	PPBV	NJ	
					Decane, 2,2,9-trimethyl-	220	PPBV	NJ	
					Pentane, 2,2,3,4-tetramethyl-	37	PPBV	NJ	
					Undecane, 2,2-dimethyl-	96	PPBV	NJ	
					Undecane, 5,5-dimethyl-	95	PPBV	NJ	
					Unknown	37	PPBV	J	
					Unknown	40	PPBV	J	
					Unknown	69	PPBV	J	
		VMP-11-5-090612	9/6/2012	VOCs	Cyclobutanone, 2,3,3-trimethyl-	33	PPBV	NJ	
					Decane, 2,2,4-trimethyl-	32	PPBV	NJ	
					Decane, 2,6,7-trimethyl-	52	PPBV	NJ	
					Heptane, 2,4-dimethyl-	30	PPBV	NJ	
					Hexane, 2,2,3-trimethyl-	140	PPBV	NJ	
					Methane, isocyanato-	24	PPBV	NJ	
					Octane, 2,4,6-trimethyl-	89	PPBV	NJ	
					Undecane, 2,2-dimethyl-	85	PPBV	NJ	
					Unknown	40	PPBV	J	
					Unknown	67	PPBV	J	
		VMP-11-5-091212	9/12/2012	VOCs	Unknown	13	PPBV	J	
		VMP-11-5-091812	9/18/2012	VOCs	Cyclooctane, 1,4-dimethyl-, cis-	23	PPBV	NJ	
					Decane, 2,2,4-trimethyl-	20	PPBV	NJ	
					Decane, 2,2-dimethyl-	8.8	PPBV	NJ	
					Pentane, 2,3,3-trimethyl-	30	PPBV	NJ	
					Pentane, 2,3,4-trimethyl-	23	PPBV	NJ	
					Pentane, 2,3-dimethyl-	27	PPBV	NJ	
					Pentane, 2,4-dimethyl-	11	PPBV	NJ	
					Undecane, 3,8-dimethyl-	26	PPBV	NJ	
					Unknown	11	PPBV	J	
					Unknown	18	PPBV	J	

TABLE 3
WEEK 1-8 CUMULATIVE SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS

Location	Depth	Sample ID	Sample Date	Chemcial Group	Chemical	Result	Units	Lab Qualifier	URS Qualifiers
VMP-13	5 ft	VMP-13-5-080912	8/9/2012	VOCs	1-Propene, 2-methyl-	6.6	PPBV	NJ	
					Acetic acid	29	PPBV	NJ	
					Unknown	6	PPBV	J	
					Unknown	9.5	PPBV	J	
		VMP-13-5-081512	8/15/2012	VOCs	2-Oxetanone, 4,4-dimethyl-	14	PPBV	NJ	
					Nonane, 3-methyl-	6.8	PPBV	NJ	
		VMP-13-5-082112	8/21/2012	VOCs	1-Butanamine, 2-methyl-	15	PPBV	NJ	
					1-Propanol, 2-methyl-	7.7	PPBV	NJ	
					2(3H)-Furanone, dihydro-4,4-dimethyl-	13	PPBV	NJ	
					Ethanol, 2-methoxy-	10	PPBV	NJ	
					Ethenone	17	PPBV	NJ	
					Furan, tetrahydro-3-methyl-4-methylene-	8.7	PPBV	NJ	
					Pentane, 2-isocyano-2,4,4-trimethyl-	7.3	PPBV	NJ	
					Propane, 2-methyl-2-nitro-	8.4	PPBV	NJ	
					Pyrrolidine	9.4	PPBV	NJ	
		VMP-13-5-083112	8/31/2012	VOCs	Cyclopentane, 1,2,3-trimethyl-, (1.alpha	32	PPBV	NJ	
					Decane, 2,2,5-trimethyl-	40	PPBV	NJ	
					Decane, 2,2-dimethyl-	100	PPBV	NJ	
					Decane, 2,5,6-trimethyl-	96	PPBV	NJ	
					Heptane, 2,2-dimethyl-	240	PPBV	NJ	
					Octane, 2,4,6-trimethyl-	100	PPBV	NJ	
					Unknown	36	PPBV	J	
					Unknown	39	PPBV	J	
					Unknown	69	PPBV	J	
					Unknown	84	PPBV	J	
		VMP-13-5-090612	9/6/2012	VOCs	1-Pentanol, 4-methyl-2-propyl-	120	PPBV	NJ	
					Cyclopentane, butyl-	56	PPBV	NJ	
					Decane, 2,2,5-trimethyl-	210	PPBV	NJ	
					Decane, 2,2-dimethyl-	31	PPBV	NJ	
					Heptane, 2,2,3,4,6,6-hexamethyl-	28	PPBV	NJ	
					Heptane, 2,2,4,6,6-pentamethyl-	100	PPBV	NJ	
					Octane, 2,4,6-trimethyl-	100	PPBV	NJ	
					Oxirane, (3-methylbutyl)-	36	PPBV	NJ	
					Undecane, 2,2-dimethyl-	29	PPBV	NJ	
					Unknown	34	PPBV	J	
		VMP-13-5-091212	9/12/2012	VOCs	1-Pentanol, 2-ethyl-4-methyl-	13	PPBV	NJ	
					1-Pentene, 4,4-dimethyl-	14	PPBV	NJ	
					1-Propene, 2-methyl-	15	PPBV	NJ	
					Unknown	7.7	PPBV	J	
		VMP-13-5-091212-Dup	9/12/2012	VOCs	1-Propene, 2-methyl-	15	PPBV	NJ	
		VMP-13-5-092812	9/28/2012	VOCs	1-Propene, 2-methyl-	19	PPBV	NJ	
					Acetaldehyde	12	PPBV	NJ	
					Hexane, 2,3,4-trimethyl-	10	PPBV	NJ	

TABLE 3
WEEK 1-8 CUMULATIVE SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS

Location	Depth	Sample ID	Sample Date	Chemcial Group	Chemical	Result	Units	Lab Qualifier	URS Qualifiers
VMP-16	5 ft	VMP-16-5-080812	8/8/2012	VOCs	1-Pentene, 4-methyl-	2100	PPBV	NJ	
					3,4-Hexanedione, 2,2,5-trimethyl-	2800	PPBV	NJ	
					Decane, 2,2,5-trimethyl-	4800	PPBV	NJ	
					Hexane, 2,2,5,5-tetramethyl-	3600	PPBV	NJ	
					Hexane, 3,4-dimethyl-	2600	PPBV	NJ	
					Hydroxylamine, O-pentyl-	19000	PPBV	NJ	
					Octane, 4-methyl-	65000	PPBV	NJ	
					Pentane, 2,3-dimethyl-	4200	PPBV	NJ	
					Pentane, 3-ethyl-2,2-dimethyl-	4600	PPBV	NJ	
					Unknown	1700	PPBV	J	
		VMP-16-5-081412	8/14/2012	VOCs	2-Butanol, 2,3-dimethyl-	210	PPBV	NJ	
					Butane, 2,2,3-trimethyl-	920	PPBV	NJ	
					Decane, 2,2,6-trimethyl-	120	PPBV	NJ	
					Hexane, 2,2,5,5-tetramethyl-	470	PPBV	NJ	
					Octane, 4-methyl-	300	PPBV	NJ	
					Pentane, 2,3,3-trimethyl-	9500	PPBV	NJ	
					Unknown	110	PPBV	J	
					Unknown	1300	PPBV	J	
					Unknown	170	PPBV	J	
					Unknown	190	PPBV	J	
					Unknown	1900	PPBV	J	
					Unknown	220	PPBV	J	
					Unknown	620	PPBV	J	
					Unknown	960	PPBV	J	
		VMP-16-5-082012	8/20/2012	VOCs	1-Propene, 2-methyl-	3300	PPBV	NJ	
					Hexane, 1-(hexyloxy)-3-methyl-	6000	PPBV	NJ	
					Pentane, 2,2,3-trimethyl-	10000	PPBV	NJ	
					Pentane, 2,2-dimethyl-	3000	PPBV	NJ	
					Pentane, 2,3,3-trimethyl-	58000	PPBV	NJ	
					Pentane, 2,3,4-trimethyl-	22000	PPBV	NJ	
					Pentane, 2,3-dimethyl-	15000	PPBV	NJ	
					Pentane, 2,4-dimethyl-	8000	PPBV	NJ	
					Pentane, 2-methyl-	3800	PPBV	NJ	
					Pentane, 3-ethyl-2,2-dimethyl-	4800	PPBV	NJ	
		VMP-16-5-083012	8/30/2012	VOCs	Butane, 2,2,3-trimethyl-	1400	PPBV	NJ	
					Hexane, 2,2,5,5-tetramethyl-	1400	PPBV	NJ	
					Octane, 2,2,6-trimethyl-	1100	PPBV	NJ	
					Oxirane, (1-methylethyl)-	2000	PPBV	NJ	
					Pentane, 2,3,3-trimethyl-	25000	PPBV	NJ	
					Pentane, 2,3,4-trimethyl-	7100	PPBV	NJ	
					Pentane, 2,4-dimethyl-	860	PPBV	NJ	
					Unknown	1200	PPBV	J	
					Unknown	1500	PPBV	J	
					Unknown	540	PPBV	J	
		VMP-16-5-090512	9/5/2012	VOCs	1-Pentene, 4-methyl-	870000	PPBV	NJ	
					Heptane, 2,2-dimethyl-	160000	PPBV	NJ	
					Nonane, 2,5-dimethyl-	180000	PPBV	NJ	
					Octane, 4-methyl-	1100000	PPBV	NJ	
					Pentane, 2,3,4-trimethyl-	790000	PPBV	NJ	
					Pentane, 2-methyl-	350000	PPBV	NJ	
					Pentane, 3-methyl-	420000	PPBV	NJ	
					Unknown	1600000	PPBV	J	
					Unknown	1900000	PPBV	J	
					Unknown	270000	PPBV	J	
					Unknown	430000	PPBV	J	
					Unknown	530000	PPBV	J	
		VMP-16-5-091112	9/11/2012	VOCs	Butane, 2,2,3-trimethyl-	740	PPBV	NJ	
					Decane, 2,2,8-trimethyl-	220	PPBV	NJ	
					Heptane, 4-ethyl-2,2,6,6-tetramethyl-	240	PPBV	NJ	
					Hexane, 2,2,5,5-tetramethyl-	480	PPBV	NJ	
					Octane, 4-methyl-	9100	PPBV	NJ	
					Pentane, 2,3,4-trimethyl-	2000	PPBV	NJ	
					Pentane, 2,3-dimethyl-	520	PPBV	NJ	
					Pentane, 2,4-dimethyl-	200	PPBV	NJ	
					Unknown	460	PPBV	J	
					Unknown	510	PPBV	J	
		VMP-16-5-091712	9/17/2012	VOCs	Cyclohexane, methyl-	360000	PPBV	NJ	
					Decane, 2,2,6-trimethyl-	220000	PPBV	NJ	
					Hexane, 2,5-dimethyl-	240000	PPBV	NJ	
					Pentane, 2,2,3-trimethyl-	170000	PPBV	NJ	
					Pentane, 2,3,3-trimethyl-	1500000	PPBV	NJ	
					Pentane, 2,3,4-trimethyl-	1100000	PPBV	NJ	
					Pentane, 2,3-dimethyl-	2400000	PPBV	NJ	
					Pentane, 2,4-dimethyl-	1300000	PPBV	NJ	
					Pentane, 2-methyl-	500000	PPBV	NJ	
					Pentane, 3-methyl-	570000	PPBV	NJ	
		VMP-16-5-092712	9/27/2012	VOCs	Butane, 2,2,3-trimethyl-	180	PPBV	NJ	
					Heptane, 4-ethyl-2,2,6,6-tetramethyl-	73	PPBV	NJ	
					Hexane, 2,2,3-trimethyl-	63	PPBV	NJ	
					Hexane, 2,2,4-trimethyl-	170	PPBV	NJ	
					Hexane, 3,4-dimethyl-	77	PPBV	NJ	
					Pentane, 2,3,3-trimethyl-	1700	PPBV	NJ	
					Pentane, 2,3,4-trimethyl-	600	PPBV	NJ	
					Pentane, 2,3-dimethyl-	500	PPBV	NJ	
					Pentane, 2,4-dimethyl-	170	PPBV	NJ	
					Unknown	130	PPBV	J	

TABLE 3
WEEK 1-8 CUMULATIVE SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS

Location	Depth	Sample ID	Sample Date	Chemcial Group	Chemical	Result	Units	Lab Qualifier	URS Qualifiers
VMP-21	5 ft	VMP-21-5-080812	8/8/2012	VOCs	1-Butanol, 3,3-dimethyl-	8.6	PPBV	NJ	
					1-Propene, 2-methyl-	9.6	PPBV	NJ	
					Octane, 2,4,6-trimethyl-	7.8	PPBV	NJ	
					Propanal, 2-methyl-	6.3	PPBV	NJ	
					Unknown	22	PPBV	J	
		VMP-21-5-081412	8/14/2012	VOCs	Unknown	5.2	PPBV	J	
					Unknown	6	PPBV	J	
		VMP-21-5-081412-Dup	8/14/2012	VOCs	Unknown	7.4	PPBV	J	
					Unknown	7.6	PPBV	J	
		VMP-21-5-082012	8/20/2012	VOCs	1-Nonene	27	PPBV	NJ	
					Cyclopentane, 1,2,3-trimethyl-, (1.alpha	24	PPBV	NJ	
					Cyclopentane, 1-methyl-2-propyl-	52	PPBV	NJ	
					Decane, 2,2,7-trimethyl-	81	PPBV	NJ	
					Heptane, 2,2,4,6,6-pentamethyl-	23	PPBV	NJ	
					Heptane, 4-ethyl-2,2,6,6-tetramethyl-	140	PPBV	NJ	
					Hexane, 1-(hexyloxy)-5-methyl-	48	PPBV	NJ	
					Octane, 2,2,6-trimethyl-	27	PPBV	NJ	
					Octane, 2,4,6-trimethyl-	76	PPBV	NJ	
					Oxirane, 2,3-dimethyl-	27	PPBV	NJ	
		VMP-21-5-083012	8/30/2012	VOCs	1-Heptene, 3-methyl-	42	PPBV	NJ	
					1-Pentanol, 4-methyl-2-propyl-	110	PPBV	NJ	
					Cyclobutanone, 2,3,3-trimethyl-	36	PPBV	NJ	
					Decane, 2,2,9-trimethyl-	190	PPBV	NJ	
					Decane, 2,2-dimethyl-	91	PPBV	NJ	
					Dodecane, 2,7,10-trimethyl-	86	PPBV	NJ	
					Unknown	30	PPBV	J	
					Unknown	35	PPBV	J	
					Unknown	51	PPBV	J	
					Unknown	76	PPBV	J	
		VMP-21-5-090512	9/5/2012	VOCs	1-Pentanol, 2-ethyl-4-methyl-	120	PPBV	NJ	
					Cyclopentane, 1,2,3-trimethyl-, (1.alpha	28	PPBV	NJ	
					Decane, 2,2,7-trimethyl-	160	PPBV	NJ	
					Decane, 2,2,8-trimethyl-	25	PPBV	NJ	
					Decane, 2,2,9-trimethyl-	81	PPBV	NJ	
					Heptane, 2,2,4,6,6-pentamethyl-	30	PPBV	NJ	
					Undecane, 2,5-dimethyl-	83	PPBV	NJ	
					Unknown	32	PPBV	J	
					Unknown	38	PPBV	J	
					Unknown	57	PPBV	J	
		VMP-21-5-091112	9/11/2012	VOCs	1-Octanol, 2-butyl-	29	PPBV	NJ	
					Decane, 2,2,8-trimethyl-	32	PPBV	NJ	
					Decane, 2,2,9-trimethyl-	75	PPBV	NJ	
					Ethanone, 1-phenyl-	14	PPBV	NJ	
					Heptane, 2,2,3,4,6,6-hexamethyl-	9.1	PPBV	NJ	
					Heptane, 2,2,4,6,6-pentamethyl-	9.6	PPBV	NJ	
					Tetradecane, 1-iodo-	12	PPBV	NJ	
					Undecane	37	PPBV	NJ	
					Unknown	10	PPBV	J	
					Unknown	20	PPBV	J	
		VMP-21-5-091712	9/17/2012	VOCs	4-Nonene	11	PPBV	NJ	
					Decane, 2,2,9-trimethyl-	8.4	PPBV	NJ	
					Decane, 2,2-dimethyl-	29	PPBV	NJ	
					Decane, 6-ethyl-2-methyl-	35	PPBV	NJ	
					Ethanone, 1-phenyl-	11	PPBV	NJ	
					Heptane, 2,2,4-trimethyl-	8.8	PPBV	NJ	
					Heptane, 3,3'-[oxybis(methylene)]bis-	21	PPBV	NJ	
					Hexanal	9.1	PPBV	NJ	
					Hexane, 2,2,4-trimethyl-	50	PPBV	NJ	
					Propanal, 2-hydroxy-2-methyl-	19	PPBV	NJ	
		VMP-21-5-092712	9/27/2012	VOCs	4-Nonene	31	PPBV	NJ	
					Cyclobutanone, 2,3,3-trimethyl-	16	PPBV	NJ	
					Decane, 2,2,8-trimethyl-	51	PPBV	NJ	
					Decane, 2,6,6-trimethyl-	16	PPBV	NJ	
					Heptane, 2,2,4,6,6-pentamethyl-	16	PPBV	NJ	
					Heptane, 4-ethyl-2,2,6,6-tetramethyl-	83	PPBV	NJ	
					Hexanal	18	PPBV	NJ	
					Nonane, 2-methyl-5-propyl-	57	PPBV	NJ	
					Propanal, 2-hydroxy-2-methyl-	15	PPBV	NJ	
					Undecane, 2,8-dimethyl-	34	PPBV	NJ	

TABLE 3
WEEK 1-8 CUMULATIVE SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS

Location	Depth	Sample ID	Sample Date	Chemcial Group	Chemical	Result	Units	Lab Qualifier	URS Qualifiers
VMP-42	10 ft	VMP-42-10-080812	8/8/2012	VOCs	2-Propanol, 1-methoxy-	48	PPBV	NJ	
					Decane, 2,2,7-trimethyl-	320	PPBV	NJ	
					Decane, 2,2,9-trimethyl-	130	PPBV	NJ	
					Decane, 2,2-dimethyl-	40	PPBV	NJ	
					Dodecane, 1-fluoro-	150	PPBV	NJ	
					Hexane, 2,2-dimethyl-	46	PPBV	NJ	
					Octane, 2,4,6-trimethyl-	150	PPBV	NJ	
					Pentane, 2,3-dimethyl-	48	PPBV	NJ	
					Unknown	54	PPBV	J	
					Unknown	72	PPBV	J	
		VMP-42-10-081412	8/14/2012	VOCs	1-Pentanol, 4-methyl-2-propyl-	130	PPBV	NJ	
					Decane, 2,2,9-trimethyl-	200	PPBV	NJ	
					Ethanone, 1-phenyl-	55	PPBV	NJ	
					Heptane, 2,2,4,6,6-pentamethyl-	75	PPBV	NJ	
					Hexane, 2,2,5,5-tetramethyl-	20	PPBV	NJ	
					Octane, 2,4,6-trimethyl-	76	PPBV	NJ	
					Oxirane, 2,3-dimethyl-	57	PPBV	NJ	
					Unknown	18	PPBV	J	
					Unknown	35	PPBV	J	
		VMP-42-10-082012	8/20/2012	VOCs	1-Hexene, 5-methyl-	42	PPBV	NJ	
					1-Pentanol, 2-ethyl-4-methyl-	170	PPBV	NJ	
					2-Pentenal, (E)-	45	PPBV	NJ	
					Cyclopentane, 1-methyl-2-propyl-	69	PPBV	NJ	
					Decane, 2,2,4-trimethyl-	120	PPBV	NJ	
					Decane, 2,2-dimethyl-	250	PPBV	NJ	
					Ethanone, 1-phenyl-	40	PPBV	NJ	
					Heptane, 2,2,4,6,6-pentamethyl-	36	PPBV	NJ	
					Octane, 2,4,6-trimethyl-	120	PPBV	NJ	
					Oxirane, 2,3-dimethyl-	53	PPBV	NJ	
		VMP-42-10-083012	8/30/2012	VOCs	1-Heptene, 3-methyl-	69	PPBV	NJ	
					1-Pentanol, 2-ethyl-4-methyl-	190	PPBV	NJ	
					2-Heptene	79	PPBV	NJ	
					Decane, 2,2,4-trimethyl-	390	PPBV	NJ	
					Decane, 2,2,9-trimethyl-	180	PPBV	NJ	
					Decane, 2,2-dimethyl-	56	PPBV	NJ	
					Octane, 2,2,6-trimethyl-	59	PPBV	NJ	
					Tetradecane, 2,5-dimethyl-	190	PPBV	NJ	
					Unknown	110	PPBV	J	
					Unknown	150	PPBV	J	
		VMP-42-10-090512	9/5/2012	VOCs	1-Pentanol, 4-methyl-2-propyl-	100	PPBV	NJ	
					Decane, 2,2,8-trimethyl-	25	PPBV	NJ	
					Ethanone, 1-phenyl-	32	PPBV	NJ	
					Heptane, 2,2,4,6,6-pentamethyl-	74	PPBV	NJ	
					Hexane, 2,2,3-trimethyl-	20	PPBV	NJ	
					Octane, 2,4,6-trimethyl-	71	PPBV	NJ	
					Undecane, 2,2-dimethyl-	160	PPBV	NJ	
					Unknown	22	PPBV	J	
					Unknown	38	PPBV	J	
					Unknown	42	PPBV	J	
		VMP-42-10-091112	9/11/2012	VOCs	Decane, 2,2-dimethyl-	100	PPBV	NJ	
					Decane, 6-ethyl-2-methyl-	110	PPBV	NJ	
					Ethanone, 1-phenyl-	82	PPBV	NJ	
					Heptane, 2,2,4,6,6-pentamethyl-	30	PPBV	NJ	
					Undecane, 2,2-dimethyl-	240	PPBV	NJ	
					Unknown	150	PPBV	J	
					Unknown	29	PPBV	J	
					Unknown	36	PPBV	J	
					Unknown	58	PPBV	J	
		VMP-42-10-091712	9/17/2012	VOCs	Cyclohexane, methyl-	58	PPBV	NJ	
					Decane, 2,2,6-trimethyl-	92	PPBV	NJ	
					Decane, 2,2-dimethyl-	42	PPBV	NJ	
					Decane, 2,3,5-trimethyl-	45	PPBV	NJ	
					Hexane, 2,2,5-trimethyl-	60	PPBV	NJ	
					Octane, 2,2,6-trimethyl-	53	PPBV	NJ	
					Pentane, 2,3,3-trimethyl-	320	PPBV	NJ	
					Pentane, 2,3,4-trimethyl-	220	PPBV	NJ	
					Pentane, 2,3-dimethyl-	200	PPBV	NJ	
					Pentane, 2,4-dimethyl-	68	PPBV	NJ	
		VMP-42-10-092712	9/27/2012	VOCs	4-Nonene	17	PPBV	NJ	
					Cycloheptane, methoxy-	15	PPBV	NJ	
					Decane, 2,2,4-trimethyl-	56	PPBV	NJ	
					Decane, 2,2,8-trimethyl-	15	PPBV	NJ	
					Ethanone, 1-phenyl-	22	PPBV	NJ	
					Heptane, 2,2,4,6,6-pentamethyl-	17	PPBV	NJ	
					Heptane, 2,2-dimethyl-	100	PPBV	NJ	
					Hexane, 1-(hexyloxy)-5-methyl-	50	PPBV	NJ	
					Hexane, 2,2,5-trimethyl-	14	PPBV	NJ	
					Hexane, 3,3-dimethyl-	62	PPBV	NJ	
		VMP-42-10-092712-Dup	9/27/2012	VOCs	4-Nonene	15	PPBV	NJ	
					Ethanone, 1-phenyl-	16	PPBV	NJ	
					Heptane, 2,2,4,6,6-pentamethyl-	13	PPBV	NJ	
					Heptane, 2,2-dimethyl-	80	PPBV	NJ	
					Heptane, 4-ethyl-2,2,6,6-tetramethyl-	11	PPBV	NJ	
					Nonane, 3-methyl-5-propyl-	48	PPBV	NJ	
					Octane, 2,2,6-trimethyl-	10	PPBV	NJ	
					Propanoic acid, 2-methyl-, 2-(hydroxymet	12	PPBV	NJ	
					Undecane, 2,2-dimethyl-	42	PPBV	NJ	
					Undecane, 2,8-dimethyl-	30	PPBV	NJ	

Notes
Lab Qualifiers
NJ = The identification is based on presumptive evidence; estimated value

See last page of table for notes

TABLE 4
SOIL VAPOR SAMPLING - TEDLAR SAMPLING DATA

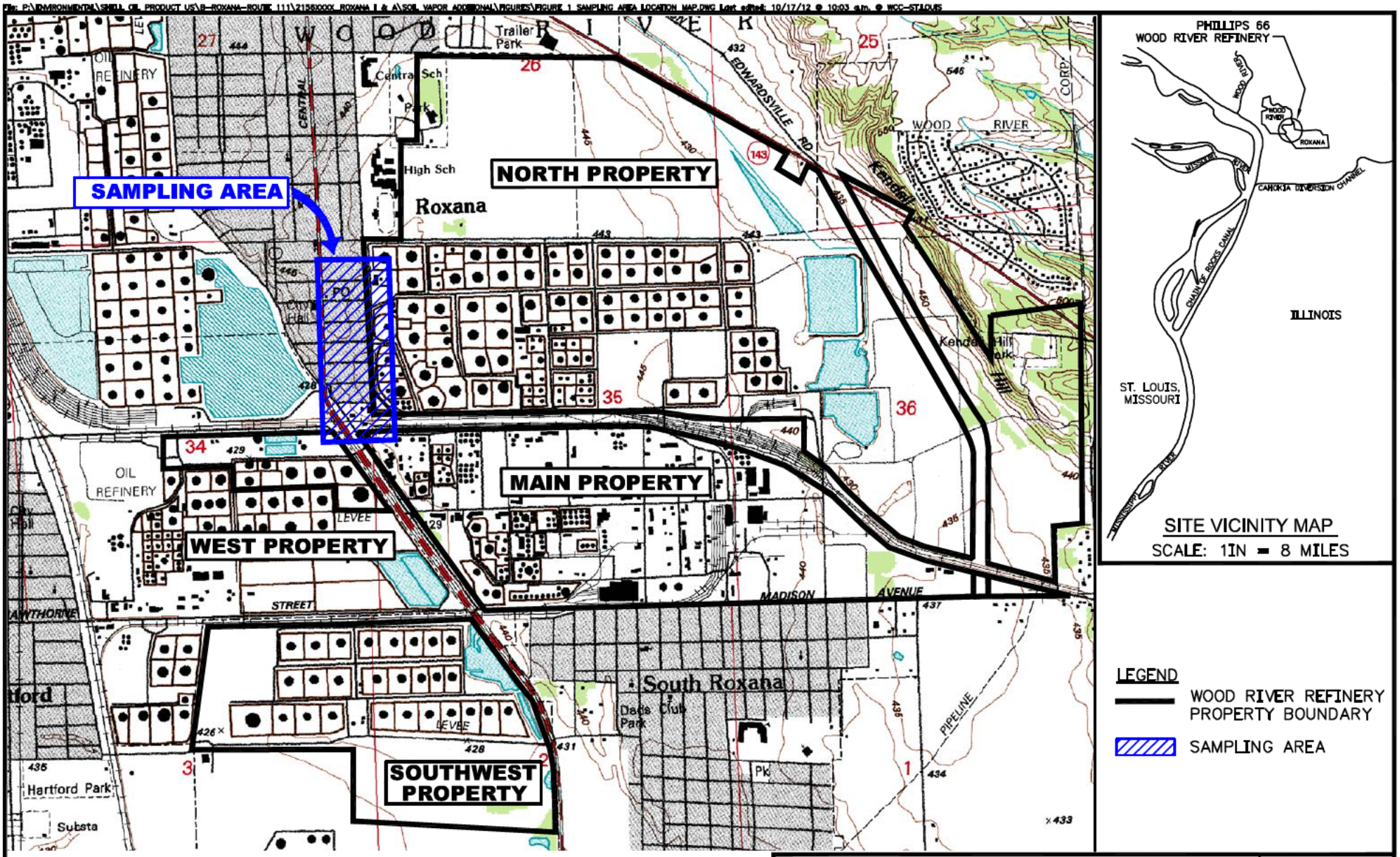
Reading Location		Shroud	Tedlar Bag 1		Shroud	Tedlar Bag 2						
Instrument		Dielectric		Landtec	Dielectric		FID	PID	Landtec			
Port ID	Date	Helium in Shroud Before	Helium Before	CH4 (%)	Helium in Shroud After	Helium After	FID (ppm)	PID (ppm)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)
VMP-4-5	08/08/12	54.0%	0.0%	N/A	51.0%	0.0%	4.65	0.7	0.0	0.0	1.5	19.0
	08/14/12	50.3%	0.0%	N/A	48.3%	0.0%	6.85	1.0	0.0	0.0	1.2	19.5
	08/20/12	57.0%	0.0%	N/A	46.0%	0.4%	4.25	1.4	0.0	0.0	1.0	19.2
	08/30/12	55.0%	0.0%	N/A	77.4%	0.25%	1.94	1.2	0.0	0.0	0.9	19.4
	09/05/12	51.0%	0.0%	N/A	49.7%	0.23%	2.76	0.5	0.0	0.0	1.8	18.8
	09/11/12	52.0%	0.0%	N/A	48.0%	1.4%	1.51	0.5	0.0	0.0	1.7	18.4
	09/17/12	53.0%	0.0%	N/A	44.6%	0.9%	2.04	0.4	0.0	0.0	1.0	19.8
	09/27/12	52.0%	0.85%	N/A	48.9%	2.4%	2.95	0.6	0.0	0.0	0.9	19.0
VMP-10-5	08/09/12	55.0%	0.0%	N/A	49.0%	0.1%	4.08	0.8	0.0	0.0	2.0	18.9
	08/15/12	50.7%	0.0%	N/A	41.2%	0.04%	4.89	1.0	0.0	0.0	1.7	19.2
	08/21/12	55.1%	0.0%	N/A	47.4%	0.04%	1.80	0.7	0.0	0.0	1.6	19.2
	08/31/12	51.7%	0.0%	N/A	41.2%	0.0%	1.69	1.0	0.0	0.0	1.6	19.4
	09/06/12	52.6%	0.0%	N/A	43.2%	0.0%	2.96	0.8	0.0	0.0	2.2	18.5
	09/12/12	61.7%	0.0%	N/A	47.1%	0.02%	1.80	1.0	0.0	0.0	2.1	18.6
	09/18/12	55.9%	0.0%	N/A	60.7%	0.05%	1.36	0.6	0.0	0.0	1.6	18.3
	09/28/12	52.1%	0.0%	N/A	50.2%	0.04%	1.50	0.5	0.0	0.0	1.7	18.4
VMP-11-5	08/09/12	66.7%	0.0%	N/A	51.7%	0.0%	2.37	0.9	0.0	0.0	3.0	17.7
	08/15/12	52.7%	0.0%	N/A	48.7%	0.12%	2.89	0.8	0.0	0.0	2.5	18.3
	08/21/12	67.0%	0.03%	N/A	51.5%	0.02%	3.24	1.0	0.0	0.0	2.4	18.5
	08/31/12	52.7%	0.0%	N/A	51.4%	0.03%	1.96	0.9	0.0	0.0	2.2	19.0
	09/06/12	52.0%	0.0%	N/A	39.7%	0.02%	1.27	0.6	0.0	0.0	2.9	18.1
	09/12/12	51.7%	0.0%	N/A	60.0%	0.07%	1.34	0.5	0.0	0.0	2.6	18.5
	09/18/12	55.0%	0.0%	N/A	43.2%	0.1%	1.18	0.8	0.0	0.0	1.8	18.5
	09/28/12	72.2%	0.0%	N/A	47.9%	0.0%	0.88	0.5	0.0	0.0	1.6	19.0
VMP-13-5	08/09/12	53.5%	0.0%	N/A	46.6%	0.0%	3.21	0.7	0.0	0.0	4.5	17.0
	08/15/12	50.8%	0.0%	N/A	47.0%	0.02%	4.10	0.6	0.0	0.0	3.9	17.5
	08/21/12	60.2%	0.0%	N/A	50.7%	0.28%	2.45	0.9	0.0	0.0	3.3	17.9
	08/31/12	51.0%	0.0%	N/A	46.7%	0.42%	1.91	1.1	0.0	0.0	3.1	18.2
	09/06/12	51.2%	0.0%	N/A	41.0%	0.0%	1.57	0.9	0.0	0.0	3.5	17.5
	09/12/12	50.9%	0.0%	N/A	41.2%	0.03%	1.60	1.5	0.0	0.0	3.5	17.6
	09/18/12	55.3%	0.0%	N/A	43.3%	0.01%	0.72	0.4	0.0	0.0	2.6	17.5
	09/28/12	54.5%	0.01%	N/A	47.6%	0.02%	1.11	0.6	0.0	0.0	2.7	18.2

See last page of table for notes

TABLE 4
SOIL VAPOR SAMPLING - TEDLAR SAMPLING DATA

Reading Location		Shroud	Tedlar Bag 1		Shroud	Tedlar Bag 2						
Instrument		Dielectric		Landtec	Dielectric		FID	PID	Landtec			
Port ID	Date	Helium in Shroud Before	Helium Before	CH4 (%)	Helium in Shroud After	Helium After	FID (ppm)	PID (ppm)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)
VMP-16-5	08/08/12	59.6%	0.0%	N/A	46.7%	0.0%	590.5	90.0	0.4	9.0	14.4	3.9
	08/14/12	56.2%	0.0%	N/A	55.5%	0.0%	636.0	82.0	8.0	0.4	14.7	2.6
	08/20/12	54.7%	0.0%	N/A	53.0%	0.0%	9300.0	180.0	3.4	68.0	16.1	1.7
	08/30/12	57.0%	0.0%	N/A	44.7%	0.0%	533.0	58.7	0.3	7.0	14.2	3.5
	09/05/12	51.2%	1.4%	N/A	47.1%	1.4%	9679.0	106.0	OVR	OVR	18.4	1.4
	09/11/12	62.1%	0.0%	N/A	42.8%	0.0%	158.0	30.0	0.0	1.0	12.7	4.9
	09/17/12	54.0%	1.7%	N/A	46.7%	1.6%	119000.0	117.0	OVR	OVR	17.9	0.9
	09/27/12	53.9%	0.0%	N/A	52.3%	0.0%	39.6	2.5	0.0	0.0	7.1	11.6
VMP-21-5	08/08/12	56.0%	0.0%	N/A	53.2%	0.0%	2.56	0.6	0.0	0.0	6.2	15.0
	08/14/12	60.1%	0.0%	N/A	52.1%	0.0%	4.99	1.0	0.0	0.0	6.2	15.2
	08/20/12	57.5%	0.0%	N/A	44.7%	0.0%	5.0	1.0	0.0	0.0	5.6	15.6
	08/30/12	53.2%	0.0%	N/A	45.4%	0.0%	0.57	0.5	0.0	0.0	5.1	16.1
	09/05/12	61.2%	0.0%	N/A	51.0%	0.0%	1.68	1.0	0.0	0.0	5.7	14.6
	09/11/12	58.2%	0.0%	N/A	41.0%	0.0%	1.20	0.3	0.0	0.0	5.7	15.0
	09/17/12	51.1%	0.0%	N/A	57.2%	0.0%	2.68	0.3	0.0	0.0	5.7	15.9
	09/27/12	57.1%	0.0%	N/A	44.6%	0.003%	2.18	0.5	0.0	0.0	4.0	17.4
VMP-42-10	08/08/12	57.1%	0.0%	N/A	50.2%	0.0%	2.40	0.5	0.0	0.0	2.3	18.7
	08/14/12	53.4%	0.0%	N/A	42.1%	0.08%	5.19	1.0	0.0	0.0	2.0	18.8
	08/20/12	59.2%	0.0%	N/A	39.2%	0.04%	5.17	1.6	0.0	0.0	1.6	18.9
	08/30/12	57.4%	0.0%	N/A	41.6%	0.0%	0.8	1.2	0.0	0.0	1.6	18.7
	09/05/12	54.1%	0.0%	N/A	46.4%	0.0%	2.27	0.8	0.0	0.0	1.8	19.5
	09/11/12	51.7%	0.0%	N/A	41.2%	0.0%	1.14	0.5	0.0	0.0	1.7	19.0
	09/17/12	52.3%	0.0%	N/A	54.9%	0.09%	5.61	0.7	0.0	0.0	1.8	19.5
	09/27/12	52.6%	0.0%	N/A	45.1%	0.0%	1.92	0.5	0.0	0.0	1.2	20.0

Notes:
1. The Landtec landfill gas analyzer displays "OVR" for any results calculated higher than 99.9% for an individual reading.
2. N/A is used to indicate that a reading was not collected because it was unnecessary (i.e.,methane detection following Tedlar Bag 1 screening).
3. FID readings were taken with a TVA-1000. Due to oxygen concentrations less than 16% a dilution tip was used when analyzing samples. The dilution tip introduced ambient air in a 10:1 ratio with the sample, which required the sample readings to be multiplied by 10 to get the actual reading. The FID readings in this spreadsheet illustrate the actual FID values that were represented for each sample.



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

SHELL OIL PRODUCTS US
SOIL VAPOR MONITORING
ROXANA, ILLINOIS

PROJECT NO.
21562735

URS

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

Sampling Area Location Map

FIG. NO.
1

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCTS US\B-ROXANA-ROUTE 111\2156XXXX_ROXANA I & A\SOIL VAPOR ADDITIONAL\FIGURES\FIGURE 2 VAPOR MONITORING SAMPLING POINT LOCATIONS.DWG Last edited: OCT. 19, 12 @ 1:40 p.m. by: davidL.deguire

LEGEND

- VAPOR MONITORING POINT LOCATION
- VAPOR MONITORING POINT LOCATIONS (NOT SAMPLED)

TYDEMAN AVE

FIRST ST

SECOND ST

THIRD ST

FOURTH ST

FIFTH ST

SIXTH ST

SEVENTH ST

EIGHTH ST

RAND AVENUE

S. CENTRAL AVE (HIGHWAY 111)

CHAFFER ST

VILLAGE OF ROXANA

BP

NORTH PROPERTY

WOOD RIVER REFINERY

PUBLIC WORKS YARD

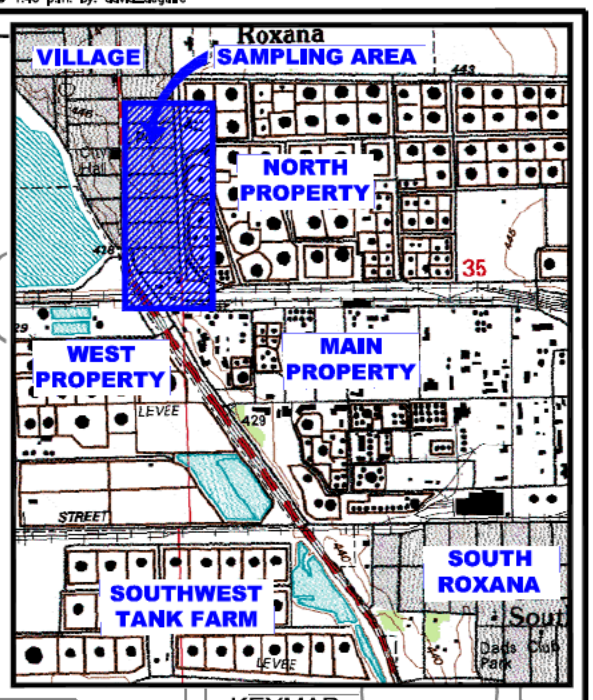
1986 APPROXIMATE BENZENE RELEASE SITE

A-28

A-33

A-27

VMP-1
VMP-2
VMP-3
VMP-4
VMP-5
VMP-6
VMP-7
VMP-8
VMP-9
VMP-10
VMP-11
VMP-12
VMP-13
VMP-14
VMP-15
VMP-16
VMP-17
VMP-18
VMP-19
VMP-20
VMP-21
VMP-22
VMP-23
VMP-24
VMP-25
VMP-26
VMP-27
VMP-28
VMP-29
VMP-30
VMP-31
VMP-32
VMP-33
VMP-34
VMP-35
VMP-36
VMP-37
VMP-38
VMP-39
VMP-40
VMP-41
VMP-42
VMP-43
VMP-44
VMP-45
VMP-46



KEYMAP
1" = 2,500'

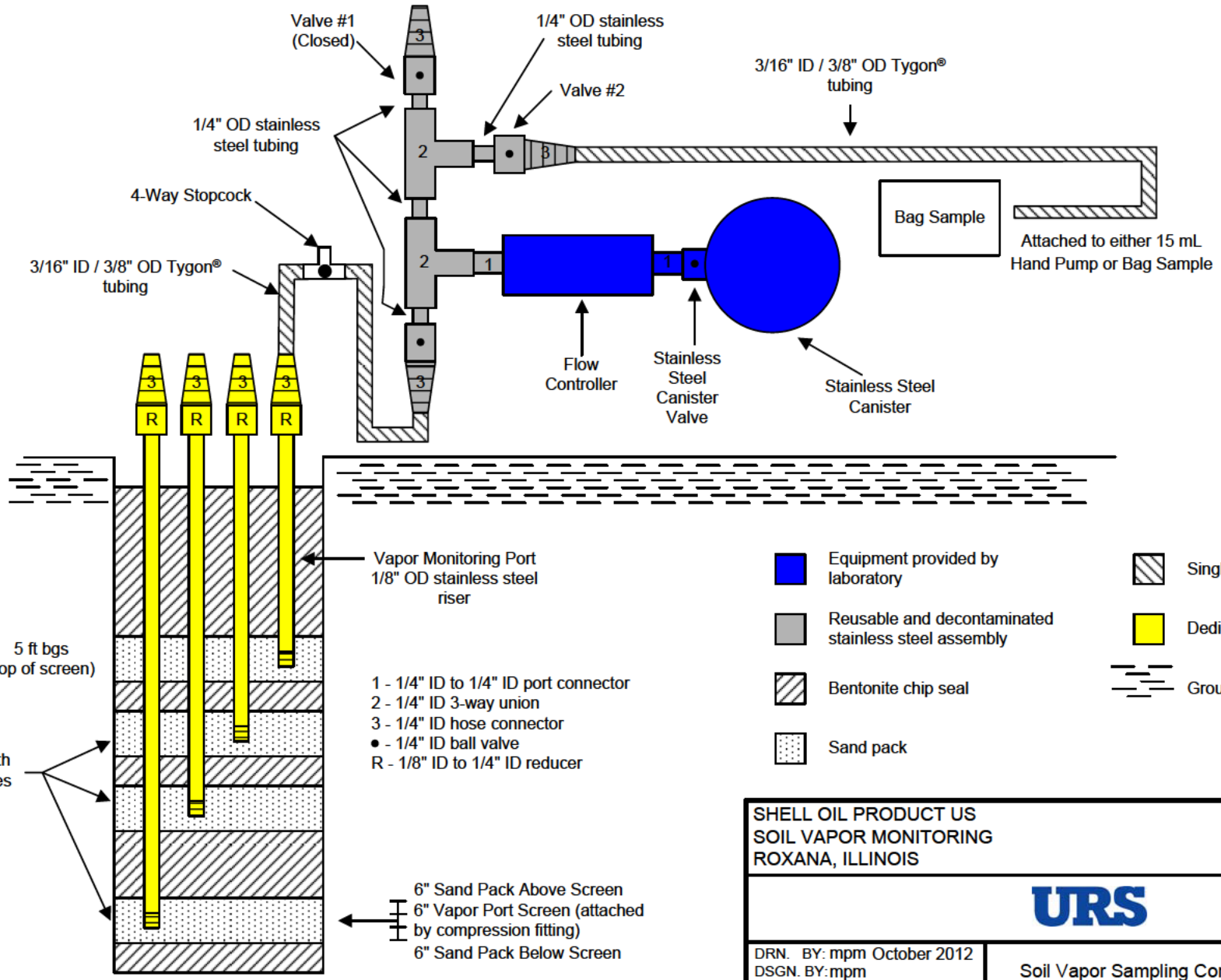
0 200
SCALE FEET

N

SHELL OIL PRODUCTS US SOIL VAPOR MONITORING ROXANA, ILLINOIS	PROJECT NO. 21562735
URS	
DRN. BY: djd October 2012 DSGN. BY:mpm CHKD. BY:kh	Vapor Monitoring Point Sampling Locations FIG. NO. 2

P:\Environmental\Shell Oil Product US\B-Roxana-Route 111\2156XXXX_Roxana I & A\Soil Vapor Additional\Figures\Figure 3 Soil Vapor Sampling Configuration.vsd 10/18/2012 4 09 PM

DRAWING NOT TO SCALE



SHELL OIL PRODUCT US SOIL VAPOR MONITORING ROXANA, ILLINOIS	PROJECT NO. 21562735
URS	
DRN. BY: mpm October 2012 DSGN. BY: mpm CHKD. BY: kh	Soil Vapor Sampling Configuration FIG. NO. 3

File: P:\ENVIRONMENTAL\SHELL OIL PRODUCT US\B-ROXANA-ROUTE 111\2156XXXX_ROXANA I & A\SOIL VAPOR ADDITIONAL\FIGURES\FIGURE 4 SUMMARY OF BENZENE SOIL VAPOR ANALYTICAL RESULTS.DWG Last edited: OCT. 19, 12 @ 1:35 p.m. by: david_deguire

LEGEND

- VAPOR MONITORING POINT LOCATION
- VAPOR MONITORING POINT LOCATIONS (NOT SAMPLED)

NOTES:
1. J = RESULT IS ESTIMATED
   < = NOT DETECTED AT INDICATED REPORTING LIMIT.
2. MULTIPLE RESULTS (e.g., 440/410) INDICATE DUPLICATE SAMPLES.

TYDEMAN AVE

Location	Depth	Sample Date	Benzene (mg/m^3)
VMP-21	5 ft	August 8, 2012	0.0024 J
		August 14, 2012	0.0032 / 0.0017 J
		August 20, 2012	0.0086
		August 30, 2012	0.018
		September 5, 2012	0.014
		September 11, 2012	0.0088
		September 17, 2012	0.0028 J
		September 27, 2012	0.0041 J

Location	Depth	Sample Date	Benzene (mg/m^3)
VMP-42	10 ft	August 8, 2012	0.13
		August 14, 2012	0.0057
		August 20, 2012	0.0074
		August 30, 2012	0.028
		September 5, 2012	0.016
		September 11, 2012	0.014
		September 17, 2012	0.045
		September 27, 2012	0.0076 / 0.0017 J

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

VMP-1, VMP-2, VMP-3, VMP-4, VMP-5, VMP-6, VMP-7, VMP-8, VMP-9, VMP-10, VMP-11, VMP-13, VMP-14, VMP-15, VMP-16, VMP-17, VMP-18, VMP-19, VMP-20, VMP-21, VMP-22, VMP-23, VMP-24, VMP-25, VMP-26, VMP-27, VMP-28, VMP-29, VMP-30, VMP-31, VMP-32, VMP-33, VMP-36, VMP-37, VMP-38, VMP-39, VMP-40, VMP-41, VMP-42, VMP-43, VMP-44, VMP-45, VMP-46

A-27

Location	Depth	Sample Date	Benzene (mg/m^3)
VMP-4	5 ft	August 8, 2012	0.077
		August 14, 2012	0.0089
		August 20, 2012	0.039
		August 30, 2012	0.26
		September 5, 2012	0.035
		September 11, 2012	0.08
		September 17, 2012	0.08
		September 27, 2012	0.011

Location	Depth	Sample Date	Benzene (mg/m^3)
VMP-10	5 ft	August 9, 2012	0.0097
		August 15, 2012	0.00073 J
		August 21, 2012	0.0029 J
		August 31, 2012	0.039
		September 6, 2012	0.037
		September 12, 2012	0.0084
		September 18, 2012	0.015
		September 28, 2012	0.0011 J / 0.0043 J

Location	Depth	Sample Date	Benzene (mg/m^3)
VMP-11	5 ft	August 9, 2012	0.013
		August 15, 2012	0.0011 J
		August 21, 2012	0.0065 / 0.0082
		August 31, 2012	0.14
		September 6, 2012	0.0037 J
		September 12, 2012	0.014
		September 18, 2012	0.028
		September 28, 2012	0.011 / 0.014

Location	Depth	Sample Date	Benzene (mg/m^3)
VMP-16	5 ft	August 8, 2012	0.094 J
		August 14, 2012	<0.025
		August 20, 2012	0.27 J
		August 30, 2012	<0.19
		September 5, 2012	7.4
		September 11, 2012	0.012 J
		September 17, 2012	11 J
		September 27, 2012	0.0068

Location	Depth	Sample Date	Benzene (mg/m^3)
VMP-13	5 ft	August 9, 2012	0.021
		August 15, 2012	0.0048
		August 21, 2012	0.026
		August 31, 2012	0.12
		September 6, 2012	0.013
		September 12, 2012	0.0099 / 0.0055
		September 18, 2012	0.003 J
		September 28, 2012	0.024

0 200
SCALE FEET
N

SHELL OIL PRODUCTS US
SOIL VAPOR MONITORING
ROXANA, ILLINOIS

PROJECT NO. 21562735

URS

DRN. BY: djd October 2012
DSGN. BY: mpm
CHKD. BY: kh

Summary of Benzene Soil Vapor Analytical Results

FIG. NO. 4

Roxana Soil Vapor Additional – Week 1- 2012 Data Review

Laboratory SDG: 1208251A,B

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 9/14/2012

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

Sample Identification
VMP-16-5-080812

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated sample VMP-16-5-080812 was diluted due to high levels of target analytes. 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.

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
1208251A-02A	TO-15	Carbon disulfide	0.48 ppbv / 1.5 µg/m^3
1208251A-02A	TO-15	Methylene chloride	0.13 ppbv / 0.45 µg/m^3
1208251A-02A	TO-15	1,1,1-Trichloroethane	0.047 ppbv / 0.25 µg/m^3
1208251A-02A	TO-15	Benzene	0.14 ppbv / 0.46 µg/m^3
1208251A-02A	TO-15	cis-1,3-Dichloropropene	0.088 ppbv / 0.40 µg/m^3
1208251A-02A	TO-15	Toluene	0.10 ppbv / 0.38 µg/m^3
1208251A-02A	TO-15	Tetrachloroethene	0.13 ppbv / 0.90 µg/m^3
1208251A-02A	TO-15	Chlorobenzene	0.33 ppbv / 1.5 µg/m^3
1208251A-02A	TO-15	Ethyl benzene	0.078 ppbv / 0.34 µg/m^3
1208251A-02A	TO-15	m,p-Xylene	0.098 ppbv / 0.42 µg/m^3
1208251A-02A	TO-15	1,4-Dichlorobenzene	0.14 ppbv / 0.83 µg/m^3

Blank ID	Parameter	Analyte	Concentration/ Amount
1208251A-02A	TO-15	1,2-Dichlorobenzene	0.099 ppbv / 0.59 µg/m^3
1208251A-02A	TO-15	Propylene	0.44 ppbv / 0.76 µg/m^3
1208251B-02A	Natural gases	Oxygen	0.014%
1208251B-02A	Natural gases	Nitrogen	0.081%

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes. 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.

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?

No

10.0 Sample Dilutions

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

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

11.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Air Toxics

8/28/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1208251A

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 8/11/2012 at Air Toxics Ltd.

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

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

Regards,

Kelly Buettner

Project Manager

Reviewed on 9/14/12

eurofins | Air Toxics

WORK ORDER #: 1208251A

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	08/11/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	08/28/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-16-5-080812	Modified TO-15	8.5 "Hg	5 psi
02A	Lab Blank	Modified TO-15	NA	NA
03A	CCV	Modified TO-15	NA	NA
04A	LCS	Modified TO-15	NA	NA
04AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: _____ DATE: 08/28/12

Technical Director

Certfication 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

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# 1208251A

One 1 Liter Summa Canister sample was received on August 11, 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.

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (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.

Dilution was performed on sample VMP-16-5-080812 due to the presence of high level target species.

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

eurofins | Air Toxics

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

Client Sample ID: VMP-16-5-080812

Lab ID#: 1208251A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Disulfide	750	200 J	2300	610 J
Methylene Chloride	1900	42 J	6500	150 J
2,2,4-Trimethylpentane	190	34000	870	160000
Benzene	190	29 J	600	94 J
1,2-Dichloroethane	190	20 J	760	80 J
Toluene	190	42 J	700	160 J
Chlorobenzene	190	93 J	860	430 J
m,p-Xylene	190	32 J	810	140 J
Isopentane	750	1200	2200	3400

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
3,4-Hexanedione, 2,2,5-trimethyl-	20633-03-8	42%	2800 NJ
1-Pentene, 4-methyl-	691-37-2	64%	2100 NJ
Hexane, 3,4-dimethyl-	583-48-2	47%	2600 NJ
Pentane, 2,3-dimethyl-	565-59-3	78%	4200 NJ
Hexane, 2,2,5,5-tetramethyl-	1071-81-4	72%	3600 NJ
Hydroxylamine, O-pentyl-	5963-74-6	39%	19000 NJ
Octane, 4-methyl-	2216-34-4	72%	65000 NJ
Pentane, 3-ethyl-2,2-dimethyl-	16747-32-3	64%	4600 NJ
Unknown	NA	NA	1700 J
Decane, 2,2,5-trimethyl-	62237-96-1	72%	4800 NJ

eurofins | Air Toxics

Client Sample ID: VMP-16-5-080812

Lab ID#: 1208251A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082120**	**Date of Collection:**	**8/8/12 9:29:00 AM**
Dil. Factor:	**374**	**Date of Analysis:**	**8/21/12 06:16 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	190	Not Detected	920	Not Detected
Freon 114	190	Not Detected	1300	Not Detected
Chloromethane	1900	Not Detected	3900	Not Detected
Vinyl Chloride	190	Not Detected	480	Not Detected
1,3-Butadiene	190	Not Detected	410	Not Detected
Bromomethane	1900	Not Detected	7300	Not Detected
Chloroethane	750	Not Detected	2000	Not Detected
Freon 11	190	Not Detected	1000	Not Detected
Ethanol	750	Not Detected	1400	Not Detected
Freon 113	190	Not Detected	1400	Not Detected
1,1-Dichloroethene	190	Not Detected	740	Not Detected
Acetone	1900	Not Detected	4400	Not Detected
2-Propanol	750	Not Detected	1800	Not Detected
Carbon Disulfide	750	200 J	2300	610 J
3-Chloropropene	750	Not Detected	2300	Not Detected
Methylene Chloride	1900	42 J	6500	150 J
Methyl tert-butyl ether	190	Not Detected	670	Not Detected
trans-1,2-Dichloroethene	190	Not Detected	740	Not Detected
Hexane	190	Not Detected	660	Not Detected
1,1-Dichloroethane	190	Not Detected	760	Not Detected
2-Butanone (Methyl Ethyl Ketone)	750	Not Detected	2200	Not Detected
cis-1,2-Dichloroethene	190	Not Detected	740	Not Detected
Tetrahydrofuran	190	Not Detected	550	Not Detected
Chloroform	190	Not Detected	910	Not Detected
1,1,1-Trichloroethane	190	Not Detected	1000	Not Detected
Cyclohexane	190	Not Detected	640	Not Detected
Carbon Tetrachloride	190	Not Detected	1200	Not Detected
2,2,4-Trimethylpentane	190	34000	870	160000
Benzene	190	29 J	600	94 J
1,2-Dichloroethane	190	20 J	760	80 J
Heptane	190	Not Detected	770	Not Detected
Trichloroethene	190	Not Detected	1000	Not Detected
1,2-Dichloropropane	190	Not Detected	860	Not Detected
1,4-Dioxane	750	Not Detected	2700	Not Detected
Bromodichloromethane	190	Not Detected	1200	Not Detected
cis-1,3-Dichloropropene	190	Not Detected	850	Not Detected
4-Methyl-2-pentanone	190	Not Detected	770	Not Detected
Toluene	190	42 J	700	160 J
trans-1,3-Dichloropropene	190	Not Detected	850	Not Detected
1,1,2-Trichloroethane	190	Not Detected	1000	Not Detected
Tetrachloroethene	190	Not Detected	1300	Not Detected
2-Hexanone	750	Not Detected	3100	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-16-5-080812

Lab ID#: 1208251A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082120	**Date of Collection:**	8/8/12 9:29:00 AM
Dil. Factor:	374	**Date of Analysis:**	8/21/12 06:16 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	190	Not Detected	1600	Not Detected
1,2-Dibromoethane (EDB)	190	Not Detected	1400	Not Detected
Chlorobenzene	190	93 J	860	430 J
Ethyl Benzene	190	Not Detected	810	Not Detected
m,p-Xylene	190	32 J	810	140 J
o-Xylene	190	Not Detected	810	Not Detected
Styrene	190	Not Detected	800	Not Detected
Bromoform	190	Not Detected	1900	Not Detected
Cumene	190	Not Detected	920	Not Detected
1,1,2,2-Tetrachloroethane	190	Not Detected	1300	Not Detected
Propylbenzene	190	Not Detected	920	Not Detected
4-Ethyltoluene	190	Not Detected	920	Not Detected
1,3,5-Trimethylbenzene	190	Not Detected	920	Not Detected
1,2,4-Trimethylbenzene	190	Not Detected	920	Not Detected
1,3-Dichlorobenzene	190	Not Detected	1100	Not Detected
1,4-Dichlorobenzene	190	Not Detected	1100	Not Detected
alpha-Chlorotoluene	190	Not Detected	970	Not Detected
1,2-Dichlorobenzene	190	Not Detected	1100	Not Detected
1,2,4-Trichlorobenzene	750	Not Detected	5600	Not Detected
Hexachlorobutadiene	750	Not Detected	8000	Not Detected
Butane	750	Not Detected	1800	Not Detected
Isopentane	750	1200	2200	3400
Ethyl Acetate	750	Not Detected	2700	Not Detected
Propylene	750	Not Detected	1300	Not Detected
Vinyl Acetate	750	Not Detected	2600	Not Detected
Vinyl Bromide	750	Not Detected	3300	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
3,4-Hexanedione, 2,2,5-trimethyl-	20633-03-8	42%	2800 NJ
1-Pentene, 4-methyl-	691-37-2	64%	2100 NJ
Hexane, 3,4-dimethyl-	583-48-2	47%	2600 NJ
Pentane, 2,3-dimethyl-	565-59-3	78%	4200 NJ
Hexane, 2,2,5,5-tetramethyl-	1071-81-4	72%	3600 NJ
Hydroxylamine, O-pentyl-	5963-74-6	39%	19000 NJ
Octane, 4-methyl-	2216-34-4	72%	65000 NJ
Pentane, 3-ethyl-2,2-dimethyl-	16747-32-3	64%	4600 NJ
Unknown	NA	NA	1700 J
Decane, 2,2,5-trimethyl-	62237-96-1	72%	4800 NJ

eurofins | Air Toxics

Client Sample ID: VMP-16-5-080812

Lab ID#: 1208251A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082120**	**Date of Collection: 8/8/12 9:29:00 AM**
Dil. Factor:	**374**	**Date of Analysis: 8/21/12 06:16 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	119	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208251A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082110a	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/21/12 11:19 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
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	0.48 J	6.2	1.5 J
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	0.13 J	17	0.45 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	0.047 J	2.7	0.25 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	0.14 J	1.6	0.46 J
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
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	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	0.088 J	2.3	0.40 J
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	0.10 J	1.9	0.38 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	0.90 J
2-Hexanone	2.0	Not Detected	8.2	Not Detected

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208251A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082110a	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/21/12 11:19 AM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	0.33 J	2.3	1.5 J
Ethyl Benzene	0.50	0.078 J	2.2	0.34 J
m,p-Xylene	0.50	0.098 J	2.2	0.42 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
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	0.14 J	3.0	0.83 J
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	0.099 J	3.0	0.59 J
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
Ethyl Acetate	2.0	Not Detected	7.2	Not Detected
Propylene	2.0	0.44 J	3.4	0.76 J
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	96	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1208251A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/21/12 08:35 AM**	

Compound	%Recovery
Freon 12	97
Freon 114	102
Chloromethane	91
Vinyl Chloride	85
1,3-Butadiene	86
Bromomethane	89
Chloroethane	88
Freon 11	97
Ethanol	91
Freon 113	98
1,1-Dichloroethene	103
Acetone	80
2-Propanol	89
Carbon Disulfide	86
3-Chloropropene	91
Methylene Chloride	85
Methyl tert-butyl ether	97
trans-1,2-Dichloroethene	94
Hexane	98
1,1-Dichloroethane	93
2-Butanone (Methyl Ethyl Ketone)	91
cis-1,2-Dichloroethene	82
Tetrahydrofuran	90
Chloroform	91
1,1,1-Trichloroethane	98
Cyclohexane	98
Carbon Tetrachloride	96
2,2,4-Trimethylpentane	89
Benzene	82
1,2-Dichloroethane	92
Heptane	100
Trichloroethene	87
1,2-Dichloropropane	81
1,4-Dioxane	85
Bromodichloromethane	89
cis-1,3-Dichloropropene	86
4-Methyl-2-pentanone	87
Toluene	81
trans-1,3-Dichloropropene	89
1,1,2-Trichloroethane	83
Tetrachloroethene	85
2-Hexanone	92

eurofins | Air Toxics

Client Sample ID: CCV
Lab ID#: 1208251A-03A
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/21/12 08:35 AM**	

Compound	%Recovery
Dibromochloromethane	90
1,2-Dibromoethane (EDB)	84
Chlorobenzene	73
Ethyl Benzene	88
m,p-Xylene	91
o-Xylene	89
Styrene	95
Bromoform	92
Cumene	92
1,1,2,2-Tetrachloroethane	80
Propylbenzene	91
4-Ethyltoluene	87
1,3,5-Trimethylbenzene	86
1,2,4-Trimethylbenzene	91
1,3-Dichlorobenzene	82
1,4-Dichlorobenzene	82
alpha-Chlorotoluene	89
1,2-Dichlorobenzene	82
1,2,4-Trichlorobenzene	84
Hexachlorobutadiene	93
Butane	93
Isopentane	88
Ethyl Acetate	102
Propylene	91
Vinyl Acetate	92
Vinyl Bromide	110

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	113	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: LCS
Lab ID#: 1208251A-04A
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/21/12 09:02 AM**	

Compound	%Recovery
Freon 12	117
Freon 114	116
Chloromethane	104
Vinyl Chloride	106
1,3-Butadiene	97
Bromomethane	105
Chloroethane	103
Freon 11	112
Ethanol	92
Freon 113	119
1,1-Dichloroethene	127
Acetone	92
2-Propanol	102
Carbon Disulfide	124
3-Chloropropene	117
Methylene Chloride	96
Methyl tert-butyl ether	117
trans-1,2-Dichloroethene	122
Hexane	114
1,1-Dichloroethane	108
2-Butanone (Methyl Ethyl Ketone)	98
cis-1,2-Dichloroethene	94
Tetrahydrofuran	99
Chloroform	106
1,1,1-Trichloroethane	116
Cyclohexane	108
Carbon Tetrachloride	114
2,2,4-Trimethylpentane	104
Benzene	104
1,2-Dichloroethane	114
Heptane	118
Trichloroethene	108
1,2-Dichloropropane	103
1,4-Dioxane	101
Bromodichloromethane	109
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	108
Toluene	98
trans-1,3-Dichloropropene	110
1,1,2-Trichloroethane	102
Tetrachloroethene	104
2-Hexanone	109

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1208251A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/21/12 09:02 AM**	

Compound	%Recovery
Dibromochloromethane	111
1,2-Dibromoethane (EDB)	104
Chlorobenzene	88
Ethyl Benzene	107
m,p-Xylene	107
o-Xylene	110
Styrene	112
Bromoform	109
Cumene	112
1,1,2,2-Tetrachloroethane	100
Propylbenzene	110
4-Ethyltoluene	100
1,3,5-Trimethylbenzene	104
1,2,4-Trimethylbenzene	104
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	96
alpha-Chlorotoluene	105
1,2-Dichlorobenzene	98
1,2,4-Trichlorobenzene	97
Hexachlorobutadiene	108
Butane	107
Isopentane	101
Ethyl Acetate	Not Spiked
Propylene	94
Vinyl Acetate	112
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	107	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1208251A-04AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082104	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/21/12 09:21 AM	

Compound	%Recovery
Freon 12	114
Freon 114	115
Chloromethane	102
Vinyl Chloride	104
1,3-Butadiene	95
Bromomethane	106
Chloroethane	109
Freon 11	114
Ethanol	95
Freon 113	119
1,1-Dichloroethene	129
Acetone	91
2-Propanol	107
Carbon Disulfide	121
3-Chloropropene	121
Methylene Chloride	94
Methyl tert-butyl ether	119
trans-1,2-Dichloroethene	124
Hexane	115
1,1-Dichloroethane	108
2-Butanone (Methyl Ethyl Ketone)	102
cis-1,2-Dichloroethene	92
Tetrahydrofuran	100
Chloroform	108
1,1,1-Trichloroethane	117
Cyclohexane	111
Carbon Tetrachloride	115
2,2,4-Trimethylpentane	103
Benzene	105
1,2-Dichloroethane	112
Heptane	115
Trichloroethene	108
1,2-Dichloropropane	101
1,4-Dioxane	98
Bromodichloromethane	111
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	105
Toluene	99
trans-1,3-Dichloropropene	112
1,1,2-Trichloroethane	98
Tetrachloroethene	104
2-Hexanone	107

eurofins | Air Toxics

Client Sample ID: LCSD
Lab ID#: 1208251A-04AA
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/21/12 09:21 AM**	

Compound	%Recovery
Dibromochloromethane	109
1,2-Dibromoethane (EDB)	102
Chlorobenzene	87
Ethyl Benzene	105
m,p-Xylene	109
o-Xylene	107
Styrene	111
Bromoform	110
Cumene	111
1,1,2,2-Tetrachloroethane	98
Propylbenzene	110
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	104
1,2,4-Trimethylbenzene	106
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	96
alpha-Chlorotoluene	107
1,2-Dichlorobenzene	98
1,2,4-Trichlorobenzene	102
Hexachlorobutadiene	111
Butane	100
Isopentane	100
Ethyl Acetate	Not Spiked
Propylene	92
Vinyl Acetate	111
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	105	70-130

120825

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

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

Print Bill To Contact Name: Robert Mooshegian
PO #
INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0
SAP #: 3 4 0 0 6 1
☐ CHECK IF NO INCIDENT # APPLIES
DATE: 08/10/12
PAGE: 1 of 1

SAMPLING COMPANY: URS CORPORATION
LOG CODE:
SITE ADDRESS: Street and City: 900 SOUTH CENTRAL AVE -- ROXANA
State: IL
GLOBAL ID NO.:
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel, URS, St. Louis
PHONE NO.: 314-743-4178
E-MAIL: Elizabeth.Kunkel@URSCorp.com
CONSULTANT PROJECT NAME: Roxana Vapor Additional
LABORATORY ADDRESS: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
M. Currier, C Williams, J. Jackson.
TELEPHONE:
FAX: 314-429-0462
SAMPLER'S NAME: Robert.Mooshegian@urs.com

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:

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

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

Lab use only	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	Canister Number	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
01	VMP-16-5-080812	08/08/12	0650-0920	9321	-29	-8			X	X	

Turn Around Time: ☑ Normal ☐ Rush
Specify
Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	FEDEX	8/10/12	1430
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
		8.11.12	1025
Relinquished by: (Signature)	Received by: (Signature)	Date	Time

CUSTODY SEAL INTACT? Y N NC

8/2/06 Revision

eurofins | Air Toxics

8/24/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1208251B

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 8/11/2012 at Air Toxics Ltd.

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

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

Regards,

Kelly Buettner

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1208251B

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	08/11/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	08/24/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-16-5-080812	Modified ASTM D-1946	8.5 "Hg	5 psi
02A	Lab Blank	Modified ASTM D-1946	NA	NA
02B	Lab Blank	Modified ASTM D-1946	NA	NA
03A	LCS	Modified ASTM D-1946	NA	NA
03AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 08/24/12

Technical Director

Certfication 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

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

LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1208251B

One 1 Liter Summa Canister sample was received on August 11, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

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

Client Sample ID: VMP-16-5-080812

Lab ID#: 1208251B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.19	4.7
Nitrogen	0.19	81
Methane	0.00019	0.0017
Carbon Dioxide	0.019	14

eurofins | Air Toxics

Client Sample ID: VMP-16-5-080812

Lab ID#: 1208251B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9081419**	**Date of Collection:**	**8/8/12 9:29:00 AM**
Dil. Factor:	**1.87**	**Date of Analysis:**	**8/14/12 07:29 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.19	4.7
Nitrogen	0.19	81
Carbon Monoxide	0.019	Not Detected
Methane	0.00019	0.0017
Carbon Dioxide	0.019	14
Ethane	0.0019	Not Detected
Ethene	0.0019	Not Detected
Helium	0.094	Not Detected

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208251B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9081404a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/14/12 01:26 PM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.014 J
Nitrogen	0.10	0.081 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208251B-02B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9081403b	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/14/12 01:05 PM	

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

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1208251B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9081402**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/14/12 12:20 PM**	

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	99
Methane	98
Carbon Dioxide	100
Ethane	99
Ethene	96
Helium	101

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1208251B-03AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9081426**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/14/12 10:31 PM**	

Compound	%Recovery
Oxygen	98
Nitrogen	100
Carbon Monoxide	99
Methane	98
Carbon Dioxide	103
Ethane	100
Ethene	97
Helium	100

Container Type: NA - Not Applicable

120825

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

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

Print Bill To Contact Name: Robert Moosheglan
PO #:
INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0
☐ CHECK IF NO INCIDENT # APPLIES
DATE: 08/10/12
SAP #: 3 4 0 0 6 1
PAGE: 1 of 1

COMPANY NAME: URS CORPORATION
LOG CODE:
SITE ADDRESS: Street and city: 900 SOUTH CENTRAL AVE – ROXANA
State: IL
GLOBAL ID NO.:

ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
REPORT DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel, URS, St. Louis
PHONE NO.: 314-743-4179
EMAIL: ElizaBeth_Kunkel@URSCorp.com
CONSULTANT PROJECT NAME: Roxana Vapor Additional

Laboratory Address: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
M. Curran, C Williams, J. Jackson.

TELEPHONE:
FAX: 314-429-0462
SAMPLER'S NAME: Robert.Moosheglan@urs.com

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

REQUESTED ANALYSIS

☐ LA - RWQCB REPORT FORMAT ☑ LIST AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☐ OTHER (SPECIFY):

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

Turn Around Time: ☑ Normal ☐ Rush Specify
Lab Use Only: Pressurized by: Date: Pressurization Gas: N_2 He

Lab Use Only	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	Canister Number	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
01	VMP-16-5-080812	08/08/12	0850 0035	9521	-29	-9			X	X	

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	FEDEX	8/10/12	1430
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
		8.6.12	1025
Relinquished by: (Signature)	Received by: (Signature)	Date	Time

05/2006 Revision

CUSTODY SEAL INTACT? Y N NC

Roxana Soil Vapor Additional - Week 1- 2012 Data Review

Laboratory SDG: 1208264A,B

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 9/17/2012

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

Sample Identification	Sample Identification
VMP-21-5-080812	VMP-42-10-080812
VMP-4-5-080812	VMP-11-5-080912
VMP-13-5-080912	VMP-10-5-080912

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, analytes were detected in the method blank. This issue is addressed further in the appropriate section below.

No problems were indicated in the cooler receipt form.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
1208264A-07A	TO-15	Carbon disulfide	0.48 ppbv / 1.5 µg/m^3
1208264A-07A	TO-15	Methylene chloride	0.13 ppbv / 0.45 µg/m^3
1208264A-07A	TO-15	1,1,1-Trichloroethane	0.047 ppbv / 0.25 µg/m^3
1208264A-07A	TO-15	Benzene	0.14 ppbv / 0.46 µg/m^3
1208264A-07A	TO-15	cis-1,3-Dichloropropene	0.088 ppbv / 0.40 µg/m^3
1208264A-07A	TO-15	Toluene	0.10 ppbv / 0.38 µg/m^3
1208264A-07A	TO-15	Tetrachloroethene	0.13 ppbv / 0.90 µg/m^3
1208264A-07A	TO-15	Chlorobenzene	0.33 ppbv / 1.5 µg/m^3
1208264A-07A	TO-15	Ethyl benzene	0.078 ppbv / 0.34 µg/m^3
1208264A-07A	TO-15	m,p-Xylene	0.098 ppbv / 0.42 µg/m^3
1208264A-07A	TO-15	1,4-Dichlorobenzene	0.14 ppbv / 0.83 µg/m^3

Blank ID	Parameter	Analyte	Concentration/ Amount
1208264A-07A	TO-15	1,2-Dichlorobenzene	0.099 ppbv / 0.59 µg/m^3
1208264A-07A	TO-15	Propylene	0.44 ppbv / 0.76 µg/m^3
1208264B-07A	Natural gases	Oxygen	0.014%
1208264B-07A	Natural gases	Nitrogen	0.081%

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

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
VMP-21-5-080812	TO-15	Methylene chloride	-	**U**
VMP-21-5-080812	TO-15	1,1,1-Trichloroethane	-	**U**
VMP-21-5-080812	TO-15	Toluene	-	**U**
VMP-21-5-080812	TO-15	Tetrachloroethene	-	**U**
VMP-21-5-080812	TO-15	Chlorobenzene	-	**U**
VMP-21-5-080812	TO-15	m,p-Xylene	-	**U**
VMP-21-5-080812	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-21-5-080812	TO-15	1,2-Dichlorobenzene	-	**U**
VMP-42-10-080812	TO-15	Tetrachloroethene	-	**U**
VMP-42-10-080812	TO-15	Chlorobenzene	1.2 ppbv / 5.3 µg/m^3	**U**
VMP-42-10-080812	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-42-10-080812	TO-15	1,2-Dichlorobenzene	-	**U**
VMP-4-5-080812	TO-15	Carbon disulfide	-	**U**
VMP-4-5-080812	TO-15	Tetrachloroethene	-	**U**
VMP-4-5-080812	TO-15	Chlorobenzene	-	**U**
VMP-4-5-080812	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-4-5-080812	TO-15	1,2-Dichlorobenzene	-	**U**
VMP-11-5-080912	TO-15	Carbon disulfide	-	**U**
VMP-11-5-080912	TO-15	Toluene	-	**U**
VMP-11-5-080912	TO-15	Tetrachloroethene	-	**U**
VMP-11-5-080912	TO-15	Chlorobenzene	-	**U**
VMP-11-5-080912	TO-15	Ethyl benzene	-	**U**
VMP-11-5-080912	TO-15	m,p-Xylene	-	**U**
VMP-11-5-080912	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-13-5-080912	TO-15	Toluene	-	**U**
VMP-13-5-080912	TO-15	Chlorobenzene	-	**U**
VMP-13-5-080912	TO-15	Ethyl benzene	-	**U**
VMP-13-5-080912	TO-15	m,p-Xylene	-	**U**
VMP-13-5-080912	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-10-5-080912	TO-15	Carbon disulfide	-	**U**
VMP-10-5-080912	TO-15	Methylene chloride	-	**U**
VMP-10-5-080912	TO-15	Toluene	-	**U**

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
VMP-10-5-080912	TO-15	Chlorobenzene	-	**U**
VMP-10-5-080912	TO-15	m,p-Xylene	-	**U**
VMP-10-5-080912	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-10-5-080912	TO-15	1,2-Dichlorobenzene	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes. 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.

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?

No

10.0 Sample Dilutions

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

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

11.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Air Toxics

8/29/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1208264A

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 8/13/2012 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 9/17/12

eurofins | Air Toxics

WORK ORDER #: 1208264A

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	08/13/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	08/29/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-21-5-080812	Modified TO-15/TICs	8.0 "Hg	5 psi
02A	VMP-42-10-080812	Modified TO-15/TICs	9.5 "Hg	5 psi
03A	VMP-4-5-080812	Modified TO-15/TICs	9.5 "Hg	5 psi
04A	VMP-11-5-080912	Modified TO-15/TICs	9.0 "Hg	5 psi
05A	VMP-13-5-080912	Modified TO-15/TICs	13.0 "Hg	5 psi
06A	VMP-10-5-080912	Modified TO-15/TICs	8.0 "Hg	5 psi
07A	Lab Blank	Modified TO-15/TICs	NA	NA
08A	CCV	Modified TO-15/TICs	NA	NA
09A	LCS	Modified TO-15/TICs	NA	NA
09AA	LCSD	Modified TO-15/TICs	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 08/29/12

Technical Director

Certfication 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

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# 1208264A

Six 1 Liter Summa Canister samples were received on August 13, 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.

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (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

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-080812

Lab ID#: 1208264A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.66 J	6.2	3.3 J
Chloromethane	12	4.7 J	26	9.7 J
Freon 11	1.2	0.35 J	7.0	1.9 J
Ethanol	5.0	5.8	9.4	11
Acetone	12	290	30	690
2-Propanol	5.0	2.4 J	12	5.8 J
Carbon Disulfide	5.0	7.6	16	24
Methylene Chloride	12	~~0.46 J~~ U	43	~~1.6 J~~ U
2-Butanone (Methyl Ethyl Ketone)	5.0	5.0	15	15
Tetrahydrofuran	1.2	2.0	3.7	6.0
Chloroform	1.2	0.30 J	6.1	1.5 J
1,1,1-Trichloroethane	1.2	~~0.14 J~~ U	6.8	~~0.78 J~~ U
Cyclohexane	1.2	0.48 J	4.3	1.6 J
2,2,4-Trimethylpentane	1.2	0.64 J	5.8	3.0 J
Benzene	1.2	0.76 J	4.0	2.4 J
Bromodichloromethane	1.2	0.18 J	8.3	1.2 J
4-Methyl-2-pentanone	1.2	0.74 J	5.1	3.0 J
Toluene	1.2	~~0.35 J~~ U	4.7	~~1.3 J~~ U
Tetrachloroethene	1.2	~~0.46 J~~ U	8.4	~~3.1 J~~ U
1,2-Dibromoethane (EDB)	1.2	0.39 J	9.6	3.0 J
Chlorobenzene	1.2	~~1.2 J~~ U	5.7	~~5.6 J~~ U
m,p-Xylene	1.2	~~0.25 J~~ U	5.4	~~1.1 J~~ U
1,1,2,2-Tetrachloroethane	1.2	0.20 J	8.5	1.4 J
Propylbenzene	1.2	0.18 J	6.1	0.88 J
1,2,4-Trimethylbenzene	1.2	0.20 J	6.1	0.97 J
1,3-Dichlorobenzene	1.2	0.30 J	7.5	1.8 J
1,4-Dichlorobenzene	1.2	~~0.35 J~~ U	7.5	~~2.1 J~~ U
1,2-Dichlorobenzene	1.2	~~0.28 J~~ U	7.5	~~1.7 J~~ U
Isopentane	5.0	1.5 J	15	4.4 J
Propylene	5.0	2.6 J	8.6	4.5 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-080812

Lab ID#: 1208264A-01A

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
1-Propene, 2-methyl-	115-11-7	58%	9.6 NJ
Propanal, 2-methyl-	78-84-2	78%	6.3 NJ
Unknown	NA	NA	22 J
Octane, 2,4,6-trimethyl-	62016-37-9	78%	7.8 NJ
1-Butanol, 3,3-dimethyl-	624-95-3	59%	8.6 NJ

Client Sample ID: VMP-42-10-080812

Lab ID#: 1208264A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.98	0.52 J	4.8	2.6 J
Chloromethane	9.8	16	20	32
Bromomethane	9.8	0.52 J	38	2.0 J
Chloroethane	3.9	2.7 J	10	7.2 J
Freon 11	0.98	0.42 J	5.5	2.3 J
Ethanol	3.9	42	7.4	80
Acetone	9.8	59	23	140
2-Propanol	3.9	12	9.6	30
Carbon Disulfide	3.9	3.3 J	12	10 J
Methylene Chloride	9.8	1.5 J	34	5.4 J
Hexane	0.98	1.6	3.4	5.6
2-Butanone (Methyl Ethyl Ketone)	3.9	11	12	34
Tetrahydrofuran	0.98	0.98	2.9	2.9
Chloroform	0.98	1.7	4.8	8.4
Carbon Tetrachloride	0.98	0.21 J	6.2	1.3 J
2,2,4-Trimethylpentane	0.98	40	4.6	180
Benzene	0.98	40	3.1	130
1,2-Dichloroethane	0.98	1.1	4.0	4.5
Heptane	0.98	3.6	4.0	15
1,4-Dioxane	3.9	17	14	60
4-Methyl-2-pentanone	0.98	37	4.0	150
Toluene	0.98	24	3.7	91

eurofins | Air Toxics

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

Client Sample ID: VMP-42-10-080812

Lab ID#: 1208264A-02A

trans-1,3-Dichloropropene	0.98	0.41 J	4.4	1.9 J
Tetrachloroethene	0.98	~~0.45 J~~ U	6.6	~~3.0 J~~ U
2-Hexanone	3.9	1.3 J	16	5.5 J
1,2-Dibromoethane (EDB)	0.98	0.26 J	7.5	2.0 J
Chlorobenzene	~~0.98~~ 1.2	~~1.2~~ U	~~4.5~~ 5.3	~~5.3~~ U
Ethyl Benzene	0.98	1.6	4.2	6.7
m,p-Xylene	0.98	4.1	4.2	18
o-Xylene	0.98	1.3	4.2	5.5
Styrene	0.98	0.87 J	4.2	3.7 J
Cumene	0.98	16	4.8	79
Propylbenzene	0.98	0.49 J	4.8	2.4 J
1,3,5-Trimethylbenzene	0.98	0.46 J	4.8	2.2 J
1,2,4-Trimethylbenzene	0.98	0.76 J	4.8	3.8 J
1,3-Dichlorobenzene	0.98	0.29 J	5.9	1.7 J
1,4-Dichlorobenzene	0.98	~~0.45 J~~ U	5.9	~~2.7 J~~ U
1,2-Dichlorobenzene	0.98	~~0.29 J~~ U	5.9	~~1.7 J~~ U
Isopentane	3.9	7.8	12	23
Propylene	3.9	4.8	6.7	8.3

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Pentane, 2,3-dimethyl-	565-59-3	64%	48 NJ
2-Propanol, 1-methoxy-	107-98-2	43%	48 NJ
Unknown	NA	NA	54 J
Decane, 2,2,9-trimethyl-	62238-00-0	72%	130 NJ
Hexane, 2,2-dimethyl-	590-73-8	59%	46 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	78%	150 NJ
Decane, 2,2-dimethyl-	17302-37-3	64%	40 NJ
Decane, 2,2,7-trimethyl-	62237-99-4	64%	320 NJ
Unknown	NA	NA	72 J
Dodecane, 1-fluoro-	334-68-9	59%	150 NJ

Client Sample ID: VMP-4-5-080812

Lab ID#: 1208264A-03A

eurofins | Air Toxics

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

Client Sample ID: VMP-4-5-080812

Lab ID#: 1208264A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.98	0.50 J	4.8	2.5 J
Freon 11	0.98	0.25 J	5.5	1.4 J
Ethanol	3.9	33	7.4	62
Acetone	9.8	32	23	77
2-Propanol	3.9	12	9.6	30
Carbon Disulfide	3.9	~~1.8 J~~ U	12	~~5.7 J~~ U
Methylene Chloride	9.8	0.70 J	34	2.4 J
Hexane	0.98	0.80 J	3.4	2.8 J
2-Butanone (Methyl Ethyl Ketone)	3.9	10	12	30
Tetrahydrofuran	0.98	1.1	2.9	3.2
Chloroform	0.98	0.25 J	4.8	1.2 J
Cyclohexane	0.98	0.58 J	3.4	2.0 J
2,2,4-Trimethylpentane	0.98	5.3	4.6	25
Benzene	0.98	24	3.1	77
1,2-Dichloroethane	0.98	0.13 J	4.0	0.52 J
Heptane	0.98	2.9	4.0	12
4-Methyl-2-pentanone	0.98	42	4.0	170
Toluene	0.98	21	3.7	79
Tetrachloroethene	0.98	~~0.45 J~~ U	6.6	~~3.0 J~~ U
2-Hexanone	3.9	1.0 J	16	4.3 J
Chlorobenzene	0.98	~~0.96 J~~ U	4.5	~~4.4 J~~ U
Ethyl Benzene	0.98	1.1	4.2	5.0
m,p-Xylene	0.98	3.3	4.2	14
o-Xylene	0.98	1.1	4.2	4.8
Styrene	0.98	0.90 J	4.2	3.8 J
Bromoform	0.98	0.23 J	10	2.4 J
Cumene	0.98	14	4.8	70
Propylbenzene	0.98	0.32 J	4.8	1.6 J
4-Ethyltoluene	0.98	0.52 J	4.8	2.5 J
1,3,5-Trimethylbenzene	0.98	0.24 J	4.8	1.2 J
1,2,4-Trimethylbenzene	0.98	0.51 J	4.8	2.5 J
1,3-Dichlorobenzene	0.98	0.31 J	5.9	1.9 J
1,4-Dichlorobenzene	0.98	~~0.39 J~~ U	5.9	~~2.3 J~~ U

eurofins | Air Toxics

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

Client Sample ID: VMP-4-5-080812

Lab ID#: 1208264A-03A

1,2-Dichlorobenzene	0.98	~~0.23 J~~	5.9	~~1.4 J~~
Butane	3.9	2.1 J	9.3	5.0 J
Isopentane	3.9	2.0 J	12	6.0 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Decane, 2,2,7-trimethyl-	62237-99-4	64%	140 NJ
Heptane, 2,2,4-trimethyl-	14720-74-2	64%	47 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	72%	150 NJ
Hexane, 2,2,5-trimethyl-	3522-94-9	59%	39 NJ
Decane, 2,2,6-trimethyl-	62237-97-2	64%	440 NJ
Unknown	NA	NA	150 J
1-Pentanol, 4-methyl-2-propyl-	54004-41-0	59%	330 NJ
Unknown	NA	NA	45 J
Ethanone, 1-phenyl-	98-86-2	94%	80 NJ
Unknown	NA	NA	55 J

Client Sample ID: VMP-11-5-080912

Lab ID#: 1208264A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.96	0.58 J	4.7	2.9 J
Freon 11	0.96	0.26 J	5.4	1.4 J
Acetone	9.6	7.6 J	23	18 J
2-Propanol	3.8	2.1 J	9.4	5.3 J
Carbon Disulfide	3.8	~~1.6 J~~	12	~~4.9 J~~
Methylene Chloride	9.6	0.95 J	33	3.3 J
Hexane	0.96	0.78 J	3.4	2.8 J
2-Butanone (Methyl Ethyl Ketone)	3.8	1.6 J	11	4.7 J
Tetrahydrofuran	0.96	1.1	2.8	3.2
Chloroform	0.96	0.13 J	4.7	0.64 J
Cyclohexane	0.96	1.4	3.3	4.7
2,2,4-Trimethylpentane	0.96	5.8	4.5	27
Benzene	0.96	4.0	3.0	13
1,2-Dichloroethane	0.96	0.16 J	3.9	0.64 J

eurofins | Air Toxics

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

Client Sample ID: VMP-11-5-080912

Lab ID#: 1208264A-04A

Heptane	0.96	0.26 J	3.9	1.1 J
Toluene	0.96	~~0.39 J~~ 4	3.6	~~1.5 J~~ 4
Tetrachloroethene	0.96	~~0.24 J~~ 4	6.5	~~1.6 J~~ 4
Chlorobenzene	0.96	~~0.91 J~~ 4	4.4	~~4.2 J~~ 4
Ethyl Benzene	0.96	~~0.30 J~~ 4	4.1	~~1.3 J~~ 4
m,p-Xylene	0.96	~~0.30 J~~ 4	4.1	~~1.3 J~~ 4
Cumene	0.96	0.15 J	4.7	0.74 J
Propylbenzene	0.96	0.16 J	4.7	0.81 J
1,2,4-Trimethylbenzene	0.96	0.16 J	4.7	0.76 J
1,3-Dichlorobenzene	0.96	0.30 J	5.7	1.8 J
1,4-Dichlorobenzene	0.96	~~0.31 J~~ 4	5.7	~~1.8 J~~ 4
Butane	3.8	3.7 J	9.1	8.7 J
Isopentane	3.8	3.0 J	11	8.9 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	7.7 J
Acetic acid	64-19-7	83%	32 NJ
Unknown	NA	NA	5.5 J
Octane, 4-methyl-	2216-34-4	78%	7.8 NJ
Hexane, 2,2,3-trimethyl-	16747-25-4	53%	5.4 NJ

Client Sample ID: VMP-13-5-080912

Lab ID#: 1208264A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.73 J	5.8	3.6 J
Freon 11	1.2	0.47 J	6.6	2.6 J
Acetone	12	9.2 J	28	22 J
2-Propanol	4.7	3.8 J	12	9.2 J
Carbon Disulfide	4.7	4.6 J	15	14 J
Methylene Chloride	12	0.90 J	41	3.1 J
Hexane	1.2	0.71 J	4.2	2.5 J
Chloroform	1.2	1.1 J	5.8	5.2 J
Cyclohexane	1.2	3.1	4.1	10

eurofins | Air Toxics

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

Client Sample ID: VMP-13-5-080912

Lab ID#: 1208264A-05A

2,2,4-Trimethylpentane	1.2	3.8	5.5	18
Benzene	1.2	6.6	3.8	21
Toluene	1.2	~~0.43 J~~	4.4	~~1.6 J~~
Chlorobenzene	1.2	~~0.90 J~~	5.4	~~4.1 J~~
Ethyl Benzene	1.2	~~0.20 J~~	5.1	~~0.88 J~~
m,p-Xylene	1.2	~~0.32 J~~	5.1	~~1.4 J~~
1,1,2,2-Tetrachloroethane	1.2	0.20 J	8.1	1.4 J
4-Ethyltoluene	1.2	0.31 J	5.8	1.5 J
1,2,4-Trimethylbenzene	1.2	0.31 J	5.8	1.5 J
1,3-Dichlorobenzene	1.2	0.32 J	7.1	2.0 J
1,4-Dichlorobenzene	1.2	~~0.32 J~~	7.1	~~1.9 J~~
alpha-Chlorotoluene	1.2	0.18 J	6.1	0.92 J
Isopentane	4.7	2.2 J	14	6.6 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
1-Propene, 2-methyl-	115-11-7	52%	6.6 NJ
Acetic acid	64-19-7	78%	29 NJ
Unknown	NA	NA	6.0 J
Unknown	NA	NA	9.5 J

Client Sample ID: VMP-10-5-080912

Lab ID#: 1208264A-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.92	0.48 J	4.5	2.4 J
Freon 11	0.92	0.27 J	5.1	1.5 J
Acetone	9.2	22	22	53
2-Propanol	3.7	1.1 J	9.0	2.7 J
Carbon Disulfide	3.7	~~1.9 J~~	11	~~6.1 J~~
Methylene Chloride	9.2	~~0.64 J~~	32	~~2.2 J~~
Hexane	0.92	1.2	3.2	4.4
2-Butanone (Methyl Ethyl Ketone)	3.7	3.4 J	11	10 J
Cyclohexane	0.92	0.33 J	3.1	1.1 J
2,2,4-Trimethylpentane	0.92	2.3	4.3	11

eurofins | Air Toxics

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

Client Sample ID: VMP-10-5-080912

Lab ID#: 1208264A-06A

Benzene	0.92	3.0	2.9	9.7
1,2-Dichloroethane	0.92	0.14 J	3.7	0.58 J
Heptane	0.92	1.3	3.7	5.3
Toluene	0.92	~~0.39 J~~ U	3.4	~~1.5 J~~ U
Chlorobenzene	0.92	~~0.81 J~~ U	4.2	~~3.7 J~~ U
m,p-Xylene	0.92	~~0.20 J~~ U	4.0	~~0.88 J~~ U
1,3-Dichlorobenzene	0.92	0.22 J	5.5	1.4 J
1,4-Dichlorobenzene	0.92	~~0.23 J~~ U	5.5	~~1.4 J~~ U
alpha-Chlorotoluene	0.92	0.16 J	4.7	0.85 J
1,2-Dichlorobenzene	0.92	~~0.18 J~~ U	5.5	~~1.1 J~~ U
Butane	3.7	1.9 J	8.7	4.6 J
Isopentane	3.7	2.3 J	11	6.8 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
1-Propene, 2-methyl-	115-11-7	64%	11 NJ
Acetic acid	64-19-7	74%	15 NJ

eurofins | Air Toxics

Client Sample ID: VMP-21-5-080812

Lab ID#: 1208264A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082113**	**Date of Collection:**	**8/8/12 10:54:00 AM**
Dil. Factor:	**2.49**	**Date of Analysis:**	**8/21/12 01:28 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.66 J	6.2	3.3 J
Freon 114	1.2	Not Detected	8.7	Not Detected
Chloromethane	12	4.7 J	26	9.7 J
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,3-Butadiene	1.2	Not Detected	2.8	Not Detected
Bromomethane	12	Not Detected	48	Not Detected
Chloroethane	5.0	Not Detected	13	Not Detected
Freon 11	1.2	0.35 J	7.0	1.9 J
Ethanol	5.0	5.8	9.4	11
Freon 113	1.2	Not Detected	9.5	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Acetone	12	290	30	690
2-Propanol	5.0	2.4 J	12	5.8 J
Carbon Disulfide	5.0	7.6	16	24
3-Chloropropene	5.0	Not Detected	16	Not Detected
Methylene Chloride	12	~~0.46 J~~ U	43	~~1.6 J~~ U
Methyl tert-butyl ether	1.2	Not Detected	4.5	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Hexane	1.2	Not Detected	4.4	Not Detected
1,1-Dichloroethane	1.2	Not Detected	5.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	5.0	15	15
cis-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Tetrahydrofuran	1.2	2.0	3.7	6.0
Chloroform	1.2	0.30 J	6.1	1.5 J
1,1,1-Trichloroethane	1.2	~~0.14 J~~ U	6.8	~~0.78 J~~ U
Cyclohexane	1.2	0.48 J	4.3	1.6 J
Carbon Tetrachloride	1.2	Not Detected	7.8	Not Detected
2,2,4-Trimethylpentane	1.2	0.64 J	5.8	3.0 J
Benzene	1.2	0.76 J	4.0	2.4 J
1,2-Dichloroethane	1.2	Not Detected	5.0	Not Detected
Heptane	1.2	Not Detected	5.1	Not Detected
Trichloroethene	1.2	Not Detected	6.7	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.8	Not Detected
1,4-Dioxane	5.0	Not Detected	18	Not Detected
Bromodichloromethane	1.2	0.18 J	8.3	1.2 J
cis-1,3-Dichloropropene	1.2	Not Detected	5.6	Not Detected
4-Methyl-2-pentanone	1.2	0.74 J	5.1	3.0 J
Toluene	1.2	~~0.35 J~~ U	4.7	~~1.3 J~~ U
trans-1,3-Dichloropropene	1.2	Not Detected	5.6	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.8	Not Detected
Tetrachloroethene	1.2	~~0.46 J~~ U	8.4	~~3.1 J~~ U
2-Hexanone	5.0	Not Detected	20	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-21-5-080812

Lab ID#: 1208264A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082113**	**Date of Collection:**	**8/8/12 10:54:00 AM**
Dil. Factor:	**2.49**	**Date of Analysis:**	**8/21/12 01:28 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.2	0.39 J	9.6	3.0 J
Chlorobenzene	1.2	~~1.2 J~~ U	5.7	~~5.6 J~~ U
Ethyl Benzene	1.2	Not Detected	5.4	Not Detected
m,p-Xylene	1.2	~~0.25 J~~ U	5.4	~~1.1 J~~ U
o-Xylene	1.2	Not Detected	5.4	Not Detected
Styrene	1.2	Not Detected	5.3	Not Detected
Bromoform	1.2	Not Detected	13	Not Detected
Cumene	1.2	Not Detected	6.1	Not Detected
1,1,2,2-Tetrachloroethane	1.2	0.20 J	8.5	1.4 J
Propylbenzene	1.2	0.18 J	6.1	0.88 J
4-Ethyltoluene	1.2	Not Detected	6.1	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	6.1	Not Detected
1,2,4-Trimethylbenzene	1.2	0.20 J	6.1	0.97 J
1,3-Dichlorobenzene	1.2	0.30 J	7.5	1.8 J
1,4-Dichlorobenzene	1.2	~~0.35 J~~ U	7.5	~~2.1 J~~ U
alpha-Chlorotoluene	1.2	Not Detected	6.4	Not Detected
1,2-Dichlorobenzene	1.2	~~0.28 J~~ U	7.5	~~1.7 J~~ U
1,2,4-Trichlorobenzene	5.0	Not Detected	37	Not Detected
Hexachlorobutadiene	5.0	Not Detected	53	Not Detected
Butane	5.0	Not Detected	12	Not Detected
Isopentane	5.0	1.5 J	15	4.4 J
Ethyl Acetate	5.0	Not Detected	18	Not Detected
Propylene	5.0	2.6 J	8.6	4.5 J
Vinyl Acetate	5.0	Not Detected	18	Not Detected
Vinyl Bromide	5.0	Not Detected	22	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
1-Propene, 2-methyl-	115-11-7	58%	9.6 NJ
Propanal, 2-methyl-	78-84-2	78%	6.3 NJ
Unknown	NA	NA	22 J
Octane, 2,4,6-trimethyl-	62016-37-9	78%	7.8 NJ
1-Butanol, 3,3-dimethyl-	624-95-3	59%	8.6 NJ

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits

eurofins | Air Toxics

Client Sample ID: VMP-21-5-080812

Lab ID#: 1208264A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082113	Date of Collection:	8/8/12 10:54:00 AM
Dil. Factor:	2.49	Date of Analysis:	8/21/12 01:28 PM

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: VMP-42-10-080812

Lab ID#: 1208264A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082112	Date of Collection:	8/8/12 11:45:00 AM
Dil. Factor:	1.96	Date of Analysis:	8/21/12 12:51 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.98	0.52 J	4.8	2.6 J
Freon 114	0.98	Not Detected	6.8	Not Detected
Chloromethane	9.8	16	20	32
Vinyl Chloride	0.98	Not Detected	2.5	Not Detected
1,3-Butadiene	0.98	Not Detected	2.2	Not Detected
Bromomethane	9.8	0.52 J	38	2.0 J
Chloroethane	3.9	2.7 J	10	7.2 J
Freon 11	0.98	0.42 J	5.5	2.3 J
Ethanol	3.9	42	7.4	80
Freon 113	0.98	Not Detected	7.5	Not Detected
1,1-Dichloroethene	0.98	Not Detected	3.9	Not Detected
Acetone	9.8	59	23	140
2-Propanol	3.9	12	9.6	30
Carbon Disulfide	3.9	3.3 J	12	10 J
3-Chloropropene	3.9	Not Detected	12	Not Detected
Methylene Chloride	9.8	1.5 J	34	5.4 J
Methyl tert-butyl ether	0.98	Not Detected	3.5	Not Detected
trans-1,2-Dichloroethene	0.98	Not Detected	3.9	Not Detected
Hexane	0.98	1.6	3.4	5.6
1,1-Dichloroethane	0.98	Not Detected	4.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.9	11	12	34
cis-1,2-Dichloroethene	0.98	Not Detected	3.9	Not Detected
Tetrahydrofuran	0.98	0.98	2.9	2.9
Chloroform	0.98	1.7	4.8	8.4
1,1,1-Trichloroethane	0.98	Not Detected	5.3	Not Detected
Cyclohexane	0.98	Not Detected	3.4	Not Detected
Carbon Tetrachloride	0.98	0.21 J	6.2	1.3 J
2,2,4-Trimethylpentane	0.98	40	4.6	180
Benzene	0.98	40	3.1	130
1,2-Dichloroethane	0.98	1.1	4.0	4.5
Heptane	0.98	3.6	4.0	15
Trichloroethene	0.98	Not Detected	5.3	Not Detected
1,2-Dichloropropane	0.98	Not Detected	4.5	Not Detected
1,4-Dioxane	3.9	17	14	60
Bromodichloromethane	0.98	Not Detected	6.6	Not Detected
cis-1,3-Dichloropropene	0.98	Not Detected	4.4	Not Detected
4-Methyl-2-pentanone	0.98	37	4.0	150
Toluene	0.98	24	3.7	91
trans-1,3-Dichloropropene	0.98	0.41 J	4.4	1.9 J
1,1,2-Trichloroethane	0.98	Not Detected	5.3	Not Detected
Tetrachloroethene	0.98	~~0.45 J~~ 4	6.6	~~3.0 J~~ 4
2-Hexanone	3.9	1.3 J	16	5.5 J

eurofins | Air Toxics

Client Sample ID: VMP-42-10-080812

Lab ID#: 1208264A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082112**	**Date of Collection: 8/8/12 11:45:00 AM**	
Dil. Factor:	**1.96**	**Date of Analysis: 8/21/12 12:51 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.98	Not Detected	8.3	Not Detected
1,2-Dibromoethane (EDB)	0.98	0.26 J	7.5	2.0 J
Chlorobenzene	~~0.98~~ 1.2	~~1.2~~ U	~~4.5~~ 5.3	~~5.3~~ U
Ethyl Benzene	0.98	1.6	4.2	6.7
m,p-Xylene	0.98	4.1	4.2	18
o-Xylene	0.98	1.3	4.2	5.5
Styrene	0.98	0.87 J	4.2	3.7 J
Bromoform	0.98	Not Detected	10	Not Detected
Cumene	0.98	16	4.8	79
1,1,2,2-Tetrachloroethane	0.98	Not Detected	6.7	Not Detected
Propylbenzene	0.98	0.49 J	4.8	2.4 J
4-Ethyltoluene	0.98	Not Detected	4.8	Not Detected
1,3,5-Trimethylbenzene	0.98	0.46 J	4.8	2.2 J
1,2,4-Trimethylbenzene	0.98	0.76 J	4.8	3.8 J
1,3-Dichlorobenzene	0.98	0.29 J	5.9	1.7 J
1,4-Dichlorobenzene	0.98	~~0.45 J~~ U	5.9	~~2.7 J~~ U
alpha-Chlorotoluene	0.98	Not Detected	5.1	Not Detected
1,2-Dichlorobenzene	0.98	~~0.29 J~~ U	5.9	~~1.7 J~~ U
1,2,4-Trichlorobenzene	3.9	Not Detected	29	Not Detected
Hexachlorobutadiene	3.9	Not Detected	42	Not Detected
Butane	3.9	Not Detected	9.3	Not Detected
Isopentane	3.9	7.8	12	23
Ethyl Acetate	3.9	Not Detected	14	Not Detected
Propylene	3.9	4.8	6.7	8.3
Vinyl Acetate	3.9	Not Detected	14	Not Detected
Vinyl Bromide	3.9	Not Detected	17	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Pentane, 2,3-dimethyl-	565-59-3	64%	48 NJ
2-Propanol, 1-methoxy-	107-98-2	43%	48 NJ
Unknown	NA	NA	54 J
Decane, 2,2,9-trimethyl-	62238-00-0	72%	130 NJ
Hexane, 2,2-dimethyl-	590-73-8	59%	46 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	78%	150 NJ
Decane, 2,2-dimethyl-	17302-37-3	64%	40 NJ
Decane, 2,2,7-trimethyl-	62237-99-4	64%	320 NJ
Unknown	NA	NA	72 J
Dodecane, 1-fluoro-	334-68-9	59%	150 NJ

eurofins | Air Toxics

Client Sample ID: VMP-42-10-080812

Lab ID#: 1208264A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082112**	**Date of Collection: 8/8/12 11:45:00 AM**
Dil. Factor:	**1.96**	**Date of Analysis: 8/21/12 12:51 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	115	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: VMP-4-5-080812

Lab ID#: 1208264A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082114	Date of Collection:	8/8/12 12:37:00 PM
Dil. Factor:	1.96	Date of Analysis:	8/21/12 01:51 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.98	0.50 J	4.8	2.5 J
Freon 114	0.98	Not Detected	6.8	Not Detected
Chloromethane	9.8	Not Detected	20	Not Detected
Vinyl Chloride	0.98	Not Detected	2.5	Not Detected
1,3-Butadiene	0.98	Not Detected	2.2	Not Detected
Bromomethane	9.8	Not Detected	38	Not Detected
Chloroethane	3.9	Not Detected	10	Not Detected
Freon 11	0.98	0.25 J	5.5	1.4 J
Ethanol	3.9	33	7.4	62
Freon 113	0.98	Not Detected	7.5	Not Detected
1,1-Dichloroethene	0.98	Not Detected	3.9	Not Detected
Acetone	9.8	32	23	77
2-Propanol	3.9	12	9.6	30
Carbon Disulfide	3.9	~~1.8 J~~ u	12	~~5.7 J~~ u
3-Chloropropene	3.9	Not Detected	12	Not Detected
Methylene Chloride	9.8	0.70 J	34	2.4 J
Methyl tert-butyl ether	0.98	Not Detected	3.5	Not Detected
trans-1,2-Dichloroethene	0.98	Not Detected	3.9	Not Detected
Hexane	0.98	0.80 J	3.4	2.8 J
1,1-Dichloroethane	0.98	Not Detected	4.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.9	10	12	30
cis-1,2-Dichloroethene	0.98	Not Detected	3.9	Not Detected
Tetrahydrofuran	0.98	1.1	2.9	3.2
Chloroform	0.98	0.25 J	4.8	1.2 J
1,1,1-Trichloroethane	0.98	Not Detected	5.3	Not Detected
Cyclohexane	0.98	0.58 J	3.4	2.0 J
Carbon Tetrachloride	0.98	Not Detected	6.2	Not Detected
2,2,4-Trimethylpentane	0.98	5.3	4.6	25
Benzene	0.98	24	3.1	77
1,2-Dichloroethane	0.98	0.13 J	4.0	0.52 J
Heptane	0.98	2.9	4.0	12
Trichloroethene	0.98	Not Detected	5.3	Not Detected
1,2-Dichloropropane	0.98	Not Detected	4.5	Not Detected
1,4-Dioxane	3.9	Not Detected	14	Not Detected
Bromodichloromethane	0.98	Not Detected	6.6	Not Detected
cis-1,3-Dichloropropene	0.98	Not Detected	4.4	Not Detected
4-Methyl-2-pentanone	0.98	42	4.0	170
Toluene	0.98	21	3.7	79
trans-1,3-Dichloropropene	0.98	Not Detected	4.4	Not Detected
1,1,2-Trichloroethane	0.98	Not Detected	5.3	Not Detected
Tetrachloroethene	0.98	~~0.45 J~~ u	6.6	~~3.0 J~~ u
2-Hexanone	3.9	1.0 J	16	4.3 J

eurofins | Air Toxics

Client Sample ID: VMP-4-5-080812

Lab ID#: 1208264A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082114**	**Date of Collection:**	**8/8/12 12:37:00 PM**
Dil. Factor:	**1.96**	**Date of Analysis:**	**8/21/12 01:51 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.98	Not Detected	8.3	Not Detected
1,2-Dibromoethane (EDB)	0.98	Not Detected	7.5	Not Detected
Chlorobenzene	0.98	~~0.96 J~~	4.5	~~4.4 J~~
Ethyl Benzene	0.98	1.1	4.2	5.0
m,p-Xylene	0.98	3.3	4.2	14
o-Xylene	0.98	1.1	4.2	4.8
Styrene	0.98	0.90 J	4.2	3.8 J
Bromoform	0.98	0.23 J	10	2.4 J
Cumene	0.98	14	4.8	70
1,1,2,2-Tetrachloroethane	0.98	Not Detected	6.7	Not Detected
Propylbenzene	0.98	0.32 J	4.8	1.6 J
4-Ethyltoluene	0.98	0.52 J	4.8	2.5 J
1,3,5-Trimethylbenzene	0.98	0.24 J	4.8	1.2 J
1,2,4-Trimethylbenzene	0.98	0.51 J	4.8	2.5 J
1,3-Dichlorobenzene	0.98	0.31 J	5.9	1.9 J
1,4-Dichlorobenzene	0.98	~~0.39 J~~	5.9	~~2.3 J~~
alpha-Chlorotoluene	0.98	Not Detected	5.1	Not Detected
1,2-Dichlorobenzene	0.98	~~0.23 J~~	5.9	~~1.4 J~~
1,2,4-Trichlorobenzene	3.9	Not Detected	29	Not Detected
Hexachlorobutadiene	3.9	Not Detected	42	Not Detected
Butane	3.9	2.1 J	9.3	5.0 J
Isopentane	3.9	2.0 J	12	6.0 J
Ethyl Acetate	3.9	Not Detected	14	Not Detected
Propylene	3.9	Not Detected	6.7	Not Detected
Vinyl Acetate	3.9	Not Detected	14	Not Detected
Vinyl Bromide	3.9	Not Detected	17	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Decane, 2,2,7-trimethyl-	62237-99-4	64%	140 NJ
Heptane, 2,2,4-trimethyl-	14720-74-2	64%	47 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	72%	150 NJ
Hexane, 2,2,5-trimethyl-	3522-94-9	59%	39 NJ
Decane, 2,2,6-trimethyl-	62237-97-2	64%	440 NJ
Unknown	NA	NA	150 J
1-Pentanol, 4-methyl-2-propyl-	54004-41-0	59%	330 NJ
Unknown	NA	NA	45 J
Ethanone, 1-phenyl-	98-86-2	94%	80 NJ
Unknown	NA	NA	55 J

eurofins | Air Toxics

Client Sample ID: VMP-4-5-080812

Lab ID#: 1208264A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082114**	**Date of Collection: 8/8/12 12:37:00 PM**
Dil. Factor:	**1.96**	**Date of Analysis: 8/21/12 01:51 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	112	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: VMP-11-5-080912

Lab ID#: 1208264A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082116**	**Date of Collection:**	**8/9/12 9:58:00 AM**
Dil. Factor:	**1.91**	**Date of Analysis:**	**8/21/12 03:01 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.96	0.58 J	4.7	2.9 J
Freon 114	0.96	Not Detected	6.7	Not Detected
Chloromethane	9.6	Not Detected	20	Not Detected
Vinyl Chloride	0.96	Not Detected	2.4	Not Detected
1,3-Butadiene	0.96	Not Detected	2.1	Not Detected
Bromomethane	9.6	Not Detected	37	Not Detected
Chloroethane	3.8	Not Detected	10	Not Detected
Freon 11	0.96	0.26 J	5.4	1.4 J
Ethanol	3.8	Not Detected	7.2	Not Detected
Freon 113	0.96	Not Detected	7.3	Not Detected
1,1-Dichloroethene	0.96	Not Detected	3.8	Not Detected
Acetone	9.6	7.6 J	23	18 J
2-Propanol	3.8	2.1 J	9.4	5.3 J
Carbon Disulfide	3.8	~~1.6 J~~	12	~~4.9 J~~
3-Chloropropene	3.8	Not Detected	12	Not Detected
Methylene Chloride	9.6	0.95 J	33	3.3 J
Methyl tert-butyl ether	0.96	Not Detected	3.4	Not Detected
trans-1,2-Dichloroethene	0.96	Not Detected	3.8	Not Detected
Hexane	0.96	0.78 J	3.4	2.8 J
1,1-Dichloroethane	0.96	Not Detected	3.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.8	1.6 J	11	4.7 J
cis-1,2-Dichloroethene	0.96	Not Detected	3.8	Not Detected
Tetrahydrofuran	0.96	1.1	2.8	3.2
Chloroform	0.96	0.13 J	4.7	0.64 J
1,1,1-Trichloroethane	0.96	Not Detected	5.2	Not Detected
Cyclohexane	0.96	1.4	3.3	4.7
Carbon Tetrachloride	0.96	Not Detected	6.0	Not Detected
2,2,4-Trimethylpentane	0.96	5.8	4.5	27
Benzene	0.96	4.0	3.0	13
1,2-Dichloroethane	0.96	0.16 J	3.9	0.64 J
Heptane	0.96	0.26 J	3.9	1.1 J
Trichloroethene	0.96	Not Detected	5.1	Not Detected
1,2-Dichloropropane	0.96	Not Detected	4.4	Not Detected
1,4-Dioxane	3.8	Not Detected	14	Not Detected
Bromodichloromethane	0.96	Not Detected	6.4	Not Detected
cis-1,3-Dichloropropene	0.96	Not Detected	4.3	Not Detected
4-Methyl-2-pentanone	0.96	Not Detected	3.9	Not Detected
Toluene	0.96	~~0.39 J~~	3.6	~~1.5 J~~
trans-1,3-Dichloropropene	0.96	Not Detected	4.3	Not Detected
1,1,2-Trichloroethane	0.96	Not Detected	5.2	Not Detected
Tetrachloroethene	0.96	~~0.24 J~~	6.5	~~1.6 J~~
2-Hexanone	3.8	Not Detected	16	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-11-5-080912

Lab ID#: 1208264A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082116	Date of Collection:	8/9/12 9:58:00 AM
Dil. Factor:	1.91	Date of Analysis:	8/21/12 03:01 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.96	Not Detected	8.1	Not Detected
1,2-Dibromoethane (EDB)	0.96	Not Detected	7.3	Not Detected
Chlorobenzene	0.96	~~0.91 J~~ U	4.4	~~4.2 J~~ U
Ethyl Benzene	0.96	~~0.30 J~~ U	4.1	~~1.3 J~~ U
m,p-Xylene	0.96	~~0.30 J~~ U	4.1	~~1.3 J~~ U
o-Xylene	0.96	Not Detected	4.1	Not Detected
Styrene	0.96	Not Detected	4.1	Not Detected
Bromoform	0.96	Not Detected	9.9	Not Detected
Cumene	0.96	0.15 J	4.7	0.74 J
1,1,2,2-Tetrachloroethane	0.96	Not Detected	6.6	Not Detected
Propylbenzene	0.96	0.16 J	4.7	0.81 J
4-Ethyltoluene	0.96	Not Detected	4.7	Not Detected
1,3,5-Trimethylbenzene	0.96	Not Detected	4.7	Not Detected
1,2,4-Trimethylbenzene	0.96	0.16 J	4.7	0.76 J
1,3-Dichlorobenzene	0.96	0.30 J	5.7	1.8 J
1,4-Dichlorobenzene	0.96	~~0.31 J~~ U	5.7	~~1.8 J~~ U
alpha-Chlorotoluene	0.96	Not Detected	4.9	Not Detected
1,2-Dichlorobenzene	0.96	Not Detected	5.7	Not Detected
1,2,4-Trichlorobenzene	3.8	Not Detected	28	Not Detected
Hexachlorobutadiene	3.8	Not Detected	41	Not Detected
Butane	3.8	3.7 J	9.1	8.7 J
Isopentane	3.8	3.0 J	11	8.9 J
Ethyl Acetate	3.8	Not Detected	14	Not Detected
Propylene	3.8	Not Detected	6.6	Not Detected
Vinyl Acetate	3.8	Not Detected	13	Not Detected
Vinyl Bromide	3.8	Not Detected	17	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Unknown	NA	NA	7.7 J
Acetic acid	64-19-7	83%	32 NJ
Unknown	NA	NA	5.5 J
Octane, 4-methyl-	2216-34-4	78%	7.8 NJ
Hexane, 2,2,3-trimethyl-	16747-25-4	53%	5.4 NJ

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits

eurofins | Air Toxics

Client Sample ID: VMP-11-5-080912

Lab ID#: 1208264A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082116	Date of Collection:	8/9/12 9:58:00 AM
Dil. Factor:	1.91	Date of Analysis:	8/21/12 03:01 PM

Surrogates	%Recovery	Method Limits
Toluene-d8	90	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: VMP-13-5-080912

Lab ID#: 1208264A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082117	Date of Collection:	8/9/12 11:06:00 AM
Dil. Factor:	2.36	Date of Analysis:	8/21/12 03:54 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.73 J	5.8	3.6 J
Freon 114	1.2	Not Detected	8.2	Not Detected
Chloromethane	12	Not Detected	24	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,3-Butadiene	1.2	Not Detected	2.6	Not Detected
Bromomethane	12	Not Detected	46	Not Detected
Chloroethane	4.7	Not Detected	12	Not Detected
Freon 11	1.2	0.47 J	6.6	2.6 J
Ethanol	4.7	Not Detected	8.9	Not Detected
Freon 113	1.2	Not Detected	9.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Acetone	12	9.2 J	28	22 J
2-Propanol	4.7	3.8 J	12	9.2 J
Carbon Disulfide	4.7	4.6 J	15	14 J
3-Chloropropene	4.7	Not Detected	15	Not Detected
Methylene Chloride	12	0.90 J	41	3.1 J
Methyl tert-butyl ether	1.2	Not Detected	4.2	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Hexane	1.2	0.71 J	4.2	2.5 J
1,1-Dichloroethane	1.2	Not Detected	4.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.7	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.5	Not Detected
Chloroform	1.2	1.1 J	5.8	5.2 J
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Cyclohexane	1.2	3.1	4.1	10
Carbon Tetrachloride	1.2	Not Detected	7.4	Not Detected
2,2,4-Trimethylpentane	1.2	3.8	5.5	18
Benzene	1.2	6.6	3.8	21
1,2-Dichloroethane	1.2	Not Detected	4.8	Not Detected
Heptane	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	Not Detected	6.3	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.4	Not Detected
1,4-Dioxane	4.7	Not Detected	17	Not Detected
Bromodichloromethane	1.2	Not Detected	7.9	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.4	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.8	Not Detected
Toluene	1.2	~~0.43 J~~ 0.4	4.4	~~1.6 J~~ 1.5
trans-1,3-Dichloropropene	1.2	Not Detected	5.4	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	Not Detected	8.0	Not Detected
2-Hexanone	4.7	Not Detected	19	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-13-5-080912

Lab ID#: 1208264A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082117**	**Date of Collection:**	**8/9/12 11:06:00 AM**
Dil. Factor:	**2.36**	**Date of Analysis:**	**8/21/12 03:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.1	Not Detected
Chlorobenzene	1.2	~~0.90 J~~ U	5.4	~~4.1 J~~ U
Ethyl Benzene	1.2	~~0.20 J~~ U	5.1	~~0.88 J~~ U
m,p-Xylene	1.2	~~0.32 J~~ U	5.1	~~1.4 J~~ U
o-Xylene	1.2	Not Detected	5.1	Not Detected
Styrene	1.2	Not Detected	5.0	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.8	Not Detected
1,1,2,2-Tetrachloroethane	1.2	0.20 J	8.1	1.4 J
Propylbenzene	1.2	Not Detected	5.8	Not Detected
4-Ethyltoluene	1.2	0.31 J	5.8	1.5 J
1,3,5-Trimethylbenzene	1.2	Not Detected	5.8	Not Detected
1,2,4-Trimethylbenzene	1.2	0.31 J	5.8	1.5 J
1,3-Dichlorobenzene	1.2	0.32 J	7.1	2.0 J
1,4-Dichlorobenzene	1.2	~~0.32 J~~ U	7.1	~~1.9 J~~ U
alpha-Chlorotoluene	1.2	0.18 J	6.1	0.92 J
1,2-Dichlorobenzene	1.2	Not Detected	7.1	Not Detected
1,2,4-Trichlorobenzene	4.7	Not Detected	35	Not Detected
Hexachlorobutadiene	4.7	Not Detected	50	Not Detected
Butane	4.7	Not Detected	11	Not Detected
Isopentane	4.7	2.2 J	14	6.6 J
Ethyl Acetate	4.7	Not Detected	17	Not Detected
Propylene	4.7	Not Detected	8.1	Not Detected
Vinyl Acetate	4.7	Not Detected	17	Not Detected
Vinyl Bromide	4.7	Not Detected	21	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
1-Propene, 2-methyl-	115-11-7	52%	6.6 NJ
Acetic acid	64-19-7	78%	29 NJ
Unknown	NA	NA	6.0 J
Unknown	NA	NA	9.5 J

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	93	70-130

eurofins | Air Toxics

Client Sample ID: VMP-13-5-080912

Lab ID#: 1208264A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082117**	**Date of Collection: 8/9/12 11:06:00 AM**	
Dil. Factor:	**2.36**	**Date of Analysis: 8/21/12 03:54 PM**	

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	111	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: VMP-10-5-080912

Lab ID#: 1208264A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082118**	**Date of Collection: 8/9/12 12:35:00 PM**	
Dil. Factor:	**1.83**	**Date of Analysis: 8/21/12 04:35 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.92	0.48 J	4.5	2.4 J
Freon 114	0.92	Not Detected	6.4	Not Detected
Chloromethane	9.2	Not Detected	19	Not Detected
Vinyl Chloride	0.92	Not Detected	2.3	Not Detected
1,3-Butadiene	0.92	Not Detected	2.0	Not Detected
Bromomethane	9.2	Not Detected	36	Not Detected
Chloroethane	3.7	Not Detected	9.6	Not Detected
Freon 11	0.92	0.27 J	5.1	1.5 J
Ethanol	3.7	Not Detected	6.9	Not Detected
Freon 113	0.92	Not Detected	7.0	Not Detected
1,1-Dichloroethene	0.92	Not Detected	3.6	Not Detected
Acetone	9.2	22	22	53
2-Propanol	3.7	1.1 J	9.0	2.7 J
Carbon Disulfide	3.7	~~1.9 J~~	11	~~6.1 J~~
3-Chloropropene	3.7	Not Detected	11	Not Detected
Methylene Chloride	9.2	~~0.64 J~~	32	~~2.2 J~~
Methyl tert-butyl ether	0.92	Not Detected	3.3	Not Detected
trans-1,2-Dichloroethene	0.92	Not Detected	3.6	Not Detected
Hexane	0.92	1.2	3.2	4.4
1,1-Dichloroethane	0.92	Not Detected	3.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.7	3.4 J	11	10 J
cis-1,2-Dichloroethene	0.92	Not Detected	3.6	Not Detected
Tetrahydrofuran	0.92	Not Detected	2.7	Not Detected
Chloroform	0.92	Not Detected	4.5	Not Detected
1,1,1-Trichloroethane	0.92	Not Detected	5.0	Not Detected
Cyclohexane	0.92	0.33 J	3.1	1.1 J
Carbon Tetrachloride	0.92	Not Detected	5.8	Not Detected
2,2,4-Trimethylpentane	0.92	2.3	4.3	11
Benzene	0.92	3.0	2.9	9.7
1,2-Dichloroethane	0.92	0.14 J	3.7	0.58 J
Heptane	0.92	1.3	3.7	5.3
Trichloroethene	0.92	Not Detected	4.9	Not Detected
1,2-Dichloropropane	0.92	Not Detected	4.2	Not Detected
1,4-Dioxane	3.7	Not Detected	13	Not Detected
Bromodichloromethane	0.92	Not Detected	6.1	Not Detected
cis-1,3-Dichloropropene	0.92	Not Detected	4.2	Not Detected
4-Methyl-2-pentanone	0.92	Not Detected	3.7	Not Detected
Toluene	0.92	~~0.39 J~~	3.4	~~1.5 J~~
trans-1,3-Dichloropropene	0.92	Not Detected	4.2	Not Detected
1,1,2-Trichloroethane	0.92	Not Detected	5.0	Not Detected
Tetrachloroethene	0.92	Not Detected	6.2	Not Detected
2-Hexanone	3.7	Not Detected	15	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-10-5-080912

Lab ID#: 1208264A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082118**	**Date of Collection:**	**8/9/12 12:35:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**8/21/12 04:35 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.92	Not Detected	7.8	Not Detected
1,2-Dibromoethane (EDB)	0.92	Not Detected	7.0	Not Detected
Chlorobenzene	0.92	~~0.81 J~~ U	4.2	~~3.7 J~~ U
Ethyl Benzene	0.92	Not Detected	4.0	Not Detected
m,p-Xylene	0.92	~~0.20 J~~ U	4.0	~~0.88 J~~ U
o-Xylene	0.92	Not Detected	4.0	Not Detected
Styrene	0.92	Not Detected	3.9	Not Detected
Bromoform	0.92	Not Detected	9.4	Not Detected
Cumene	0.92	Not Detected	4.5	Not Detected
1,1,2,2-Tetrachloroethane	0.92	Not Detected	6.3	Not Detected
Propylbenzene	0.92	Not Detected	4.5	Not Detected
4-Ethyltoluene	0.92	Not Detected	4.5	Not Detected
1,3,5-Trimethylbenzene	0.92	Not Detected	4.5	Not Detected
1,2,4-Trimethylbenzene	0.92	Not Detected	4.5	Not Detected
1,3-Dichlorobenzene	0.92	0.22 J	5.5	1.4 J
1,4-Dichlorobenzene	0.92	~~0.23 J~~ U	5.5	~~1.4 J~~ U
alpha-Chlorotoluene	0.92	0.16 J	4.7	0.85 J
1,2-Dichlorobenzene	0.92	~~0.18 J~~ U	5.5	~~1.1 J~~ U
1,2,4-Trichlorobenzene	3.7	Not Detected	27	Not Detected
Hexachlorobutadiene	3.7	Not Detected	39	Not Detected
Butane	3.7	1.9 J	8.7	4.6 J
Isopentane	3.7	2.3 J	11	6.8 J
Ethyl Acetate	3.7	Not Detected	13	Not Detected
Propylene	3.7	Not Detected	6.3	Not Detected
Vinyl Acetate	3.7	Not Detected	13	Not Detected
Vinyl Bromide	3.7	Not Detected	16	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
1-Propene, 2-methyl-	115-11-7	64%	11 NJ
Acetic acid	64-19-7	74%	15 NJ

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	110	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: VMP-10-5-080912

Lab ID#: 1208264A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082118	Date of Collection: 8/9/12 12:35:00 PM
Dil. Factor:	1.83	Date of Analysis: 8/21/12 04:35 PM

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208264A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082110a	**Date of Collection:**	NA
Dil. Factor:	1.00	**Date of Analysis:**	8/21/12 11:19 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
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	0.48 J	6.2	1.5 J
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	0.13 J	17	0.45 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	0.047 J	2.7	0.25 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	0.14 J	1.6	0.46 J
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
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	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	0.088 J	2.3	0.40 J
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	0.10 J	1.9	0.38 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	0.90 J
2-Hexanone	2.0	Not Detected	8.2	Not Detected

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208264A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082110a	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/21/12 11:19 AM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	0.33 J	2.3	1.5 J
Ethyl Benzene	0.50	0.078 J	2.2	0.34 J
m,p-Xylene	0.50	0.098 J	2.2	0.42 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
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	0.14 J	3.0	0.83 J
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	0.099 J	3.0	0.59 J
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
Ethyl Acetate	2.0	Not Detected	7.2	Not Detected
Propylene	2.0	0.44 J	3.4	0.76 J
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	96	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1208264A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/21/12 08:35 AM**	

Compound	%Recovery
Freon 12	97
Freon 114	102
Chloromethane	91
Vinyl Chloride	85
1,3-Butadiene	86
Bromomethane	89
Chloroethane	88
Freon 11	97
Ethanol	91
Freon 113	98
1,1-Dichloroethene	103
Acetone	80
2-Propanol	89
Carbon Disulfide	86
3-Chloropropene	91
Methylene Chloride	85
Methyl tert-butyl ether	97
trans-1,2-Dichloroethene	94
Hexane	98
1,1-Dichloroethane	93
2-Butanone (Methyl Ethyl Ketone)	91
cis-1,2-Dichloroethene	82
Tetrahydrofuran	90
Chloroform	91
1,1,1-Trichloroethane	98
Cyclohexane	98
Carbon Tetrachloride	96
2,2,4-Trimethylpentane	89
Benzene	82
1,2-Dichloroethane	92
Heptane	100
Trichloroethene	87
1,2-Dichloropropane	81
1,4-Dioxane	85
Bromodichloromethane	89
cis-1,3-Dichloropropene	86
4-Methyl-2-pentanone	87
Toluene	81
trans-1,3-Dichloropropene	89
1,1,2-Trichloroethane	83
Tetrachloroethene	85
2-Hexanone	92

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1208264A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/21/12 08:35 AM**	

Compound	%Recovery
Dibromochloromethane	90
1,2-Dibromoethane (EDB)	84
Chlorobenzene	73
Ethyl Benzene	88
m,p-Xylene	91
o-Xylene	89
Styrene	95
Bromoform	92
Cumene	92
1,1,2,2-Tetrachloroethane	80
Propylbenzene	91
4-Ethyltoluene	87
1,3,5-Trimethylbenzene	86
1,2,4-Trimethylbenzene	91
1,3-Dichlorobenzene	82
1,4-Dichlorobenzene	82
alpha-Chlorotoluene	89
1,2-Dichlorobenzene	82
1,2,4-Trichlorobenzene	84
Hexachlorobutadiene	93
Butane	93
Isopentane	88
Ethyl Acetate	102
Propylene	91
Vinyl Acetate	92
Vinyl Bromide	110

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	113	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1208264A-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/21/12 09:02 AM**	

Compound	%Recovery
Freon 12	117
Freon 114	116
Chloromethane	104
Vinyl Chloride	106
1,3-Butadiene	97
Bromomethane	105
Chloroethane	103
Freon 11	112
Ethanol	92
Freon 113	119
1,1-Dichloroethene	127
Acetone	92
2-Propanol	102
Carbon Disulfide	124
3-Chloropropene	117
Methylene Chloride	96
Methyl tert-butyl ether	117
trans-1,2-Dichloroethene	122
Hexane	114
1,1-Dichloroethane	108
2-Butanone (Methyl Ethyl Ketone)	98
cis-1,2-Dichloroethene	94
Tetrahydrofuran	99
Chloroform	106
1,1,1-Trichloroethane	116
Cyclohexane	108
Carbon Tetrachloride	114
2,2,4-Trimethylpentane	104
Benzene	104
1,2-Dichloroethane	114
Heptane	118
Trichloroethene	108
1,2-Dichloropropane	103
1,4-Dioxane	101
Bromodichloromethane	109
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	108
Toluene	98
trans-1,3-Dichloropropene	110
1,1,2-Trichloroethane	102
Tetrachloroethene	104
2-Hexanone	109

eurofins | Air Toxics

Client Sample ID: LCS
Lab ID#: 1208264A-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082103	**Date of Collection: NA**	
Dil. Factor:	1.00	**Date of Analysis: 8/21/12 09:02 AM**	

Compound	%Recovery
Dibromochloromethane	111
1,2-Dibromoethane (EDB)	104
Chlorobenzene	88
Ethyl Benzene	107
m,p-Xylene	107
o-Xylene	110
Styrene	112
Bromoform	109
Cumene	112
1,1,2,2-Tetrachloroethane	100
Propylbenzene	110
4-Ethyltoluene	100
1,3,5-Trimethylbenzene	104
1,2,4-Trimethylbenzene	104
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	96
alpha-Chlorotoluene	105
1,2-Dichlorobenzene	98
1,2,4-Trichlorobenzene	97
Hexachlorobutadiene	108
Butane	107
Isopentane	101
Ethyl Acetate	Not Spiked
Propylene	94
Vinyl Acetate	112
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	107	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1208264A-09AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082104	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/21/12 09:21 AM	

Compound	%Recovery
Freon 12	114
Freon 114	115
Chloromethane	102
Vinyl Chloride	104
1,3-Butadiene	95
Bromomethane	106
Chloroethane	109
Freon 11	114
Ethanol	95
Freon 113	119
1,1-Dichloroethene	129
Acetone	91
2-Propanol	107
Carbon Disulfide	121
3-Chloropropene	121
Methylene Chloride	94
Methyl tert-butyl ether	119
trans-1,2-Dichloroethene	124
Hexane	115
1,1-Dichloroethane	108
2-Butanone (Methyl Ethyl Ketone)	102
cis-1,2-Dichloroethene	92
Tetrahydrofuran	100
Chloroform	108
1,1,1-Trichloroethane	117
Cyclohexane	111
Carbon Tetrachloride	115
2,2,4-Trimethylpentane	103
Benzene	105
1,2-Dichloroethane	112
Heptane	115
Trichloroethene	108
1,2-Dichloropropane	101
1,4-Dioxane	98
Bromodichloromethane	111
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	105
Toluene	99
trans-1,3-Dichloropropene	112
1,1,2-Trichloroethane	98
Tetrachloroethene	104
2-Hexanone	107

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1208264A-09AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/21/12 09:21 AM**	

Compound	%Recovery
Dibromochloromethane	109
1,2-Dibromoethane (EDB)	102
Chlorobenzene	87
Ethyl Benzene	105
m,p-Xylene	109
o-Xylene	107
Styrene	111
Bromoform	110
Cumene	111
1,1,2,2-Tetrachloroethane	98
Propylbenzene	110
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	104
1,2,4-Trimethylbenzene	106
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	96
alpha-Chlorotoluene	107
1,2-Dichlorobenzene	98
1,2,4-Trichlorobenzene	102
Hexachlorobutadiene	111
Butane	100
Isopentane	100
Ethyl Acetate	Not Spiked
Propylene	92
Vinyl Acetate	111
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	105	70-130

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

Please Check Appropriate Box:
☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SO&GN ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Robert Mooshegian
INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0
☐ CHECK IF NO INCIDENT # APPLIES
DATE: 08/10/12
PO #
SAP #: 3 4 0 0 6 1
PAGE: 1 of 1

SAMP. MGT. COMPANY: URS CORPORATION
LOG CODE:
SITE ADDRESS: Street and City: 900 SOUTH CENTRAL AVE – ROXANA
State: IL
GLOBAL ID NO.:

ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
COC DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel, URS, St. Louis
PHONE NO.: 314-743-4179
E-MAIL: Elizabeth.Kunkel@URSCorp.com
CONSULTANT PROJECT MANAGER: Roxana Vapor Additional

LABORATORY ADDRESS: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
M. Currier, J. Jackson, S. Jansen

TELEPHONE:
FAX: 314-429-0462
E-MAIL TO CONTACT: Robert.Mooshegian@urs.com

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

REQUESTED ANALYSIS

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:

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

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	Canister Number	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946					
01A	VMP-21-5-080812	08/08/12	1024-1054	94913	-29	-8			X	X						
02A	VMP-42-10-080812	08/08/12	1135-1145	9312	-29	-8			X	X						
03A	VMP-4-5-080812	08/08/12	1207-1237	9353	-29	-9			X	X						
04A	VMP-11-5-080912	08/09/12	0936-0958	37726	-30	-8.5			X	X						
05A	VMP-13-5-080912	08/09/12	1030-1106	1720	-29.5	-12.5			X	X						
06A	VMP-10-5-080912	08/09/12	1200-1235	9518	-30	-7.5			X	X						

Turn Around Time: ☑ Normal ☐ Rush ☐ Specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	FEDEX ATL 8/13/12 0930	8/10/12	1430
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received by: (Signature)	Date	Time

05/2/00 Revision

CUSTODY SEAL INTACT? Y N NC

1208264

eurofins | Air Toxics

8/28/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1208264B

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 8/13/2012 at Air Toxics Ltd.

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

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

Regards,

Kelly Buettner

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1208264B

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	08/13/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	08/28/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-21-5-080812	Modified ASTM D-1946	8.0 "Hg	5 psi
02A	VMP-42-10-080812	Modified ASTM D-1946	9.5 "Hg	5 psi
03A	VMP-4-5-080812	Modified ASTM D-1946	9.5 "Hg	5 psi
04A	VMP-11-5-080912	Modified ASTM D-1946	9.0 "Hg	5 psi
05A	VMP-13-5-080912	Modified ASTM D-1946	13.0 "Hg	5 psi
06A	VMP-10-5-080912	Modified ASTM D-1946	8.0 "Hg	5 psi
07A	Lab Blank	Modified ASTM D-1946	NA	NA
07B	Lab Blank	Modified ASTM D-1946	NA	NA
08A	LCS	Modified ASTM D-1946	NA	NA
08AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 08/28/12

Technical Director

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

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

LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1208264B

Six 1 Liter Summa Canister samples were received on August 13, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-080812

Lab ID#: 1208264B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.18	14
Nitrogen	0.18	79
Methane	0.00018	0.000077 J
Carbon Dioxide	0.018	6.5
Helium	0.092	0.041 J

Client Sample ID: VMP-42-10-080812

Lab ID#: 1208264B-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	18
Nitrogen	0.20	80
Carbon Dioxide	0.020	2.2
Helium	0.098	0.0079 J

Client Sample ID: VMP-4-5-080812

Lab ID#: 1208264B-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	18
Nitrogen	0.20	80
Methane	0.00020	0.00020
Carbon Dioxide	0.020	1.4
Helium	0.098	0.036 J

Client Sample ID: VMP-11-5-080912

Lab ID#: 1208264B-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.19	18
Nitrogen	0.19	79
Methane	0.00019	0.000056 J

eurofins | Air Toxics

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

Client Sample ID: VMP-11-5-080912

Lab ID#: 1208264B-04A

Carbon Dioxide	0.019	2.6
Helium	0.096	0.037 J

Client Sample ID: VMP-13-5-080912

Lab ID#: 1208264B-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	16
Nitrogen	0.24	80
Methane	0.00024	0.000079 J
Carbon Dioxide	0.024	4.1
Helium	0.12	0.048 J

Client Sample ID: VMP-10-5-080912

Lab ID#: 1208264B-06A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.18	18
Nitrogen	0.18	80
Methane	0.00018	0.000035 J
Carbon Dioxide	0.018	1.9
Helium	0.092	0.046 J

eurofins | Air Toxics

Client Sample ID: VMP-21-5-080812

Lab ID#: 1208264B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9081413**	**Date of Collection:**	**8/8/12 10:54:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**8/14/12 05:08 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.18	14
Nitrogen	0.18	79
Carbon Monoxide	0.018	Not Detected
Methane	0.00018	0.000077 J
Carbon Dioxide	0.018	6.5
Ethane	0.0018	Not Detected
Ethene	0.0018	Not Detected
Helium	0.092	0.041 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-42-10-080812

Lab ID#: 1208264B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9081414**	**Date of Collection:**	**8/8/12 11:45:00 AM**
Dil. Factor:	**1.96**	**Date of Analysis:**	**8/14/12 05:30 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	18
Nitrogen	0.20	80
Carbon Monoxide	0.020	Not Detected
Methane	0.00020	Not Detected
Carbon Dioxide	0.020	2.2
Ethane	0.0020	Not Detected
Ethene	0.0020	Not Detected
Helium	0.098	0.0079 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-4-5-080812

Lab ID#: 1208264B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9081415	Date of Collection:	8/8/12 12:37:00 PM
Dil. Factor:	1.96	Date of Analysis:	8/14/12 05:51 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	18
Nitrogen	0.20	80
Carbon Monoxide	0.020	Not Detected
Methane	0.00020	0.00020
Carbon Dioxide	0.020	1.4
Ethane	0.0020	Not Detected
Ethene	0.0020	Not Detected
Helium	0.098	0.036 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-11-5-080912

Lab ID#: 1208264B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9081416**	**Date of Collection:**	**8/9/12 9:58:00 AM**
Dil. Factor:	**1.91**	**Date of Analysis:**	**8/14/12 06:14 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.19	18
Nitrogen	0.19	79
Carbon Monoxide	0.019	Not Detected
Methane	0.00019	0.000056 J
Carbon Dioxide	0.019	2.6
Ethane	0.0019	Not Detected
Ethene	0.0019	Not Detected
Helium	0.096	0.037 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-13-5-080912

Lab ID#: 1208264B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9081417**	**Date of Collection:**	**8/9/12 11:06:00 AM**
Dil. Factor:	**2.36**	**Date of Analysis:**	**8/14/12 06:36 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	16
Nitrogen	0.24	80
Carbon Monoxide	0.024	Not Detected
Methane	0.00024	0.000079 J
Carbon Dioxide	0.024	4.1
Ethane	0.0024	Not Detected
Ethene	0.0024	Not Detected
Helium	0.12	0.048 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-10-5-080912

Lab ID#: 1208264B-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9081418**	**Date of Collection:**	**8/9/12 12:35:00 PM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**8/14/12 07:02 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.18	18
Nitrogen	0.18	80
Carbon Monoxide	0.018	Not Detected
Methane	0.00018	0.000035 J
Carbon Dioxide	0.018	1.9
Ethane	0.0018	Not Detected
Ethene	0.0018	Not Detected
Helium	0.092	0.046 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208264B-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9081404a	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/14/12 01:26 PM	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.014 J
Nitrogen	0.10	0.081 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208264B-07B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9081403b	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/14/12 01:05 PM	

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

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1208264B-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9081402**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/14/12 12:20 PM**	

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	99
Methane	98
Carbon Dioxide	100
Ethane	99
Ethene	96
Helium	101

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1208264B-08AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9081426**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/14/12 10:31 PM**	

Compound	%Recovery
Oxygen	98
Nitrogen	100
Carbon Monoxide	99
Methane	98
Carbon Dioxide	103
Ethane	100
Ethene	97
Helium	100

Container Type: NA - Not Applicable

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

Please Check Appropriate Box: ☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL ☐ MOTIVA SD&CM ☐ CONSULTANT ☐ LUBES ☐ SHELL PIPELINE ☐ OTHER ____

Print Bill To Contact Name: Robert Mooshegian

INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0 ☐ CHECK IF NO INCIDENT # APPLIES

DATE: 08/10/12 PAGE: 1 of 1

PO #:
SAP #: 3 4 0 0 6 1

SAMPLING COMPANY: URS CORPORATION
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
Laboratory Address: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
TELEPHONE: FAX: 314-429-0462 EMAIL: Robert.Mooshegian@urs.com

SITE ADDRESS: Street and City: 900 SOUTH CENTRAL AVE – ROXANA State: IL
EDF DELIVERABLE TO: Elizabeth Kunkel, URS, St. Louis PHONE NO: 314-743-4179 E-MAIL: Elizabeth_Kunkel@URSCorp.com CONSULTANT PROJECT NAME: Roxana Vapor Additional
M. Currier, J. Jackson, S. Jansen

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:

DELIVERABLES ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☐ OTHER (SPECIFY) ____

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	Sampling Date	Sampling Time	Canister Number	Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
01A	VMP-21-5-080812 ✓	08/08/12	1024-1004	94913	-29	-8			X	X	
02A	VMP-42-10-080812 ✓	08/08/12	1115-1145	9312	-29	-8			X	X	
03A	VMP-4-5-080812 ✓	08/08/12	1207-1237	9353	-29	-8			X	X	
04A	VMP-11-5-080912 ✓	08/09/12	0928-0958	37726	-30	-8.5			X	X	
05A	VMP-13-5-080912 ✓	08/09/12	1030-1106	1720	-29.5	-12.5			X	X	
06A	VMP-10-5-080912 ✓	08/09/12	1200-1235	9518	-30	-7.5			X	X	

8/10/12

Turn Around Time: ☑ Normal ☐ Rush Specify

Lab Use Only: Pressurized by: Date: Pressurization Gas: N_2 He

ADDITIONAL NOTES:

- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
[signature]	FEDEX [signature] ATL 8/13/12 0930	8/10/12	1430
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

05/2/06 Revision

CUSTODY SEAL INTACT? Y N NC

1208264

Roxana Soil Vapor Additional – Week 2 - 2012 Data Review

Laboratory SDG: 1208352A,B

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 9/19/2012

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

Sample Identification	Sample Identification
VMP-21-5-081412	VMP-21-5-081412-Dup
VMP-42-10-081412	VMP-4-5-081412
VMP-11-5-081512	VMP-13-5-081512
VMP-10-5-081512	

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, analytes were detected in the method blank. TO-15 LCS/LCSD recoveries were outside evaluation criteria. These issues are addressed further in the appropriate sections below.

No problems were indicated in the cooler receipt form.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
1208352A-08A	TO-15	Carbon disulfide	0.48 ppbv / 1.5 µg/m^3
1208352A-08A	TO-15	Toluene	0.14 ppbv / 0.51 µg/m^3
1208352A-08A	TO-15	trans-1,3-Dichloropropene	0.12 ppbv / 0.55 µg/m^3
1208352A-08A	TO-15	Tetrachloroethene	0.12 ppbv / 0.83 µg/m^3
1208352A-08A	TO-15	Chlorobenzene	0.40 ppbv / 1.8 µg/m^3
1208352A-08A	TO-15	Ethyl benzene	0.12 ppbv / 0.50 µg/m^3
1208352A-08A	TO-15	Cumene	0.069 ppbv / 0.34 µg/m^3
1208352A-08A	TO-15	1,4-Dichlorobenzene	0.13 ppbv / 0.79 µg/m^3
1208352A-08A	TO-15	1,2-Dichlorobenzene	0.12 ppbv / 0.74 µg/m^3

Blank ID	Parameter	Analyte	Concentration/ Amount
1208352B-08A	Natural gases	Nitrogen	0.033%

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

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
VMP-21-5-081412	TO-15	Carbon disulfide	-	**U**
VMP-21-5-081412	TO-15	Toluene	-	**U**
VMP-21-5-081412	TO-15	Tetrachloroethene	-	**U**
VMP-21-5-081412	TO-15	Cumene	-	**U**
VMP-21-5-081412	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-21-5-081412-Dup	TO-15	Toluene	-	**U**
VMP-21-5-081412-Dup	TO-15	Chlorobenzene	-	**U**
VMP-21.5-081412-Dup	TO-15	Cumene	-	**U**
VMP-42-10-081412	TO-15	Carbon disulfide	-	**U**
VMP-42-10-081412	TO-15	Chlorobenzene	-	**U**
VMP-42-10-081412	TO-15	Ethyl benzene	-	**U**
VMP-42-10-081412	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-4-5-081412	TO-15	Chlorobenzene	-	**U**
VMP-4-5-081412	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-11-5-081512	TO-15	Carbon disulfide	-	**U**
VMP-11-5-081512	TO-15	Toluene	-	**U**
VMP-11-5-081512	TO-15	Chlorobenzene	-	**U**
VMP-13-5-081512	TO-15	Toluene	-	**U**
VMP-13-5-081512	TO-15	Chlorobenzene	-	**U**
VMP-13-5-081512	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-10-5-081512	TO-15	Carbon disulfide	-	**U**
VMP-10-5-081512	TO-15	Chlorobenzene	-	**U**
VMP-10-5-081512	TO-15	Ethyl benzene	-	**U**
VMP-10-5-081512	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-10-5-081512	TO-15	1,2-Dichlorobenzene	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS ID	Parameter	Analyte	LCS/LCSD Recovery	LCS/ LCSD RPD	LCS/ LCSD/RPD Criteria
1208352A -10A/AA	TO-15	Freon 12	**136**/123	10	70-130/25
1208352A -10A/AA	TO-15	1,1-Dichloroethene	**134**/125	7	70-130/25
1208352A -10A/AA	TO-15	Carbon tetrachloride	**132**/124	6	70-130/25

Analytical data that required qualification based on LCS data are included in the table below. 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. 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.

Field ID	Parameter	Analyte	Qualification
VMP-21-5-081412	TO-15	Freon 12	**J**
VMP-21-5-081412-Dup	TO-15	Freon 12	**J**
VMP-42-10-081412	TO-15	Freon 12	**J**
VMP-4-5-081412	TO-15	Freon 12	**J**
VMP-11-5-081512	TO-15	Freon 12	**J**
VMP-13-5-081512	TO-15	Freon 12	**J**
VMP-10-5-081512	TO-15	Freon 12	**J**

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
VMP-21-5-081412	VMP-21-5-081412-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

eurofins | Air Toxics

8/31/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1208352A

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 8/16/2012 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 9/19/2012

eurofins | Air Toxics

WORK ORDER #: 1208352A

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	08/16/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	08/31/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-21-5-081412	Modified TO-15/TICS	9.0 "Hg	5 psi
02A	VMP-21-5-081412-DUP	Modified TO-15/TICS	8.6 "Hg	5 psi
03A	VMP-42-10-081412	Modified TO-15/TICS	10.0 "Hg	5 psi
04A	VMP-4-5-081412	Modified TO-15/TICS	9.2 "Hg	5 psi
05A	VMP-11-5-081512	Modified TO-15/TICS	8.2 "Hg	5 psi
06A	VMP-13-5-081512	Modified TO-15/TICS	9.6 "Hg	5 psi
07A	VMP-10-5-081512	Modified TO-15/TICS	9.2 "Hg	5 psi
08A	Lab Blank	Modified TO-15/TICS	NA	NA
09A	CCV	Modified TO-15/TICS	NA	NA
10A	LCS	Modified TO-15/TICS	NA	NA
10AA	LCSD	Modified TO-15/TICS	NA	NA

CERTIFIED BY: Heidi Rogers DATE: 08/31/12

Technical Director

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

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# 1208352A

Seven 1 Liter Summa Canister samples were received on August 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.

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (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.

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.

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

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-081412

Lab ID#: 1208352A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.96	0.54 J J	4.7	2.7 J J
Freon 11	0.96	0.27 J	5.4	1.5 J
Ethanol	3.8	2.0 J	7.2	3.7 J
Acetone	9.6	8.0 J	23	19 J
Carbon Disulfide	3.8	~~1.8 J~~ U	12	~~5.5 J~~ U
Methylene Chloride	9.6	0.33 J	33	1.2 J
Hexane	0.96	0.28 J	3.4	0.98 J
2-Butanone (Methyl Ethyl Ketone)	3.8	2.1 J	11	6.2 J
Tetrahydrofuran	0.96	0.56 J	2.8	1.6 J
2,2,4-Trimethylpentane	0.96	0.39 J	4.5	1.8 J
Benzene	0.96	0.99	3.0	3.2
Heptane	0.96	0.58 J	3.9	2.4 J
Trichloroethene	0.96	1.2	5.1	6.3
Toluene	0.96	~~0.29 J~~ U	3.6	~~1.1 J~~ U
Tetrachloroethene	0.96	~~0.36 J~~ U	6.5	~~2.4 J~~ U
Chlorobenzene	0.96	0.73 J	4.4	3.4 J
m,p-Xylene	0.96	0.26 J	4.1	1.1 J
Cumene	0.96	~~0.28 J~~ U	4.7	~~1.4 J~~ U
Propylbenzene	0.96	0.82 J	4.7	4.0 J
4-Ethyltoluene	0.96	3.6	4.7	17
1,3,5-Trimethylbenzene	0.96	1.2	4.7	6.1
1,2,4-Trimethylbenzene	0.96	2.1	4.7	10
1,3-Dichlorobenzene	0.96	0.24 J	5.7	1.4 J
1,4-Dichlorobenzene	0.96	~~0.17 J~~ U	5.7	~~1.0 J~~ U

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	6.0 J
Unknown	NA	NA	5.2 J

Client Sample ID: VMP-21-5-081412-DUP

Lab ID#: 1208352A-02A

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-081412-DUP

Lab ID#: 1208352A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.79 J J	5.8	3.9 J J
Freon 11	1.2	0.40 J	6.6	2.3 J
Acetone	12	4.5 J	28	11 J
Carbon Disulfide	4.7	2.6 J	15	8.0 J
Methylene Chloride	12	0.60 J	41	2.1 J
2,2,4-Trimethylpentane	1.2	0.40 J	5.5	1.9 J
Benzene	1.2	0.53 J	3.8	1.7 J
Heptane	1.2	1.3	4.8	5.5
Trichloroethene	1.2	0.94 J	6.3	5.0 J
Toluene	1.2	~~0.22 J~~ U	4.4	~~0.84 J~~ U
Chlorobenzene	1.2	~~0.83 J~~ U	5.4	~~3.8 J~~ U
m,p-Xylene	1.2	0.24 J	5.1	1.0 J
o-Xylene	1.2	0.22 J	5.1	0.97 J
Cumene	1.2	~~0.30 J~~ U	5.8	~~1.5 J~~ U
Propylbenzene	1.2	0.92 J	5.8	4.5 J
4-Ethyltoluene	1.2	3.6	5.8	18
1,3,5-Trimethylbenzene	1.2	1.1 J	5.8	5.3 J
1,2,4-Trimethylbenzene	1.2	1.9	5.8	9.5

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	7.4 J
Unknown	NA	NA	7.6 J

Client Sample ID: VMP-42-10-081412

Lab ID#: 1208352A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.0	0.70 J J	5.0	3.5 J J
Freon 11	1.0	0.27 J	5.6	1.5 J
Ethanol	4.0	15	7.6	29
Acetone	10	13	24	32
2-Propanol	4.0	14	9.9	35

eurofins | Air Toxics

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

Client Sample ID: VMP-42-10-081412

Lab ID#: 1208352A-03A

Carbon Disulfide	4.0	~~0.98 J~~ UJ	12	~~3.1 J~~ UJ
Methylene Chloride	10	0.58 J	35	2.0 J
Hexane	1.0	0.41 J	3.5	1.4 J
2-Butanone (Methyl Ethyl Ketone)	4.0	6.8	12	20
Chloroform	1.0	0.70 J	4.9	3.4 J
Cyclohexane	1.0	0.54 J	3.4	1.8 J
2,2,4-Trimethylpentane	1.0	3.7	4.7	17
Benzene	1.0	1.8	3.2	5.7
1,2-Dichloroethane	1.0	0.14 J	4.1	0.58 J
Heptane	1.0	0.87 J	4.1	3.6 J
Trichloroethene	1.0	0.74 J	5.4	4.0 J
4-Methyl-2-pentanone	1.0	28	4.1	110
Toluene	1.0	8.1	3.8	31
Chlorobenzene	1.0	~~0.65 J~~ UJ	4.6	~~3.0 J~~ UJ
Ethyl Benzene	1.0	~~0.51 J~~ UJ	4.4	~~2.2 J~~ UJ
m,p-Xylene	1.0	1.3	4.4	5.7
o-Xylene	1.0	0.53 J	4.4	2.3 J
Styrene	1.0	0.33 J	4.3	1.4 J
Cumene	1.0	5.2	4.9	25
Propylbenzene	1.0	0.20 J	4.9	0.99 J
4-Ethyltoluene	1.0	0.42 J	4.9	2.1 J
1,3,5-Trimethylbenzene	1.0	0.25 J	4.9	1.2 J
1,2,4-Trimethylbenzene	1.0	0.59 J	4.9	2.9 J
1,3-Dichlorobenzene	1.0	0.26 J	6.0	1.6 J
1,4-Dichlorobenzene	1.0	~~0.36 J~~ UJ	6.0	~~2.1 J~~ UJ

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	18 J
Oxirane, 2,3-dimethyl-	3266-23-7	53%	57 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	59%	75 NJ
Hexane, 2,2,5,5-tetramethyl-	1071-81-4	53%	20 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	72%	76 NJ
Unknown	NA	NA	18 J
Decane, 2,2,9-trimethyl-	62238-00-0	72%	200 NJ

eurofins | Air Toxics

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

Client Sample ID: VMP-42-10-081412

Lab ID#: 1208352A-03A

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
1-Pentanol, 4-methyl-2-propyl-	54004-41-0	56%	130 NJ
Ethanone, 1-phenyl-	98-86-2	91%	55 NJ
Unknown	NA	NA	35 J

Client Sample ID: VMP-4-5-081412

Lab ID#: 1208352A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.60 J	6.8	3.0 J
Ethanol	5.5	52	10	97
Acetone	14	48	33	110
2-Propanol	5.5	9.8	14	24
Carbon Disulfide	5.5	3.4 J	17	11 J
Hexane	1.4	68	4.9	240
2-Butanone (Methyl Ethyl Ketone)	5.5	11	16	33
Cyclohexane	1.4	14	4.8	48
2,2,4-Trimethylpentane	1.4	11	6.4	52
Benzene	1.4	2.8	4.4	8.9
1,2-Dichloroethane	1.4	0.18 J	5.6	0.72 J
Heptane	1.4	3.6	5.6	15
Trichloroethene	1.4	0.89 J	7.4	4.8 J
4-Methyl-2-pentanone	1.4	20	5.6	80
Toluene	1.4	7.7	5.2	29
Chlorobenzene	1.4	~~0.77 J~~	6.4	~~3.6 J~~
Ethyl Benzene	1.4	0.78 J	6.0	3.4 J
m,p-Xylene	1.4	1.8	6.0	7.8
o-Xylene	1.4	0.56 J	6.0	2.4 J
Styrene	1.4	0.44 J	5.9	1.9 J
Cumene	1.4	4.2	6.8	20
4-Ethyltoluene	1.4	0.37 J	6.8	1.8 J
1,3,5-Trimethylbenzene	1.4	0.24 J	6.8	1.2 J
1,2,4-Trimethylbenzene	1.4	0.53 J	6.8	2.6 J

eurofins | Air Toxics

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

Client Sample ID: VMP-4-5-081412

Lab ID#: 1208352A-04A

1,4-Dichlorobenzene	1.4	~~0.32 J~~ U	8.3	~~1.9 J~~ U
Butane	5.5	130	13	320
Isopentane	5.5	180	16	550

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Pentane	109-66-0	9.0%	160 NJ
Unknown	NA	NA	54 J
1,3-Pentadiene, 2,4-dimethyl-	1000-86-8	74%	45 NJ
Decane, 2,2,5-trimethyl-	62237-96-1	50%	74 NJ
Tetradecane, 2,5-dimethyl-	56292-69-4	72%	86 NJ
Unknown	NA	NA	230 J
Unknown	NA	NA	82 J
Cyclohexane, 1,1,2-trimethyl-	7094-26-0	62%	220 NJ
Ethanone, 1-phenyl-	98-86-2	91%	56 NJ
Unknown	NA	NA	44 J

Client Sample ID: VMP-11-5-081512

Lab ID#: 1208352A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.57 J J	5.7	2.8 J J
Freon 11	1.2	0.26 J	6.5	1.5 J
Acetone	12	3.4 J	27	8.1 J
2-Propanol	4.6	1.2 J	11	2.8 J
Carbon Disulfide	4.6	~~1.2 J~~ U	14	~~3.9 J~~ U
Methylene Chloride	12	0.49 J	40	1.7 J
Cyclohexane	1.2	0.31 J	4.0	1.1 J
2,2,4-Trimethylpentane	1.2	0.73 J	5.4	3.4 J
Benzene	1.2	0.35 J	3.7	1.1 J
Trichloroethene	1.2	0.40 J	6.2	2.2 J
Toluene	1.2	~~0.17 J~~ U	4.3	~~0.64 J~~ U
Chlorobenzene	1.2	~~0.71 J~~ U	5.3	~~3.3 J~~ U

eurofins | Air Toxics

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

Client Sample ID: VMP-11-5-081512

Lab ID#: 1208352A-05A

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	5.9 J

Client Sample ID: VMP-13-5-081512

Lab ID#: 1208352A-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.68 J	6.1	3.3 J
Freon 11	1.2	0.32 J	6.9	1.8 J
Ethanol	4.9	2.6 J	9.3	4.9 J
Acetone	12	6.7 J	29	16 J
Carbon Disulfide	4.9	2.7 J	15	8.3 J
2-Butanone (Methyl Ethyl Ketone)	4.9	1.2 J	14	3.4 J
Chloroform	1.2	0.87 J	6.0	4.3 J
2,2,4-Trimethylpentane	1.2	1.6	5.7	7.3
Benzene	1.2	1.5	3.9	4.8
Heptane	1.2	0.38 J	5.0	1.6 J
Trichloroethene	1.2	3.5	6.6	19
Toluene	1.2	~~0.34 J~~	4.6	~~1.3 J~~
Chlorobenzene	1.2	~~0.90 J~~	5.7	~~4.2 J~~
1,2,4-Trimethylbenzene	1.2	0.22 J	6.0	1.1 J
1,4-Dichlorobenzene	1.2	~~0.18 J~~	7.4	~~1.0 J~~
Isopentane	4.9	2.0 J	14	5.9 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
2-Oxetanone, 4,4-dimethyl-	1823-52-5	83%	14 NJ
Nonane, 3-methyl-	5911-04-6	50%	6.8 NJ

Client Sample ID: VMP-10-5-081512

Lab ID#: 1208352A-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)

eurofins | Air Toxics

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

Client Sample ID: VMP-10-5-081512

Lab ID#: 1208352A-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.96	0.70 J	4.8	3.5 J
Freon 11	0.96	0.35 J	5.4	2.0 J
Ethanol	3.9	3.8 J	7.3	7.2 J
Acetone	9.6	8.3 J	23	20 J
2-Propanol	3.9	0.63 J	9.5	1.5 J
Carbon Disulfide	3.9	~~1.4 J~~	12	~~4.3 J~~
Methylene Chloride	9.6	0.40 J	34	1.4 J
Hexane	0.96	0.36 J	3.4	1.3 J
Cyclohexane	0.96	0.51 J	3.3	1.7 J
2,2,4-Trimethylpentane	0.96	0.29 J	4.5	1.4 J
Benzene	0.96	0.23 J	3.1	0.73 J
Trichloroethene	0.96	0.87 J	5.2	4.7 J
Toluene	0.96	0.26 J	3.6	0.98 J
Chlorobenzene	0.96	~~0.81 J~~	4.4	~~3.7 J~~
Ethyl Benzene	0.96	~~0.15 J~~	4.2	~~0.67 J~~
1,3-Dichlorobenzene	0.96	0.24 J	5.8	1.5 J
1,4-Dichlorobenzene	0.96	~~0.23 J~~	5.8	~~1.4 J~~
alpha-Chlorotoluene	0.96	0.30 J	5.0	1.6 J
1,2-Dichlorobenzene	0.96	~~0.18 J~~	5.8	~~1.1 J~~
Butane	3.9	2.1 J	9.2	4.9 J
Isopentane	3.9	2.0 J	11	5.8 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
1-Propene, 2-methyl-	115-11-7	59%	14 NJ
Acetic acid	64-19-7	64%	9.4 NJ

eurofins | Air Toxics

Client Sample ID: VMP-21-5-081412

Lab ID#: 1208352A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082326	Date of Collection:	8/14/12 11:17:00 AM
Dil. Factor:	1.91	Date of Analysis:	8/23/12 10:18 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.96	0.54 J J	4.7	2.7 J J
Freon 114	0.96	Not Detected	6.7	Not Detected
Chloromethane	9.6	Not Detected	20	Not Detected
Vinyl Chloride	0.96	Not Detected	2.4	Not Detected
1,3-Butadiene	0.96	Not Detected	2.1	Not Detected
Bromomethane	9.6	Not Detected	37	Not Detected
Chloroethane	3.8	Not Detected	10	Not Detected
Freon 11	0.96	0.27 J	5.4	1.5 J
Ethanol	3.8	2.0 J	7.2	3.7 J
Freon 113	0.96	Not Detected	7.3	Not Detected
1,1-Dichloroethene	0.96	Not Detected	3.8	Not Detected
Acetone	9.6	8.0 J	23	19 J
2-Propanol	3.8	Not Detected	9.4	Not Detected
Carbon Disulfide	3.8	~~1.8 J~~ U	12	~~5.5 J~~ U
3-Chloropropene	3.8	Not Detected	12	Not Detected
Methylene Chloride	9.6	0.33 J	33	1.2 J
Methyl tert-butyl ether	0.96	Not Detected	3.4	Not Detected
trans-1,2-Dichloroethene	0.96	Not Detected	3.8	Not Detected
Hexane	0.96	0.28 J	3.4	0.98 J
1,1-Dichloroethane	0.96	Not Detected	3.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.8	2.1 J	11	6.2 J
cis-1,2-Dichloroethene	0.96	Not Detected	3.8	Not Detected
Tetrahydrofuran	0.96	0.56 J	2.8	1.6 J
Chloroform	0.96	Not Detected	4.7	Not Detected
1,1,1-Trichloroethane	0.96	Not Detected	5.2	Not Detected
Cyclohexane	0.96	Not Detected	3.3	Not Detected
Carbon Tetrachloride	0.96	Not Detected	6.0	Not Detected
2,2,4-Trimethylpentane	0.96	0.39 J	4.5	1.8 J
Benzene	0.96	0.99	3.0	3.2
1,2-Dichloroethane	0.96	Not Detected	3.9	Not Detected
Heptane	0.96	0.58 J	3.9	2.4 J
Trichloroethene	0.96	1.2	5.1	6.3
1,2-Dichloropropane	0.96	Not Detected	4.4	Not Detected
1,4-Dioxane	3.8	Not Detected	14	Not Detected
Bromodichloromethane	0.96	Not Detected	6.4	Not Detected
cis-1,3-Dichloropropene	0.96	Not Detected	4.3	Not Detected
4-Methyl-2-pentanone	0.96	Not Detected	3.9	Not Detected
Toluene	0.96	~~0.29 J~~ U	3.6	~~1.1 J~~ U
trans-1,3-Dichloropropene	0.96	Not Detected	4.3	Not Detected
1,1,2-Trichloroethane	0.96	Not Detected	5.2	Not Detected
Tetrachloroethene	0.96	~~0.36 J~~ U	6.5	~~2.4 J~~ U
2-Hexanone	3.8	Not Detected	16	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-21-5-081412

Lab ID#: 1208352A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082326**	**Date of Collection: 8/14/12 11:17:00 AM**	
Dil. Factor:	**1.91**	**Date of Analysis: 8/23/12 10:18 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.96	Not Detected	8.1	Not Detected
1,2-Dibromoethane (EDB)	0.96	Not Detected	7.3	Not Detected
Chlorobenzene	0.96	0.73 J	4.4	3.4 J
Ethyl Benzene	0.96	Not Detected	4.1	Not Detected
m,p-Xylene	0.96	0.26 J	4.1	1.1 J
o-Xylene	0.96	Not Detected	4.1	Not Detected
Styrene	0.96	Not Detected	4.1	Not Detected
Bromoform	0.96	Not Detected	9.9	Not Detected
Cumene	0.96	~~0.28 J~~ VI	4.7	~~1.4 J~~ VI
1,1,2,2-Tetrachloroethane	0.96	Not Detected	6.6	Not Detected
Propylbenzene	0.96	0.82 J	4.7	4.0 J
4-Ethyltoluene	0.96	3.6	4.7	17
1,3,5-Trimethylbenzene	0.96	1.2	4.7	6.1
1,2,4-Trimethylbenzene	0.96	2.1	4.7	10
1,3-Dichlorobenzene	0.96	0.24 J	5.7	1.4 J
1,4-Dichlorobenzene	0.96	~~0.17 J~~ VI	5.7	~~1.0 J~~ VI
alpha-Chlorotoluene	0.96	Not Detected	4.9	Not Detected
1,2-Dichlorobenzene	0.96	Not Detected	5.7	Not Detected
1,2,4-Trichlorobenzene	3.8	Not Detected	28	Not Detected
Hexachlorobutadiene	3.8	Not Detected	41	Not Detected
Butane	3.8	Not Detected	9.1	Not Detected
Isopentane	3.8	Not Detected	11	Not Detected
Ethyl Acetate	3.8	Not Detected	14	Not Detected
Propylene	3.8	Not Detected	6.6	Not Detected
Vinyl Acetate	3.8	Not Detected	13	Not Detected
Vinyl Bromide	3.8	Not Detected	17	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Unknown	NA	NA	6.0 J
Unknown	NA	NA	5.2 J

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	112	70-130
4-Bromofluorobenzene	106	70-130

eurofins | Air Toxics

Client Sample ID: VMP-21-5-081412-DUP

Lab ID#: 1208352A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082322**	**Date of Collection:**	**8/14/12 11:17:00 AM**
Dil. Factor:	**2.35**	**Date of Analysis:**	**8/23/12 07:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.79 J J	5.8	3.9 J J
Freon 114	1.2	Not Detected	8.2	Not Detected
Chloromethane	12	Not Detected	24	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,3-Butadiene	1.2	Not Detected	2.6	Not Detected
Bromomethane	12	Not Detected	46	Not Detected
Chloroethane	4.7	Not Detected	12	Not Detected
Freon 11	1.2	0.40 J	6.6	2.3 J
Ethanol	4.7	Not Detected	8.8	Not Detected
Freon 113	1.2	Not Detected	9.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Acetone	12	4.5 J	28	11 J
2-Propanol	4.7	Not Detected	12	Not Detected
Carbon Disulfide	4.7	2.6 J	15	8.0 J
3-Chloropropene	4.7	Not Detected	15	Not Detected
Methylene Chloride	12	0.60 J	41	2.1 J
Methyl tert-butyl ether	1.2	Not Detected	4.2	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Hexane	1.2	Not Detected	4.1	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.7	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.5	Not Detected
Chloroform	1.2	Not Detected	5.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Cyclohexane	1.2	Not Detected	4.0	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.4	Not Detected
2,2,4-Trimethylpentane	1.2	0.40 J	5.5	1.9 J
Benzene	1.2	0.53 J	3.8	1.7 J
1,2-Dichloroethane	1.2	Not Detected	4.8	Not Detected
Heptane	1.2	1.3	4.8	5.5
Trichloroethene	1.2	0.94 J	6.3	5.0 J
1,2-Dichloropropane	1.2	Not Detected	5.4	Not Detected
1,4-Dioxane	4.7	Not Detected	17	Not Detected
Bromodichloromethane	1.2	Not Detected	7.9	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.8	Not Detected
Toluene	1.2	~~0.22 J~~ U	4.4	~~0.84 J~~ U
trans-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	Not Detected	8.0	Not Detected
2-Hexanone	4.7	Not Detected	19	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-21-5-081412-DUP

Lab ID#: 1208352A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082322**	**Date of Collection: 8/14/12 11:17:00 AM**	
Dil. Factor:	**2.35**	**Date of Analysis: 8/23/12 07:38 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.0	Not Detected
Chlorobenzene	1.2	~~0.83 J~~ U	5.4	~~3.8 J~~ U
Ethyl Benzene	1.2	Not Detected	5.1	Not Detected
m,p-Xylene	1.2	0.24 J	5.1	1.0 J
o-Xylene	1.2	0.22 J	5.1	0.97 J
Styrene	1.2	Not Detected	5.0	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	~~0.30 J~~ U	5.8	~~1.5 J~~ U
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.1	Not Detected
Propylbenzene	1.2	0.92 J	5.8	4.5 J
4-Ethyltoluene	1.2	3.6	5.8	18
1,3,5-Trimethylbenzene	1.2	1.1 J	5.8	5.3 J
1,2,4-Trimethylbenzene	1.2	1.9	5.8	9.5
1,3-Dichlorobenzene	1.2	Not Detected	7.1	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.1	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.1	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.1	Not Detected
1,2,4-Trichlorobenzene	4.7	Not Detected	35	Not Detected
Hexachlorobutadiene	4.7	Not Detected	50	Not Detected
Butane	4.7	Not Detected	11	Not Detected
Isopentane	4.7	Not Detected	14	Not Detected
Ethyl Acetate	4.7	Not Detected	17	Not Detected
Propylene	4.7	Not Detected	8.1	Not Detected
Vinyl Acetate	4.7	Not Detected	16	Not Detected
Vinyl Bromide	4.7	Not Detected	20	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Unknown	NA	NA	7.4 J
Unknown	NA	NA	7.6 J

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	93	70-130
1,2-Dichloroethane-d4	121	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: VMP-42-10-081412

Lab ID#: 1208352A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082320	**Date of Collection:**	8/14/12 12:07:00 PM
Dil. Factor:	2.01	**Date of Analysis:**	8/23/12 06:55 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.0	0.70 J	5.0	3.5 J
Freon 114	1.0	Not Detected	7.0	Not Detected
Chloromethane	10	Not Detected	21	Not Detected
Vinyl Chloride	1.0	Not Detected	2.6	Not Detected
1,3-Butadiene	1.0	Not Detected	2.2	Not Detected
Bromomethane	10	Not Detected	39	Not Detected
Chloroethane	4.0	Not Detected	11	Not Detected
Freon 11	1.0	0.27 J	5.6	1.5 J
Ethanol	4.0	15	7.6	29
Freon 113	1.0	Not Detected	7.7	Not Detected
1,1-Dichloroethene	1.0	Not Detected	4.0	Not Detected
Acetone	10	13	24	32
2-Propanol	4.0	14	9.9	35
Carbon Disulfide	4.0	~~0.98 J~~ U	12	~~3.1 J~~ U
3-Chloropropene	4.0	Not Detected	12	Not Detected
Methylene Chloride	10	0.58 J	35	2.0 J
Methyl tert-butyl ether	1.0	Not Detected	3.6	Not Detected
trans-1,2-Dichloroethene	1.0	Not Detected	4.0	Not Detected
Hexane	1.0	0.41 J	3.5	1.4 J
1,1-Dichloroethane	1.0	Not Detected	4.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.0	6.8	12	20
cis-1,2-Dichloroethene	1.0	Not Detected	4.0	Not Detected
Tetrahydrofuran	1.0	Not Detected	3.0	Not Detected
Chloroform	1.0	0.70 J	4.9	3.4 J
1,1,1-Trichloroethane	1.0	Not Detected	5.5	Not Detected
Cyclohexane	1.0	0.54 J	3.4	1.8 J
Carbon Tetrachloride	1.0	Not Detected	6.3	Not Detected
2,2,4-Trimethylpentane	1.0	3.7	4.7	17
Benzene	1.0	1.8	3.2	5.7
1,2-Dichloroethane	1.0	0.14 J	4.1	0.58 J
Heptane	1.0	0.87 J	4.1	3.6 J
Trichloroethene	1.0	0.74 J	5.4	4.0 J
1,2-Dichloropropane	1.0	Not Detected	4.6	Not Detected
1,4-Dioxane	4.0	Not Detected	14	Not Detected
Bromodichloromethane	1.0	Not Detected	6.7	Not Detected
cis-1,3-Dichloropropene	1.0	Not Detected	4.6	Not Detected
4-Methyl-2-pentanone	1.0	28	4.1	110
Toluene	1.0	8.1	3.8	31
trans-1,3-Dichloropropene	1.0	Not Detected	4.6	Not Detected
1,1,2-Trichloroethane	1.0	Not Detected	5.5	Not Detected
Tetrachloroethene	1.0	Not Detected	6.8	Not Detected
2-Hexanone	4.0	Not Detected	16	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-42-10-081412

Lab ID#: 1208352A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082320**	**Date of Collection:**	**8/14/12 12:07:00 PM**
Dil. Factor:	**2.01**	**Date of Analysis:**	**8/23/12 06:55 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.0	Not Detected	8.6	Not Detected
1,2-Dibromoethane (EDB)	1.0	Not Detected	7.7	Not Detected
Chlorobenzene	1.0	~~0.65 J~~ J	4.6	~~3.0 J~~ J
Ethyl Benzene	1.0	~~0.51 J~~ J	4.4	~~2.2 J~~ J
m,p-Xylene	1.0	1.3	4.4	5.7
o-Xylene	1.0	0.53 J	4.4	2.3 J
Styrene	1.0	0.33 J	4.3	1.4 J
Bromoform	1.0	Not Detected	10	Not Detected
Cumene	1.0	5.2	4.9	25
1,1,2,2-Tetrachloroethane	1.0	Not Detected	6.9	Not Detected
Propylbenzene	1.0	0.20 J	4.9	0.99 J
4-Ethyltoluene	1.0	0.42 J	4.9	2.1 J
1,3,5-Trimethylbenzene	1.0	0.25 J	4.9	1.2 J
1,2,4-Trimethylbenzene	1.0	0.59 J	4.9	2.9 J
1,3-Dichlorobenzene	1.0	0.26 J	6.0	1.6 J
1,4-Dichlorobenzene	1.0	~~0.36 J~~ J	6.0	~~2.1 J~~ J
alpha-Chlorotoluene	1.0	Not Detected	5.2	Not Detected
1,2-Dichlorobenzene	1.0	Not Detected	6.0	Not Detected
1,2,4-Trichlorobenzene	4.0	Not Detected	30	Not Detected
Hexachlorobutadiene	4.0	Not Detected	43	Not Detected
Butane	4.0	Not Detected	9.6	Not Detected
Isopentane	4.0	Not Detected	12	Not Detected
Ethyl Acetate	4.0	Not Detected	14	Not Detected
Propylene	4.0	Not Detected	6.9	Not Detected
Vinyl Acetate	4.0	Not Detected	14	Not Detected
Vinyl Bromide	4.0	Not Detected	18	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Unknown	NA	NA	18 J
Oxirane, 2,3-dimethyl-	3266-23-7	53%	57 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	59%	75 NJ
Hexane, 2,2,5,5-tetramethyl-	1071-81-4	53%	20 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	72%	76 NJ
Unknown	NA	NA	18 J
Decane, 2,2,9-trimethyl-	62238-00-0	72%	200 NJ
1-Pentanol, 4-methyl-2-propyl-	54004-41-0	56%	130 NJ
Ethanone, 1-phenyl-	98-86-2	91%	55 NJ
Unknown	NA	NA	35 J

eurofins | Air Toxics

Client Sample ID: VMP-42-10-081412

Lab ID#: 1208352A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082320**	**Date of Collection: 8/14/12 12:07:00 PM**
Dil. Factor:	**2.01**	**Date of Analysis: 8/23/12 06:55 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	113	70-130
4-Bromofluorobenzene	98	70-130

eurofins | Air Toxics

Client Sample ID: VMP-4-5-081412

Lab ID#: 1208352A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082323**	**Date of Collection: 8/14/12 12:57:00 PM**	
Dil. Factor:	**2.76**	**Date of Analysis: 8/23/12 08:31 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.60 J	6.8	3.0 J
Freon 114	1.4	Not Detected	9.6	Not Detected
Chloromethane	14	Not Detected	28	Not Detected
Vinyl Chloride	1.4	Not Detected	3.5	Not Detected
1,3-Butadiene	1.4	Not Detected	3.0	Not Detected
Bromomethane	14	Not Detected	54	Not Detected
Chloroethane	5.5	Not Detected	14	Not Detected
Freon 11	1.4	Not Detected	7.8	Not Detected
Ethanol	5.5	52	10	97
Freon 113	1.4	Not Detected	10	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.5	Not Detected
Acetone	14	48	33	110
2-Propanol	5.5	9.8	14	24
Carbon Disulfide	5.5	3.4 J	17	11 J
3-Chloropropene	5.5	Not Detected	17	Not Detected
Methylene Chloride	14	Not Detected	48	Not Detected
Methyl tert-butyl ether	1.4	Not Detected	5.0	Not Detected
trans-1,2-Dichloroethene	1.4	Not Detected	5.5	Not Detected
Hexane	1.4	68	4.9	240
1,1-Dichloroethane	1.4	Not Detected	5.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.5	11	16	33
cis-1,2-Dichloroethene	1.4	Not Detected	5.5	Not Detected
Tetrahydrofuran	1.4	Not Detected	4.1	Not Detected
Chloroform	1.4	Not Detected	6.7	Not Detected
1,1,1-Trichloroethane	1.4	Not Detected	7.5	Not Detected
Cyclohexane	1.4	14	4.8	48
Carbon Tetrachloride	1.4	Not Detected	8.7	Not Detected
2,2,4-Trimethylpentane	1.4	11	6.4	52
Benzene	1.4	2.8	4.4	8.9
1,2-Dichloroethane	1.4	0.18 J	5.6	0.72 J
Heptane	1.4	3.6	5.6	15
Trichloroethene	1.4	0.89 J	7.4	4.8 J
1,2-Dichloropropane	1.4	Not Detected	6.4	Not Detected
1,4-Dioxane	5.5	Not Detected	20	Not Detected
Bromodichloromethane	1.4	Not Detected	9.2	Not Detected
cis-1,3-Dichloropropene	1.4	Not Detected	6.3	Not Detected
4-Methyl-2-pentanone	1.4	20	5.6	80
Toluene	1.4	7.7	5.2	29
trans-1,3-Dichloropropene	1.4	Not Detected	6.3	Not Detected
1,1,2-Trichloroethane	1.4	Not Detected	7.5	Not Detected
Tetrachloroethene	1.4	Not Detected	9.4	Not Detected
2-Hexanone	5.5	Not Detected	23	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-4-5-081412

Lab ID#: 1208352A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082323	Date of Collection:	8/14/12 12:57:00 PM
Dil. Factor:	2.76	Date of Analysis:	8/23/12 08:31 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	~~0.77 J~~ U	6.4	~~3.6 J~~ U
Ethyl Benzene	1.4	0.78 J	6.0	3.4 J
m,p-Xylene	1.4	1.8	6.0	7.8
o-Xylene	1.4	0.56 J	6.0	2.4 J
Styrene	1.4	0.44 J	5.9	1.9 J
Bromoform	1.4	Not Detected	14	Not Detected
Cumene	1.4	4.2	6.8	20
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.5	Not Detected
Propylbenzene	1.4	Not Detected	6.8	Not Detected
4-Ethyltoluene	1.4	0.37 J	6.8	1.8 J
1,3,5-Trimethylbenzene	1.4	0.24 J	6.8	1.2 J
1,2,4-Trimethylbenzene	1.4	0.53 J	6.8	2.6 J
1,3-Dichlorobenzene	1.4	Not Detected	8.3	Not Detected
1,4-Dichlorobenzene	1.4	~~0.32 J~~ U	8.3	~~1.9 J~~ U
alpha-Chlorotoluene	1.4	Not Detected	7.1	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.3	Not Detected
1,2,4-Trichlorobenzene	5.5	Not Detected	41	Not Detected
Hexachlorobutadiene	5.5	Not Detected	59	Not Detected
Butane	5.5	130	13	320
Isopentane	5.5	180	16	550
Ethyl Acetate	5.5	Not Detected	20	Not Detected
Propylene	5.5	Not Detected	9.5	Not Detected
Vinyl Acetate	5.5	Not Detected	19	Not Detected
Vinyl Bromide	5.5	Not Detected	24	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Pentane	109-66-0	9.0%	160 NJ
Unknown	NA	NA	54 J
1,3-Pentadiene, 2,4-dimethyl-	1000-86-8	74%	45 NJ
Decane, 2,2,5-trimethyl-	62237-96-1	50%	74 NJ
Tetradecane, 2,5-dimethyl-	56292-69-4	72%	86 NJ
Unknown	NA	NA	230 J
Unknown	NA	NA	82 J
Cyclohexane, 1,1,2-trimethyl-	7094-26-0	62%	220 NJ
Ethanone, 1-phenyl-	98-86-2	91%	56 NJ
Unknown	NA	NA	44 J

eurofins | Air Toxics

Client Sample ID: VMP-4-5-081412

Lab ID#: 1208352A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082323**	**Date of Collection: 8/14/12 12:57:00 PM**
Dil. Factor:	**2.76**	**Date of Analysis: 8/23/12 08:31 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	114	70-130
4-Bromofluorobenzene	106	70-130

eurofins | Air Toxics

Client Sample ID: VMP-11-5-081512

Lab ID#: 1208352A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082324**	**Date of Collection:**	**8/15/12 9:23:00 AM**
Dil. Factor:	**2.30**	**Date of Analysis:**	**8/23/12 09:28 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.57 J	5.7	2.8 J
Freon 114	1.2	Not Detected	8.0	Not Detected
Chloromethane	12	Not Detected	24	Not Detected
Vinyl Chloride	1.2	Not Detected	2.9	Not Detected
1,3-Butadiene	1.2	Not Detected	2.5	Not Detected
Bromomethane	12	Not Detected	45	Not Detected
Chloroethane	4.6	Not Detected	12	Not Detected
Freon 11	1.2	0.26 J	6.5	1.5 J
Ethanol	4.6	Not Detected	8.7	Not Detected
Freon 113	1.2	Not Detected	8.8	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Acetone	12	3.4 J	27	8.1 J
2-Propanol	4.6	1.2 J	11	2.8 J
Carbon Disulfide	4.6	~~1.2 J~~ U	14	~~3.9 J~~ U
3-Chloropropene	4.6	Not Detected	14	Not Detected
Methylene Chloride	12	0.49 J	40	1.7 J
Methyl tert-butyl ether	1.2	Not Detected	4.1	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Hexane	1.2	Not Detected	4.0	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.6	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.4	Not Detected
Chloroform	1.2	Not Detected	5.6	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.3	Not Detected
Cyclohexane	1.2	0.31 J	4.0	1.1 J
Carbon Tetrachloride	1.2	Not Detected	7.2	Not Detected
2,2,4-Trimethylpentane	1.2	0.73 J	5.4	3.4 J
Benzene	1.2	0.35 J	3.7	1.1 J
1,2-Dichloroethane	1.2	Not Detected	4.6	Not Detected
Heptane	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	0.40 J	6.2	2.2 J
1,2-Dichloropropane	1.2	Not Detected	5.3	Not Detected
1,4-Dioxane	4.6	Not Detected	16	Not Detected
Bromodichloromethane	1.2	Not Detected	7.7	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.2	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.7	Not Detected
Toluene	1.2	~~0.17 J~~ U	4.3	~~0.64 J~~ U
trans-1,3-Dichloropropene	1.2	Not Detected	5.2	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.3	Not Detected
Tetrachloroethene	1.2	Not Detected	7.8	Not Detected
2-Hexanone	4.6	Not Detected	19	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-11-5-081512

Lab ID#: 1208352A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082324**	**Date of Collection:**	**8/15/12 9:23:00 AM**
Dil. Factor:	**2.30**	**Date of Analysis:**	**8/23/12 09:28 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	9.8	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	8.8	Not Detected
Chlorobenzene	1.2	~~0.71 J~~ U	5.3	~~3.3 J~~ U
Ethyl Benzene	1.2	Not Detected	5.0	Not Detected
m,p-Xylene	1.2	Not Detected	5.0	Not Detected
o-Xylene	1.2	Not Detected	5.0	Not Detected
Styrene	1.2	Not Detected	4.9	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.6	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	7.9	Not Detected
Propylbenzene	1.2	Not Detected	5.6	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.6	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.6	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	5.6	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	6.9	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	6.9	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.0	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	6.9	Not Detected
1,2,4-Trichlorobenzene	4.6	Not Detected	34	Not Detected
Hexachlorobutadiene	4.6	Not Detected	49	Not Detected
Butane	4.6	Not Detected	11	Not Detected
Isopentane	4.6	Not Detected	14	Not Detected
Ethyl Acetate	4.6	Not Detected	16	Not Detected
Propylene	4.6	Not Detected	7.9	Not Detected
Vinyl Acetate	4.6	Not Detected	16	Not Detected
Vinyl Bromide	4.6	Not Detected	20	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Unknown	NA	NA	5.9 J

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	111	70-130

eurofins | Air Toxics

Client Sample ID: VMP-13-5-081512

Lab ID#: 1208352A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082325**	**Date of Collection: 8/15/12 10:31:00 AM**	
Dil. Factor:	**2.46**	**Date of Analysis: 8/23/12 09:55 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.68 J	6.1	3.3 J
Freon 114	1.2	Not Detected	8.6	Not Detected
Chloromethane	12	Not Detected	25	Not Detected
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,3-Butadiene	1.2	Not Detected	2.7	Not Detected
Bromomethane	12	Not Detected	48	Not Detected
Chloroethane	4.9	Not Detected	13	Not Detected
Freon 11	1.2	0.32 J	6.9	1.8 J
Ethanol	4.9	2.6 J	9.3	4.9 J
Freon 113	1.2	Not Detected	9.4	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Acetone	12	6.7 J	29	16 J
2-Propanol	4.9	Not Detected	12	Not Detected
Carbon Disulfide	4.9	2.7 J	15	8.3 J
3-Chloropropene	4.9	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	43	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.4	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Hexane	1.2	Not Detected	4.3	Not Detected
1,1-Dichloroethane	1.2	Not Detected	5.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.9	1.2 J	14	3.4 J
cis-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.6	Not Detected
Chloroform	1.2	0.87 J	6.0	4.3 J
1,1,1-Trichloroethane	1.2	Not Detected	6.7	Not Detected
Cyclohexane	1.2	Not Detected	4.2	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.7	Not Detected
2,2,4-Trimethylpentane	1.2	1.6	5.7	7.3
Benzene	1.2	1.5	3.9	4.8
1,2-Dichloroethane	1.2	Not Detected	5.0	Not Detected
Heptane	1.2	0.38 J	5.0	1.6 J
Trichloroethene	1.2	3.5	6.6	19
1,2-Dichloropropane	1.2	Not Detected	5.7	Not Detected
1,4-Dioxane	4.9	Not Detected	18	Not Detected
Bromodichloromethane	1.2	Not Detected	8.2	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.6	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	5.0	Not Detected
Toluene	1.2	~~0.34 J~~	4.6	~~1.3 J~~
trans-1,3-Dichloropropene	1.2	Not Detected	5.6	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.7	Not Detected
Tetrachloroethene	1.2	Not Detected	8.3	Not Detected
2-Hexanone	4.9	Not Detected	20	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-13-5-081512

Lab ID#: 1208352A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082325**	**Date of Collection: 8/15/12 10:31:00 AM**	
Dil. Factor:	**2.46**	**Date of Analysis: 8/23/12 09:55 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.4	Not Detected
Chlorobenzene	1.2	~~0.90 J~~	5.7	~~4.2 J~~
Ethyl Benzene	1.2	Not Detected	5.3	Not Detected
m,p-Xylene	1.2	Not Detected	5.3	Not Detected
o-Xylene	1.2	Not Detected	5.3	Not Detected
Styrene	1.2	Not Detected	5.2	Not Detected
Bromoform	1.2	Not Detected	13	Not Detected
Cumene	1.2	Not Detected	6.0	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.4	Not Detected
Propylbenzene	1.2	Not Detected	6.0	Not Detected
4-Ethyltoluene	1.2	Not Detected	6.0	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	6.0	Not Detected
1,2,4-Trimethylbenzene	1.2	0.22 J	6.0	1.1 J
1,3-Dichlorobenzene	1.2	Not Detected	7.4	Not Detected
1,4-Dichlorobenzene	1.2	~~0.18 J~~	7.4	~~1.0 J~~
alpha-Chlorotoluene	1.2	Not Detected	6.4	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.4	Not Detected
1,2,4-Trichlorobenzene	4.9	Not Detected	36	Not Detected
Hexachlorobutadiene	4.9	Not Detected	52	Not Detected
Butane	4.9	Not Detected	12	Not Detected
Isopentane	4.9	2.0 J	14	5.9 J
Ethyl Acetate	4.9	Not Detected	18	Not Detected
Propylene	4.9	Not Detected	8.5	Not Detected
Vinyl Acetate	4.9	Not Detected	17	Not Detected
Vinyl Bromide	4.9	Not Detected	22	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
2-Oxetanone, 4,4-dimethyl-	1823-52-5	83%	14 NJ
Nonane, 3-methyl-	5911-04-6	50%	6.8 NJ

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	120	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: VMP-13-5-081512

Lab ID#: 1208352A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082325	Date of Collection: 8/15/12 10:31:00 AM
Dil. Factor:	2.46	Date of Analysis: 8/23/12 09:55 PM

eurofins | Air Toxics

Client Sample ID: VMP-10-5-081512

Lab ID#: 1208352A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082319**	**Date of Collection: 8/15/12 11:23:00 AM**	
Dil. Factor:	**1.93**	**Date of Analysis: 8/23/12 06:30 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.96	0.70 J	4.8	3.5 J
Freon 114	0.96	Not Detected	6.7	Not Detected
Chloromethane	9.6	Not Detected	20	Not Detected
Vinyl Chloride	0.96	Not Detected	2.5	Not Detected
1,3-Butadiene	0.96	Not Detected	2.1	Not Detected
Bromomethane	9.6	Not Detected	37	Not Detected
Chloroethane	3.9	Not Detected	10	Not Detected
Freon 11	0.96	0.35 J	5.4	2.0 J
Ethanol	3.9	3.8 J	7.3	7.2 J
Freon 113	0.96	Not Detected	7.4	Not Detected
1,1-Dichloroethene	0.96	Not Detected	3.8	Not Detected
Acetone	9.6	8.3 J	23	20 J
2-Propanol	3.9	0.63 J	9.5	1.5 J
Carbon Disulfide	3.9	~~1.4 J~~ U	12	~~4.3 J~~ U
3-Chloropropene	3.9	Not Detected	12	Not Detected
Methylene Chloride	9.6	0.40 J	34	1.4 J
Methyl tert-butyl ether	0.96	Not Detected	3.5	Not Detected
trans-1,2-Dichloroethene	0.96	Not Detected	3.8	Not Detected
Hexane	0.96	0.36 J	3.4	1.3 J
1,1-Dichloroethane	0.96	Not Detected	3.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.9	Not Detected	11	Not Detected
cis-1,2-Dichloroethene	0.96	Not Detected	3.8	Not Detected
Tetrahydrofuran	0.96	Not Detected	2.8	Not Detected
Chloroform	0.96	Not Detected	4.7	Not Detected
1,1,1-Trichloroethane	0.96	Not Detected	5.3	Not Detected
Cyclohexane	0.96	0.51 J	3.3	1.7 J
Carbon Tetrachloride	0.96	Not Detected	6.1	Not Detected
2,2,4-Trimethylpentane	0.96	0.29 J	4.5	1.4 J
Benzene	0.96	0.23 J	3.1	0.73 J
1,2-Dichloroethane	0.96	Not Detected	3.9	Not Detected
Heptane	0.96	Not Detected	4.0	Not Detected
Trichloroethene	0.96	0.87 J	5.2	4.7 J
1,2-Dichloropropane	0.96	Not Detected	4.4	Not Detected
1,4-Dioxane	3.9	Not Detected	14	Not Detected
Bromodichloromethane	0.96	Not Detected	6.5	Not Detected
cis-1,3-Dichloropropene	0.96	Not Detected	4.4	Not Detected
4-Methyl-2-pentanone	0.96	Not Detected	4.0	Not Detected
Toluene	0.96	~~0.26 J~~ U	3.6	~~0.98 J~~ U
trans-1,3-Dichloropropene	0.96	Not Detected	4.4	Not Detected
1,1,2-Trichloroethane	0.96	Not Detected	5.3	Not Detected
Tetrachloroethene	0.96	Not Detected	6.5	Not Detected
2-Hexanone	3.9	Not Detected	16	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-10-5-081512

Lab ID#: 1208352A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082319**	**Date of Collection: 8/15/12 11:23:00 AM**	
Dil. Factor:	**1.93**	**Date of Analysis: 8/23/12 06:30 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.96	Not Detected	8.2	Not Detected
1,2-Dibromoethane (EDB)	0.96	Not Detected	7.4	Not Detected
Chlorobenzene	0.96	~~0.81 J~~	4.4	~~3.7 J~~
Ethyl Benzene	0.96	~~0.15 J~~	4.2	~~0.67 J~~
m,p-Xylene	0.96	Not Detected	4.2	Not Detected
o-Xylene	0.96	Not Detected	4.2	Not Detected
Styrene	0.96	Not Detected	4.1	Not Detected
Bromoform	0.96	Not Detected	10	Not Detected
Cumene	0.96	Not Detected	4.7	Not Detected
1,1,2,2-Tetrachloroethane	0.96	Not Detected	6.6	Not Detected
Propylbenzene	0.96	Not Detected	4.7	Not Detected
4-Ethyltoluene	0.96	Not Detected	4.7	Not Detected
1,3,5-Trimethylbenzene	0.96	Not Detected	4.7	Not Detected
1,2,4-Trimethylbenzene	0.96	Not Detected	4.7	Not Detected
1,3-Dichlorobenzene	0.96	0.24 J	5.8	1.5 J
1,4-Dichlorobenzene	0.96	~~0.23 J~~	5.8	~~1.4 J~~
alpha-Chlorotoluene	0.96	0.30 J	5.0	1.6 J
1,2-Dichlorobenzene	0.96	~~0.18 J~~	5.8	~~1.1 J~~
1,2,4-Trichlorobenzene	3.9	Not Detected	29	Not Detected
Hexachlorobutadiene	3.9	Not Detected	41	Not Detected
Butane	3.9	2.1 J	9.2	4.9 J
Isopentane	3.9	2.0 J	11	5.8 J
Ethyl Acetate	3.9	Not Detected	14	Not Detected
Propylene	3.9	Not Detected	6.6	Not Detected
Vinyl Acetate	3.9	Not Detected	14	Not Detected
Vinyl Bromide	3.9	Not Detected	17	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
1-Propene, 2-methyl-	115-11-7	59%	14 NJ
Acetic acid	64-19-7	64%	9.4 NJ

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	119	70-130
4-Bromofluorobenzene	109	70-130

eurofins | Air Toxics

Client Sample ID: VMP-10-5-081512

Lab ID#: 1208352A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082319	Date of Collection: 8/15/12 11:23:00 AM
Dil. Factor:	1.93	Date of Analysis: 8/23/12 06:30 PM

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208352A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082314c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/23/12 03:15 PM**	

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
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	0.48 J	6.2	1.5 J
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	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	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	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	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	0.14 J	1.9	0.51 J
trans-1,3-Dichloropropene	0.50	0.12 J	2.3	0.55 J
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	0.12 J	3.4	0.83 J
2-Hexanone	2.0	Not Detected	8.2	Not Detected

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208352A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082314c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/23/12 03:15 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	0.40 J	2.3	1.8 J
Ethyl Benzene	0.50	0.12 J	2.2	0.50 J
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	0.069 J	2.4	0.34 J
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	0.13 J	3.0	0.79 J
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	0.12 J	3.0	0.74 J
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
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	97	70-130
1,2-Dichloroethane-d4	106	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1208352A-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082306**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/23/12 11:48 AM**	

Compound	%Recovery
Freon 12	129
Freon 114	120
Chloromethane	95
Vinyl Chloride	88
1,3-Butadiene	80
Bromomethane	100
Chloroethane	92
Freon 11	126
Ethanol	82
Freon 113	118
1,1-Dichloroethene	123
Acetone	74
2-Propanol	94
Carbon Disulfide	97
3-Chloropropene	102
Methylene Chloride	90
Methyl tert-butyl ether	118
trans-1,2-Dichloroethene	110
Hexane	96
1,1-Dichloroethane	100
2-Butanone (Methyl Ethyl Ketone)	106
cis-1,2-Dichloroethene	90
Tetrahydrofuran	90
Chloroform	115
1,1,1-Trichloroethane	126
Cyclohexane	106
Carbon Tetrachloride	126
2,2,4-Trimethylpentane	87
Benzene	98
1,2-Dichloroethane	118
Heptane	118
Trichloroethene	108
1,2-Dichloropropane	84
1,4-Dioxane	105
Bromodichloromethane	116
cis-1,3-Dichloropropene	108
4-Methyl-2-pentanone	90
Toluene	96
trans-1,3-Dichloropropene	112
1,1,2-Trichloroethane	99
Tetrachloroethene	103
2-Hexanone	93

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1208352A-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082306**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/23/12 11:48 AM**	

Compound	%Recovery
Dibromochloromethane	114
1,2-Dibromoethane (EDB)	102
Chlorobenzene	88
Ethyl Benzene	105
m,p-Xylene	110
o-Xylene	104
Styrene	112
Bromoform	116
Cumene	113
1,1,2,2-Tetrachloroethane	98
Propylbenzene	113
4-Ethyltoluene	111
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	113
1,3-Dichlorobenzene	102
1,4-Dichlorobenzene	103
alpha-Chlorotoluene	115
1,2-Dichlorobenzene	107
1,2,4-Trichlorobenzene	110
Hexachlorobutadiene	124
Butane	88
Isopentane	85
Ethyl Acetate	88
Propylene	83
Vinyl Acetate	103
Vinyl Bromide	98

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	118	70-130
4-Bromofluorobenzene	106	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1208352A-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082307**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/23/12 12:20 PM**	

Compound	%Recovery
Freon 12	136 Q
Freon 114	130
Chloromethane	97
Vinyl Chloride	88
1,3-Butadiene	85
Bromomethane	103
Chloroethane	93
Freon 11	128
Ethanol	81
Freon 113	123
1,1-Dichloroethene	134 Q
Acetone	72
2-Propanol	98
Carbon Disulfide	121
3-Chloropropene	127
Methylene Chloride	90
Methyl tert-butyl ether	124
trans-1,2-Dichloroethene	129
Hexane	96
1,1-Dichloroethane	99
2-Butanone (Methyl Ethyl Ketone)	112
cis-1,2-Dichloroethene	96
Tetrahydrofuran	86
Chloroform	117
1,1,1-Trichloroethane	130
Cyclohexane	113
Carbon Tetrachloride	132 Q
2,2,4-Trimethylpentane	88
Benzene	101
1,2-Dichloroethane	113
Heptane	114
Trichloroethene	109
1,2-Dichloropropane	84
1,4-Dioxane	95
Bromodichloromethane	115
cis-1,3-Dichloropropene	106
4-Methyl-2-pentanone	88
Toluene	96
trans-1,3-Dichloropropene	115
1,1,2-Trichloroethane	102
Tetrachloroethene	105
2-Hexanone	89

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1208352A-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082307**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/23/12 12:20 PM**	

Compound	%Recovery
Dibromochloromethane	113
1,2-Dibromoethane (EDB)	102
Chlorobenzene	88
Ethyl Benzene	105
m,p-Xylene	106
o-Xylene	103
Styrene	114
Bromoform	113
Cumene	112
1,1,2,2-Tetrachloroethane	98
Propylbenzene	112
4-Ethyltoluene	100
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	109
1,3-Dichlorobenzene	102
1,4-Dichlorobenzene	102
alpha-Chlorotoluene	112
1,2-Dichlorobenzene	103
1,2,4-Trichlorobenzene	104
Hexachlorobutadiene	118
Butane	88
Isopentane	91
Ethyl Acetate	Not Spiked
Propylene	79
Vinyl Acetate	107
Vinyl Bromide	Not Spiked

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	122	70-130
4-Bromofluorobenzene	109	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1208352A-10AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082308**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/23/12 12:39 PM**	

Compound	%Recovery
Freon 12	123
Freon 114	119
Chloromethane	92
Vinyl Chloride	92
1,3-Butadiene	77
Bromomethane	96
Chloroethane	86
Freon 11	121
Ethanol	76
Freon 113	123
1,1-Dichloroethene	125
Acetone	73
2-Propanol	92
Carbon Disulfide	120
3-Chloropropene	122
Methylene Chloride	85
Methyl tert-butyl ether	121
trans-1,2-Dichloroethene	120
Hexane	92
1,1-Dichloroethane	96
2-Butanone (Methyl Ethyl Ketone)	106
cis-1,2-Dichloroethene	92
Tetrahydrofuran	83
Chloroform	113
1,1,1-Trichloroethane	126
Cyclohexane	112
Carbon Tetrachloride	124
2,2,4-Trimethylpentane	86
Benzene	101
1,2-Dichloroethane	116
Heptane	115
Trichloroethene	113
1,2-Dichloropropane	88
1,4-Dioxane	100
Bromodichloromethane	119
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	87
Toluene	99
trans-1,3-Dichloropropene	112
1,1,2-Trichloroethane	99
Tetrachloroethene	102
2-Hexanone	91

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1208352A-10AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082308**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/23/12 12:39 PM**	

Compound	%Recovery
Dibromochloromethane	111
1,2-Dibromoethane (EDB)	107
Chlorobenzene	89
Ethyl Benzene	106
m,p-Xylene	108
o-Xylene	105
Styrene	113
Bromoform	114
Cumene	115
1,1,2,2-Tetrachloroethane	100
Propylbenzene	115
4-Ethyltoluene	108
1,3,5-Trimethylbenzene	110
1,2,4-Trimethylbenzene	111
1,3-Dichlorobenzene	103
1,4-Dichlorobenzene	103
alpha-Chlorotoluene	113
1,2-Dichlorobenzene	106
1,2,4-Trichlorobenzene	112
Hexachlorobutadiene	122
Butane	80
Isopentane	81
Ethyl Acetate	Not Spiked
Propylene	73
Vinyl Acetate	99
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	111	70-130
4-Bromofluorobenzene	108	70-130

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

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

Print Bill To Contact Name: Robert Macshegian
INCIDENT # (ENV. SERVICES): 9 7 2 1 6 6 4 0
☐ CHECK IF NO INCIDENT # APPLIES
PO #:
SAP #: 3 4 0 0 6 1
DATE: 08/15/12
PAGE: 1 of 1

SHIPPING COMPANY: URS CORPORATION
LOG CODE:
SITE ADDRESS: Street and City: 900 SOUTH CENTRAL AVE – ROXANA
State: IL
GLOBAL ID NO.:
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST – SUITE 300; ST. LOUIS, MO 63110
COPY OF DELIVERABLE TO (Name, Company, City): Elizabeth Kunkel, URS, St Louis
PHONE NO.: 314-743-4179
E-MAIL: Elizabeth_Kunkel@URSCorp.com
CONSULTANT PROJECT NAME #: Roxana Vapor Additional
LABORATORY ADDRESS: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
TELEPHONE:
FAX: 314-429-0462
CC To Contact E-MAIL: Robert.Macshegian@urs.com
M. Cutter, J. Jackson, S. Jansen

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS* ☐ RESULTS NEEDED ON WEEKEND

REQUESTED ANALYSIS

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☐ OTHER (SPECIFY)

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ ECO NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

Turn Around Time: ☑ Normal ☐ Rush ☐ Specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	Canister Number	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946					
01A	VMP-21-5-081412	08/14/12	1047-1117	1733	-29.5	-9			X	X						
02A	VMP-21-5-081412-Dup	08/14/12	1047-1117	37668	-29.5	-8			X	X						
03A	VMP-42-10-081412	08/14/12	1137-1207	37356	-30	-9			X	X						
04A	VMP-4-5-081412	08/14/12	1227-1257	9331	-30	-9			X	X						
05A	VMP-11-5-081512	08/15/12	0950-1023	37657	-30	-8			X	X						
06A	VMP-13-5-081512	08/15/12	1001-1031	8014	-30	-9			X	X						
07A 07B	VMP-10-5-081512 40.0 CC	08/15/12	1053-1123	35635	-30	-9			X	X						

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by (Signature):	Received by (Signature): FEDEX	Date: 8/15/12	Time: 1700
Relinquished by (Signature):	Received by (Signature): ATL	Date: 08/16/12	Time: 0900
Relinquished by (Signature):	Received by (Signature):	Date:	Time:

Custody Seal Intact? Y N None Temp NA

05/2006 Revision

1208352

eurofins | Air Toxics

9/5/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1208352B

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 8/16/2012 at Air Toxics Ltd.

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

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

Regards,

Kelly Buettner

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1208352B

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	08/16/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	09/05/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-21-5-081412	Modified ASTM D-1946	9.0 "Hg	5 psi
02A	VMP-21-5-081412-DUP	Modified ASTM D-1946	8.6 "Hg	5 psi
03A	VMP-42-10-081412	Modified ASTM D-1946	10.0 "Hg	5 psi
04A	VMP-4-5-081412	Modified ASTM D-1946	9.2 "Hg	5 psi
05A	VMP-11-5-081512	Modified ASTM D-1946	8.2 "Hg	5 psi
06A	VMP-13-5-081512	Modified ASTM D-1946	9.6 "Hg	5 psi
07A	VMP-10-5-081512	Modified ASTM D-1946	9.2 "Hg	5 psi
08A	Lab Blank	Modified ASTM D-1946	NA	NA
08B	Lab Blank	Modified ASTM D-1946	NA	NA
09A	LCS	Modified ASTM D-1946	NA	NA
09AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 09/05/12

Technical Director

Certfication 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

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

LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1208352B

Seven 1 Liter Summa Canister samples were received on August 16, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-081412

Lab ID#: 1208352B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.19	15
Nitrogen	0.19	79
Methane	0.00019	0.000053 J
Carbon Dioxide	0.019	5.9
Helium	0.096	0.014 J

Client Sample ID: VMP-21-5-081412-DUP

Lab ID#: 1208352B-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.19	15
Nitrogen	0.19	79
Methane	0.00019	0.000065 J
Carbon Dioxide	0.019	5.7
Helium	0.094	0.018 J

Client Sample ID: VMP-42-10-081412

Lab ID#: 1208352B-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	18
Nitrogen	0.20	80
Carbon Dioxide	0.020	2.0

Client Sample ID: VMP-4-5-081412

Lab ID#: 1208352B-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.19	18
Nitrogen	0.19	81
Methane	0.00019	0.00017 J
Carbon Dioxide	0.019	1.3

eurofins | Air Toxics

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

Client Sample ID: VMP-4-5-081412

Lab ID#: 1208352B-04A

Helium	0.096	0.010 J

Client Sample ID: VMP-11-5-081512

Lab ID#: 1208352B-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.18	18
Nitrogen	0.18	80
Methane	0.00018	0.000055 J
Carbon Dioxide	0.018	2.1
Helium	0.092	0.025 J

Client Sample ID: VMP-13-5-081512

Lab ID#: 1208352B-06A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	17
Nitrogen	0.20	79
Methane	0.00020	0.000078 J
Carbon Dioxide	0.020	3.6
Helium	0.098	0.058 J

Client Sample ID: VMP-10-5-081512

Lab ID#: 1208352B-07A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.19	19
Nitrogen	0.19	79
Methane	0.00019	0.000040 J
Carbon Dioxide	0.019	1.6
Helium	0.096	0.043 J

eurofins | Air Toxics

Client Sample ID: VMP-21-5-081412

Lab ID#: 1208352B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9082110**	**Date of Collection: 8/14/12 11:17:00 AM**	
Dil. Factor:	**1.91**	**Date of Analysis: 8/21/12 11:45 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.19	15
Nitrogen	0.19	79
Carbon Monoxide	0.019	Not Detected
Methane	0.00019	0.000053 J
Carbon Dioxide	0.019	5.9
Ethane	0.0019	Not Detected
Ethene	0.0019	Not Detected
Helium	0.096	0.014 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-21-5-081412-DUP

Lab ID#: 1208352B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9082111**	**Date of Collection: 8/14/12 11:17:00 AM**	
Dil. Factor:	**1.88**	**Date of Analysis: 8/21/12 12:20 PM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.19	15
Nitrogen	0.19	79
Carbon Monoxide	0.019	Not Detected
Methane	0.00019	0.000065 J
Carbon Dioxide	0.019	5.7
Ethane	0.0019	Not Detected
Ethene	0.0019	Not Detected
Helium	0.094	0.018 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-42-10-081412

Lab ID#: 1208352B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9082112**	**Date of Collection:**	**8/14/12 12:07:00 PM**
Dil. Factor:	**2.01**	**Date of Analysis:**	**8/21/12 12:58 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	18
Nitrogen	0.20	80
Carbon Monoxide	0.020	Not Detected
Methane	0.00020	Not Detected
Carbon Dioxide	0.020	2.0
Ethane	0.0020	Not Detected
Ethene	0.0020	Not Detected
Helium	0.10	Not Detected

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-4-5-081412

Lab ID#: 1208352B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9082113**	**Date of Collection:**	**8/14/12 12:57:00 PM**
Dil. Factor:	**1.93**	**Date of Analysis:**	**8/21/12 01:29 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.19	18
Nitrogen	0.19	81
Carbon Monoxide	0.019	Not Detected
Methane	0.00019	0.00017 J
Carbon Dioxide	0.019	1.3
Ethane	0.0019	Not Detected
Ethene	0.0019	Not Detected
Helium	0.096	0.010 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-11-5-081512

Lab ID#: 1208352B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9082114**	**Date of Collection: 8/15/12 9:23:00 AM**	
Dil. Factor:	**1.84**	**Date of Analysis: 8/21/12 01:54 PM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.18	18
Nitrogen	0.18	80
Carbon Monoxide	0.018	Not Detected
Methane	0.00018	0.000055 J
Carbon Dioxide	0.018	2.1
Ethane	0.0018	Not Detected
Ethene	0.0018	Not Detected
Helium	0.092	0.025 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-13-5-081512

Lab ID#: 1208352B-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9082115**	**Date of Collection:**	**8/15/12 10:31:00 AM**
Dil. Factor:	**1.97**	**Date of Analysis:**	**8/21/12 02:59 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	17
Nitrogen	0.20	79
Carbon Monoxide	0.020	Not Detected
Methane	0.00020	0.000078 J
Carbon Dioxide	0.020	3.6
Ethane	0.0020	Not Detected
Ethene	0.0020	Not Detected
Helium	0.098	0.058 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-10-5-081512

Lab ID#: 1208352B-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9082116**	**Date of Collection:**	**8/15/12 11:23:00 AM**
Dil. Factor:	**1.93**	**Date of Analysis:**	**8/21/12 03:22 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.19	19
Nitrogen	0.19	79
Carbon Monoxide	0.019	Not Detected
Methane	0.00019	0.000040 J
Carbon Dioxide	0.019	1.6
Ethane	0.0019	Not Detected
Ethene	0.0019	Not Detected
Helium	0.096	0.043 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208352B-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9082104a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/21/12 08:57 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Nitrogen	0.10	0.033 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208352B-08B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9082103b	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/21/12 08:34 AM	

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

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1208352B-09A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9082102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/21/12 08:09 AM**	

Compound	%Recovery
Oxygen	100
Nitrogen	100
Carbon Monoxide	99
Methane	98
Carbon Dioxide	101
Ethane	100
Ethene	96
Helium	99

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1208352B-09AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9082125**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/21/12 09:04 PM**	

Compound	%Recovery
Oxygen	100
Nitrogen	100
Carbon Monoxide	99
Methane	98
Carbon Dioxide	101
Ethane	99
Ethene	96
Helium	99

Container Type: NA - Not Applicable

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

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

Print Bill To Contact Name: Robert Mocshegian
INCIDENT # (ENV. SERVICES): 9 7 2 1 6 6 4 0
☐ CHECK IF NO INCIDENT # APPLIES
PO #:
SAP #: 3 4 0 0 6 1
DATE: 08/15/12
PAGE: 1 of 1

SHIPPING COMPANY: URS CORPORATION
TOR CODE:
SITE ADDRESS: Street and City: 900 SOUTH CENTRAL AVE – ROXANA
STATE: IL
GLOBAL ID NO:
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
EDF DELIVERABLE TO (Name, Company, City): Elizabeth Kunkel, URS, St. Louis
PHONE NO.: 314-743-4179
EMAIL: Elizabeth_Kunkel@URSCorp.com
CONSULTANT PROJECT NAME #: Roxana Vapor Additional
Location Address: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
M. Currier, J. Jackson, S. Jansen
TELEPHONE:
FAX: 314-429-0462
Bill To Contact E-MAIL: Robert.Mocshegian@urs.com

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☐ OTHER (SPECIFY)

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	Canister Number	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
01A	VMP-21-5-081412	08/14/12	1047-1317	1733	-29.5	-9			X	X	
02A	VMP-21-5-081412-Dup	08/14/12	1047-1317	37668	-29.5	-8			X	X	
03A	VMP-42-10-081412	08/14/12	1137-1307	37356	-30	-9			X	X	
04A	VMP-4-5-081412	08/14/12	1227-1257	9331	-30	-9			X	X	
05A	VMP-11-5-081512	08/15/12	0950-0923	37657	-30	-8			X	X	
06A	VMP-13-5-081512	08/15/12	1001-1031	8014	-30	-9			X	X	
07A	VMP-10-5-081512	08/15/12	1050-1123	35635	-30	-9			X	X	

Turn Around Time: ☑ Normal ☐ Rush ☐ Specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by (Signature)	Received by (Signature)	Date: 8/15/12	Time: 1700
Relinquished by (Signature)	Received by (Signature): FEDEX	Date: 08/16/12	Time: 0900
Relinquished by (Signature)	Received by (Signature)	Date	Time

Custody Seal Intact? Y N None Temp NA

7/2006 Revision

1208352

Roxana Soil Vapor Additional – Week 2 - 2012 Data Review

Laboratory SDG: 1208401A,B

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 9/21/2012

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

Sample Identification
VMP-16-5-081412

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated sample VMP-16-5-081412 was diluted and re-analyzed to bring 2,2,4-trimethylpentane within the calibration range of the instrument. The result for 2,2,4-trimethylpentane was reported from the re-analysis diluted run and the remaining compounds were reported from the original analysis. TO-15 CCV and LCS/LCSD recoveries were outside evaluation criteria. The TO-15 surrogate recovery for 1,2-dichloroethane-d_4 was outside evaluation criteria in the original analysis of sample VMP-16-5-081412. 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.

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
1208401A-02A	TO-15	Carbon disulfide	1.1 ppbv / 3.4 µg/m^3
1208401A-02A	TO-15	Hexane	0.041 ppbv / 0.14 µg/m^3
1208401A-02A	TO-15	Toluene	0.075 ppbv / 0.28 µg/m^3
1208401A-02A	TO-15	Chlorobenzene	0.31 ppbv / 1.4 µg/m^3
1208401A-02A	TO-15	Ethyl benzene	0.077 ppbv / 0.33 µg/m^3
1208401A-02A	TO-15	m,p-Xylene	0.099 ppbv / 0.43 µg/m^3

Blank ID	Parameter	Analyte	Concentration/ Amount
1208401A-02A	TO-15	1,3-Dichlorobenzene	0.12 ppbv / 0.75 µg/m^3
1208401A-02A	TO-15	1,4-Dichlorobenzene	0.088 ppbv / 0.53 µg/m^3
1208401B-02A	Natural gases	Oxygen	0.0091%
1208401B-02A	Natural gases	Nitrogen	0.046%

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS ID	Parameter	Analyte	LCS/LCSD Recovery	LCS/ LCSD RPD	LCS/ LCSD/RPD Criteria
1208401A -04A/AA	TO-15	Acetone	**69/68**	1	70-130/25
1208401A -04A/AA	TO-15	3-Chloropropene	116/**135**	15	70-130/25

Analytical data that required qualification based on LCS data are included in the table below. 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. 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.

Field ID	Parameter	Analyte	Qualification
VMP-16-5-081412	TO-15	Acetone	**J**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery	Criteria
VMP-16-5-081412 (Original Analysis)	TO-15	1,2-Dichloroethane-d_4	**133**	70-130

Analytical data that required qualification based on surrogate data are included in the table below. Acetone in sample VMP-16-5-081412 (Original Analysis) was previously qualified in Section 5.0 in this review due to LCS data. Analytical data which were reported as non-detect and associated with surrogate recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Field ID	Parameter	Analyte	Qualification
VMP-16-5-081412 (Original Analysis)	TO-15	2-Propanol	**J**
VMP-16-5-081412 (Original Analysis)	TO-15	Carbon disulfide	**J**
VMP-16-5-081412 (Original Analysis)	TO-15	Methylene chloride	**J**
VMP-16-5-081412 (Original Analysis)	TO-15	Chloroform	**J**
VMP-16-5-081412 (Original Analysis)	TO-15	Cyclohexane	**J**
VMP-16-5-081412 (Original Analysis)	TO-15	4-Methyl-2-pentanone	**J**
VMP-16-5-081412 (Original Analysis)	TO-15	Toluene	**J**
VMP-16-5-081412 (Original Analysis)	TO-15	Chlorobenzene	**J**
VMP-16-5-081412 (Original Analysis)	TO-15	Cumene	**J**
VMP-16-5-081412 (Original Analysis)	TO-15	Isopentane	**J**

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?

No

10.0 Sample Dilutions

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

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

11.0 Additional Qualifications

Were additional qualifications applied?

The CCV percent recovery for acetone was outside evaluation criteria as summarized in the table below.

CCV ID	Parameter	Analyte	CCV Recovery	CCV Criteria
1208401A-03A	TO-15	Acetone	**68**	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.

eurofins | Air Toxics

9/5/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1208401A

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 8/17/2012 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 9/21/2012

eurofins | Air Toxics

WORK ORDER #: 1208401A

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	08/17/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	09/05/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-16-5-081412	Modified TO-15/TICs	9.8 "Hg	5 psi
01B	VMP-16-5-081412 Lab	Modified TO-15/TICs	9.8 "Hg	5 psi
02A	Lab Blank	Modified TO-15/TICs	NA	NA
03A	CCV	Modified TO-15/TICs	NA	NA
04A	LCS	Modified TO-15/TICs	NA	NA
04AA	LCSD	Modified TO-15/TICs	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 09/05/12

Technical Director

Certfication 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

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# 1208401A

One 1 Liter Summa Canister sample was received on August 17, 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.

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (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.

Due to high-level target compounds, sample VMP-16-5-081412 was analyzed twice. In the "A" fraction, the sample was diluted to bring the highest-level compounds within the calibration range. The "B" fraction is also reported by client request and may be reported with "E" flags indicating the compound exceeds the calibration range. Both runs and associated QC are reported.

The recovery of 1,2-Dichloroethane-d4 in sample VMP-16-5-081412 Duplicate was outside control limits due to matrix interference. Precision between the original run and its duplicate met method acceptance criterion of </=25%RPD for all detections greater than 5 x the reporting limit. There is no effect on data quality.

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.

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

eurofins | Air Toxics

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

Client Sample ID: VMP-16-5-081412 X Use these results only. All other data was reported from the 15.9x dilution analysis.

Lab ID#: 1208401A-01A

DF = 32.2

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	64	21 J	120	40 J
2-Propanol	64	15 J	160	36 J
Carbon Disulfide	64	10 J	200	31 J
Methylene Chloride	160	2.2 J	560	7.7 J
Cyclohexane	16	2.6 J	55	8.8 J
* 2,2,4-Trimethylpentane	16	5200	75	24000
4-Methyl-2-pentanone	16	27	66	110
Toluene	16	9.4 J	61	35 J
Chlorobenzene	16	9.2 J	74	42 J
m,p-Xylene	16	3.0 J	70	13 J
Cumene	16	4.7 J	79	23 J
Isopentane	64	38 J	190	110 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	960 J
Butane, 2,2,3-trimethyl-	464-06-2	53%	1300 NJ
Octane, 4-methyl-	2216-34-4	56%	510 NJ
Hexane, 2,2,5,5-tetramethyl-	1071-81-4	64%	680 NJ
Unknown	NA	NA	1900 J
Pentane, 2,3,3-trimethyl-	560-21-4	78%	14000 NJ
2-Butanol, 2,3-dimethyl-	594-60-5	83%	320 NJ
Unknown	NA	NA	220 J
Unknown	NA	NA	190 J
Decane, 2,2,6-trimethyl-	62237-97-2	64%	170 NJ

Client Sample ID: VMP-16-5-081412 Lab

Lab ID#: 1208401A-01B

DF = 15.9

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	80	11 J	190	26 J
2-Propanol	32	13 J	78	33 J
Carbon Disulfide	32	7.6 J	99	24 J

eurofins | Air Toxics

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

Client Sample ID: VMP-16-5-081412 Lab

Lab ID#: 1208401A-01B X Do not use this data. Use all other data.

Methylene Chloride	80	0.99 J J	280	3.4 J J
Chloroform	8.0	1.1 J	39	5.4 J
Cyclohexane	8.0	1.8 J	27	6.2 J
X ~~2,2,4-Trimethylpentane~~	~~8.0~~	~~4100 E~~	~~37~~	~~19000 E~~
4-Methyl-2-pentanone	8.0	22 J	32	90 J
Toluene	8.0	5.6 J	30	21 J
Chlorobenzene	8.0	5.0 J	36	23 J
Cumene	8.0	3.9 J	39	19 J
Isopentane	32	29 J	94	85 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	620 J
Butane, 2,2,3-trimethyl-	464-06-2	72%	920 NJ
Octane, 4-methyl-	2216-34-4	72%	300 NJ
Hexane, 2,2,5,5-tetramethyl-	1071-81-4	50%	470 NJ
Unknown	NA	NA	1300 J
Pentane, 2,3,3-trimethyl-	560-21-4	78%	9500 NJ
2-Butanol, 2,3-dimethyl-	594-60-5	83%	210 NJ
Unknown	NA	NA	170 J
Unknown	NA	NA	110 J
Decane, 2,2,6-trimethyl-	62237-97-2	72%	120 NJ

eurofins | Air Toxics

Use these results only. All other data was reported from the 15.9x dilution analysis.

Client Sample ID: VMP-16-5-081412

Lab ID#: 1208401A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082714**	**Date of Collection:**	**8/14/12 9:53:00 AM**
Dil. Factor:	**32.2**	**Date of Analysis:**	**8/27/12 03:36 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	16	Not Detected	80	Not Detected
Freon 114	16	Not Detected	110	Not Detected
Chloromethane	160	Not Detected	330	Not Detected
Vinyl Chloride	16	Not Detected	41	Not Detected
1,3-Butadiene	16	Not Detected	36	Not Detected
Bromomethane	160	Not Detected	620	Not Detected
Chloroethane	64	Not Detected	170	Not Detected
Freon 11	16	Not Detected	90	Not Detected
Ethanol	64	21 J	120	40 J
Freon 113	16	Not Detected	120	Not Detected
1,1-Dichloroethene	16	Not Detected	64	Not Detected
Acetone	160	Not Detected UJ	380	Not Detected UJ
2-Propanol	64	15 J	160	36 J
Carbon Disulfide	64	10 J	200	31 J
3-Chloropropene	64	Not Detected	200	Not Detected
Methylene Chloride	160	2.2 J	560	7.7 J
Methyl tert-butyl ether	16	Not Detected	58	Not Detected
trans-1,2-Dichloroethene	16	Not Detected	64	Not Detected
Hexane	16	Not Detected	57	Not Detected
1,1-Dichloroethane	16	Not Detected	65	Not Detected
2-Butanone (Methyl Ethyl Ketone)	64	Not Detected	190	Not Detected
cis-1,2-Dichloroethene	16	Not Detected	64	Not Detected
Tetrahydrofuran	16	Not Detected	47	Not Detected
Chloroform	16	Not Detected	79	Not Detected
1,1,1-Trichloroethane	16	Not Detected	88	Not Detected
Cyclohexane	16	2.6 J	55	8.8 J
Carbon Tetrachloride	16	Not Detected	100	Not Detected
2,2,4-Trimethylpentane	16	5200	75	24000
Benzene	16	Not Detected	51	Not Detected
1,2-Dichloroethane	16	Not Detected	65	Not Detected
Heptane	16	Not Detected	66	Not Detected
Trichloroethene	16	Not Detected	86	Not Detected
1,2-Dichloropropane	16	Not Detected	74	Not Detected
1,4-Dioxane	64	Not Detected	230	Not Detected
Bromodichloromethane	16	Not Detected	110	Not Detected
cis-1,3-Dichloropropene	16	Not Detected	73	Not Detected
4-Methyl-2-pentanone	16	27	66	110
Toluene	16	9.4 J	61	35 J
trans-1,3-Dichloropropene	16	Not Detected	73	Not Detected
1,1,2-Trichloroethane	16	Not Detected	88	Not Detected
Tetrachloroethene	16	Not Detected	110	Not Detected
2-Hexanone	64	Not Detected	260	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-16-5-081412

Lab ID#: 1208401A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082714**	**Date of Collection: 8/14/12 9:53:00 AM**	
Dil. Factor:	**32.2**	**Date of Analysis: 8/27/12 03:36 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	16	Not Detected	140	Not Detected
1,2-Dibromoethane (EDB)	16	Not Detected	120	Not Detected
Chlorobenzene	16	9.2 J	74	42 J
Ethyl Benzene	16	Not Detected	70	Not Detected
m,p-Xylene	16	3.0 J	70	13 J
o-Xylene	16	Not Detected	70	Not Detected
Styrene	16	Not Detected	68	Not Detected
Bromoform	16	Not Detected	170	Not Detected
Cumene	16	4.7 J	79	23 J
1,1,2,2-Tetrachloroethane	16	Not Detected	110	Not Detected
Propylbenzene	16	Not Detected	79	Not Detected
4-Ethyltoluene	16	Not Detected	79	Not Detected
1,3,5-Trimethylbenzene	16	Not Detected	79	Not Detected
1,2,4-Trimethylbenzene	16	Not Detected	79	Not Detected
1,3-Dichlorobenzene	16	Not Detected	97	Not Detected
1,4-Dichlorobenzene	16	Not Detected	97	Not Detected
alpha-Chlorotoluene	16	Not Detected	83	Not Detected
1,2-Dichlorobenzene	16	Not Detected	97	Not Detected
1,2,4-Trichlorobenzene	64	Not Detected	480	Not Detected
Hexachlorobutadiene	64	Not Detected	690	Not Detected
Butane	64	Not Detected	150	Not Detected
Isopentane	64	38 J	190	110 J
Ethyl Acetate	64	Not Detected	230	Not Detected
Propylene	64	Not Detected	110	Not Detected
Vinyl Acetate	64	Not Detected	230	Not Detected
Vinyl Bromide	64	Not Detected	280	Not Detected

J = Estimated value.
UJ = Non-detected compound associated with low bias in the CCV and/or LCS.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Unknown	NA	NA	960 J
Butane, 2,2,3-trimethyl-	464-06-2	53%	1300 NJ
Octane, 4-methyl-	2216-34-4	56%	510 NJ
Hexane, 2,2,5,5-tetramethyl-	1071-81-4	64%	680 NJ
Unknown	NA	NA	1900 J
Pentane, 2,3,3-trimethyl-	560-21-4	78%	14000 NJ
2-Butanol, 2,3-dimethyl-	594-60-5	83%	320 NJ
Unknown	NA	NA	220 J
Unknown	NA	NA	190 J
Decane, 2,2,6-trimethyl-	62237-97-2	64%	170 NJ

eurofins | Air Toxics

Client Sample ID: VMP-16-5-081412

Lab ID#: 1208401A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082714	Date of Collection: 8/14/12 9:53:00 AM
Dil. Factor:	32.2	Date of Analysis: 8/27/12 03:36 PM

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	112	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics *Do not use this data. Use all other data.

Client Sample ID: VMP-16-5-081412 Lab
Lab ID#: 1208401A-01B
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082712	Date of Collection:	8/14/12 9:53:00 AM
Dil. Factor:	15.9	Date of Analysis:	8/27/12 02:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	8.0	Not Detected	39	Not Detected
Freon 114	8.0	Not Detected	56	Not Detected
Chloromethane	80	Not Detected	160	Not Detected
Vinyl Chloride	8.0	Not Detected	20	Not Detected
1,3-Butadiene	8.0	Not Detected	18	Not Detected
Bromomethane	80	Not Detected	310	Not Detected
Chloroethane	32	Not Detected	84	Not Detected
Freon 11	8.0	Not Detected	45	Not Detected
Ethanol	32	Not Detected	60	Not Detected
Freon 113	8.0	Not Detected	61	Not Detected
1,1-Dichloroethene	8.0	Not Detected	32	Not Detected
Acetone	80	11 J	190	26 J
2-Propanol	32	13 J	78	33 J
Carbon Disulfide	32	7.6 J	99	24 J
3-Chloropropene	32	Not Detected	100	Not Detected
Methylene Chloride	80	0.99 J	280	3.4 J
Methyl tert-butyl ether	8.0	Not Detected	29	Not Detected
trans-1,2-Dichloroethene	8.0	Not Detected	32	Not Detected
Hexane	8.0	Not Detected	28	Not Detected
1,1-Dichloroethane	8.0	Not Detected	32	Not Detected
2-Butanone (Methyl Ethyl Ketone)	32	Not Detected	94	Not Detected
cis-1,2-Dichloroethene	8.0	Not Detected	32	Not Detected
Tetrahydrofuran	8.0	Not Detected	23	Not Detected
Chloroform	8.0	1.1 J	39	5.4 J
1,1,1-Trichloroethane	8.0	Not Detected	43	Not Detected
Cyclohexane	8.0	1.8 J	27	6.2 J
Carbon Tetrachloride	8.0	Not Detected	50	Not Detected
~~2,2,4-Trimethylpentane~~	~~8.0~~	~~4100 E~~	~~37~~	~~19000 E~~
Benzene	8.0	Not Detected	25	Not Detected
1,2-Dichloroethane	8.0	Not Detected	32	Not Detected
Heptane	8.0	Not Detected	32	Not Detected
Trichloroethene	8.0	Not Detected	43	Not Detected
1,2-Dichloropropane	8.0	Not Detected	37	Not Detected
1,4-Dioxane	32	Not Detected	110	Not Detected
Bromodichloromethane	8.0	Not Detected	53	Not Detected
cis-1,3-Dichloropropene	8.0	Not Detected	36	Not Detected
4-Methyl-2-pentanone	8.0	22	32	90
Toluene	8.0	5.6 J	30	21 J
trans-1,3-Dichloropropene	8.0	Not Detected	36	Not Detected
1,1,2-Trichloroethane	8.0	Not Detected	43	Not Detected
Tetrachloroethene	8.0	Not Detected	54	Not Detected
2-Hexanone	32	Not Detected	130	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-16-5-081412 Lab

Lab ID#: 1208401A-01B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082712**	**Date of Collection:**	**8/14/12 9:53:00 AM**
Dil. Factor:	**15.9**	**Date of Analysis:**	**8/27/12 02:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	8.0	Not Detected	68	Not Detected
1,2-Dibromoethane (EDB)	8.0	Not Detected	61	Not Detected
Chlorobenzene	8.0	5.0 J	36	23 J
Ethyl Benzene	8.0	Not Detected	34	Not Detected
m,p-Xylene	8.0	Not Detected	34	Not Detected
o-Xylene	8.0	Not Detected	34	Not Detected
Styrene	8.0	Not Detected	34	Not Detected
Bromoform	8.0	Not Detected	82	Not Detected
Cumene	8.0	3.9 J	39	19 J
1,1,2,2-Tetrachloroethane	8.0	Not Detected	54	Not Detected
Propylbenzene	8.0	Not Detected	39	Not Detected
4-Ethyltoluene	8.0	Not Detected	39	Not Detected
1,3,5-Trimethylbenzene	8.0	Not Detected	39	Not Detected
1,2,4-Trimethylbenzene	8.0	Not Detected	39	Not Detected
1,3-Dichlorobenzene	8.0	Not Detected	48	Not Detected
1,4-Dichlorobenzene	8.0	Not Detected	48	Not Detected
alpha-Chlorotoluene	8.0	Not Detected	41	Not Detected
1,2-Dichlorobenzene	8.0	Not Detected	48	Not Detected
1,2,4-Trichlorobenzene	32	Not Detected	240	Not Detected
Hexachlorobutadiene	32	Not Detected	340	Not Detected
Butane	32	Not Detected	76	Not Detected
Isopentane	32	29 J	94	85 J
Ethyl Acetate	32	Not Detected	110	Not Detected
Propylene	32	Not Detected	55	Not Detected
Vinyl Acetate	32	Not Detected	110	Not Detected
Vinyl Bromide	32	Not Detected	140	Not Detected

J = Estimated value.
E = Exceeds instrument calibration range.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Unknown	NA	NA	620 J
Butane, 2,2,3-trimethyl-	464-06-2	72%	920 NJ
Octane, 4-methyl-	2216-34-4	72%	300 NJ
Hexane, 2,2,5,5-tetramethyl-	1071-81-4	50%	470 NJ
Unknown	NA	NA	1300 J
Pentane, 2,3,3-trimethyl-	560-21-4	78%	9500 NJ
2-Butanol, 2,3-dimethyl-	594-60-5	83%	210 NJ
Unknown	NA	NA	170 J
Unknown	NA	NA	110 J
Decane, 2,2,6-trimethyl-	62237-97-2	72%	120 NJ

eurofins | Air Toxics

Client Sample ID: VMP-16-5-081412 Lab

Lab ID#: 1208401A-01B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082712**	**Date of Collection: 8/14/12 9:53:00 AM**
Dil. Factor:	**15.9**	**Date of Analysis: 8/27/12 02:13 PM**

NJ =The identification is based on presumptive evidence; estimated value.
Q = Exceeds Quality Control limits of 70% to 130%, due to matrix effects.
Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	133 Q	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208401A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082711a	**Date of Collection: NA**	
Dil. Factor:	1.00	**Date of Analysis: 8/27/12 01:45 PM**	

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
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected UJ	12	Not Detected UJ
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	1.1 J	6.2	3.4 J
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	0.041 J	1.8	0.14 J
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	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	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	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	0.075 J	1.9	0.28 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	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208401A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j082711a	**Date of Collection:**	NA
Dil. Factor:	1.00	**Date of Analysis:**	8/27/12 01:45 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	0.31 J	2.3	1.4 J
Ethyl Benzene	0.50	0.077 J	2.2	0.33 J
m,p-Xylene	0.50	0.099 J	2.2	0.43 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
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	0.12 J	3.0	0.75 J
1,4-Dichlorobenzene	0.50	0.088 J	3.0	0.53 J
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
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

UJ = Non-detected compound associated with low bias in the CCV and/or LCS.
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	96	70-130
1,2-Dichloroethane-d4	113	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1208401A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/27/12 07:49 AM**	

Compound	%Recovery
Freon 12	130
Freon 114	122
Chloromethane	92
Vinyl Chloride	84
1,3-Butadiene	73
Bromomethane	87
Chloroethane	89
Freon 11	125
Ethanol	74
Freon 113	117
1,1-Dichloroethene	122
Acetone	68 Q
2-Propanol	85
Carbon Disulfide	95
3-Chloropropene	104
Methylene Chloride	78
Methyl tert-butyl ether	118
trans-1,2-Dichloroethene	109
Hexane	91
1,1-Dichloroethane	92
2-Butanone (Methyl Ethyl Ketone)	102
cis-1,2-Dichloroethene	94
Tetrahydrofuran	79
Chloroform	111
1,1,1-Trichloroethane	121
Cyclohexane	104
Carbon Tetrachloride	123
2,2,4-Trimethylpentane	82
Benzene	100
1,2-Dichloroethane	115
Heptane	109
Trichloroethene	114
1,2-Dichloropropane	80
1,4-Dioxane	98
Bromodichloromethane	117
cis-1,3-Dichloropropene	102
4-Methyl-2-pentanone	86
Toluene	95
trans-1,3-Dichloropropene	109
1,1,2-Trichloroethane	98
Tetrachloroethene	100
2-Hexanone	88

eurofins | Air Toxics

Client Sample ID: CCV
Lab ID#: 1208401A-03A
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/27/12 07:49 AM**	

Compound	%Recovery
Dibromochloromethane	111
1,2-Dibromoethane (EDB)	98
Chlorobenzene	83
Ethyl Benzene	98
m,p-Xylene	104
o-Xylene	100
Styrene	108
Bromoform	114
Cumene	108
1,1,2,2-Tetrachloroethane	91
Propylbenzene	107
4-Ethyltoluene	103
1,3,5-Trimethylbenzene	100
1,2,4-Trimethylbenzene	104
1,3-Dichlorobenzene	93
1,4-Dichlorobenzene	93
alpha-Chlorotoluene	110
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	97
Hexachlorobutadiene	116
Butane	82
Isopentane	78
Ethyl Acetate	89
Propylene	79
Vinyl Acetate	96
Vinyl Bromide	62

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	114	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1208401A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/27/12 08:18 AM**	

Compound	%Recovery
Freon 12	126
Freon 114	123
Chloromethane	88
Vinyl Chloride	89
1,3-Butadiene	76
Bromomethane	86
Chloroethane	92
Freon 11	124
Ethanol	73
Freon 113	123
1,1-Dichloroethene	130
Acetone	69 Q
2-Propanol	86
Carbon Disulfide	117
3-Chloropropene	116
Methylene Chloride	79
Methyl tert-butyl ether	115
trans-1,2-Dichloroethene	119
Hexane	86
1,1-Dichloroethane	91
2-Butanone (Methyl Ethyl Ketone)	98
cis-1,2-Dichloroethene	90
Tetrahydrofuran	74
Chloroform	109
1,1,1-Trichloroethane	123
Cyclohexane	104
Carbon Tetrachloride	121
2,2,4-Trimethylpentane	79
Benzene	98
1,2-Dichloroethane	110
Heptane	113
Trichloroethene	111
1,2-Dichloropropane	83
1,4-Dioxane	92
Bromodichloromethane	113
cis-1,3-Dichloropropene	100
4-Methyl-2-pentanone	83
Toluene	92
trans-1,3-Dichloropropene	115
1,1,2-Trichloroethane	100
Tetrachloroethene	100
2-Hexanone	86

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1208401A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/27/12 08:18 AM**	

Compound	%Recovery
Dibromochloromethane	113
1,2-Dibromoethane (EDB)	102
Chlorobenzene	85
Ethyl Benzene	101
m,p-Xylene	104
o-Xylene	100
Styrene	110
Bromoform	111
Cumene	112
1,1,2,2-Tetrachloroethane	92
Propylbenzene	110
4-Ethyltoluene	96
1,3,5-Trimethylbenzene	101
1,2,4-Trimethylbenzene	101
1,3-Dichlorobenzene	96
1,4-Dichlorobenzene	94
alpha-Chlorotoluene	109
1,2-Dichlorobenzene	97
1,2,4-Trichlorobenzene	100
Hexachlorobutadiene	118
Butane	80
Isopentane	76
Ethyl Acetate	Not Spiked
Propylene	72
Vinyl Acetate	100
Vinyl Bromide	Not Spiked

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	107	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1208401A-04AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082704**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/27/12 08:38 AM**	

Compound	%Recovery
Freon 12	125
Freon 114	120
Chloromethane	90
Vinyl Chloride	87
1,3-Butadiene	71
Bromomethane	94
Chloroethane	88
Freon 11	125
Ethanol	73
Freon 113	121
1,1-Dichloroethene	126
Acetone	68 Q
2-Propanol	87
Carbon Disulfide	122
3-Chloropropene	135 Q
Methylene Chloride	80
Methyl tert-butyl ether	122
trans-1,2-Dichloroethene	123
Hexane	90
1,1-Dichloroethane	95
2-Butanone (Methyl Ethyl Ketone)	97
cis-1,2-Dichloroethene	88
Tetrahydrofuran	76
Chloroform	112
1,1,1-Trichloroethane	124
Cyclohexane	108
Carbon Tetrachloride	124
2,2,4-Trimethylpentane	80
Benzene	98
1,2-Dichloroethane	115
Heptane	112
Trichloroethene	111
1,2-Dichloropropane	80
1,4-Dioxane	95
Bromodichloromethane	116
cis-1,3-Dichloropropene	104
4-Methyl-2-pentanone	83
Toluene	96
trans-1,3-Dichloropropene	110
1,1,2-Trichloroethane	94
Tetrachloroethene	100
2-Hexanone	85

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1208401A-04AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j082704**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/27/12 08:38 AM**	

Compound	%Recovery
Dibromochloromethane	110
1,2-Dibromoethane (EDB)	99
Chlorobenzene	87
Ethyl Benzene	103
m,p-Xylene	104
o-Xylene	100
Styrene	109
Bromoform	109
Cumene	111
1,1,2,2-Tetrachloroethane	92
Propylbenzene	110
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	100
1,2,4-Trimethylbenzene	105
1,3-Dichlorobenzene	96
1,4-Dichlorobenzene	93
alpha-Chlorotoluene	107
1,2-Dichlorobenzene	98
1,2,4-Trichlorobenzene	100
Hexachlorobutadiene	118
Butane	81
Isopentane	76
Ethyl Acetate	Not Spiked
Propylene	68
Vinyl Acetate	103
Vinyl Bromide	Not Spiked

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	112	70-130
4-Bromofluorobenzene	105	70-130

1208401

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

Please Check Appropriate Box: ☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL ☐ MOTIVA SD&CM ☐ CONSULTANT ☐ LUBES ☐ SHELL PIPELINE ☐ OTHER ____

Print Bill To Contact Name: Robert Moosheglan
PO #

INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0 ☐ CHECK IF NO INCIDENT # APPLIES
SAP #: 3 4 0 0 6 1
DATE: 08/10/12
PAGE: 1 of 1

Sampling Company: URS CORPORATION
Address: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
Laboratory Address: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
Fax: 314-429-0462
Bill To Contact Email: Robert.Moosheglan@urs.com

Site Address: Street and City: 900 SOUTH CENTRAL AVE – ROXANA
State: IL
EDF Deliverable To: Elizabeth Kunkel, URS, St. Louis
Phone No.: 314-743-4179
Email: Elizabeth_Kunkel@URSCorp.com
Consultant Project Name: Roxana Soil Vapor
M. Cumar, J. Jackson,

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☐ OTHER (SPECIFY) ____

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

Lab Use Only	Field Sample Identification	Sampling Date	Sampling Time	Canister Number	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
01A	VMP-16-5-081412	08/14/12	0923-0953	37742	-30	-9			x	x	

Turn Around Time: ☑Normal ☐Rush Specify

Lab Use Only: Pressurized by: Date: Pressurization Gas: N2 He

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
[signature]	FEDEX	8/16/12	1700
	[signature]	8/17/12	0938
	Fedex		

Custody Seal Intact?
(Y) N None Temp NA

05/2/08 Revision

eurofins | Air Toxics

9/5/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1208401B

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 8/17/2012 at Air Toxics Ltd.

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

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

Regards,

Kelly Buettner

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1208401B

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	08/17/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	09/05/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-16-5-081412	Modified ASTM D-1946	9.8 "Hg	5 psi
02A	Lab Blank	Modified ASTM D-1946	NA	NA
02B	Lab Blank	Modified ASTM D-1946	NA	NA
03A	LCS	Modified ASTM D-1946	NA	NA
03AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Rayos DATE: 09/05/12

Technical Director

Certfication 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

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

LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1208401B

One 1 Liter Summa Canister sample was received on August 17, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

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

Client Sample ID: VMP-16-5-081412

Lab ID#: 1208401B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	6.4
Nitrogen	0.20	83
Methane	0.00020	0.000075 J
Carbon Dioxide	0.020	11

eurofins | Air Toxics

Client Sample ID: VMP-16-5-081412

Lab ID#: 1208401B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9082206**	**Date of Collection:**	**8/14/12 9:53:00 AM**
Dil. Factor:	**1.99**	**Date of Analysis:**	**8/22/12 10:37 AM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	6.4
Nitrogen	0.20	83
Carbon Monoxide	0.020	Not Detected
Methane	0.00020	0.000075 J
Carbon Dioxide	0.020	11
Ethane	0.0020	Not Detected
Ethene	0.0020	Not Detected
Helium	0.10	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208401B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9082204a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/22/12 09:18 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.0091 J
Nitrogen	0.10	0.046 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208401B-02B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9082203b	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/22/12 08:54 AM	

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

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1208401B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9082202**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/22/12 08:31 AM**	

Compound	%Recovery
Oxygen	100
Nitrogen	100
Carbon Monoxide	98
Methane	98
Carbon Dioxide	101
Ethane	99
Ethene	96
Helium	100

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1208401B-03AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9082226**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/22/12 09:45 PM**	

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	98
Methane	98
Carbon Dioxide	101
Ethane	100
Ethene	97
Helium	100

Container Type: NA - Not Applicable

1208401

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

Please Check Appropriate Box:
☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA S/B&CM ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Robert Mooshegian

INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0 ☐ CHECK IF NO INCIDENT # APPLIES

DATE: 08/10/12

PAGE: 1 of 1

PO #:

SAP #: 3 4 0 0 6 1

SAMPLING COMPANY: URS CORPORATION

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

LABORATORY ADDRESS: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719

TELEPHONE:

FAX: 314-429-0462

DATA CONTACT E-MAIL: Robert.Mooshegian@urs.com

SITE ADDRESS: Street and City: 900 SOUTH CENTRAL AVE – ROXANA

State: IL

GLOBAL ID NO.:

CEE DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel, URS, St. Louis

PHONE NO.: 314-743-4179

E-MAIL: Elizabeth.Kunkel@URSCorp.com

CONSULTANT PROJECT NAME: Roxana Soil Vapor

M. Currier, J. Jackson.

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

REQUESTED ANALYSIS

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:

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

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

Turn Around Time: ☑ Normal ☐ Rush Specify

Lab Use Only: Pressurized By: Date: Pressurization Gas: N_2 He

Lab Use Only	Field Sample Identification	Sampling Date	Sampling Time	Canister Number	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
01A	VMP-16-5-081412	08/14/12	0923-0953	37742	-30	-9			X	X	

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	FEDEX	8/16/12	1700
		8/17/12	0938

Custody Seal Intact?
Y N None Temp NA

05/2008 Revision

Roxana Soil Vapor Additional – Week 3 - 2012 Data Review

Laboratory SDG: 1208543A,B

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 9/21/2012

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

Sample Identification	Sample Identification
VMP-21-5-082012	VMP-42-10-082012
VMP-4-5-081412	VMP-11-5-082112
VMP-11-5-082112-Dup	VMP-13-5-082112
VMP-10-5-082112	

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, analytes were detected in the method blank. TO-15 CCV and LCS/LCSD recoveries were outside evaluation criteria. These issues are addressed further in the appropriate sections below.

No problems were indicated in the cooler receipt form.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
1208543A-08A	TO-15	Bromomethane	0.16 ppbv / 0.61 µg/m^3
1208543A-08A	TO-15	Carbon disulfide	0.40 ppbv / 1.2 µg/m^3
1208543A-08A	TO-15	Methylene chloride	0.12 ppbv / 0.43 µg/m^3
1208543A-08A	TO-15	Hexane	0.14 ppbv / 0.48 µg/m^3
1208543A-08A	TO-15	1,2-Dichloroethane	0.059 ppbv / 0.24 µg/m^3
1208543A-08A	TO-15	Trichloroethene	0.17 ppbv / 0.89 µg/m^3
1208543A-08A	TO-15	cis-1,3-Dichloropropene	0.17 ppbv / 0.77 µg/m^3
1208543A-08A	TO-15	Toluene	0.13 ppbv / 0.51 µg/m^3
1208543A-08A	TO-15	trans-1,3-Dichloropropene	0.13 ppbv / 0.58 µg/m^3

Blank ID	Parameter	Analyte	Concentration/ Amount
1208543A-08A	TO-15	Tetrachloroethene	0.11 ppbv / 0.76 µg/m^3
1208543A-08A	TO-15	Chlorobenzene	0.33 ppbv / 1.5 µg/m^3
1208543A-08A	TO-15	m,p-Xylene	0.097 ppbv / 0.42 µg/m^3
1208543A-08A	TO-15	1,3-Dichlorobenzene	0.12 ppbv / 0.75 µg/m^3
1208543A-08A	TO-15	1,4-Dichlorobenzene	0.13 ppbv / 0.76 µg/m^3
1208543B-08A	Natural gases	Oxygen	0.013%
1208543B-08A	Natural gases	Nitrogen	0.054%

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

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
VMP-21-5-082012	TO-15	Carbon disulfide	-	**U**
VMP-21-5-082012	TO-15	Hexane	-	**U**
VMP-21-5-082012	TO-15	Chlorobenzene	-	**U**
VMP-21-5-082012	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-21-5-082012	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-42-10-082012	TO-15	Bromomethane	-	**U**
VMP-42-10-082012	TO-15	Carbon disulfide	-	**U**
VMP-42-10-082012	TO-15	cis-1,3-Dichloropropene	-	**U**
VMP-42-10-082012	TO-15	trans-1,3-Dichloropropene	-	**U**
VMP-42-10-082012	TO-15	Chlorobenzene	-	**U**
VMP-42-10-082012	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-42-10-082012	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-4-5-082012	TO-15	Carbon disulfide	-	**U**
VMP-4-5-082012	TO-15	cis-1,3-Dichloropropene	-	**U**
VMP-4-5-082012	TO-15	trans-1,3-Dichloropropene	-	**U**
VMP-4-5-082012	TO-15	Tetrachloroethene	-	**U**
VMP-4-5-082012	TO-15	Chlorobenzene	-	**U**
VMP-4-5-082012	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-4-5-082012	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-11-5-082112	TO-15	Carbon disulfide	-	**U**
VMP-11-5-082112	TO-15	Hexane	-	**U**
VMP-11-5-082112	TO-15	Toluene	-	**U**
VMP-11-5-082112	TO-15	trans-1,3-Dichloropropene	-	**U**
VMP-11-5-082112	TO-15	Tetrachloroethene	-	**U**
VMP-11-5-082112	TO-15	Chlorobenzene	-	**U**
VMP-11-5-082112	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-11-5-082112	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-11-5-082112-Dup	TO-15	Carbon disulfide	-	**U**
VMP-11-5-082112-Dup	TO-15	Methylene chloride	-	**U**

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
VMP-11-5-082112-Dup	TO-15	1,2-Dichloroethane	-	**U**
VMP-11-5-082112-Dup	TO-15	Toluene	-	**U**
VMP-11-5-082112-Dup	TO-15	trans-1,3-Dichloropropene	-	**U**
VMP-11-5-082112-Dup	TO-15	Chlorobenzene	-	**U**
VMP-11-5-082112-Dup	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-13-5-082112	TO-15	cis-1,3-Dichloropropene	-	**U**
VMP-13-5-082112	TO-15	Toluene	-	**U**
VMP-13-5-082112	TO-15	Chlorobenzene	-	**U**
VMP-13-5-082112	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-13-5-082112	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-10-5-082112	TO-15	Carbon disulfide	-	**U**
VMP-10-5-082112	TO-15	Toluene	-	**U**
VMP-10-5-082112	TO-15	Chlorobenzene	-	**U**
VMP-10-5-082112	TO-15	m,p-Xylene	-	**U**
VMP-10-5-082112	TO-15	1,4-Dichlorobenzene	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS ID	Parameter	Analyte	LCS/LCSD Recovery	LCS/ LCSD RPD	LCS/ LCSD/RPD Criteria
1208543A-10A/AA	TO-15	1,3-Butadiene	75/**69**	8	70-130/25
1208543A-10A/AA	TO-15	Ethanol	72/**67**	7	70-130/25
1208543A-10A/AA	TO-15	1,1-Dichloroethene	**132/131**	1	70-130/25
1208543A-10A/AA	TO-15	Acetone	**67/68**	1	70-130/25
1208543A-10A/AA	TO-15	Tetrahydrofuran	70/**69**	1	70-130/25

Analytical data that required qualification based on LCS data are included in the table below. 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. 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.

Field ID	Parameter	Analyte	Qualification
VMP-21-5-082012	TO-15	1,3-Butadiene	**UJ**
VMP-21-5-082012	TO-15	Ethanol	**J**
VMP-21-5-082012	TO-15	Acetone	**J**
VMP-21-5-082012	TO-15	Tetrahydrofuran	**UJ**
VMP-42-10-082012	TO-15	1,3-Butadiene	**UJ**
VMP-42-10-082012	TO-15	Ethanol	**J**
VMP-42-10-082012	TO-15	Acetone	**J**
VMP-42-10-082012	TO-15	Tetrahydrofuran	**J**
VMP-4-5-082012	TO-15	1,3-Butadiene	**UJ**
VMP-4-5-082012	TO-15	Ethanol	**J**
VMP-4-5-082012	TO-15	Acetone	**J**
VMP-4-5-082012	TO-15	Tetrahydrofuran	**UJ**
VMP-11-5-082112	TO-15	1,3-Butadiene	**UJ**
VMP-11-5-082112	TO-15	Ethanol	**J**
VMP-11-5-082112	TO-15	Acetone	**J**
VMP-11-5-082112	TO-15	Tetrahydrofuran	**UJ**
VMP-11-5-082112-Dup	TO-15	1,3-Butadiene	**UJ**
VMP-11-5-082112-Dup	TO-15	Ethanol	**UJ**
VMP-11-5-082112-Dup	TO-15	Acetone	**J**
VMP-11-5-082112-Dup	TO-15	Tetrahydrofuran	**UJ**
VMP-13-5-082112	TO-15	1,3-Butadiene	**UJ**
VMP-13-5-082112	TO-15	Ethanol	**J**
VMP-13-5-082112	TO-15	Acetone	**J**
VMP-13-5-082112	TO-15	Tetrahydrofuran	**UJ**
VMP-10-5-082112	TO-15	1,3-Butadiene	**UJ**
VMP-10-5-082112	TO-15	Ethanol	**J**
VMP-10-5-082112	TO-15	Acetone	**J**
VMP-10-5-082112	TO-15	Tetrahydrofuran	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

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
VMP-11-5-082112	VMP-11-5-082112-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?

The CCV percent recovery for acetone was outside evaluation criteria as summarized in the table below.

CCV ID	Parameter	Analyte	CCV Recovery	CCV Criteria
1208543A-09A	TO-15	Acetone	**67**	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.

eurofins | Air Toxics

9/18/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1208543A

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 8/24/2012 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 9/21/2012

eurofins | Air Toxics

WORK ORDER #: 1208543A

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	08/24/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	09/17/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-21-5-082012	Modified TO-15/TICs	9.0 "Hg	15 psi
02A	VMP-42-10-082012	Modified TO-15/TICs	10.5 "Hg	15 psi
03A	VMP-4-5-082012	Modified TO-15/TICs	10.0 "Hg	15 psi
04A	VMP-11-5-082112	Modified TO-15/TICs	8.5 "Hg	15 psi
05A	VMP-11-5-082112-Dup	Modified TO-15/TICs	8.5 "Hg	15 psi
06A	VMP-13-5-082112	Modified TO-15/TICs	9.0 "Hg	15 psi
07A	VMP-10-5-082112	Modified TO-15/TICs	10.0 "Hg	15 psi
08A	Lab Blank	Modified TO-15/TICs	NA	NA
09A	CCV	Modified TO-15/TICs	NA	NA
10A	LCS	Modified TO-15/TICs	NA	NA
10AA	LCSD	Modified TO-15/TICs	NA	NA

CERTIFIED BY: Heidi Rayo DATE: 09/18/12

Technical Director

Certfication 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

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# 1208543A

Seven 1 Liter Summa Canister samples were received on August 24, 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

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (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.

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 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.

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

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-082012

Lab ID#: 1208543A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.8	0.69 J	8.8	3.4 J
Freon 11	1.8	0.38 J	9.9	2.1 J
Ethanol	7.1	7.4 J	13	14 J
Acetone	18	12 J J	42	28 J J
2-Propanol	7.1	5.8 J	17	14 J
Carbon Disulfide	7.1	~~1.2 J~~ U	22	~~3.6 J~~ U
Hexane	1.8	~~0.49 J~~ U	6.2	~~1.7 J~~ U
2-Butanone (Methyl Ethyl Ketone)	7.1	5.8 J	21	17 J
2,2,4-Trimethylpentane	1.8	0.62 J	8.3	2.9 J
Benzene	1.8	2.7	5.6	8.6
Heptane	1.8	0.49 J	7.2	2.0 J
4-Methyl-2-pentanone	1.8	30	7.2	120
Toluene	1.8	2.7	6.7	10
Tetrachloroethene	1.8	0.77 J	12	5.2 J
Chlorobenzene	1.8	~~1.5 J~~ U	8.1	~~6.8 J~~ U
Ethyl Benzene	1.8	0.32 J	7.7	1.4 J
m,p-Xylene	1.8	0.66 J	7.7	2.9 J
Cumene	1.8	12	8.7	58
Propylbenzene	1.8	0.28 J	8.7	1.4 J
4-Ethyltoluene	1.8	0.45 J	8.7	2.2 J
1,3,5-Trimethylbenzene	1.8	0.32 J	8.7	1.6 J
1,2,4-Trimethylbenzene	1.8	0.42 J	8.7	2.1 J
1,3-Dichlorobenzene	1.8	~~0.40 J~~ U	11	~~2.4 J~~ U
1,4-Dichlorobenzene	1.8	~~0.40 J~~ U	11	~~2.4 J~~ U

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
1-Nonene	124-11-8	43%	27 NJ
Cyclopentane, 1-methyl-2-propyl-	3728-57-2	58%	52 NJ
Cyclopentane, 1,2,3-trimethyl-, (1.alpha	2613-69-6	83%	24 NJ
Oxirane, 2,3-dimethyl-	3266-23-7	43%	27 NJ
Octane, 2,2,6-trimethyl-	62016-28-8	56%	27 NJ
Decane, 2,2,7-trimethyl-	62237-99-4	64%	81 NJ

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-082012

Lab ID#: 1208543A-01A

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	72%	23 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	64%	76 NJ
Heptane, 4-ethyl-2,2,6,6-tetramethyl-	62108-31-0	78%	140 NJ
Hexane, 1-(hexyloxy)-5-methyl-	74421-19-5	53%	48 NJ

Client Sample ID: VMP-42-10-082012

Lab ID#: 1208543A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.6	0.61 J	7.7	3.0 J
Bromomethane	16	~~0.74 J~~ U	60	~~2.9 J~~ U
Freon 11	1.6	0.51 J	8.7	2.9 J
Ethanol	6.2	23 J	12	43 J
Acetone	16	9.0 J J	37	21 J J
2-Propanol	6.2	11	15	28
Carbon Disulfide	6.2	~~1.2 J~~ U	19	~~3.8 J~~ U
Methylene Chloride	16	1.2 J	54	4.3 J
Hexane	1.6	0.71 J	5.5	2.5 J
2-Butanone (Methyl Ethyl Ketone)	6.2	18	18	52
Tetrahydrofuran	1.6	0.47 J J	4.6	1.4 J J
Chloroform	1.6	0.85 J	7.6	4.1 J
2,2,4-Trimethylpentane	1.6	12	7.3	55
Benzene	1.6	2.3	5.0	7.4
Heptane	1.6	0.84 J	6.4	3.5 J
cis-1,3-Dichloropropene	1.6	~~0.54 J~~ U	7.0	~~2.4 J~~ U
4-Methyl-2-pentanone	1.6	43	6.4	180
Toluene	1.6	4.6	5.8	18
trans-1,3-Dichloropropene	1.6	~~0.46 J~~ U	7.0	~~2.1 J~~ U
Chlorobenzene	1.6	~~1.4 J~~ U	7.2	~~6.5 J~~ U
Ethyl Benzene	1.6	0.63 J	6.8	2.7 J
m,p-Xylene	1.6	1.7	6.8	7.3
o-Xylene	1.6	0.56 J	6.8	2.4 J

eurofins | Air Toxics

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

Client Sample ID: VMP-42-10-082012

Lab ID#: 1208543A-02A

Styrene	1.6	0.69 J	6.6	3.0 J
Cumene	1.6	15	7.6	75
Propylbenzene	1.6	0.35 J	7.6	1.7 J
4-Ethyltoluene	1.6	0.86 J	7.6	4.2 J
1,3,5-Trimethylbenzene	1.6	0.37 J	7.6	1.8 J
1,2,4-Trimethylbenzene	1.6	0.75 J	7.6	3.7 J
1,3-Dichlorobenzene	1.6	~~0.58 J~~ U	9.3	~~3.5 J~~ U
1,4-Dichlorobenzene	1.6	~~0.49 J~~ U	9.3	~~3.0 J~~ U
alpha-Chlorotoluene	1.6	0.54 J	8.0	2.8 J
Isopentane	6.2	2.7 J	18	8.0 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
1-Hexene, 5-methyl-	3524-73-0	38%	42 NJ
Cyclopentane, 1-methyl-2-propyl-	3728-57-2	50%	69 NJ
Oxirane, 2,3-dimethyl-	3266-23-7	58%	53 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	72%	36 NJ
Decane, 2,2,4-trimethyl-	62237-98-3	59%	120 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	72%	120 NJ
Decane, 2,2-dimethyl-	17302-37-3	64%	250 NJ
2-Pentenal, (E)-	1576-87-0	38%	45 NJ
1-Pentanol, 2-ethyl-4-methyl-	106-67-2	64%	170 NJ
Ethanone, 1-phenyl-	98-86-2	91%	40 NJ

Client Sample ID: VMP-4-5-082012

Lab ID#: 1208543A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.77 J	7.5	3.8 J
Freon 11	1.5	0.32 J	8.5	1.8 J
Ethanol	6.1	40 J	11	74 J
Acetone	15	37 J J	36	88 J J
2-Propanol	6.1	18	15	44
Carbon Disulfide	6.1	~~1.6 J~~ U	19	~~4.8 J~~ U
Methylene Chloride	15	1.6 J	53	5.4 J

eurofins | Air Toxics

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

Client Sample ID: VMP-4-5-082012

Lab ID#: 1208543A-03A

Hexane	1.5	1.1 J	5.3	4.0 J
2-Butanone (Methyl Ethyl Ketone)	6.1	28	18	83
Chloroform	1.5	0.38 J	7.4	1.9 J
2,2,4-Trimethylpentane	1.5	1.4 J	7.1	6.5 J
Benzene	1.5	12	4.8	39
1,4-Dioxane	6.1	2.4 J	22	8.5 J
cis-1,3-Dichloropropene	1.5	~~0.42 J~~ U	6.9	~~1.9 J~~ U
4-Methyl-2-pentanone	1.5	66	6.2	270
Toluene	1.5	5.3	5.7	20
trans-1,3-Dichloropropene	1.5	~~0.56 J~~ U	6.9	~~2.5 J~~ U
Tetrachloroethene	1.5	~~0.49 J~~ U	10	~~3.3 J~~ U
Chlorobenzene	1.5	~~1.1 J~~ U	7.0	~~5.3 J~~ U
Ethyl Benzene	1.5	0.76 J	6.6	3.3 J
m,p-Xylene	1.5	1.6	6.6	6.8
o-Xylene	1.5	0.69 J	6.6	3.0 J
Styrene	1.5	0.65 J	6.4	2.8 J
Cumene	1.5	28	7.4	140
Propylbenzene	1.5	0.42 J	7.4	2.1 J
4-Ethyltoluene	1.5	1.0 J	7.4	5.2 J
1,3,5-Trimethylbenzene	1.5	0.39 J	7.4	1.9 J
1,3-Dichlorobenzene	1.5	~~0.50 J~~ U	9.1	~~3.0 J~~ U
1,4-Dichlorobenzene	1.5	~~0.62 J~~ U	9.1	~~3.7 J~~ U
1,2-Dichlorobenzene	1.5	0.28 J	9.1	1.7 J
Isopentane	6.1	2.0 J	18	6.0 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Cyclopropane, 1,1-dichloro-2-hexyl-	5685-42-7	50%	50 NJ
4-Nonene	2198-23-4	46%	100 NJ
Oxirane, 2,3-dimethyl-	3266-23-7	59%	64 NJ
Decane, 2,2,5-trimethyl-	62237-96-1	64%	50 NJ
Undecane, 2,2-dimethyl-	17312-64-0	59%	180 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	72%	160 NJ
Decane, 2,2,7-trimethyl-	62237-99-4	64%	380 NJ
2-Hexenal, 2-ethyl-	645-62-5	25%	110 NJ

eurofins | Air Toxics

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

Client Sample ID: VMP-4-5-082012

Lab ID#: 1208543A-03A

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Cyclohexanone, 4-methyl-	589-92-4	59%	240 NJ
Ethanone, 1-phenyl-	98-86-2	91%	70 NJ

Client Sample ID: VMP-11-5-082112

Lab ID#: 1208543A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.84 J	7.0	4.1 J
Freon 11	1.4	0.44 J	7.9	2.5 J
Ethanol	5.6	2.3 J J	11	4.3 J J
Acetone	14	5.9 J J	33	14 J J
Carbon Disulfide	5.6	~~1.5 J~~ U	18	~~4.7 J~~ U
Hexane	1.4	~~0.37 J~~ U	5.0	~~1.3 J~~ U
Chloroform	1.4	0.21 J	6.9	1.0 J
2,2,4-Trimethylpentane	1.4	0.36 J	6.6	1.7 J
Benzene	1.4	2.0	4.5	6.5
Toluene	1.4	~~0.53 J~~ U	5.3	~~2.0 J~~ U
trans-1,3-Dichloropropene	1.4	~~0.48 J~~ U	6.4	~~2.2 J~~ U
Tetrachloroethene	1.4	~~0.38 J~~ U	9.6	~~2.6 J~~ U
Chlorobenzene	1.4	~~1.2 J~~ U	6.5	~~5.7 J~~ U
Cumene	1.4	0.22 J	6.9	1.1 J
1,3-Dichlorobenzene	1.4	~~0.39 J~~ U	8.5	~~2.4 J~~ U
1,4-Dichlorobenzene	1.4	~~0.49 J~~ U	8.5	~~2.9 J~~ U
alpha-Chlorotoluene	1.4	0.30 J	7.3	1.6 J
1,2-Dichlorobenzene	1.4	0.28 J	8.5	1.7 J
Isopentane	5.6	1.5 J	17	4.4 J

Client Sample ID: VMP-11-5-082112-Dup

Lab ID#: 1208543A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.74 J	7.0	3.7 J

eurofins | Air Toxics

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

Client Sample ID: VMP-11-5-082112-Dup

Lab ID#: 1208543A-05A

Freon 11	1.4	0.40 J	7.9	2.3 J
Acetone	14	4.1 J J	33	9.8 J J
2-Propanol	5.6	0.95 J	14	2.3 J
Carbon Disulfide	5.6	~~1.6 J~~ U	18	~~4.9 J~~ U
Methylene Chloride	14	~~0.43 J~~ U	49	~~1.5 J~~ U
Hexane	1.4	0.74 J	5.0	2.6 J
Chloroform	1.4	0.20 J	6.9	1.0 J
2,2,4-Trimethylpentane	1.4	0.35 J	6.6	1.6 J
Benzene	1.4	2.6	4.5	8.2
1,2-Dichloroethane	1.4	~~0.16 J~~ U	5.7	~~0.67 J~~ U
Heptane	1.4	0.38 J	5.8	1.5 J
Toluene	1.4	~~0.44 J~~ U	5.3	~~1.7 J~~ U
trans-1,3-Dichloropropene	1.4	~~0.49 J~~ U	6.4	~~2.2 J~~ U
Chlorobenzene	1.4	~~1.2 J~~ U	6.5	~~5.8 J~~ U
Bromoform	1.4	0.33 J	14	3.4 J
1,1,2,2-Tetrachloroethane	1.4	0.19 J	9.7	1.3 J
1,4-Dichlorobenzene	1.4	~~0.21 J~~ U	8.5	~~1.3 J~~ U
Isopentane	5.6	1.6 J	17	4.8 J
Propylene	5.6	1.2 J	9.7	2.1 J

Client Sample ID: VMP-13-5-082112

Lab ID#: 1208543A-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.77 J	7.1	3.8 J
Freon 11	1.4	0.38 J	8.1	2.2 J
Ethanol	5.8	8.4 J	11	16 J
Acetone	14	10 J J	34	25 J J
Carbon Disulfide	5.8	3.8 J	18	12 J
Hexane	1.4	1.0 J	5.1	3.6 J
2-Butanone (Methyl Ethyl Ketone)	5.8	1.5 J	17	4.5 J
Chloroform	1.4	0.61 J	7.0	3.0 J
Cyclohexane	1.4	0.48 J	5.0	1.6 J
2,2,4-Trimethylpentane	1.4	8.5	6.8	40
Benzene	1.4	8.0	4.6	26

eurofins | Air Toxics

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

Client Sample ID: VMP-13-5-082112

Lab ID#: 1208543A-06A

Heptane	1.4	1.1 J	5.9	4.4 J
cis-1,3-Dichloropropene	1.4	~~0.38 J~~ U	6.6	~~1.7 J~~ U
Toluene	1.4	~~0.46 J~~ U	5.4	~~1.7 J~~ U
Chlorobenzene	1.4	~~0.86 J~~ U	6.6	~~3.9 J~~ U
Cumene	1.4	0.22 J	7.1	1.1 J
Propylbenzene	1.4	0.23 J	7.1	1.1 J
1,3-Dichlorobenzene	1.4	~~0.42 J~~ U	8.7	~~2.5 J~~ U
1,4-Dichlorobenzene	1.4	~~0.38 J~~ U	8.7	~~2.3 J~~ U
alpha-Chlorotoluene	1.4	0.31 J	7.5	1.6 J
Isopentane	5.8	6.6	17	20
Propylene	5.8	1.5 J	9.9	2.5 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
1-Propanol, 2-methyl-	78-83-1	4.0%	7.7 NJ
1-Butanamine, 2-methyl-	96-15-1	40%	15 NJ
Ethanol, 2-methoxy-	109-86-4	9.0%	10 NJ
Pyrrolidine	123-75-1	47%	9.4 NJ
2(3H)-Furanone, dihydro-4,4-dimethyl-	13861-97-7	50%	13 NJ
Ethenone	463-51-4	2.0%	17 NJ
Propane, 2-methyl-2-nitro-	594-70-7	10%	8.4 NJ
Pentane, 2-isocyano-2,4,4-trimethyl-	14542-93-9	35%	7.3 NJ
Furan, tetrahydro-3-methyl-4-methylene-	61142-01-6	43%	8.7 NJ

Client Sample ID: VMP-10-5-082112

Lab ID#: 1208543A-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.63 J	7.5	3.1 J
Freon 11	1.5	0.34 J	8.5	1.9 J
Ethanol	6.1	1.8 J J	11	3.4 J J
Acetone	15	5.2 J J	36	12 J J
Carbon Disulfide	6.1	~~1.3 J~~ U	19	~~4.1 J~~ U
Methylene Chloride	15	0.51 J	53	1.8 J
Hexane	1.5	0.62 J	5.3	2.2 J

eurofins | Air Toxics

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

Client Sample ID: VMP-10-5-082112

Lab ID#: 1208543A-07A

2,2,4-Trimethylpentane	1.5	0.29 J	7.1	1.3 J
Benzene	1.5	0.91 J	4.8	2.9 J
4-Methyl-2-pentanone	1.5	0.65 J	6.2	2.7 J
Toluene	1.5	~~0.46 J~~ U	5.7	~~1.7 J~~ U
Chlorobenzene	1.5	~~1.1 J~~ U	7.0	~~5.0 J~~ U
Ethyl Benzene	1.5	0.25 J	6.6	1.1 J
m,p-Xylene	1.5	~~0.30 J~~ U	6.6	~~1.3 J~~ U
1,4-Dichlorobenzene	1.5	~~0.32 J~~ U	9.1	~~1.9 J~~ U
Isopentane	6.1	2.5 J	18	7.3 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Propanoic acid, 3-ethoxy-, ethyl ester	763-69-9	64%	12 NJ
Cyclohexane, 1,4-dimethyl-	589-90-2	38%	9.2 NJ
Cyclohexane, 1,1,2-trimethyl-	7094-26-0	43%	8.4 NJ
Ethanone, 1-phenyl-	98-86-2	81%	9.8 NJ

eurofins | Air Toxics

Client Sample ID: VMP-21-5-082012

Lab ID#: 1208543A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083035**	**Date of Collection:**	**8/20/12 11:16:00 AM**
Dil. Factor:	**3.54**	**Date of Analysis:**	**8/30/12 10:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.8	0.69 J	8.8	3.4 J
Freon 114	1.8	Not Detected	12	Not Detected
Chloromethane	18	Not Detected	36	Not Detected
Vinyl Chloride	1.8	Not Detected	4.5	Not Detected
1,3-Butadiene	1.8	Not Detected UJ	3.9	Not Detected UJ
Bromomethane	18	Not Detected	69	Not Detected
Chloroethane	7.1	Not Detected	19	Not Detected
Freon 11	1.8	0.38 J	9.9	2.1 J
Ethanol	7.1	7.4 J	13	14 J
Freon 113	1.8	Not Detected	14	Not Detected
1,1-Dichloroethene	1.8	Not Detected	7.0	Not Detected
Acetone	18	12 J J	42	28 J J
2-Propanol	7.1	5.8 J	17	14 J
Carbon Disulfide	7.1	~~1.2 J~~ U	22	~~3.6 J~~ U
3-Chloropropene	7.1	Not Detected	22	Not Detected
Methylene Chloride	18	Not Detected	61	Not Detected
Methyl tert-butyl ether	1.8	Not Detected	6.4	Not Detected
trans-1,2-Dichloroethene	1.8	Not Detected	7.0	Not Detected
Hexane	1.8	~~0.49 J~~ U	6.2	~~1.7 J~~ U
1,1-Dichloroethane	1.8	Not Detected	7.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	7.1	5.8 J	21	17 J
cis-1,2-Dichloroethene	1.8	Not Detected	7.0	Not Detected
Tetrahydrofuran	1.8	Not Detected UJ	5.2	Not Detected UJ
Chloroform	1.8	Not Detected	8.6	Not Detected
1,1,1-Trichloroethane	1.8	Not Detected	9.6	Not Detected
Cyclohexane	1.8	Not Detected	6.1	Not Detected
Carbon Tetrachloride	1.8	Not Detected	11	Not Detected
2,2,4-Trimethylpentane	1.8	0.62 J	8.3	2.9 J
Benzene	1.8	2.7	5.6	8.6
1,2-Dichloroethane	1.8	Not Detected	7.2	Not Detected
Heptane	1.8	0.49 J	7.2	2.0 J
Trichloroethene	1.8	Not Detected	9.5	Not Detected
1,2-Dichloropropane	1.8	Not Detected	8.2	Not Detected
1,4-Dioxane	7.1	Not Detected	26	Not Detected
Bromodichloromethane	1.8	Not Detected	12	Not Detected
cis-1,3-Dichloropropene	1.8	Not Detected	8.0	Not Detected
4-Methyl-2-pentanone	1.8	30	7.2	120
Toluene	1.8	2.7	6.7	10
trans-1,3-Dichloropropene	1.8	Not Detected	8.0	Not Detected
1,1,2-Trichloroethane	1.8	Not Detected	9.6	Not Detected
Tetrachloroethene	1.8	0.77 J	12	5.2 J
2-Hexanone	7.1	Not Detected	29	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-21-5-082012

Lab ID#: 1208543A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083035**	**Date of Collection: 8/20/12 11:16:00 AM**	
Dil. Factor:	**3.54**	**Date of Analysis: 8/30/12 10:38 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.8	Not Detected	15	Not Detected
1,2-Dibromoethane (EDB)	1.8	Not Detected	14	Not Detected
Chlorobenzene	1.8	~~1.5 J~~ U	8.1	~~6.8 J~~ U
Ethyl Benzene	1.8	0.32 J	7.7	1.4 J
m,p-Xylene	1.8	0.66 J	7.7	2.9 J
o-Xylene	1.8	Not Detected	7.7	Not Detected
Styrene	1.8	Not Detected	7.5	Not Detected
Bromoform	1.8	Not Detected	18	Not Detected
Cumene	1.8	12	8.7	58
1,1,2,2-Tetrachloroethane	1.8	Not Detected	12	Not Detected
Propylbenzene	1.8	0.28 J	8.7	1.4 J
4-Ethyltoluene	1.8	0.45 J	8.7	2.2 J
1,3,5-Trimethylbenzene	1.8	0.32 J	8.7	1.6 J
1,2,4-Trimethylbenzene	1.8	0.42 J	8.7	2.1 J
1,3-Dichlorobenzene	1.8	~~0.40 J~~ U	11	~~2.4 J~~ U
1,4-Dichlorobenzene	1.8	~~0.40 J~~ U	11	~~2.4 J~~ U
alpha-Chlorotoluene	1.8	Not Detected	9.2	Not Detected
1,2-Dichlorobenzene	1.8	Not Detected	11	Not Detected
1,2,4-Trichlorobenzene	7.1	Not Detected	52	Not Detected
Hexachlorobutadiene	7.1	Not Detected	76	Not Detected
Butane	7.1	Not Detected	17	Not Detected
Isopentane	7.1	Not Detected	21	Not Detected
Ethyl Acetate	7.1	Not Detected	26	Not Detected
Propylene	7.1	Not Detected	12	Not Detected
Vinyl Acetate	7.1	Not Detected	25	Not Detected
Vinyl Bromide	7.1	Not Detected	31	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
1-Nonene	124-11-8	43%	27 NJ
Cyclopentane, 1-methyl-2-propyl-	3728-57-2	58%	52 NJ
Cyclopentane, 1,2,3-trimethyl-, (1.alpha	2613-69-6	83%	24 NJ
Oxirane, 2,3-dimethyl-	3266-23-7	43%	27 NJ
Octane, 2,2,6-trimethyl-	62016-28-8	56%	27 NJ
Decane, 2,2,7-trimethyl-	62237-99-4	64%	81 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	72%	23 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	64%	76 NJ
Heptane, 4-ethyl-2,2,6,6-tetramethyl-	62108-31-0	78%	140 NJ

eurofins | Air Toxics

Client Sample ID: VMP-21-5-082012

Lab ID#: 1208543A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083035**	**Date of Collection:**	**8/20/12 11:16:00 AM**
Dil. Factor:	**3.54**	**Date of Analysis:**	**8/30/12 10:38 PM**

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Hexane, 1-(hexyloxy)-5-methyl-	74421-19-5	53%	48 NJ

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	111	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: VMP-42-10-082012

Lab ID#: 1208543A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083031**	**Date of Collection: 8/20/12 12:13:00 PM**	
Dil. Factor:	**3.11**	**Date of Analysis: 8/30/12 08:56 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.6	0.61 J	7.7	3.0 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 UJ	3.4	Not Detected UJ
Bromomethane	16	~~0.74 J~~ U	60	~~2.9 J~~ U
Chloroethane	6.2	Not Detected	16	Not Detected
Freon 11	1.6	0.51 J	8.7	2.9 J
Ethanol	6.2	23 J	12	43 J
Freon 113	1.6	Not Detected	12	Not Detected
1,1-Dichloroethene	1.6	Not Detected	6.2	Not Detected
Acetone	16	9.0 J J	37	21 J J
2-Propanol	6.2	11	15	28
Carbon Disulfide	6.2	~~1.2 J~~ U	19	~~3.8 J~~ U
3-Chloropropene	6.2	Not Detected	19	Not Detected
Methylene Chloride	16	1.2 J	54	4.3 J
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	0.71 J	5.5	2.5 J
1,1-Dichloroethane	1.6	Not Detected	6.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	6.2	18	18	52
cis-1,2-Dichloroethene	1.6	Not Detected	6.2	Not Detected
Tetrahydrofuran	1.6	0.47 J J	4.6	1.4 J J
Chloroform	1.6	0.85 J	7.6	4.1 J
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	12	7.3	55
Benzene	1.6	2.3	5.0	7.4
1,2-Dichloroethane	1.6	Not Detected	6.3	Not Detected
Heptane	1.6	0.84 J	6.4	3.5 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	~~0.54 J~~ U	7.0	~~2.4 J~~ U
4-Methyl-2-pentanone	1.6	43	6.4	180
Toluene	1.6	4.6	5.8	18
trans-1,3-Dichloropropene	1.6	~~0.46 J~~ U	7.0	~~2.1 J~~ U
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

eurofins | Air Toxics

Client Sample ID: VMP-42-10-082012

Lab ID#: 1208543A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083031**	**Date of Collection:**	**8/20/12 12:13:00 PM**
Dil. Factor:	**3.11**	**Date of Analysis:**	**8/30/12 08:56 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.6	Not Detected	13	Not Detected
1,2-Dibromoethane (EDB)	1.6	Not Detected	12	Not Detected
Chlorobenzene	1.6	~~1.4 J~~ U	7.2	~~6.5 J~~ U
Ethyl Benzene	1.6	0.63 J	6.8	2.7 J
m,p-Xylene	1.6	1.7	6.8	7.3
o-Xylene	1.6	0.56 J	6.8	2.4 J
Styrene	1.6	0.69 J	6.6	3.0 J
Bromoform	1.6	Not Detected	16	Not Detected
Cumene	1.6	15	7.6	75
1,1,2,2-Tetrachloroethane	1.6	Not Detected	11	Not Detected
Propylbenzene	1.6	0.35 J	7.6	1.7 J
4-Ethyltoluene	1.6	0.86 J	7.6	4.2 J
1,3,5-Trimethylbenzene	1.6	0.37 J	7.6	1.8 J
1,2,4-Trimethylbenzene	1.6	0.75 J	7.6	3.7 J
1,3-Dichlorobenzene	1.6	~~0.58 J~~ U	9.3	~~3.5 J~~ U
1,4-Dichlorobenzene	1.6	~~0.49 J~~ U	9.3	~~3.0 J~~ U
alpha-Chlorotoluene	1.6	0.54 J	8.0	2.8 J
1,2-Dichlorobenzene	1.6	Not Detected	9.3	Not Detected
1,2,4-Trichlorobenzene	6.2	Not Detected	46	Not Detected
Hexachlorobutadiene	6.2	Not Detected	66	Not Detected
Butane	6.2	Not Detected	15	Not Detected
Isopentane	6.2	2.7 J	18	8.0 J
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))
1-Hexene, 5-methyl-	3524-73-0	38%	42 NJ
Cyclopentane, 1-methyl-2-propyl-	3728-57-2	50%	69 NJ
Oxirane, 2,3-dimethyl-	3266-23-7	58%	53 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	72%	36 NJ
Decane, 2,2,4-trimethyl-	62237-98-3	59%	120 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	72%	120 NJ
Decane, 2,2-dimethyl-	17302-37-3	64%	250 NJ
2-Pentenal, (E)-	1576-87-0	38%	45 NJ
1-Pentanol, 2-ethyl-4-methyl-	106-67-2	64%	170 NJ
Ethanone, 1-phenyl-	98-86-2	91%	40 NJ

eurofins | Air Toxics

Client Sample ID: VMP-42-10-082012

Lab ID#: 1208543A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083031**	**Date of Collection: 8/20/12 12:13:00 PM**
Dil. Factor:	**3.11**	**Date of Analysis: 8/30/12 08:56 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	110	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: VMP-4-5-082012

Lab ID#: 1208543A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083032**	**Date of Collection: 8/20/12 1:03:00 PM**	
Dil. Factor:	**3.03**	**Date of Analysis: 8/30/12 09:27 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.77 J	7.5	3.8 J
Freon 114	1.5	Not Detected	10	Not Detected
Chloromethane	15	Not Detected	31	Not Detected
Vinyl Chloride	1.5	Not Detected	3.9	Not Detected
1,3-Butadiene	1.5	Not Detected UJ	3.4	Not Detected UJ
Bromomethane	15	Not Detected	59	Not Detected
Chloroethane	6.1	Not Detected	16	Not Detected
Freon 11	1.5	0.32 J	8.5	1.8 J
Ethanol	6.1	40 J	11	74 J
Freon 113	1.5	Not Detected	12	Not Detected
1,1-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Acetone	15	37 J J	36	88 J J
2-Propanol	6.1	18	15	44
Carbon Disulfide	6.1	~~1.6 J~~ U	19	~~4.8 J~~ U
3-Chloropropene	6.1	Not Detected	19	Not Detected
Methylene Chloride	15	1.6 J	53	5.4 J
Methyl tert-butyl ether	1.5	Not Detected	5.5	Not Detected
trans-1,2-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Hexane	1.5	1.1 J	5.3	4.0 J
1,1-Dichloroethane	1.5	Not Detected	6.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	6.1	28	18	83
cis-1,2-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Tetrahydrofuran	1.5	Not Detected UJ	4.5	Not Detected UJ
Chloroform	1.5	0.38 J	7.4	1.9 J
1,1,1-Trichloroethane	1.5	Not Detected	8.3	Not Detected
Cyclohexane	1.5	Not Detected	5.2	Not Detected
Carbon Tetrachloride	1.5	Not Detected	9.5	Not Detected
2,2,4-Trimethylpentane	1.5	1.4 J	7.1	6.5 J
Benzene	1.5	12	4.8	39
1,2-Dichloroethane	1.5	Not Detected	6.1	Not Detected
Heptane	1.5	Not Detected	6.2	Not Detected
Trichloroethene	1.5	Not Detected	8.1	Not Detected
1,2-Dichloropropane	1.5	Not Detected	7.0	Not Detected
1,4-Dioxane	6.1	2.4 J	22	8.5 J
Bromodichloromethane	1.5	Not Detected	10	Not Detected
cis-1,3-Dichloropropene	1.5	~~0.42 J~~ U	6.9	~~1.9 J~~ U
4-Methyl-2-pentanone	1.5	66	6.2	270
Toluene	1.5	5.3	5.7	20
trans-1,3-Dichloropropene	1.5	~~0.56 J~~ U	6.9	~~2.5 J~~ U
1,1,2-Trichloroethane	1.5	Not Detected	8.3	Not Detected
Tetrachloroethene	1.5	~~0.49 J~~ U	10	~~3.3 J~~ U
2-Hexanone	6.1	Not Detected	25	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-4-5-082012
Lab ID#: 1208543A-03A
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083032**	**Date of Collection: 8/20/12 1:03:00 PM**	
Dil. Factor:	**3.03**	**Date of Analysis: 8/30/12 09:27 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.5	Not Detected	13	Not Detected
1,2-Dibromoethane (EDB)	1.5	Not Detected	12	Not Detected
Chlorobenzene	1.5	~~1.1 J~~ UA	7.0	~~5.3 J~~ UA
Ethyl Benzene	1.5	0.76 J	6.6	3.3 J
m,p-Xylene	1.5	1.6	6.6	6.8
o-Xylene	1.5	0.69 J	6.6	3.0 J
Styrene	1.5	0.65 J	6.4	2.8 J
Bromoform	1.5	Not Detected	16	Not Detected
Cumene	1.5	28	7.4	140
1,1,2,2-Tetrachloroethane	1.5	Not Detected	10	Not Detected
Propylbenzene	1.5	0.42 J	7.4	2.1 J
4-Ethyltoluene	1.5	1.0 J	7.4	5.2 J
1,3,5-Trimethylbenzene	1.5	0.39 J	7.4	1.9 J
1,2,4-Trimethylbenzene	1.5	Not Detected	7.4	Not Detected
1,3-Dichlorobenzene	1.5	~~0.50 J~~ U	9.1	~~3.0 J~~ U
1,4-Dichlorobenzene	1.5	~~0.62 J~~ U	9.1	~~3.7 J~~ U
alpha-Chlorotoluene	1.5	Not Detected	7.8	Not Detected
1,2-Dichlorobenzene	1.5	0.28 J	9.1	1.7 J
1,2,4-Trichlorobenzene	6.1	Not Detected	45	Not Detected
Hexachlorobutadiene	6.1	Not Detected	65	Not Detected
Butane	6.1	Not Detected	14	Not Detected
Isopentane	6.1	2.0 J	18	6.0 J
Ethyl Acetate	6.1	Not Detected	22	Not Detected
Propylene	6.1	Not Detected	10	Not Detected
Vinyl Acetate	6.1	Not Detected	21	Not Detected
Vinyl Bromide	6.1	Not Detected	26	Not Detected

J = Estimated value.
J = Estimated value due to bias in the CCV.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Cyclopropane, 1,1-dichloro-2-hexyl-	5685-42-7	50%	50 NJ
4-Nonene	2198-23-4	46%	100 NJ
Oxirane, 2,3-dimethyl-	3266-23-7	59%	64 NJ
Decane, 2,2,5-trimethyl-	62237-96-1	64%	50 NJ
Undecane, 2,2-dimethyl-	17312-64-0	59%	180 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	72%	160 NJ
Decane, 2,2,7-trimethyl-	62237-99-4	64%	380 NJ
2-Hexenal, 2-ethyl-	645-62-5	25%	110 NJ
Cyclohexanone, 4-methyl-	589-92-4	59%	240 NJ

eurofins | Air Toxics

Client Sample ID: VMP-4-5-082012

Lab ID#: 1208543A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083032**	**Date of Collection: 8/20/12 1:03:00 PM**	
Dil. Factor:	**3.03**	**Date of Analysis: 8/30/12 09:27 PM**	

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Ethanone, 1-phenyl-	98-86-2	91%	70 NJ

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	121	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: VMP-11-5-082112

Lab ID#: 1208543A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j083033	**Date of Collection:**	8/21/12 9:14:00 AM
Dil. Factor:	2.82	**Date of Analysis:**	8/30/12 09:51 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.84 J	7.0	4.1 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 UJ	3.1	Not Detected UJ
Bromomethane	14	Not Detected	55	Not Detected
Chloroethane	5.6	Not Detected	15	Not Detected
Freon 11	1.4	0.44 J	7.9	2.5 J
Ethanol	5.6	2.3 J J	11	4.3 J J
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.6	Not Detected
Acetone	14	5.9 J J	33	14 J J
2-Propanol	5.6	Not Detected	14	Not Detected
Carbon Disulfide	5.6	~~1.5 J~~ U	18	~~4.7 J~~ U
3-Chloropropene	5.6	Not Detected	18	Not Detected
Methylene Chloride	14	Not Detected	49	Not Detected
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	~~0.37 J~~ U	5.0	~~1.3 J~~ U
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 UJ	4.2	Not Detected UJ
Chloroform	1.4	0.21 J	6.9	1.0 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	0.36 J	6.6	1.7 J
Benzene	1.4	2.0	4.5	6.5
1,2-Dichloroethane	1.4	Not Detected	5.7	Not Detected
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	~~0.53 J~~ U	5.3	~~2.0 J~~ U
trans-1,3-Dichloropropene	1.4	~~0.48 J~~ U	6.4	~~2.2 J~~ U
1,1,2-Trichloroethane	1.4	Not Detected	7.7	Not Detected
Tetrachloroethene	1.4	~~0.38 J~~ U	9.6	~~2.6 J~~ U
2-Hexanone	5.6	Not Detected	23	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-11-5-082112

Lab ID#: 1208543A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083033**	**Date of Collection: 8/21/12 9:14:00 AM**	
Dil. Factor:	**2.82**	**Date of Analysis: 8/30/12 09:51 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	~~1.2 J~~ 4	6.5	~~5.7 J~~ 4
Ethyl Benzene	1.4	Not Detected	6.1	Not Detected
m,p-Xylene	1.4	Not Detected	6.1	Not Detected
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
Cumene	1.4	0.22 J	6.9	1.1 J
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.7	Not Detected
Propylbenzene	1.4	Not Detected	6.9	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	Not Detected	6.9	Not Detected
1,3-Dichlorobenzene	1.4	~~0.39 J~~ 4	8.5	~~2.4 J~~ 4
1,4-Dichlorobenzene	1.4	~~0.49 J~~ 4	8.5	~~2.9 J~~ 4
alpha-Chlorotoluene	1.4	0.30 J	7.3	1.6 J
1,2-Dichlorobenzene	1.4	0.28 J	8.5	1.7 J
1,2,4-Trichlorobenzene	5.6	Not Detected	42	Not Detected
Hexachlorobutadiene	5.6	Not Detected	60	Not Detected
Butane	5.6	Not Detected	13	Not Detected
Isopentane	5.6	1.5 J	17	4.4 J
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

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	128	70-130
4-Bromofluorobenzene	109	70-130

eurofins | Air Toxics

Client Sample ID: VMP-11-5-082112-Dup

Lab ID#: 1208543A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083034**	**Date of Collection: 8/21/12 9:14:00 AM**	
Dil. Factor:	**2.82**	**Date of Analysis: 8/30/12 10:15 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.74 J	7.0	3.7 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 UJ	3.1	Not Detected UJ
Bromomethane	14	Not Detected	55	Not Detected
Chloroethane	5.6	Not Detected	15	Not Detected
Freon 11	1.4	0.40 J	7.9	2.3 J
Ethanol	5.6	Not Detected UJ	11	Not Detected UJ
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.6	Not Detected
Acetone	14	4.1 J J	33	9.8 J J
2-Propanol	5.6	0.95 J	14	2.3 J
Carbon Disulfide	5.6	~~1.6 J~~ U	18	~~4.9 J~~ U
3-Chloropropene	5.6	Not Detected	18	Not Detected
Methylene Chloride	14	~~0.43 J~~ U	49	~~1.5 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	0.74 J	5.0	2.6 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 UJ	4.2	Not Detected UJ
Chloroform	1.4	0.20 J	6.9	1.0 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	0.35 J	6.6	1.6 J
Benzene	1.4	2.6	4.5	8.2
1,2-Dichloroethane	1.4	~~0.16 J~~ U	5.7	~~0.67 J~~ U
Heptane	1.4	0.38 J	5.8	1.5 J
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	~~0.44 J~~ U	5.3	~~1.7 J~~ U
trans-1,3-Dichloropropene	1.4	~~0.49 J~~ U	6.4	~~2.2 J~~ U
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

eurofins | Air Toxics

Client Sample ID: VMP-11-5-082112-Dup
Lab ID#: 1208543A-05A
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j083034	**Date of Collection:**	8/21/12 9:14:00 AM
Dil. Factor:	2.82	**Date of Analysis:**	8/30/12 10:15 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	~~1.2 J~~ U	6.5	~~5.8 J~~ U
Ethyl Benzene	1.4	Not Detected	6.1	Not Detected
m,p-Xylene	1.4	Not Detected	6.1	Not Detected
o-Xylene	1.4	Not Detected	6.1	Not Detected
Styrene	1.4	Not Detected	6.0	Not Detected
Bromoform	1.4	0.33 J	14	3.4 J
Cumene	1.4	Not Detected	6.9	Not Detected
1,1,2,2-Tetrachloroethane	1.4	0.19 J	9.7	1.3 J
Propylbenzene	1.4	Not Detected	6.9	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	Not Detected	6.9	Not Detected
1,3-Dichlorobenzene	1.4	Not Detected	8.5	Not Detected
1,4-Dichlorobenzene	1.4	~~0.21 J~~ U	8.5	~~1.3 J~~ U
alpha-Chlorotoluene	1.4	Not Detected	7.3	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.5	Not Detected
1,2,4-Trichlorobenzene	5.6	Not Detected	42	Not Detected
Hexachlorobutadiene	5.6	Not Detected	60	Not Detected
Butane	5.6	Not Detected	13	Not Detected
Isopentane	5.6	1.6 J	17	4.8 J
Ethyl Acetate	5.6	Not Detected	20	Not Detected
Propylene	5.6	1.2 J	9.7	2.1 J
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

Surrogates	%Recovery	Method Limits
Toluene-d8	89	70-130
1,2-Dichloroethane-d4	117	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: VMP-13-5-082112

Lab ID#: 1208543A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083036**	**Date of Collection:**	**8/21/12 10:08:00 AM**
Dil. Factor:	**2.89**	**Date of Analysis:**	**8/30/12 11:12 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.77 J	7.1	3.8 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 UJ	3.2	Not Detected UJ
Bromomethane	14	Not Detected	56	Not Detected
Chloroethane	5.8	Not Detected	15	Not Detected
Freon 11	1.4	0.38 J	8.1	2.2 J
Ethanol	5.8	8.4 J	11	16 J
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Acetone	14	10 J J	34	25 J J
2-Propanol	5.8	Not Detected	14	Not Detected
Carbon Disulfide	5.8	3.8 J	18	12 J
3-Chloropropene	5.8	Not Detected	18	Not Detected
Methylene Chloride	14	Not Detected	50	Not Detected
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	1.0 J	5.1	3.6 J
1,1-Dichloroethane	1.4	Not Detected	5.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.8	1.5 J	17	4.5 J
cis-1,2-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Tetrahydrofuran	1.4	Not Detected UJ	4.3	Not Detected UJ
Chloroform	1.4	0.61 J	7.0	3.0 J
1,1,1-Trichloroethane	1.4	Not Detected	7.9	Not Detected
Cyclohexane	1.4	0.48 J	5.0	1.6 J
Carbon Tetrachloride	1.4	Not Detected	9.1	Not Detected
2,2,4-Trimethylpentane	1.4	8.5	6.8	40
Benzene	1.4	8.0	4.6	26
1,2-Dichloroethane	1.4	Not Detected	5.8	Not Detected
Heptane	1.4	1.1 J	5.9	4.4 J
Trichloroethene	1.4	Not Detected	7.8	Not Detected
1,2-Dichloropropane	1.4	Not Detected	6.7	Not Detected
1,4-Dioxane	5.8	Not Detected	21	Not Detected
Bromodichloromethane	1.4	Not Detected	9.7	Not Detected
cis-1,3-Dichloropropene	1.4	~~0.38 J~~ U	6.6	~~1.7 J~~ U
4-Methyl-2-pentanone	1.4	Not Detected	5.9	Not Detected
Toluene	1.4	~~0.46 J~~ U	5.4	~~1.7 J~~ U
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

eurofins | Air Toxics

Client Sample ID: VMP-13-5-082112

Lab ID#: 1208543A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083036**	**Date of Collection:**	**8/21/12 10:08:00 AM**
Dil. Factor:	**2.89**	**Date of Analysis:**	**8/30/12 11:12 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	~~0.86 J~~ U	6.6	~~3.9 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
Cumene	1.4	0.22 J	7.1	1.1 J
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.9	Not Detected
Propylbenzene	1.4	0.23 J	7.1	1.1 J
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	~~0.42 J~~ U	8.7	~~2.5 J~~ U
1,4-Dichlorobenzene	1.4	~~0.38 J~~ U	8.7	~~2.3 J~~ U
alpha-Chlorotoluene	1.4	0.31 J	7.5	1.6 J
1,2-Dichlorobenzene	1.4	Not Detected	8.7	Not Detected
1,2,4-Trichlorobenzene	5.8	Not Detected	43	Not Detected
Hexachlorobutadiene	5.8	Not Detected	62	Not Detected
Butane	5.8	Not Detected	14	Not Detected
Isopentane	5.8	6.6	17	20
Ethyl Acetate	5.8	Not Detected	21	Not Detected
Propylene	5.8	1.5 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))
1-Propanol, 2-methyl-	78-83-1	4.0%	7.7 NJ
1-Butanamine, 2-methyl-	96-15-1	40%	15 NJ
Ethanol, 2-methoxy-	109-86-4	9.0%	10 NJ
Pyrrolidine	123-75-1	47%	9.4 NJ
2(3H)-Furanone, dihydro-4,4-dimethyl-	13861-97-7	50%	13 NJ
Ethenone	463-51-4	2.0%	17 NJ
Propane, 2-methyl-2-nitro-	594-70-7	10%	8.4 NJ
Pentane, 2-isocyano-2,4,4-trimethyl-	14542-93-9	35%	7.3 NJ

eurofins | Air Toxics

Client Sample ID: VMP-13-5-082112

Lab ID#: 1208543A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083036**	**Date of Collection:**	**8/21/12 10:08:00 AM**
Dil. Factor:	**2.89**	**Date of Analysis:**	**8/30/12 11:12 PM**

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Furan, tetrahydro-3-methyl-4-methylene-	61142-01-6	43%	8.7 NJ

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	88	70-130
1,2-Dichloroethane-d4	112	70-130
4-Bromofluorobenzene	107	70-130

eurofins | Air Toxics

Client Sample ID: VMP-10-5-082112

Lab ID#: 1208543A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083037**	**Date of Collection: 8/21/12 10:56:00 AM**	
Dil. Factor:	**3.03**	**Date of Analysis: 8/30/12 11:38 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.63 J	7.5	3.1 J
Freon 114	1.5	Not Detected	10	Not Detected
Chloromethane	15	Not Detected	31	Not Detected
Vinyl Chloride	1.5	Not Detected	3.9	Not Detected
1,3-Butadiene	1.5	Not Detected UJ	3.4	Not Detected UJ
Bromomethane	15	Not Detected	59	Not Detected
Chloroethane	6.1	Not Detected	16	Not Detected
Freon 11	1.5	0.34 J	8.5	1.9 J
Ethanol	6.1	1.8 J J	11	3.4 J J
Freon 113	1.5	Not Detected	12	Not Detected
1,1-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Acetone	15	5.2 J J	36	12 J J
2-Propanol	6.1	Not Detected	15	Not Detected
Carbon Disulfide	6.1	~~1.3 J~~ U	19	~~4.1 J~~ U
3-Chloropropene	6.1	Not Detected	19	Not Detected
Methylene Chloride	15	0.51 J	53	1.8 J
Methyl tert-butyl ether	1.5	Not Detected	5.5	Not Detected
trans-1,2-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Hexane	1.5	0.62 J	5.3	2.2 J
1,1-Dichloroethane	1.5	Not Detected	6.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	6.1	Not Detected	18	Not Detected
cis-1,2-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Tetrahydrofuran	1.5	Not Detected UJ	4.5	Not Detected UJ
Chloroform	1.5	Not Detected	7.4	Not Detected
1,1,1-Trichloroethane	1.5	Not Detected	8.3	Not Detected
Cyclohexane	1.5	Not Detected	5.2	Not Detected
Carbon Tetrachloride	1.5	Not Detected	9.5	Not Detected
2,2,4-Trimethylpentane	1.5	0.29 J	7.1	1.3 J
Benzene	1.5	0.91 J	4.8	2.9 J
1,2-Dichloroethane	1.5	Not Detected	6.1	Not Detected
Heptane	1.5	Not Detected	6.2	Not Detected
Trichloroethene	1.5	Not Detected	8.1	Not Detected
1,2-Dichloropropane	1.5	Not Detected	7.0	Not Detected
1,4-Dioxane	6.1	Not Detected	22	Not Detected
Bromodichloromethane	1.5	Not Detected	10	Not Detected
cis-1,3-Dichloropropene	1.5	Not Detected	6.9	Not Detected
4-Methyl-2-pentanone	1.5	0.65 J	6.2	2.7 J
Toluene	1.5	~~0.46 J~~ U	5.7	~~1.7 J~~ U
trans-1,3-Dichloropropene	1.5	Not Detected	6.9	Not Detected
1,1,2-Trichloroethane	1.5	Not Detected	8.3	Not Detected
Tetrachloroethene	1.5	Not Detected	10	Not Detected
2-Hexanone	6.1	Not Detected	25	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-10-5-082112

Lab ID#: 1208543A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j083037	**Date of Collection:**	8/21/12 10:56:00 AM
Dil. Factor:	3.03	**Date of Analysis:**	8/30/12 11:38 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.5	Not Detected	13	Not Detected
1,2-Dibromoethane (EDB)	1.5	Not Detected	12	Not Detected
Chlorobenzene	1.5	~~1.1 J~~ U	7.0	~~5.0 J~~ U
Ethyl Benzene	1.5	0.25 J	6.6	1.1 J
m,p-Xylene	1.5	~~0.30 J~~ U	6.6	~~1.3 J~~ U
o-Xylene	1.5	Not Detected	6.6	Not Detected
Styrene	1.5	Not Detected	6.4	Not Detected
Bromoform	1.5	Not Detected	16	Not Detected
Cumene	1.5	Not Detected	7.4	Not Detected
1,1,2,2-Tetrachloroethane	1.5	Not Detected	10	Not Detected
Propylbenzene	1.5	Not Detected	7.4	Not Detected
4-Ethyltoluene	1.5	Not Detected	7.4	Not Detected
1,3,5-Trimethylbenzene	1.5	Not Detected	7.4	Not Detected
1,2,4-Trimethylbenzene	1.5	Not Detected	7.4	Not Detected
1,3-Dichlorobenzene	1.5	Not Detected	9.1	Not Detected
1,4-Dichlorobenzene	1.5	~~0.32 J~~ U	9.1	~~1.9 J~~ U
alpha-Chlorotoluene	1.5	Not Detected	7.8	Not Detected
1,2-Dichlorobenzene	1.5	Not Detected	9.1	Not Detected
1,2,4-Trichlorobenzene	6.1	Not Detected	45	Not Detected
Hexachlorobutadiene	6.1	Not Detected	65	Not Detected
Butane	6.1	Not Detected	14	Not Detected
Isopentane	6.1	2.5 J	18	7.3 J
Ethyl Acetate	6.1	Not Detected	22	Not Detected
Propylene	6.1	Not Detected	10	Not Detected
Vinyl Acetate	6.1	Not Detected	21	Not Detected
Vinyl Bromide	6.1	Not Detected	26	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Propanoic acid, 3-ethoxy-, ethyl ester	763-69-9	64%	12 NJ
Cyclohexane, 1,4-dimethyl-	589-90-2	38%	9.2 NJ
Cyclohexane, 1,1,2-trimethyl-	7094-26-0	43%	8.4 NJ
Ethanone, 1-phenyl-	98-86-2	81%	9.8 NJ

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	93	70-130

eurofins | Air Toxics

Client Sample ID: VMP-10-5-082112

Lab ID#: 1208543A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j083037	Date of Collection:	8/21/12 10:56:00 AM
Dil. Factor:	3.03	Date of Analysis:	8/30/12 11:38 PM

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208543A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j083015a	**Date of Collection:** NA	
Dil. Factor:	1.00	**Date of Analysis:** 8/30/12 12:36 PM	

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	0.16 J	19	0.61 J
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected UJ	12	Not Detected UJ
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	0.40 J	6.2	1.2 J
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	0.12 J	17	0.43 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	0.14 J	1.8	0.48 J
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	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	0.059 J	2.0	0.24 J
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	0.17 J	2.7	0.89 J
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	0.17 J	2.3	0.77 J
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	0.13 J	1.9	0.51 J
trans-1,3-Dichloropropene	0.50	0.13 J	2.3	0.58 J
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	0.11 J	3.4	0.76 J
2-Hexanone	2.0	Not Detected	8.2	Not Detected

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208543A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083015a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/30/12 12:36 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	0.33 J	2.3	1.5 J
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	0.097 J	2.2	0.42 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
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	0.12 J	3.0	0.75 J
1,4-Dichlorobenzene	0.50	0.13 J	3.0	0.76 J
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
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.
UJ = Non-detected compound associated with low bias in the CCV and/or LCS.

TENTATIVELY IDENTIFIED COMPOUNDS

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

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	107	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: CCV
Lab ID#: 1208543A-09A
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083003**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/30/12 06:38 AM**	

Compound	%Recovery
Freon 12	120
Freon 114	118
Chloromethane	82
Vinyl Chloride	84
1,3-Butadiene	72
Bromomethane	100
Chloroethane	89
Freon 11	117
Ethanol	74
Freon 113	112
1,1-Dichloroethene	116
Acetone	67 Q
2-Propanol	82
Carbon Disulfide	91
3-Chloropropene	101
Methylene Chloride	77
Methyl tert-butyl ether	118
trans-1,2-Dichloroethene	97
Hexane	87
1,1-Dichloroethane	88
2-Butanone (Methyl Ethyl Ketone)	101
cis-1,2-Dichloroethene	85
Tetrahydrofuran	77
Chloroform	106
1,1,1-Trichloroethane	116
Cyclohexane	100
Carbon Tetrachloride	114
2,2,4-Trimethylpentane	77
Benzene	103
1,2-Dichloroethane	113
Heptane	119
Trichloroethene	115
1,2-Dichloropropane	84
1,4-Dioxane	97
Bromodichloromethane	117
cis-1,3-Dichloropropene	111
4-Methyl-2-pentanone	87
Toluene	96
trans-1,3-Dichloropropene	113
1,1,2-Trichloroethane	101
Tetrachloroethene	104
2-Hexanone	91

eurofins | Air Toxics

Client Sample ID: CCV
Lab ID#: 1208543A-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083003**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/30/12 06:38 AM**	

Compound	%Recovery
Dibromochloromethane	113
1,2-Dibromoethane (EDB)	102
Chlorobenzene	86
Ethyl Benzene	106
m,p-Xylene	105
o-Xylene	104
Styrene	113
Bromoform	116
Cumene	113
1,1,2,2-Tetrachloroethane	89
Propylbenzene	110
4-Ethyltoluene	108
1,3,5-Trimethylbenzene	105
1,2,4-Trimethylbenzene	107
1,3-Dichlorobenzene	96
1,4-Dichlorobenzene	96
alpha-Chlorotoluene	112
1,2-Dichlorobenzene	95
1,2,4-Trichlorobenzene	99
Hexachlorobutadiene	120
Butane	85
Isopentane	77
Ethyl Acetate	76
Propylene	75
Vinyl Acetate	110
Vinyl Bromide	113

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	106	70-130

eurofins | Air Toxics

Client Sample ID: LCS
Lab ID#: 1208543A-10A
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083007**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/30/12 08:33 AM**	

Compound	%Recovery
Freon 12	120
Freon 114	120
Chloromethane	83
Vinyl Chloride	86
1,3-Butadiene	75
Bromomethane	103
Chloroethane	89
Freon 11	117
Ethanol	72
Freon 113	118
1,1-Dichloroethene	132 Q
Acetone	67 Q
2-Propanol	80
Carbon Disulfide	117
3-Chloropropene	121
Methylene Chloride	73
Methyl tert-butyl ether	113
trans-1,2-Dichloroethene	126
Hexane	86
1,1-Dichloroethane	89
2-Butanone (Methyl Ethyl Ketone)	99
cis-1,2-Dichloroethene	90
Tetrahydrofuran	70
Chloroform	103
1,1,1-Trichloroethane	114
Cyclohexane	101
Carbon Tetrachloride	112
2,2,4-Trimethylpentane	78
Benzene	98
1,2-Dichloroethane	104
Heptane	108
Trichloroethene	105
1,2-Dichloropropane	78
1,4-Dioxane	96
Bromodichloromethane	107
cis-1,3-Dichloropropene	96
4-Methyl-2-pentanone	78
Toluene	91
trans-1,3-Dichloropropene	115
1,1,2-Trichloroethane	97
Tetrachloroethene	100
2-Hexanone	85

eurofins | Air Toxics

Client Sample ID: LCS
Lab ID#: 1208543A-10A
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083007**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/30/12 08:33 AM**	

Compound	%Recovery
Dibromochloromethane	110
1,2-Dibromoethane (EDB)	100
Chlorobenzene	88
Ethyl Benzene	103
m,p-Xylene	103
o-Xylene	101
Styrene	108
Bromoform	112
Cumene	110
1,1,2,2-Tetrachloroethane	94
Propylbenzene	110
4-Ethyltoluene	96
1,3,5-Trimethylbenzene	99
1,2,4-Trimethylbenzene	102
1,3-Dichlorobenzene	95
1,4-Dichlorobenzene	92
alpha-Chlorotoluene	107
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	99
Hexachlorobutadiene	116
Butane	77
Isopentane	75
Ethyl Acetate	Not Spiked
Propylene	67
Vinyl Acetate	97
Vinyl Bromide	Not Spiked

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	107	70-130

eurofins | Air Toxics

Client Sample ID: LCSD
Lab ID#: 1208543A-10AA
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j083008	**Date of Collection:**	NA
Dil. Factor:	1.00	**Date of Analysis:**	8/30/12 08:52 AM

Compound	%Recovery
Freon 12	115
Freon 114	117
Chloromethane	85
Vinyl Chloride	85
1,3-Butadiene	69 Q
Bromomethane	97
Chloroethane	85
Freon 11	115
Ethanol	67 Q
Freon 113	115
1,1-Dichloroethene	131 Q
Acetone	68 Q
2-Propanol	83
Carbon Disulfide	120
3-Chloropropene	117
Methylene Chloride	73
Methyl tert-butyl ether	114
trans-1,2-Dichloroethene	121
Hexane	86
1,1-Dichloroethane	87
2-Butanone (Methyl Ethyl Ketone)	97
cis-1,2-Dichloroethene	90
Tetrahydrofuran	69 Q
Chloroform	102
1,1,1-Trichloroethane	112
Cyclohexane	103
Carbon Tetrachloride	112
2,2,4-Trimethylpentane	76
Benzene	98
1,2-Dichloroethane	105
Heptane	108
Trichloroethene	108
1,2-Dichloropropane	78
1,4-Dioxane	97
Bromodichloromethane	110
cis-1,3-Dichloropropene	98
4-Methyl-2-pentanone	78
Toluene	91
trans-1,3-Dichloropropene	114
1,1,2-Trichloroethane	98
Tetrachloroethene	101
2-Hexanone	87

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1208543A-10AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083008**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/30/12 08:52 AM**	

Compound	%Recovery
Dibromochloromethane	110
1,2-Dibromoethane (EDB)	102
Chlorobenzene	86
Ethyl Benzene	102
m,p-Xylene	106
o-Xylene	100
Styrene	108
Bromoform	113
Cumene	113
1,1,2,2-Tetrachloroethane	94
Propylbenzene	109
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	102
1,2,4-Trimethylbenzene	104
1,3-Dichlorobenzene	96
1,4-Dichlorobenzene	94
alpha-Chlorotoluene	107
1,2-Dichlorobenzene	97
1,2,4-Trichlorobenzene	100
Hexachlorobutadiene	117
Butane	84
Isopentane	72
Ethyl Acetate	Not Spiked
Propylene	67
Vinyl Acetate	102
Vinyl Bromide	Not Spiked

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	104	70-130

1208573

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

Please Check Appropriate Box:
☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SD&CM ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER ____________

Print Bill To Contact Name: Robert Mooshegian

INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0
☐ CHECK IF NO INCIDENT # APPLIES
DATE: 08/23/12
PAGE: 1 of 1

PO #:

SAP #: 3 4 0 0 6 1

SAMPLING COMPANY: URS CORPORATION
LOG CODE:
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
LABORATORY ADDRESS: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
TELEPHONE:
FAX: 314-429-0462
BILL TO CONTACT EMAIL: Robert.Mooshegian@urs.com

SITE ADDRESS: Street and City: 900 SOUTH CENTRAL AVE – ROXANA
State: IL
GLOBAL ID NO.:
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel, URS, St. Louis
PHONE NO.: 314-743-4179
E-MAIL: Elizabeth_Kunkel@URSCorp.com
CONSULTANT PROJECT NAME: Roxana Vapor Additional
SAMPLER NAME(S): M. Currier, J. Jackson

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☐ OTHER (SPECIFY) ____________

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	Canister Number	Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
01A	VMP-21-5-082012	08/20/12	1044-1115	12030	-29	-9.5			X	X	
02A	VMP-42-10-082012	08/20/12	1143-1213	36511	-29.5	-9			X	X	
03A	VMP-4-5-082012	08/20/12	1233-1303	11430	-29	-9.5			X	X	
04A	VMP-11-5-082112	08/21/12	0844-0914	37415	-30	-8			X	X	
05A	VMP-11-5-082112-Dup	08/21/12	0844-0914	37358	-30	-8			X	X	
06A	VMP-13-5-082112	08/21/12	0938-1008	3042	-29	-8			X	X	
07A	VMP-10-5-082112	08/21/12	1026-1056	37326	-29.5	-9			X	X	

(Canister Pressure/Vacuum: Initial, Final, Receipt, Final (psi))

8/23/12

Turn Around Time: ☑ Normal ☐ Rush Specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
[signature]	FEDEX	8/23/12	1600
Relinquished by: (Signature)	Received by: (Signature) [signature] ATL	8/24/12	0942
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

CUSTODY SEAL INTACT?
Y N NO
FedEx

eurofins | Air Toxics

9/12/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1208543B

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 8/24/2012 at Air Toxics Ltd.

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

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

Regards,

Kelly Buettner

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1208543B

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	08/24/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	09/12/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-21-5-082012	Modified ASTM D-1946	9.0 "Hg	15 psi
02A	VMP-42-10-082012	Modified ASTM D-1946	10.5 "Hg	15 psi
03A	VMP-4-5-082012	Modified ASTM D-1946	10.0 "Hg	15 psi
04A	VMP-11-5-082112	Modified ASTM D-1946	8.5 "Hg	15 psi
05A	VMP-11-5-082112-Dup	Modified ASTM D-1946	8.5 "Hg	15 psi
06A	VMP-13-5-082112	Modified ASTM D-1946	9.0 "Hg	15 psi
07A	VMP-10-5-082112	Modified ASTM D-1946	10.0 "Hg	15 psi
08A	Lab Blank	Modified ASTM D-1946	NA	NA
08B	Lab Blank	Modified ASTM D-1946	NA	NA
09A	LCS	Modified ASTM D-1946	NA	NA
09AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 09/12/12

Technical Director

Certfication 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

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

LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1208543B

Seven 1 Liter Summa Canister samples were received on August 24, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-082012

Lab ID#: 1208543B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	15
Nitrogen	0.29	79
Methane	0.00029	0.000071 J
Carbon Dioxide	0.029	5.7
Helium	0.14	0.16

Client Sample ID: VMP-42-10-082012

Lab ID#: 1208543B-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.31	19
Nitrogen	0.31	79
Carbon Dioxide	0.031	2.0
Helium	0.16	0.024 J

Client Sample ID: VMP-4-5-082012

Lab ID#: 1208543B-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	81
Methane	0.00030	0.00019 J
Carbon Dioxide	0.030	1.2
Helium	0.15	0.016 J

Client Sample ID: VMP-11-5-082112

Lab ID#: 1208543B-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	18
Nitrogen	0.28	80
Methane	0.00028	0.000062 J

eurofins | Air Toxics

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

Client Sample ID: VMP-11-5-082112

Lab ID#: 1208543B-04A

Carbon Dioxide	0.028	2.1
Helium	0.14	0.011 J

Client Sample ID: VMP-11-5-082112-Dup

Lab ID#: 1208543B-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	18
Nitrogen	0.28	80
Methane	0.00028	0.000056 J
Carbon Dioxide	0.028	2.1
Helium	0.14	0.0095 J

Client Sample ID: VMP-13-5-082112

Lab ID#: 1208543B-06A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	18
Nitrogen	0.29	79
Methane	0.00029	0.000090 J
Carbon Dioxide	0.029	3.0
Helium	0.14	0.038 J

Client Sample ID: VMP-10-5-082112

Lab ID#: 1208543B-07A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	19
Nitrogen	0.30	80
Methane	0.00030	0.000033 J
Carbon Dioxide	0.030	1.5
Helium	0.15	0.035 J

eurofins | Air Toxics

Client Sample ID: VMP-21-5-082012

Lab ID#: 1208543B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9083015**	**Date of Collection:**	**8/20/12 11:16:00 AM**
Dil. Factor:	**2.89**	**Date of Analysis:**	**8/30/12 03:01 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	15
Nitrogen	0.29	79
Carbon Monoxide	0.029	Not Detected
Methane	0.00029	0.000071 J
Carbon Dioxide	0.029	5.7
Ethane	0.0029	Not Detected
Ethene	0.0029	Not Detected
Helium	0.14	0.16

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-42-10-082012

Lab ID#: 1208543B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9083016**	**Date of Collection:**	**8/20/12 12:13:00 PM**
Dil. Factor:	**3.11**	**Date of Analysis:**	**8/30/12 03:32 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.31	19
Nitrogen	0.31	79
Carbon Monoxide	0.031	Not Detected
Methane	0.00031	Not Detected
Carbon Dioxide	0.031	2.0
Ethane	0.0031	Not Detected
Ethene	0.0031	Not Detected
Helium	0.16	0.024 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-4-5-082012

Lab ID#: 1208543B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9083017**	**Date of Collection:**	**8/20/12 1:03:00 PM**
Dil. Factor:	**3.03**	**Date of Analysis:**	**8/30/12 03:57 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	81
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	0.00019 J
Carbon Dioxide	0.030	1.2
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	0.016 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-11-5-082112

Lab ID#: 1208543B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9083018**	**Date of Collection:**	**8/21/12 9:14:00 AM**
Dil. Factor:	**2.82**	**Date of Analysis:**	**8/30/12 04:30 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	18
Nitrogen	0.28	80
Carbon Monoxide	0.028	Not Detected
Methane	0.00028	0.000062 J
Carbon Dioxide	0.028	2.1
Ethane	0.0028	Not Detected
Ethene	0.0028	Not Detected
Helium	0.14	0.011 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-11-5-082112-Dup

Lab ID#: 1208543B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9083019**	**Date of Collection:**	**8/21/12 9:14:00 AM**
Dil. Factor:	**2.82**	**Date of Analysis:**	**8/30/12 04:55 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	18
Nitrogen	0.28	80
Carbon Monoxide	0.028	Not Detected
Methane	0.00028	0.000056 J
Carbon Dioxide	0.028	2.1
Ethane	0.0028	Not Detected
Ethene	0.0028	Not Detected
Helium	0.14	0.0095 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-13-5-082112

Lab ID#: 1208543B-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9083020**	**Date of Collection:**	**8/21/12 10:08:00 AM**
Dil. Factor:	**2.89**	**Date of Analysis:**	**8/30/12 05:21 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	18
Nitrogen	0.29	79
Carbon Monoxide	0.029	Not Detected
Methane	0.00029	0.000090 J
Carbon Dioxide	0.029	3.0
Ethane	0.0029	Not Detected
Ethene	0.0029	Not Detected
Helium	0.14	0.038 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-10-5-082112

Lab ID#: 1208543B-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9083021**	**Date of Collection:**	**8/21/12 10:56:00 AM**
Dil. Factor:	**3.03**	**Date of Analysis:**	**8/30/12 05:50 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	19
Nitrogen	0.30	80
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	0.000033 J
Carbon Dioxide	0.030	1.5
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	0.035 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208543B-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9083005a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/30/12 09:49 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.013 J
Nitrogen	0.10	0.054 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208543B-08B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9083004b	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/30/12 09:24 AM	

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

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1208543B-09A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9083002	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/30/12 08:33 AM	

Compound	%Recovery
Oxygen	100
Nitrogen	100
Carbon Monoxide	98
Methane	97
Carbon Dioxide	101
Ethane	98
Ethene	95
Helium	100

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1208543B-09AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9083023**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/30/12 07:00 PM**	

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	99
Methane	97
Carbon Dioxide	100
Ethane	99
Ethene	96
Helium	102

Container Type: NA - Not Applicable

1208543

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

Please Check Appropriate Box: ☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL ☐ MOTIVA SD&CM ☐ CONSULTANT ☐ LUBES ☐ SHELL PIPELINE ☐ OTHER ____

Print Bill To Contact Name: Robert Moashegian

INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0 ☐ CHECK IF NO INCIDENT # APPLIES

PO #:

SAP #: 3 4 0 0 6 1

DATE: 08/23/12

PAGE: 1 of 1

Sampling Company: URS CORPORATION

Lab Code:

Site Address: Street and City: 900 SOUTH CENTRAL AVE -- ROXANA State: IL

Global ID:

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

EDF Deliverable To (Name, Company, Office Location): Elizabeth Kunkel, URS, St. Louis

Phone No.: 314-743-4179

E-mail: Elizabeth_Kunkel@URSCorp.com

Consultant Project Name: Roxana Vapor Additional

Lab Address: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719

M. Currier, J. Jackson

Telephone:

Fax: 314-429-0462

Email: Robert.Moashegian@urs.com

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☐ OTHER (SPECIFY) ____

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

Lab Use Only	Field Sample Identification	Sampling Date	Sampling Time	Canister Number	Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
01A	VMP-21-5-082012	08/20/12	1044-1116	12030	-29	-9.5			X	X	
02A	VMP-42-10-082012	08/20/12	1143-1213	36611	-29.5	-9			X	X	
03A	VMP-4-5-082012	08/20/12	1233-1303	11430	-29	-9.5			X	X	
04A	VMP-11-5-082112	08/21/12	0844-0914	37415	-30	-3			X	X	
05A	VMP-11-5-082112-Dup	08/21/12	0844-0914	37358	-30	-9			X	X	
06A	VMP-13-5-082112	08/21/12	0938-1038	3042	-29	-8			X	X	
07A	VMP-10-5-082112	08/21/12	1026-1356	37326	-29.5	-9			X	X	

8/23/12

Turn Around Time: ☑ Normal ☐ Rush Specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by (Signature)	Received by (Signature)	Date	Time
[signature]	FEDEX	8/23/12	1600
	[signature] ATL	8/24/12	0942

CUSTODY SEAL INTACT?
Y N NC
FedEx

05/2/06 Revision

Roxana Soil Vapor Additional – Week 3 - 2012 Data Review

Laboratory SDG: 1208545A,B

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 9/21/2012

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

Sample Identification
VMP-16-5-082012

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated sample VMP-16-5-082012 was diluted and re-analyzed to bring 2,2,4-trimethylpentane within the calibration range of the instrument. The result for 2,2,4-trimethylpentane was reported from the re-analysis diluted run and the remaining compounds were reported from the original analysis. TO-15 CCV and LCS/LCSD recoveries were outside evaluation criteria. The TO-15 surrogate recovery for 1,2-dichloroethane-d_4 was outside evaluation criteria in the original analysis of sample VMP-16-5-082012. 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.

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
1208545A-02A	TO-15	Bromomethane	0.16 ppbv / 0.61 µg/m^3
1208545A-02A	TO-15	Carbon disulfide	0.40 ppbv / 1.2 µg/m^3
1208545A-02A	TO-15	Methylene chloride	0.12 ppbv / 0.43 µg/m^3
1208545A-02A	TO-15	Hexane	0.14 ppbv / 0.48 µg/m^3
1208545A-02A	TO-15	1,2-Dichloroethane	0.059 ppbv / 0.24 µg/m^3
1208545A-02A	TO-15	Trichloroethene	0.17 ppbv / 0.89 µg/m^3

Blank ID	Parameter	Analyte	Concentration/ Amount
1208545A-02A	TO-15	cis-1,3-Dichloropropene	0.17 ppbv / 0.77 µg/m^3
1208545A-02A	TO-15	Toluene	0.13 ppbv / 0.51 µg/m^3
1208545A-02A	TO-15	trans-1,3-Dichloropropene	0.13 ppbv / 0.58 µg/m^3
1208545A-02A	TO-15	Tetrachloroethene	0.11 ppbv / 0.76 µg/m^3
1208545A-02A	TO-15	Chlorobenzene	0.33 ppbv / 1.5 µg/m^3
1208545A-02A	TO-15	m,p-Xylene	0.097 ppbv / 0.42 µg/m^3
1208545A-02A	TO-15	1,3-Dichlorobenzene	0.12 ppbv / 0.75 µg/m^3
1208545A-02A	TO-15	1,4-Dichlorobenzene	0.13 ppbv / 0.76 µg/m^3
1208545B-02A	Natural gases	Oxygen	0.023%
1208545B-02A	Natural gases	Nitrogen	0.071%

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS ID	Parameter	Analyte	LCS/LCSD Recovery	LCS/ LCSD RPD	LCS/ LCSD/RPD Criteria
1208545A -04A/AA	TO-15	1,3-Butadiene	75/**69**	8	70-130/25
1208545A -04A/AA	TO-15	Ethanol	72/**67**	7	70-130/25
1208545A -04A/AA	TO-15	1,1-Dichloroethene	**132/131**	1	70-130/25
1208545A -04A/AA	TO-15	Acetone	**67/68**	1	70-130/25
1208545A -04A/AA	TO-15	Tetrahydrofuran	70/**69**	1	70-130/25

Analytical data that required qualification based on LCS data are included in the table below. 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. 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.

Field ID	Parameter	Analyte	Qualification
VMP-16-5-082012	TO-15	1,3-Butadiene	**UJ**
VMP-16-5-082012	TO-15	Ethanol	**UJ**
VMP-16-5-082012	TO-15	Acetone	**J**
VMP-16-5-082012	TO-15	Tetrahydrofuran	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery	Criteria
VMP-16-5-082012 (Original Analysis)	TO-15	1,2-Dichloroethane-d_4	**136**	70-130

Analytical data that required qualification based on surrogate data are included in the table below. Acetone in sample VMP-16-5-082012 (Original Analysis) was previously qualified in Section 5.0 in this review due to LCS data. Analytical data which were reported as non-detect and associated with surrogate recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Field ID	Parameter	Analyte	Qualification
VMP-16-5-082012 (Original Analysis)	TO-15	Carbon disulfide	**J**
VMP-16-5-082012 (Original Analysis)	TO-15	Cyclohexane	**J**
VMP-16-5-082012 (Original Analysis)	TO-15	Benzene	**J**
VMP-16-5-082012 (Original Analysis)	TO-15	4-Methyl-2-pentanone	**J**
VMP-16-5-082012 (Original Analysis)	TO-15	Toluene	**J**
VMP-16-5-082012 (Original Analysis)	TO-15	1,1,2-Trichloroethane	**J**
VMP-16-5-082012 (Original Analysis)	TO-15	Chlorobenzene	**J**
VMP-16-5-082012 (Original Analysis)	TO-15	m,p-Xylene	**J**
VMP-16-5-082012 (Original Analysis)	TO-15	Cumene	**J**
VMP-16-5-082012 (Original Analysis)	TO-15	Butane	**J**
VMP-16-5-082012 (Original Analysis)	TO-15	Isopentane	**J**

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?

No

10.0 Sample Dilutions

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

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

11.0 Additional Qualifications

Were additional qualifications applied?

The CCV percent recovery for acetone was outside evaluation criteria as summarized in the table below.

CCV ID	Parameter	Analyte	CCV Recovery	CCV Criteria
1208545A-03A	TO-15	Acetone	**67**	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.

eurofins | Air Toxics

9/13/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1208545A

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 8/24/2012 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 9/21/2012

eurofins | Air Toxics

WORK ORDER #: 1208545A

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	08/24/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	09/10/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-16-5-082012 ✓	Modified TO-15/TICs	6.6 "Hg	15 psi
01B	VMP-16-5-082012	Modified TO-15/TICs	6.6 "Hg	15 psi
02A	Lab Blank	Modified TO-15/TICs	NA	NA
02B	Lab Blank	Modified TO-15/TICs	NA	NA
03A	CCV	Modified TO-15/TICs	NA	NA
03B	CCV	Modified TO-15/TICs	NA	NA
04A	LCS	Modified TO-15/TICs	NA	NA
04AA	LCSD	Modified TO-15/TICs	NA	NA
04B	LCS	Modified TO-15/TICs	NA	NA
04BB	LCSD	Modified TO-15/TICs	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 09/13/12

Technical Director

Certfication 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

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# 1208545A

One 1 Liter Summa Canister sample was received on August 24, 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 recovery of surrogate 1,2-Dichloroethane-d4 in sample VMP-16-5-082012 was outside laboratory control limits due to high level hydrocarbon matrix interference. The surrogate recovery is flagged.

Due to high-level 2,2,4-Trimethylpentane, sample VMP-16-5-082012 was analyzed twice. The "A" fraction is reported with a "S" flag indicating 2,2,4-Trimethylpentane was saturated on the instrument. For the "B" fraction, the sample was diluted to bring 2,2,4-Trimethylpentane within the calibration range. Only 2,2,4-Trimethylpentane was reported for this fraction.

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (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.

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 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.

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

eurofins | Air Toxics

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

Client Sample ID: VMP-16-5-082012

Lab ID#: 1208545A-01A * Do not use this data. Use all other data. 2,2,4-Trimethylpentane is reported from the 259x dilution analysis. DF=51.8

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	260	53 J	620	130 J
Carbon Disulfide	100	18 J	320	56 J
Cyclohexane	26	160	89	570
* ~~2,2,4-Trimethylpentane~~	~~26~~	~~>24000 S~~	~~120~~	~~>110000 S~~
Benzene	26	84	83	270
4-Methyl-2-pentanone	26	40	110	160
Toluene	26	9.7 J	98	36 J
1,1,2-Trichloroethane	26	7.7 J	140	42 J
Chlorobenzene	26	16 J	120	74 J
m,p-Xylene	26	4.7 J	110	20 J
Cumene	26	10 J	130	49 J
Butane	100	190	250	450
Isopentane	100	3300	300	9900

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
1-Propene, 2-methyl-	115-11-7	9.0%	3300 NJ
Pentane, 2-methyl-	107-83-5	9.0%	3800 NJ
Pentane, 2,2,3-trimethyl-	564-02-3	33%	10000 NJ
Pentane, 2,4-dimethyl-	108-08-7	64%	8000 NJ
Pentane, 2,2-dimethyl-	590-35-2	28%	3000 NJ
Pentane, 2,3-dimethyl-	565-59-3	56%	15000 NJ
Hexane, 1-(hexyloxy)-3-methyl-	74421-18-4	43%	6000 NJ
Pentane, 3-ethyl-2,2-dimethyl-	16747-32-3	39%	4800 NJ
Pentane, 2,3,4-trimethyl-	565-75-3	78%	22000 NJ
Pentane, 2,3,3-trimethyl-	560-21-4	53%	58000 NJ

Client Sample ID: VMP-16-5-082012

Lab ID#: 1208545A-01B

DF = 259

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2,2,4-Trimethylpentane	130	48000	600	220000

eurofins | Air Toxics

* Do not use this data. Use all other data. 2,2,4-Trimethylpentane was reported from the 254x dilution analysis.

Client Sample ID: VMP-16-5-082012

Lab ID#: 1208545A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083038**	**Date of Collection: 8/20/12 9:53:00 AM**	
Dil. Factor:	**51.8**	**Date of Analysis: 8/30/12 11:59 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	26	Not Detected	130	Not Detected
Freon 114	26	Not Detected	180	Not Detected
Chloromethane	260	Not Detected	530	Not Detected
Vinyl Chloride	26	Not Detected	66	Not Detected
1,3-Butadiene	26	Not Detected UJ	57	Not Detected UJ
Bromomethane	260	Not Detected	1000	Not Detected
Chloroethane	100	Not Detected	270	Not Detected
Freon 11	26	Not Detected	140	Not Detected
Ethanol	100	Not Detected UJ	200	Not Detected UJ
Freon 113	26	Not Detected	200	Not Detected
1,1-Dichloroethene	26	Not Detected	100	Not Detected
Acetone	260	53 J J	620	130 J J
2-Propanol	100	Not Detected	250	Not Detected
Carbon Disulfide	100	18 J J	320	56 J J
3-Chloropropene	100	Not Detected	320	Not Detected
Methylene Chloride	260	Not Detected	900	Not Detected
Methyl tert-butyl ether	26	Not Detected	93	Not Detected
trans-1,2-Dichloroethene	26	Not Detected	100	Not Detected
Hexane	26	Not Detected	91	Not Detected
1,1-Dichloroethane	26	Not Detected	100	Not Detected
2-Butanone (Methyl Ethyl Ketone)	100	Not Detected	300	Not Detected
cis-1,2-Dichloroethene	26	Not Detected	100	Not Detected
Tetrahydrofuran	26	Not Detected UJ	76	Not Detected UJ
Chloroform	26	Not Detected	130	Not Detected
1,1,1-Trichloroethane	26	Not Detected	140	Not Detected
Cyclohexane	26	160 J	89	570 J
Carbon Tetrachloride	26	Not Detected	160	Not Detected
~~2,2,4-Trimethylpentane~~ *	~~26~~	~~>24000 S~~	~~120~~	~~>110000 S~~
Benzene	26	84 J	83	270 J
1,2-Dichloroethane	26	Not Detected	100	Not Detected
Heptane	26	Not Detected	110	Not Detected
Trichloroethene	26	Not Detected	140	Not Detected
1,2-Dichloropropane	26	Not Detected	120	Not Detected
1,4-Dioxane	100	Not Detected	370	Not Detected
Bromodichloromethane	26	Not Detected	170	Not Detected
cis-1,3-Dichloropropene	26	Not Detected	120	Not Detected
4-Methyl-2-pentanone	26	40 J	110	160 J
Toluene	26	9.7 J J	98	36 J J
trans-1,3-Dichloropropene	26	Not Detected	120	Not Detected
1,1,2-Trichloroethane	26	7.7 J J	140	42 J J
Tetrachloroethene	26	Not Detected	180	Not Detected
2-Hexanone	100	Not Detected	420	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-16-5-082012

Lab ID#: 1208545A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083038**	**Date of Collection:**	**8/20/12 9:53:00 AM**
Dil. Factor:	**51.8**	**Date of Analysis:**	**8/30/12 11:59 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	26	Not Detected	220	Not Detected
1,2-Dibromoethane (EDB)	26	Not Detected	200	Not Detected
Chlorobenzene	26	16 J	120	74 J
Ethyl Benzene	26	Not Detected	110	Not Detected
m,p-Xylene	26	4.7 J	110	20 J
o-Xylene	26	Not Detected	110	Not Detected
Styrene	26	Not Detected	110	Not Detected
Bromoform	26	Not Detected	270	Not Detected
Cumene	26	10 J	130	49 J
1,1,2,2-Tetrachloroethane	26	Not Detected	180	Not Detected
Propylbenzene	26	Not Detected	130	Not Detected
4-Ethyltoluene	26	Not Detected	130	Not Detected
1,3,5-Trimethylbenzene	26	Not Detected	130	Not Detected
1,2,4-Trimethylbenzene	26	Not Detected	130	Not Detected
1,3-Dichlorobenzene	26	Not Detected	160	Not Detected
1,4-Dichlorobenzene	26	Not Detected	160	Not Detected
alpha-Chlorotoluene	26	Not Detected	130	Not Detected
1,2-Dichlorobenzene	26	Not Detected	160	Not Detected
1,2,4-Trichlorobenzene	100	Not Detected	770	Not Detected
Hexachlorobutadiene	100	Not Detected	1100	Not Detected
Butane	100	190	250	450
Isopentane	100	3300	300	9900
Ethyl Acetate	100	Not Detected	370	Not Detected
Propylene	100	Not Detected	180	Not Detected
Vinyl Acetate	100	Not Detected	360	Not Detected
Vinyl Bromide	100	Not Detected	450	Not Detected

J = Estimated value.
S = Saturated peak; data reported as estimated.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
1-Propene, 2-methyl-	115-11-7	9.0%	3300 NJ
Pentane, 2-methyl-	107-83-5	9.0%	3800 NJ
Pentane, 2,2,3-trimethyl-	564-02-3	33%	10000 NJ
Pentane, 2,4-dimethyl-	108-08-7	64%	8000 NJ
Pentane, 2,2-dimethyl-	590-35-2	28%	3000 NJ
Pentane, 2,3-dimethyl-	565-59-3	56%	15000 NJ
Hexane, 1-(hexyloxy)-3-methyl-	74421-18-4	43%	6000 NJ
Pentane, 3-ethyl-2,2-dimethyl-	16747-32-3	39%	4800 NJ
Pentane, 2,3,4-trimethyl-	565-75-3	78%	22000 NJ
Pentane, 2,3,3-trimethyl-	560-21-4	53%	58000 NJ

eurofins | Air Toxics

Client Sample ID: VMP-16-5-082012

Lab ID#: 1208545A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j083038	Date of Collection: 8/20/12 9:53:00 AM
Dil. Factor:	51.8	Date of Analysis: 8/30/12 11:59 PM

NJ =The identification is based on presumptive evidence; estimated value.
Q = Exceeds Quality Control limits of 70% to 130%, due to matrix effects.
Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	136 Q	70-130
4-Bromofluorobenzene	97	70-130

eurofins | Air Toxics

Client Sample ID: VMP-16-5-082012

Lab ID#: 1208545A-01B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083120**	**Date of Collection:**	**8/20/12 9:53:00 AM**
Dil. Factor:	**259**	**Date of Analysis:**	**8/31/12 07:05 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2,2,4-Trimethylpentane	130	48000	600	220000

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	122	70-130
4-Bromofluorobenzene	109	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208545A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083015a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/30/12 12:36 PM**	

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	0.16 J	19	0.61 J
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected UJ	12	Not Detected UJ
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	0.40 J	6.2	1.2 J
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	0.12 J	17	0.43 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	0.14 J	1.8	0.48 J
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	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	0.059 J	2.0	0.24 J
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	0.17 J	2.7	0.89 J
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	0.17 J	2.3	0.77 J
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	0.13 J	1.9	0.51 J
trans-1,3-Dichloropropene	0.50	0.13 J	2.3	0.58 J
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	0.11 J	3.4	0.76 J
2-Hexanone	2.0	Not Detected	8.2	Not Detected

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208545A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083015a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/30/12 12:36 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	0.33 J	2.3	1.5 J
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	0.097 J	2.2	0.42 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
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	0.12 J	3.0	0.75 J
1,4-Dichlorobenzene	0.50	0.13 J	3.0	0.76 J
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
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.
UJ = Non-detected compound associated with low bias in the CCV and/or LCS.

TENTATIVELY IDENTIFIED COMPOUNDS

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

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	107	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208545A-02B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083110a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/31/12 12:19 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2,2,4-Trimethylpentane	0.50	0.18 J	2.3	0.86 J

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130
1,2-Dichloroethane-d4	110	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1208545A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083003**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/30/12 06:38 AM**	

Compound	%Recovery
Freon 12	120
Freon 114	118
Chloromethane	82
Vinyl Chloride	84
1,3-Butadiene	72
Bromomethane	100
Chloroethane	89
Freon 11	117
Ethanol	74
Freon 113	112
1,1-Dichloroethene	116
Acetone	67 Q
2-Propanol	82
Carbon Disulfide	91
3-Chloropropene	101
Methylene Chloride	77
Methyl tert-butyl ether	118
trans-1,2-Dichloroethene	97
Hexane	87
1,1-Dichloroethane	88
2-Butanone (Methyl Ethyl Ketone)	101
cis-1,2-Dichloroethene	85
Tetrahydrofuran	77
Chloroform	106
1,1,1-Trichloroethane	116
Cyclohexane	100
Carbon Tetrachloride	114
2,2,4-Trimethylpentane	77
Benzene	103
1,2-Dichloroethane	113
Heptane	119
Trichloroethene	115
1,2-Dichloropropane	84
1,4-Dioxane	97
Bromodichloromethane	117
cis-1,3-Dichloropropene	111
4-Methyl-2-pentanone	87
Toluene	96
trans-1,3-Dichloropropene	113
1,1,2-Trichloroethane	101
Tetrachloroethene	104
2-Hexanone	91

eurofins | Air Toxics

Client Sample ID: CCV
Lab ID#: 1208545A-03A
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083003**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/30/12 06:38 AM**	

Compound	%Recovery
Dibromochloromethane	113
1,2-Dibromoethane (EDB)	102
Chlorobenzene	86
Ethyl Benzene	106
m,p-Xylene	105
o-Xylene	104
Styrene	113
Bromoform	116
Cumene	113
1,1,2,2-Tetrachloroethane	89
Propylbenzene	110
4-Ethyltoluene	108
1,3,5-Trimethylbenzene	105
1,2,4-Trimethylbenzene	107
1,3-Dichlorobenzene	96
1,4-Dichlorobenzene	96
alpha-Chlorotoluene	112
1,2-Dichlorobenzene	95
1,2,4-Trichlorobenzene	99
Hexachlorobutadiene	120
Butane	85
Isopentane	77
Ethyl Acetate	76
Propylene	75
Vinyl Acetate	110
Vinyl Bromide	113

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	106	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1208545A-03B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/31/12 06:46 AM**	

Compound	%Recovery
2,2,4-Trimethylpentane	83

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	116	70-130
4-Bromofluorobenzene	108	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1208545A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083007**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/30/12 08:33 AM**	

Compound	%Recovery
Freon 12	120
Freon 114	120
Chloromethane	83
Vinyl Chloride	86
1,3-Butadiene	75
Bromomethane	103
Chloroethane	89
Freon 11	117
Ethanol	72
Freon 113	118
1,1-Dichloroethene	132 Q
Acetone	67 Q
2-Propanol	80
Carbon Disulfide	117
3-Chloropropene	121
Methylene Chloride	73
Methyl tert-butyl ether	113
trans-1,2-Dichloroethene	126
Hexane	86
1,1-Dichloroethane	89
2-Butanone (Methyl Ethyl Ketone)	99
cis-1,2-Dichloroethene	90
Tetrahydrofuran	70
Chloroform	103
1,1,1-Trichloroethane	114
Cyclohexane	101
Carbon Tetrachloride	112
2,2,4-Trimethylpentane	78
Benzene	98
1,2-Dichloroethane	104
Heptane	108
Trichloroethene	105
1,2-Dichloropropane	78
1,4-Dioxane	96
Bromodichloromethane	107
cis-1,3-Dichloropropene	96
4-Methyl-2-pentanone	78
Toluene	91
trans-1,3-Dichloropropene	115
1,1,2-Trichloroethane	97
Tetrachloroethene	100
2-Hexanone	85

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1208545A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083007**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/30/12 08:33 AM**	

Compound	%Recovery
Dibromochloromethane	110
1,2-Dibromoethane (EDB)	100
Chlorobenzene	88
Ethyl Benzene	103
m,p-Xylene	103
o-Xylene	101
Styrene	108
Bromoform	112
Cumene	110
1,1,2,2-Tetrachloroethane	94
Propylbenzene	110
4-Ethyltoluene	96
1,3,5-Trimethylbenzene	99
1,2,4-Trimethylbenzene	102
1,3-Dichlorobenzene	95
1,4-Dichlorobenzene	92
alpha-Chlorotoluene	107
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	99
Hexachlorobutadiene	116
Butane	77
Isopentane	75
Ethyl Acetate	Not Spiked
Propylene	67
Vinyl Acetate	97
Vinyl Bromide	Not Spiked

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	107	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1208545A-04AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083008**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/30/12 08:52 AM**	

Compound	%Recovery
Freon 12	115
Freon 114	117
Chloromethane	85
Vinyl Chloride	85
1,3-Butadiene	69 Q
Bromomethane	97
Chloroethane	85
Freon 11	115
Ethanol	67 Q
Freon 113	115
1,1-Dichloroethene	131 Q
Acetone	68 Q
2-Propanol	83
Carbon Disulfide	120
3-Chloropropene	117
Methylene Chloride	73
Methyl tert-butyl ether	114
trans-1,2-Dichloroethene	121
Hexane	86
1,1-Dichloroethane	87
2-Butanone (Methyl Ethyl Ketone)	97
cis-1,2-Dichloroethene	90
Tetrahydrofuran	69 Q
Chloroform	102
1,1,1-Trichloroethane	112
Cyclohexane	103
Carbon Tetrachloride	112
2,2,4-Trimethylpentane	76
Benzene	98
1,2-Dichloroethane	105
Heptane	108
Trichloroethene	108
1,2-Dichloropropane	78
1,4-Dioxane	97
Bromodichloromethane	110
cis-1,3-Dichloropropene	98
4-Methyl-2-pentanone	78
Toluene	91
trans-1,3-Dichloropropene	114
1,1,2-Trichloroethane	98
Tetrachloroethene	101
2-Hexanone	87

eurofins | Air Toxics

Client Sample ID: LCSD
Lab ID#: 1208545A-04AA
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083008**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/30/12 08:52 AM**	

Compound	%Recovery
Dibromochloromethane	110
1,2-Dibromoethane (EDB)	102
Chlorobenzene	86
Ethyl Benzene	102
m,p-Xylene	106
o-Xylene	100
Styrene	108
Bromoform	113
Cumene	113
1,1,2,2-Tetrachloroethane	94
Propylbenzene	109
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	102
1,2,4-Trimethylbenzene	104
1,3-Dichlorobenzene	96
1,4-Dichlorobenzene	94
alpha-Chlorotoluene	107
1,2-Dichlorobenzene	97
1,2,4-Trichlorobenzene	100
Hexachlorobutadiene	117
Butane	84
Isopentane	72
Ethyl Acetate	Not Spiked
Propylene	67
Vinyl Acetate	102
Vinyl Bromide	Not Spiked

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1208545A-04B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j083104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/31/12 07:22 AM**	

Compound	%Recovery
2,2,4-Trimethylpentane	85

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	122	70-130
4-Bromofluorobenzene	111	70-130

eurofins | Air Toxics

Client Sample ID: LCSD
Lab ID#: 1208545A-04BB
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j083105	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/31/12 07:53 AM	

Compound	%Recovery
2,2,4-Trimethylpentane	77

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	109	70-130
4-Bromofluorobenzene	109	70-130

Shell Oil Products Chain Of Custody Record

12085 URS

Air Toxics LTD.	
Project Name: Roxana Vapor Additional	
Project # 21562735.10100	
Lab Vendor #	
Please Check Appropriate Box:	☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL ☐ MOTIVA SD&CM ☐ CONSULTANT ☐ LUBES ☐ SHELL PIPELINE ☐ OTHER
Print Bill To Contact Name:	Robert Mooshegian
INCIDENT # (ENV SERVICES)	9 7 2 1 6 6 4 0
☐ CHECK IF NO INCIDENT # APPLIES	DATE: 08/23/12
PO #	
SAP #	3 4 0 0 6 1
PAGE:	1 of 1
Sampling Company	URS CORPORATION
Address	1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
Deliverable Address	Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
Telephone / Fax	314-429-0462
Bill To Contact Email	Robert.Mooshegian@urs.com
Site Address: Street and City	900 SOUTH CENTRAL AVE – ROXANA
State	IL
EDF Deliverable To	Elizabeth Kunkel, URS, St. Louis
Phone No.	314-743-4179
Email	Elizabeth_Kunkel@URSCorp.com
Consultant Project Number	Roxana Soil Vapor
Samplers	M. Curner, J. Jackson.

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☐ OTHER (SPECIFY) ____

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

Lab Use Only	Field Sample Identification	Sampling Date	Sampling Time	Canister Number	Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
01A	VMP-16-5-082012	08/20/12	0923-0955	54934	-30"	-6			x	x	

Turn Around Time: ☑ Normal ☐ Rush Specify

Lab Use Only: Pressurized by: Date: Pressurization Gas: N_2 He

ADDITIONAL NOTES:

- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

8/23/12

Relinquished by (Signature)	Received by (Signature)	Date	Time
[signature]	FEDEX	8/23/12	1600
	[signature] ATL	08/24/12	0942

CUSTODY SEAL INTACT? Y N NONE

Custody Seal Intact? (Y) N None Temp na

05/2/06 Revision

eurofins | Air Toxics

9/12/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1208545B

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 8/24/2012 at Air Toxics Ltd.

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

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

Regards,

Kelly Buettner

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1208545B

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	08/24/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	09/12/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-16-5-082012	Modified ASTM D-1946	6.6 "Hg	15 psi
02A	Lab Blank	Modified ASTM D-1946	NA	NA
02B	Lab Blank	Modified ASTM D-1946	NA	NA
03A	LCS	Modified ASTM D-1946	NA	NA
03AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 09/12/12

Technical Director

Certfication 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

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

LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1208545B

One 1 Liter Summa Canister sample was received on August 24, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

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

Client Sample ID: VMP-16-5-082012

Lab ID#: 1208545B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	2.4
Nitrogen	0.26	82
Methane	0.00026	0.071
Carbon Dioxide	0.026	15
Helium	0.13	0.042 J

eurofins | Air Toxics

Client Sample ID: VMP-16-5-082012

Lab ID#: 1208545B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9083113**	**Date of Collection:**	**8/20/12 9:53:00 AM**
Dil. Factor:	**2.59**	**Date of Analysis:**	**8/31/12 03:20 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	2.4
Nitrogen	0.26	82
Carbon Monoxide	0.026	Not Detected
Methane	0.00026	0.071
Carbon Dioxide	0.026	15
Ethane	0.0026	Not Detected
Ethene	0.0026	Not Detected
Helium	0.13	0.042 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208545B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9083105a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/31/12 10:58 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.023 J
Nitrogen	0.10	0.071 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208545B-02B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9083104b	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 8/31/12 10:28 AM	

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

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1208545B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9083102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/31/12 09:35 AM**	

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	99
Methane	98
Carbon Dioxide	100
Ethane	100
Ethene	97
Helium	99

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1208545B-03AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9083127**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/31/12 10:45 PM**	

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	98
Methane	98
Carbon Dioxide	102
Ethane	100
Ethene	97
Helium	102

Container Type: NA - Not Applicable

Shell Oil Products Chain Of Custody Record

12085?? URS

Air Toxics LTD.	Please Check Appropriate Box: ☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL ☐ MOTIVA SD&CM ☐ CONSULTANT ☐ LUBES ☐ SHELL PIPELINE ☐ OTHER ______
Project Name: Roxana Vapor Additional	Print Bill To Contact Name: Robert Mooshegian
Project # 21562735.10100	PO #
Lab Vendor #	INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0 ☐ CHECK IF NO INCIDENT # APPLIES
	SAP #: 3 4 0 0 6 1
	DATE: 08/23/12 PAGE: 1 of 1

SAMPLING COMPANY: URS CORPORATION

LOG CODE:

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

LABORATORY ADDRESS: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719

TELEPHONE: FAX: 314-429-0462 ED TO CONSULT E-MAIL: Robert.Mooshegian@urs.com

SITE ADDRESS: Street and City: 900 SOUTH CENTRAL AVE – ROXANA State: IL GLOBAL ID NO.:

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel, URS, St. Louis PHONE NO.: 314-743-4179 E-MAIL: Elizabeth_Kunkel@URSCorp.com CONSULTANT PROJECT NAME: Roxana Soil Vapor

M. Curner, J. Jackson.

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☐ OTHER (SPECIFY) ______

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

Turn Around Time: ☑ Normal ☐ Rush Specify

Lab Use Only: Pressurized by: Date: Pressurization Gas: N2 He

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	Canister Number	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946				
01A	VMP-16-5-082012	08/20/12	0923-0953	94934	-30	-6			X	X					

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

8/23/12

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
[signature]	FEDEX	8/23/12	1000
Relinquished by: (Signature)	Katie [signature] ATL	08/24/12	0942
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

05/2/08 Revision

CUSTODY SEAL INTACT? Y N NONE

Custody Seal Intact? (Y) N None Temp na

Roxana Soil Vapor Additional – Week 4 - 2012 Data Review

Laboratory SDG: 1208722A,B

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 9/24/2012

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

Sample Identification
VMP-16-5-083012

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated sample VMP-16-5-082012 was diluted due to high levels of target analytes. TO-15 LCS/LCSD recoveries were outside evaluation criteria. 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.

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
1208722A-02A	TO-15	Carbon disulfide	0.49 ppbv / 1.5 µg/m^3
1208722A-02A	TO-15	Methylene chloride	0.052 ppbv / 0.18 µg/m^3
1208722A-02A	TO-15	Hexane	0.059 ppbv / 0.21 µg/m^3
1208722A-02A	TO-15	Toluene	0.079 ppbv / 0.30 µg/m^3
1208722A-02A	TO-15	trans-1,3-Dichloropropene	0.16 ppbv / 0.71 µg/m^3
1208722A-02A	TO-15	Chlorobenzene	0.41 ppbv / 1.9 µg/m^3
1208722A-02A	TO-15	1,2,4-Trimethylbenzene	0.086 ppbv / 0.42 µg/m^3
1208722A-02A	TO-15	1,3-Dichlorobenzene	0.16 ppbv / 0.95 µg/m^3
1208722A-02A	TO-15	1,4-Dichlorobenzene	0.13 ppbv / 0.77 µg/m^3
1208722A-02A	TO-15	1,2-Dichlorobenzene	0.14 ppbv / 0.83 µg/m^3

Blank ID	Parameter	Analyte	Concentration/ Amount
1208722B-02A	Natural gases	Oxygen	0.012%
1208722B-02A	Natural gases	Nitrogen	0.060%

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS ID	Parameter	Analyte	LCS/LCSD Recovery	LCS/ LCSD RPD	LCS/ LCSD/RPD Criteria
1208722A -04A/AA	TO-15	Ethanol	**68**/72	6	70-130/25
1208722A -04A/AA	TO-15	1,1-Dichloroethene	**134/142**	6	70-130/25
1208722A -04A/AA	TO-15	Tetrahydrofuran	70/**69**	1	70-130/25

Analytical data that required qualification based on LCS data are included in the table below. 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. 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.

Field ID	Parameter	Analyte	Qualification
VMP-16-5-083012	TO-15	Ethanol	**UJ**
VMP-16-5-083012	TO-15	Tetrahydrofuran	**UJ**

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

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?

No

10.0 Sample Dilutions

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

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

11.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Air Toxics

9/21/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1208722A

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 8/31/2012 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 9/24/2012

eurofins | Air Toxics

WORK ORDER #: 1208722A

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	08/31/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	09/21/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-16-5-083012 ✓	Modified TO-15/TICs	10.0 "Hg	15 psi
02A	Lab Blank	Modified TO-15/TICs	NA	NA
03A	CCV	Modified TO-15/TICs	NA	NA
04A	LCS	Modified TO-15/TICs	NA	NA
04AA	LCSD	Modified TO-15/TICs	NA	NA

CERTIFIED BY: Heidi Rayo DATE: 09/21/12

Technical Director

Certfication 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

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# 1208722A

One 1 Liter Summa Canister sample was received on August 31, 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.

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (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.

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.

Dilution was performed on sample VMP-16-5-083012 due to the presence of high level target species.

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

eurofins | Air Toxics

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

Client Sample ID: VMP-16-5-083012

Lab ID#: 1208722A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloromethane	600	110 J	1200	230 J
Acetone	600	120 J	1400	280 J
Carbon Disulfide	240	150 J	750	480 J
Methylene Chloride	600	32 J	2100	110 J
Methyl tert-butyl ether	60	8.0 J	220	29 J
2,2,4-Trimethylpentane	60	10000	280	48000
Toluene	60	60	230	230
Chlorobenzene	60	57 J	280	260 J
m,p-Xylene	60	27 J	260	120 J
Cumene	60	17 J	300	84 J
1,4-Dichlorobenzene	60	8.0 J	360	48 J
Isopentane	240	400	710	1200

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	1200 J
Pentane, 2,4-dimethyl-	108-08-7	40%	860 NJ
Butane, 2,2,3-trimethyl-	464-06-2	50%	1400 NJ
Oxirane, (1-methylethyl)-	1438-14-8	56%	2000 NJ
Hexane, 2,2,5,5-tetramethyl-	1071-81-4	56%	1400 NJ
Pentane, 2,3,4-trimethyl-	565-75-3	83%	7100 NJ
Pentane, 2,3,3-trimethyl-	560-21-4	78%	25000 NJ
Unknown	NA	NA	1500 J
Unknown	NA	NA	540 J
Octane, 2,2,6-trimethyl-	62016-28-8	78%	1100 NJ

eurofins | Air Toxics

Client Sample ID: VMP-16-5-083012

Lab ID#: 1208722A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091011**	**Date of Collection:**	**8/30/12 9:35:00 AM**
Dil. Factor:	**121**	**Date of Analysis:**	**9/10/12 02:22 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	60	Not Detected	300	Not Detected
Freon 114	60	Not Detected	420	Not Detected
Chloromethane	600	110 J	1200	230 J
Vinyl Chloride	60	Not Detected	150	Not Detected
1,3-Butadiene	60	Not Detected	130	Not Detected
Bromomethane	600	Not Detected	2300	Not Detected
Chloroethane	240	Not Detected	640	Not Detected
Freon 11	60	Not Detected	340	Not Detected
Ethanol	240	Not Detected UJ	460	Not Detected UJ
Freon 113	60	Not Detected	460	Not Detected
1,1-Dichloroethene	60	Not Detected	240	Not Detected
Acetone	600	120 J	1400	280 J
2-Propanol	240	Not Detected	590	Not Detected
Carbon Disulfide	240	150 J	750	480 J
3-Chloropropene	240	Not Detected	760	Not Detected
Methylene Chloride	600	32 J	2100	110 J
Methyl tert-butyl ether	60	8.0 J	220	29 J
trans-1,2-Dichloroethene	60	Not Detected	240	Not Detected
Hexane	60	Not Detected	210	Not Detected
1,1-Dichloroethane	60	Not Detected	240	Not Detected
2-Butanone (Methyl Ethyl Ketone)	240	Not Detected	710	Not Detected
cis-1,2-Dichloroethene	60	Not Detected	240	Not Detected
Tetrahydrofuran	60	Not Detected UJ	180	Not Detected UJ
Chloroform	60	Not Detected	300	Not Detected
1,1,1-Trichloroethane	60	Not Detected	330	Not Detected
Cyclohexane	60	Not Detected	210	Not Detected
Carbon Tetrachloride	60	Not Detected	380	Not Detected
2,2,4-Trimethylpentane	60	10000	280	48000
Benzene	60	Not Detected	190	Not Detected
1,2-Dichloroethane	60	Not Detected	240	Not Detected
Heptane	60	Not Detected	250	Not Detected
Trichloroethene	60	Not Detected	320	Not Detected
1,2-Dichloropropane	60	Not Detected	280	Not Detected
1,4-Dioxane	240	Not Detected	870	Not Detected
Bromodichloromethane	60	Not Detected	400	Not Detected
cis-1,3-Dichloropropene	60	Not Detected	270	Not Detected
4-Methyl-2-pentanone	60	Not Detected	250	Not Detected
Toluene	60	60	230	230
trans-1,3-Dichloropropene	60	Not Detected	270	Not Detected
1,1,2-Trichloroethane	60	Not Detected	330	Not Detected
Tetrachloroethene	60	Not Detected	410	Not Detected
2-Hexanone	240	Not Detected	990	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-16-5-083012

Lab ID#: 1208722A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j091011	**Date of Collection:**	8/30/12 9:35:00 AM
Dil. Factor:	121	**Date of Analysis:**	9/10/12 02:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	60	Not Detected	520	Not Detected
1,2-Dibromoethane (EDB)	60	Not Detected	460	Not Detected
Chlorobenzene	60	57 J	280	260 J
Ethyl Benzene	60	Not Detected	260	Not Detected
m,p-Xylene	60	27 J	260	120 J
o-Xylene	60	Not Detected	260	Not Detected
Styrene	60	Not Detected	260	Not Detected
Bromoform	60	Not Detected	620	Not Detected
Cumene	60	17 J	300	84 J
1,1,2,2-Tetrachloroethane	60	Not Detected	420	Not Detected
Propylbenzene	60	Not Detected	300	Not Detected
4-Ethyltoluene	60	Not Detected	300	Not Detected
1,3,5-Trimethylbenzene	60	Not Detected	300	Not Detected
1,2,4-Trimethylbenzene	60	Not Detected	300	Not Detected
1,3-Dichlorobenzene	60	Not Detected	360	Not Detected
1,4-Dichlorobenzene	60	8.0 J	360	48 J
alpha-Chlorotoluene	60	Not Detected	310	Not Detected
1,2-Dichlorobenzene	60	Not Detected	360	Not Detected
1,2,4-Trichlorobenzene	240	Not Detected	1800	Not Detected
Hexachlorobutadiene	240	Not Detected	2600	Not Detected
Butane	240	Not Detected	580	Not Detected
Isopentane	240	400	710	1200
Ethyl Acetate	240	Not Detected	870	Not Detected
Propylene	240	Not Detected	420	Not Detected
Vinyl Acetate	240	Not Detected	850	Not Detected
Vinyl Bromide	240	Not Detected	1000	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Unknown	NA	NA	1200 J
Pentane, 2,4-dimethyl-	108-08-7	40%	860 NJ
Butane, 2,2,3-trimethyl-	464-06-2	50%	1400 NJ
Oxirane, (1-methylethyl)-	1438-14-8	56%	2000 NJ
Hexane, 2,2,5,5-tetramethyl-	1071-81-4	56%	1400 NJ
Pentane, 2,3,4-trimethyl-	565-75-3	83%	7100 NJ
Pentane, 2,3,3-trimethyl-	560-21-4	78%	25000 NJ
Unknown	NA	NA	1500 J
Unknown	NA	NA	540 J
Octane, 2,2,6-trimethyl-	62016-28-8	78%	1100 NJ

eurofins | Air Toxics

Client Sample ID: VMP-16-5-083012

Lab ID#: 1208722A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091011**	**Date of Collection: 8/30/12 9:35:00 AM**
Dil. Factor:	**121**	**Date of Analysis: 9/10/12 02:22 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	91	70-130
1,2-Dichloroethane-d4	106	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208722A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j091008a	**Date of Collection: NA**	
Dil. Factor:	1.00	**Date of Analysis: 9/10/12 11:42 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
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	0.49 J	6.2	1.5 J
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	0.052 J	17	0.18 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	0.059 J	1.8	0.21 J
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	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	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	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	0.079 J	1.9	0.30 J
trans-1,3-Dichloropropene	0.50	0.16 J	2.3	0.71 J
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208722A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j091008a	**Date of Collection:**	NA
Dil. Factor:	1.00	**Date of Analysis:**	9/10/12 11:42 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	0.41 J	2.3	1.9 J
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	0.086 J	2.4	0.42 J
1,3-Dichlorobenzene	0.50	0.16 J	3.0	0.95 J
1,4-Dichlorobenzene	0.50	0.13 J	3.0	0.77 J
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	0.14 J	3.0	0.83 J
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
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	92	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1208722A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091002**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/10/12 08:06 AM**	

Compound	%Recovery
Freon 12	123
Freon 114	126
Chloromethane	87
Vinyl Chloride	88
1,3-Butadiene	74
Bromomethane	109
Chloroethane	100
Freon 11	126
Ethanol	80
Freon 113	126
1,1-Dichloroethene	130
Acetone	75
2-Propanol	86
Carbon Disulfide	106
3-Chloropropene	114
Methylene Chloride	77
Methyl tert-butyl ether	124
trans-1,2-Dichloroethene	110
Hexane	92
1,1-Dichloroethane	95
2-Butanone (Methyl Ethyl Ketone)	102
cis-1,2-Dichloroethene	97
Tetrahydrofuran	78
Chloroform	110
1,1,1-Trichloroethane	120
Cyclohexane	105
Carbon Tetrachloride	122
2,2,4-Trimethylpentane	81
Benzene	102
1,2-Dichloroethane	111
Heptane	120
Trichloroethene	109
1,2-Dichloropropane	83
1,4-Dioxane	102
Bromodichloromethane	115
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	86
Toluene	98
trans-1,3-Dichloropropene	120
1,1,2-Trichloroethane	105
Tetrachloroethene	110
2-Hexanone	93

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1208722A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091002**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/10/12 08:06 AM**	

Compound	%Recovery
Dibromochloromethane	119
1,2-Dibromoethane (EDB)	109
Chlorobenzene	92
Ethyl Benzene	108
m,p-Xylene	111
o-Xylene	109
Styrene	116
Bromoform	120
Cumene	117
1,1,2,2-Tetrachloroethane	98
Propylbenzene	115
4-Ethyltoluene	109
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	110
1,3-Dichlorobenzene	102
1,4-Dichlorobenzene	98
alpha-Chlorotoluene	114
1,2-Dichlorobenzene	101
1,2,4-Trichlorobenzene	106
Hexachlorobutadiene	123
Butane	85
Isopentane	79
Ethyl Acetate	66
Propylene	76
Vinyl Acetate	104
Vinyl Bromide	113

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1208722A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091003**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/10/12 08:36 AM**	

Compound	%Recovery
Freon 12	126
Freon 114	129
Chloromethane	90
Vinyl Chloride	97
1,3-Butadiene	75
Bromomethane	112
Chloroethane	93
Freon 11	123
Ethanol	68 Q
Freon 113	126
1,1-Dichloroethene	134 Q
Acetone	73
2-Propanol	82
Carbon Disulfide	125
3-Chloropropene	126
Methylene Chloride	75
Methyl tert-butyl ether	122
trans-1,2-Dichloroethene	122
Hexane	87
1,1-Dichloroethane	91
2-Butanone (Methyl Ethyl Ketone)	97
cis-1,2-Dichloroethene	91
Tetrahydrofuran	70
Chloroform	108
1,1,1-Trichloroethane	120
Cyclohexane	106
Carbon Tetrachloride	121
2,2,4-Trimethylpentane	79
Benzene	100
1,2-Dichloroethane	107
Heptane	115
Trichloroethene	106
1,2-Dichloropropane	80
1,4-Dioxane	92
Bromodichloromethane	112
cis-1,3-Dichloropropene	99
4-Methyl-2-pentanone	78
Toluene	92
trans-1,3-Dichloropropene	117
1,1,2-Trichloroethane	103
Tetrachloroethene	105
2-Hexanone	86

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1208722A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091003**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/10/12 08:36 AM**	

Compound	%Recovery
Dibromochloromethane	113
1,2-Dibromoethane (EDB)	107
Chlorobenzene	88
Ethyl Benzene	103
m,p-Xylene	104
o-Xylene	105
Styrene	113
Bromoform	114
Cumene	114
1,1,2,2-Tetrachloroethane	94
Propylbenzene	114
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	104
1,2,4-Trimethylbenzene	105
1,3-Dichlorobenzene	96
1,4-Dichlorobenzene	96
alpha-Chlorotoluene	110
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	101
Hexachlorobutadiene	119
Butane	84
Isopentane	75
Ethyl Acetate	Not Spiked
Propylene	70
Vinyl Acetate	104
Vinyl Bromide	Not Spiked

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1208722A-04AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091004**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/10/12 09:18 AM**	

Compound	%Recovery
Freon 12	128
Freon 114	130
Chloromethane	91
Vinyl Chloride	91
1,3-Butadiene	74
Bromomethane	112
Chloroethane	97
Freon 11	123
Ethanol	72
Freon 113	122
1,1-Dichloroethene	142 Q
Acetone	73
2-Propanol	82
Carbon Disulfide	127
3-Chloropropene	122
Methylene Chloride	75
Methyl tert-butyl ether	121
trans-1,2-Dichloroethene	119
Hexane	86
1,1-Dichloroethane	91
2-Butanone (Methyl Ethyl Ketone)	106
cis-1,2-Dichloroethene	87
Tetrahydrofuran	69 Q
Chloroform	107
1,1,1-Trichloroethane	121
Cyclohexane	98
Carbon Tetrachloride	121
2,2,4-Trimethylpentane	77
Benzene	99
1,2-Dichloroethane	106
Heptane	110
Trichloroethene	105
1,2-Dichloropropane	77
1,4-Dioxane	94
Bromodichloromethane	109
cis-1,3-Dichloropropene	99
4-Methyl-2-pentanone	76
Toluene	88
trans-1,3-Dichloropropene	110
1,1,2-Trichloroethane	99
Tetrachloroethene	103
2-Hexanone	84

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1208722A-04AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091004**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/10/12 09:18 AM**	

Compound	%Recovery
Dibromochloromethane	112
1,2-Dibromoethane (EDB)	104
Chlorobenzene	87
Ethyl Benzene	102
m,p-Xylene	106
o-Xylene	101
Styrene	108
Bromoform	111
Cumene	111
1,1,2,2-Tetrachloroethane	92
Propylbenzene	110
4-Ethyltoluene	96
1,3,5-Trimethylbenzene	100
1,2,4-Trimethylbenzene	101
1,3-Dichlorobenzene	94
1,4-Dichlorobenzene	92
alpha-Chlorotoluene	105
1,2-Dichlorobenzene	97
1,2,4-Trichlorobenzene	100
Hexachlorobutadiene	115
Butane	81
Isopentane	77
Ethyl Acetate	Not Spiked
Propylene	70
Vinyl Acetate	96
Vinyl Bromide	Not Spiked

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	104	70-130

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.	Please Check Appropriate Box: ☒ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL ☐ MOTIVA SD&CM ☐ CONSULTANT ☐ LUBES ☐ SHELL PIPELINE ☐ OTHER
Project Name: Roxana Vapor Additional	Print Bill To Contact Name: Robert Moosheglan
Project # 21562735.10100	INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0 ☐ CHECK IF NO INCIDENT # APPLIES
Lab Vendor #	PO #:
	SAP #: 3 4 0 0 6 1
	DATE: 08/23/12
	PAGE: 1 of 1
Sampling Company: URS CORPORATION	Site Address: 900 SOUTH CENTRAL AVE – ROXANA; State: IL
Address: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110	EDF Deliverable To: Elizabeth Kunkel, URS, St. Louis; Phone: 314-743-4179; E-mail: Elizabeth_Kunkel@URSCorp.com; Consultant Project Name: Roxana Soil Vapor
Lab Address: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719	Sampler Name(s): M. Currier, J. Jackson
Telephone:	Fax: 314-429-0462
E-mail: Robert.Moosheglan@urs.com	

TURNAROUND TIME (CALENDAR DAYS): ☒ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☒ UST AGENCY:

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

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

REQUESTED ANALYSIS

Lab Use Only	Field Sample Identification	Sampling Date	Sampling Time	Canister Number	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
[illegible]	VMP-16-5-083012	08/30/12	0909-0935	12376	-30	-10			X	X	

Turn Around Time: ☒ Normal ☐ Rush Specify

Lab Use Only: Pressurized by: Date: Pressurization Gas: N_2 He

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

8/30/12

Relinquished by (Signature)	Received by (Signature)	Date	Time
[signature]	FEDEX	8/30/12	1830
	B. Whittaker ATL	8/31/12	0940

05/2008 Revision

Fedex

Custody Seal Intact?
Y N None Temp N/A

1208722

eurofins | Air Toxics

9/14/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1208722B

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 8/31/2012 at Air Toxics Ltd.

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

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

Regards,

Kelly Buettner

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1208722B

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	08/31/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	09/14/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-16-5-083012 ✓	Modified ASTM D-1946	10.0 "Hg	15 psi
02A	Lab Blank	Modified ASTM D-1946	NA	NA
02B	Lab Blank	Modified ASTM D-1946	NA	NA
03A	LCS	Modified ASTM D-1946	NA	NA
03AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Rogers DATE: 09/14/12

Technical Director

Certfication 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

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

LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1208722B

One 1 Liter Summa Canister sample was received on August 31, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

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

Client Sample ID: VMP-16-5-083012

Lab ID#: 1208722B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	4.6
Nitrogen	0.30	82
Methane	0.00030	0.0041
Carbon Dioxide	0.030	13

eurofins | Air Toxics

Client Sample ID: VMP-16-5-083012

Lab ID#: 1208722B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9090414**	**Date of Collection: 8/30/12 9:35:00 AM**	
Dil. Factor:	**3.03**	**Date of Analysis: 9/4/12 04:49 PM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	4.6
Nitrogen	0.30	82
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	0.0041
Carbon Dioxide	0.030	13
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	Not Detected

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208722B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9090404a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/4/12 11:09 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.012 J
Nitrogen	0.10	0.060 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1208722B-02B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9090403b**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/4/12 10:47 AM**	

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

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1208722B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9090402**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/4/12 10:24 AM**	

Compound	%Recovery
Oxygen	99
Nitrogen	101
Carbon Monoxide	99
Methane	99
Carbon Dioxide	101
Ethane	100
Ethene	97
Helium	99

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1208722B-03AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9090426**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/4/12 10:44 PM**	

Compound	%Recovery
Oxygen	98
Nitrogen	101
Carbon Monoxide	98
Methane	98
Carbon Dioxide	98
Ethane	100
Ethene	97
Helium	99

Container Type: NA - Not Applicable

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

Please Check Appropriate Box:
☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SD&CH ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Robert Mooshegian
INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0 ☐ CHECK IF NO INCIDENT # APPLIES
PO #:
SAP #: 3 4 0 0 6 1
DATE: 05/23/12
PAGE: 1 of 1

Shipping Company: URS CORPORATION
Lab Code:
Site Address: 900 SOUTH CENTRAL AVE – ROXANA
State: IL
Global ID No.:
Address: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
Consultant Project Manager: Elizabeth Kunkel, URS, St Louis
Phone No.: 314-743-4179
Email: Elizabeth_Kunkel@URSCorp.com
Consultant Project Number: Roxana Soil Vapor
Laboratory Address: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
M. Cutrer, J. Jackson
Telephone: 314-429-0462
Fax:
Sample Contact (e-mail): Robert.Mooshegian@urs.com

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:

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

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

Turn Around Time: ☑ Normal ☐ Rush ☐ Specify

Lab Use Only
Pressurized By:
Date:
Pressurization Gas: N_2 He

Lab Use Only	Field Sample Identification	Sampling Date	Sampling Time	Canister Number	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psig)	Modified TO-15 - Roxana Vapor Additional	ASTMD-1946 + Helium	ASTMD-1945
	VMP-16-5-083012	08/30/12	0900-0955	12376	-30	-10			X	X	

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

8/30/12

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	FEDEX	8/30/12	1830
		8/31/12	0940

Fedex
Custody Seal Intact? Y N None Temp. N/A

1203722

Roxana Soil Vapor Additional – Week 4 - 2012 Data Review

Laboratory SDG: 1209007A,B

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 9/25/2012

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

Sample Identification	Sample Identification
VMP-21-5-083012	VMP-42-10-083012
VMP-4-5-083012	VMP-11-5-083112
VMP-13-5-083112	VMP-10-5-083112

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, analytes were detected in the method blank. TO-15 CCV and LCS/LCSD recoveries were outside evaluation criteria. These issues are addressed further in the appropriate sections below.

No problems were indicated in the cooler receipt form.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
1209007A-07A	TO-15	Carbon disulfide	0.38 ppbv / 1.2 µg/m^3
1209007A-07A	TO-15	Benzene	0.088 ppbv / 0.28 µg/m^3
1209007A-07A	TO-15	Toluene	0.11 ppbv / 0.40 µg/m^3
1209007A-07A	TO-15	trans-1,3-Dichloropropene	0.13 ppbv / 0.59 µg/m^3
1209007A-07A	TO-15	Chlorobenzene	0.30 ppbv / 1.4 µg/m^3
1209007A-07A	TO-15	1,2,4-Trimethylbenzene	0.095 ppbv / 0.46 µg/m^3
1209007A-07A	TO-15	1,3-Dichlorobenzene	0.18 ppbv / 1.1 µg/m^3
1209007A-07A	TO-15	1,4-Dichlorobenzene	0.12 ppbv / 0.69 µg/m^3
1209007A-07A	TO-15	1,2-Dichlorobenzene	0.12 ppbv / 0.73 µg/m^3
1209007B-07A	Natural gases	Oxygen	0.012%

Blank ID	Parameter	Analyte	Concentration/ Amount
1209007B-07A	Natural gases	Nitrogen	0.062%

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

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
VMP-21-5-083012	TO-15	Carbon disulfide	-	**U**
VMP-21-5-083012	TO-15	Chlorobenzene	-	**U**
VMP-21-5-083012	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-21-5-083012	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-21-5-083012	TO-15	1,2-Dichlorobenzene	-	**U**
VMP-42-10-083012	TO-15	Carbon disulfide	-	**U**
VMP-42-10-083012	TO-15	Chlorobenzene	-	**U**
VMP-42-10-083012	TO-15	1,2-Dichlorobenzene	-	**U**
VMP-4-5-083012	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-4-5-083012	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-4-5-083012	TO-15	1,2-Dichlorobenzene	-	**U**
VMP-11-5-083112	TO-15	Chlorobenzene	-	**U**
VMP-11-5-083112	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-13-5-083112	TO-15	Chlorobenzene	-	**U**
VMP-13-5-083112	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-13-5-083112	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-13-5-083112	TO-15	1,2-Dichlorobenzene	-	**U**
VMP-10-5-083112	TO-15	Chlorobenzene	-	**U**
VMP-10-5-083112	TO-15	1,4-Dichlorobenzene	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS ID	Parameter	Analyte	LCS/LCSD Recovery	LCS/ LCSD RPD	LCS/ LCSD/RPD Criteria
1209007A -09A/AA	TO-15	Freon 12	**142/144**	1	70-130/25
1209007A -09A/AA	TO-15	Freon 114	**135/146**	8	70-130/25
1209007A -09A/AA	TO-15	Freon 11	**137/140**	2	70-130/25
1209007A -09A/AA	TO-15	Freon 113	**136/135**	1	70-130/25
1209007A -09A/AA	TO-15	1,1-Dichloroethene	**140/142**	1	70-130/25

LCS ID	Parameter	Analyte	LCS/LCSD Recovery	LCS/ LCSD RPD	LCS/ LCSD/RPD Criteria
1209007A -09A/AA	TO-15	Carbon disulfide	**132/134**	2	70-130/25
1209007A -09A/AA	TO-15	Methyl tert-butyl ether	129/**133**	3	70-130/25
1209007A -09A/AA	TO-15	trans-1,2-Dichloroethene	130/**137**	5	70-130/25
1209007A -09A/AA	TO-15	1,1,1-Trichloroethane	**133/133**	0	70-130/25
1209007A -09A/AA	TO-15	Carbon tetrachloride	**133**/130	2	70-130/25

Analytical data that required qualification based on LCS data are included in the table below. 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. 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.

Field ID	Parameter	Analyte	Qualification
VMP-21-5-083012	TO-15	Freon 12	**J**
VMP-21-5-083012	TO-15	Freon 11	**J**
VMP-42-10-083012	TO-15	Freon 12	**J**
VMP-42-10-083012	TO-15	Freon 11	**J**
VMP-42-10-083012	TO-15	trans-1,2-Dichloroethene	**J**
VMP-4-5-083012	TO-15	Freon 12	**J**
VMP-4-5-083012	TO-15	Carbon disulfide	**J**
VMP-11-5-083112	TO-15	Freon 12	**J**
VMP-11-5-083112	TO-15	Freon 11	**J**
VMP-11-5-083112	TO-15	Carbon disulfide	**J**
VMP-13-5-083112	TO-15	Freon 12	**J**
VMP-13-5-083112	TO-15	Freon 11	**J**
VMP-13-5-083112	TO-15	Carbon disulfide	**J**
VMP-10-5-083112	TO-15	Freon 12	**J**
VMP-10-5-083112	TO-15	Freon 11	**J**
VMP-10-5-083112	TO-15	Carbon disulfide	**J**

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?

No

10.0 Sample Dilutions

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

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

11.0 Additional Qualifications

Were additional qualifications applied?

The CCV percent recovery for acetone was outside evaluation criteria as summarized in the table below.

CCV ID	Parameter	Analyte	CCV Recovery	CCV Criteria
1209007A-08A	TO-15	Acetone	**68**	70-130

Data requiring qualification based on CCV recoveries are summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
VMP-21-5-083012	TO-15	Acetone	**J**
VMP-42-10-083012	TO-15	Acetone	**J**
VMP-4-5-083012	TO-15	Acetone	**J**
VMP-11-5-083112	TO-15	Acetone	**J**
VMP-13-5-083112	TO-15	Acetone	**J**
VMP-10-5-083112	TO-15	Acetone	**J**

eurofins | Air Toxics

9/24/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1209007A

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 9/4/2012 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 9/25/12

eurofins | Air Toxics

WORK ORDER #: 1209007A

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	09/04/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	09/24/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-21-5-083012	Modified TO-15/TICs	10.0 "Hg	15 psi
02A	VMP-42-10-083012	Modified TO-15/TICs	11.0 "Hg	15 psi
03A	VMP-4-5-083012	Modified TO-15/TICs	11.0 "Hg	15 psi
04A	VMP-11-5-083112	Modified TO-15/TICs	8.5 "Hg	15 psi
05A	VMP-13-5-083112	Modified TO-15/TICs	9.0 "Hg	15 psi
06A	VMP-10-5-083112	Modified TO-15/TICs	9.0 "Hg	15 psi
07A	Lab Blank	Modified TO-15/TICs	NA	NA
08A	CCV	Modified TO-15/TICs	NA	NA
09A	LCS	Modified TO-15/TICs	NA	NA
09AA	LCSD	Modified TO-15/TICs	NA	NA

CERTIFIED BY: Heidi Rayo DATE: 09/24/12

Technical Director

Certfication 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

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# 1209007A

Six 1 Liter Summa Canister samples were received on September 04, 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.

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (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.

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.

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

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-083012

Lab ID#: 1209007A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.49 J J	7.5	2.4 J J
Freon 11	1.5	0.32 J J	8.5	1.8 J J
Ethanol	6.1	23	11	44
Acetone	15	11 J J	36	27 J J
2-Propanol	6.1	17	15	41
Carbon Disulfide	6.1	~~1.4 J~~ 4	19	~~4.5 J~~ 4
Methylene Chloride	15	0.36 J	53	1.2 J
2-Butanone (Methyl Ethyl Ketone)	6.1	15	18	43
cis-1,2-Dichloroethene	1.5	0.73 J	6.0	2.9 J
Cyclohexane	1.5	0.32 J	5.2	1.1 J
2,2,4-Trimethylpentane	1.5	1.8	7.1	8.6
Benzene	1.5	5.7	4.8	18
Heptane	1.5	0.27 J	6.2	1.1 J
Trichloroethene	1.5	2.1	8.1	11
cis-1,3-Dichloropropene	1.5	0.34 J	6.9	1.5 J
4-Methyl-2-pentanone	1.5	37	6.2	150
Toluene	1.5	3.7	5.7	14
Tetrachloroethene	1.5	0.52 J	10	3.5 J
Chlorobenzene	1.5	~~1.3 J~~ 4	7.0	~~6.1 J~~ 4
Ethyl Benzene	1.5	0.49 J	6.6	2.1 J
m,p-Xylene	1.5	1.1 J	6.6	4.6 J
o-Xylene	1.5	0.45 J	6.6	2.0 J
Styrene	1.5	0.54 J	6.4	2.3 J
Cumene	1.5	13	7.4	64
Propylbenzene	1.5	0.36 J	7.4	1.8 J
1,3,5-Trimethylbenzene	1.5	0.26 J	7.4	1.3 J
1,2,4-Trimethylbenzene	1.5	0.82 J	7.4	4.0 J
1,3-Dichlorobenzene	1.5	~~0.36 J~~ 4	9.1	~~2.2 J~~ 4
1,4-Dichlorobenzene	1.5	~~0.53 J~~ 4	9.1	~~3.2 J~~ 4
1,2-Dichlorobenzene	1.5	~~0.29 J~~ 4	9.1	~~1.7 J~~ 4

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-083012

Lab ID#: 1209007A-01A

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
1-Heptene, 3-methyl-	4810-09-7	50%	42 NJ
Unknown	NA	NA	76 J
Cyclobutanone, 2,3,3-trimethyl-	28290-01-9	64%	36 NJ
Unknown	NA	NA	30 J
Unknown	NA	NA	35 J
Decane, 2,2-dimethyl-	17302-37-3	53%	91 NJ
Dodecane, 2,7,10-trimethyl-	74645-98-0	53%	86 NJ
Decane, 2,2,9-trimethyl-	62238-00-0	64%	190 NJ
Unknown	NA	NA	51 J
1-Pentanol, 4-methyl-2-propyl-	54004-41-0	59%	110 NJ

Client Sample ID: VMP-42-10-083012

Lab ID#: 1209007A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.6	0.70 J J	7.9	3.4 J J
Freon 11	1.6	0.29 J J	9.0	1.6 J J
Ethanol	6.4	49	12	93
Acetone	16	18 J J	38	43 J J
2-Propanol	6.4	34	16	84
Carbon Disulfide	6.4	~~1.1 J~~ U	20	~~3.5 J~~ U
Methylene Chloride	16	0.64 J	55	2.2 J
trans-1,2-Dichloroethene	1.6	0.37 J J	6.3	1.5 J J
Hexane	1.6	1.0 J	5.6	3.6 J
2-Butanone (Methyl Ethyl Ketone)	6.4	26	19	76
Chloroform	1.6	0.71 J	7.8	3.4 J
2,2,4-Trimethylpentane	1.6	0.42 J	7.4	2.0 J
Benzene	1.6	8.6	5.1	28
Heptane	1.6	2.2	6.5	9.2
Trichloroethene	1.6	1.4 J	8.6	7.4 J
4-Methyl-2-pentanone	1.6	76	6.5	310
Toluene	1.6	6.4	6.0	24

eurofins | Air Toxics

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

Client Sample ID: VMP-42-10-083012

Lab ID#: 1209007A-02A

Chlorobenzene	1.6	~~1.3 J~~ U		7.3	~~5.9 J~~ U
Ethyl Benzene	1.6	0.35 J		6.9	1.5 J
m,p-Xylene	1.6	2.0		6.9	8.7
o-Xylene	1.6	0.56 J		6.9	2.4 J
Styrene	1.6	0.74 J		6.8	3.2 J
Cumene	1.6	32		7.8	160
Propylbenzene	1.6	0.31 J		7.8	1.5 J
4-Ethyltoluene	1.6	1.1 J		7.8	5.6 J
1,3,5-Trimethylbenzene	1.6	0.42 J		7.8	2.1 J
1,2,4-Trimethylbenzene	1.6	0.99 J		7.8	4.9 J
1,4-Dichlorobenzene	1.6	0.63 J		9.6	3.8 J
1,2-Dichlorobenzene	1.6	~~0.47 J~~ U		9.6	~~2.8 J~~ U

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
2-Heptene	592-77-8	47%	79 NJ
Unknown	NA	NA	150 J
1-Heptene, 3-methyl-	4810-09-7	53%	69 NJ
Octane, 2,2,6-trimethyl-	62016-28-8	78%	59 NJ
Decane, 2,2,9-trimethyl-	62238-00-0	72%	180 NJ
Decane, 2,2-dimethyl-	17302-37-3	72%	56 NJ
Tetradecane, 2,5-dimethyl-	56292-69-4	72%	190 NJ
Decane, 2,2,4-trimethyl-	62237-98-3	64%	390 NJ
Unknown	NA	NA	110 J
1-Pentanol, 2-ethyl-4-methyl-	106-67-2	59%	190 NJ

Client Sample ID: VMP-4-5-083012

Lab ID#: 1209007A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.9	0.60 J J	9.6	3.0 J J
Ethanol	7.7	74	14	140
Acetone	19	28 J J	46	67 J J
2-Propanol	7.7	35	19	86
Carbon Disulfide	7.7	2.5 J J	24	7.7 J J

eurofins | Air Toxics

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

Client Sample ID: VMP-4-5-083012

Lab ID#: 1209007A-03A

Methylene Chloride	19	0.67 J	67	2.3 J
Hexane	1.9	0.91 J	6.8	3.2 J
2-Butanone (Methyl Ethyl Ketone)	7.7	32	23	96
Chloroform	1.9	0.39 J	9.4	1.9 J
2,2,4-Trimethylpentane	1.9	0.75 J	9.0	3.5 J
Benzene	1.9	83	6.2	260
Trichloroethene	1.9	1.8 J	10	9.9 J
4-Methyl-2-pentanone	1.9	81	7.9	330
Toluene	1.9	8.7	7.3	33
Tetrachloroethene	1.9	0.46 J	13	3.1 J
Chlorobenzene	1.9	1.8 J	8.9	8.2 J
Ethyl Benzene	1.9	0.89 J	8.4	3.9 J
m,p-Xylene	1.9	2.6	8.4	11
o-Xylene	1.9	1.0 J	8.4	4.3 J
Styrene	1.9	1.0 J	8.2	4.4 J
Cumene	1.9	35	9.5	170
Propylbenzene	1.9	0.50 J	9.5	2.4 J
4-Ethyltoluene	1.9	1.4 J	9.5	6.7 J
1,3,5-Trimethylbenzene	1.9	0.50 J	9.5	2.5 J
1,2,4-Trimethylbenzene	1.9	1.3 J	9.5	6.6 J
1,3-Dichlorobenzene	1.9	~~0.57 J~~ NJ	12	~~3.4 J~~ NJ
1,4-Dichlorobenzene	1.9	~~0.49 J~~ NJ	12	~~2.9 J~~ NJ
1,2-Dichlorobenzene	1.9	~~0.42 J~~ NJ	12	~~2.5 J~~ NJ
Butane	7.7	9.9	18	24
Isopentane	7.7	11	23	32

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
2-Heptenal, (Z)-	57266-86-1	59%	89 NJ
Unknown	NA	NA	160 J
Decane, 2,2,7-trimethyl-	62237-99-4	64%	81 NJ
Undecane, 2,2-dimethyl-	17312-64-0	72%	220 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	64%	72 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	72%	250 NJ
Decane, 2,2-dimethyl-	17302-37-3	64%	590 NJ

eurofins | Air Toxics

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

Client Sample ID: VMP-4-5-083012

Lab ID#: 1209007A-03A

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	200 J
1-Pentanol, 4-methyl-2-propyl-	54004-41-0	53%	360 NJ
Ethanone, 1-phenyl-	98-86-2	91%	71 NJ

Client Sample ID: VMP-11-5-083112

Lab ID#: 1209007A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.68 J J	7.0	3.4 J J
Bromomethane	14	0.94 J	55	3.7 J
Freon 11	1.4	0.28 J J	7.9	1.6 J J
Ethanol	5.6	36	11	68
Acetone	14	15 J J	33	35 J J
2-Propanol	5.6	14	14	35
Carbon Disulfide	5.6	3.1 J J	18	9.8 J J
2-Butanone (Methyl Ethyl Ketone)	5.6	14	17	43
Chloroform	1.4	0.85 J	6.9	4.1 J
2,2,4-Trimethylpentane	1.4	0.41 J	6.6	1.9 J
Benzene	1.4	44	4.5	140
Heptane	1.4	0.46 J	5.8	1.9 J
Trichloroethene	1.4	0.83 J	7.6	4.5 J
Bromodichloromethane	1.4	0.58 J	9.4	3.9 J
4-Methyl-2-pentanone	1.4	34	5.8	140
Toluene	1.4	3.4	5.3	13
Dibromochloromethane	1.4	0.71 J	12	6.0 J
Chlorobenzene	1.4	~~1.4~~ U	6.5	~~6.5~~ U
Ethyl Benzene	1.4	0.53 J	6.1	2.3 J
m,p-Xylene	1.4	0.96 J	6.1	4.2 J
o-Xylene	1.4	0.38 J	6.1	1.6 J
Styrene	1.4	0.32 J	6.0	1.4 J
Bromoform	1.4	1.3 J	14	14 J
Cumene	1.4	12	6.9	61

eurofins | Air Toxics

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

Client Sample ID: VMP-11-5-083112

Lab ID#: 1209007A-04A

Propylbenzene	1.4	0.33 J	6.9	1.6 J
4-Ethyltoluene	1.4	0.52 J	6.9	2.6 J
1,3,5-Trimethylbenzene	1.4	0.27 J	6.9	1.3 J
1,2,4-Trimethylbenzene	1.4	0.63 J	6.9	3.1 J
1,4-Dichlorobenzene	1.4	~~0.34 J~~ U	8.5	~~2.0 J~~ U

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	40 J
Cyclopentane, 1-methyl-2-propyl-	3728-57-2	40%	69 NJ
Cyclopentane, 1,2,3-trimethyl-, (1.alpha	2613-69-6	72%	32 NJ
Unknown	NA	NA	37 J
Pentane, 2,2,3,4-tetramethyl-	1186-53-4	59%	37 NJ
Undecane, 2,2-dimethyl-	17312-64-0	59%	96 NJ
Undecane, 5,5-dimethyl-	17312-73-1	59%	95 NJ
Decane, 2,2,9-trimethyl-	62238-00-0	72%	220 NJ
Unknown	NA	NA	69 J
1-Pentanol, 4-methyl-2-propyl-	54004-41-0	72%	150 NJ

Client Sample ID: VMP-13-5-083112

Lab ID#: 1209007A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.69 J J	7.1	3.4 J J
Freon 11	1.4	0.36 J J	8.1	2.0 J J
Ethanol	5.8	34	11	65
Acetone	14	14 J J	34	33 J J
2-Propanol	5.8	13	14	32
Carbon Disulfide	5.8	3.8 J J	18	12 J J
Hexane	1.4	0.66 J	5.1	2.3 J
2-Butanone (Methyl Ethyl Ketone)	5.8	12	17	36
Chloroform	1.4	0.54 J	7.0	2.6 J
2,2,4-Trimethylpentane	1.4	5.1	6.8	24
Benzene	1.4	39	4.6	120
Heptane	1.4	0.80 J	5.9	3.3 J

eurofins | Air Toxics

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

Client Sample ID: VMP-13-5-083112

Lab ID#: 1209007A-05A

Trichloroethene	1.4	0.99 J	7.8	5.3 J
4-Methyl-2-pentanone	1.4	34	5.9	140
Toluene	1.4	3.6	5.4	14
Chlorobenzene	1.4	~~1.0 J~~ U	6.6	~~4.7 J~~ U
Ethyl Benzene	1.4	0.54 J	6.3	2.4 J
m,p-Xylene	1.4	0.76 J	6.3	3.3 J
o-Xylene	1.4	0.43 J	6.3	1.9 J
Styrene	1.4	0.40 J	6.2	1.7 J
Cumene	1.4	15	7.1	74
Propylbenzene	1.4	0.22 J	7.1	1.1 J
1,2,4-Trimethylbenzene	1.4	0.58 J	7.1	2.9 J
1,3-Dichlorobenzene	1.4	~~0.44 J~~ U	8.7	~~2.6 J~~ U
1,4-Dichlorobenzene	1.4	~~0.30 J~~ U	8.7	~~1.8 J~~ U
1,2-Dichlorobenzene	1.4	~~0.26 J~~ U	8.7	~~1.6 J~~ U
Isopentane	5.8	1.5 J	17	4.3 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	39 J
Unknown	NA	NA	69 J
Cyclopentane, 1,2,3-trimethyl-, (1.alpha	2613-69-6	74%	32 NJ
Unknown	NA	NA	36 J
Decane, 2,2,5-trimethyl-	62237-96-1	64%	40 NJ
Decane, 2,2-dimethyl-	17302-37-3	64%	100 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	72%	100 NJ
Heptane, 2,2-dimethyl-	1071-26-7	42%	240 NJ
Unknown	NA	NA	84 J
Decane, 2,5,6-trimethyl-	62108-23-0	59%	96 NJ

Client Sample ID: VMP-10-5-083112

Lab ID#: 1209007A-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.44 J J	7.1	2.2 J J
Freon 11	1.4	0.32 J J	8.1	1.8 J J

eurofins | Air Toxics

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

Client Sample ID: VMP-10-5-083112

Lab ID#: 1209007A-06A

Ethanol	5.8	25	11	48
Acetone	14	11 J J	34	26 J J
2-Propanol	5.8	9.6	14	23
Carbon Disulfide	5.8	2.3 J J	18	7.1 J J
2-Butanone (Methyl Ethyl Ketone)	5.8	12	17	34
2,2,4-Trimethylpentane	1.4	0.20 J	6.8	0.94 J
Benzene	1.4	12	4.6	39
Trichloroethene	1.4	0.78 J	7.8	4.2 J
4-Methyl-2-pentanone	1.4	27	5.9	110
Toluene	1.4	2.5	5.4	9.3
Chlorobenzene	1.4	~~1.0 J~~ U	6.6	~~4.6 J~~ U
Ethyl Benzene	1.4	0.52 J	6.3	2.2 J
m,p-Xylene	1.4	0.88 J	6.3	3.8 J
o-Xylene	1.4	0.35 J	6.3	1.5 J
Styrene	1.4	0.42 J	6.2	1.8 J
Cumene	1.4	13	7.1	65
Propylbenzene	1.4	0.25 J	7.1	1.2 J
4-Ethyltoluene	1.4	0.78 J	7.1	3.8 J
1,2,4-Trimethylbenzene	1.4	0.42 J	7.1	2.1 J
1,4-Dichlorobenzene	1.4	~~0.27 J~~ U	8.7	~~1.6 J~~ U

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Cyclopentane, 2-ethyl-1,1-dimethyl-	54549-80-3	43%	30 NJ
Cycloheptane, methyl-	4126-78-7	53%	51 NJ
Unknown	NA	NA	38 J
Octane, 2,2,6-trimethyl-	62016-28-8	83%	30 NJ
Decane, 2,2,5-trimethyl-	62237-96-1	64%	96 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	78%	93 NJ
Decane, 2,2,6-trimethyl-	62237-97-2	64%	230 NJ
Unknown	NA	NA	77 J
Cyclohexanone, 4-methyl-	589-92-4	50%	120 NJ
Ethanone, 1-phenyl-	98-86-2	87%	32 NJ

eurofins | Air Toxics

Client Sample ID: VMP-21-5-083012

Lab ID#: 1209007A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091214**	**Date of Collection:**	**8/30/12 11:08:00 AM**
Dil. Factor:	**3.03**	**Date of Analysis:**	**9/12/12 04:25 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.49 J J	7.5	2.4 J J
Freon 114	1.5	Not Detected	10	Not Detected
Chloromethane	15	Not Detected	31	Not Detected
Vinyl Chloride	1.5	Not Detected	3.9	Not Detected
1,3-Butadiene	1.5	Not Detected	3.4	Not Detected
Bromomethane	15	Not Detected	59	Not Detected
Chloroethane	6.1	Not Detected	16	Not Detected
Freon 11	1.5	0.32 J J	8.5	1.8 J J
Ethanol	6.1	23	11	44
Freon 113	1.5	Not Detected	12	Not Detected
1,1-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Acetone	15	11 J J	36	27 J J
2-Propanol	6.1	17	15	41
Carbon Disulfide	6.1	~~1.4 J~~ U	19	~~4.5 J~~ U
3-Chloropropene	6.1	Not Detected	19	Not Detected
Methylene Chloride	15	0.36 J	53	1.2 J
Methyl tert-butyl ether	1.5	Not Detected	5.5	Not Detected
trans-1,2-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Hexane	1.5	Not Detected	5.3	Not Detected
1,1-Dichloroethane	1.5	Not Detected	6.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	6.1	15	18	43
cis-1,2-Dichloroethene	1.5	0.73 J	6.0	2.9 J
Tetrahydrofuran	1.5	Not Detected	4.5	Not Detected
Chloroform	1.5	Not Detected	7.4	Not Detected
1,1,1-Trichloroethane	1.5	Not Detected	8.3	Not Detected
Cyclohexane	1.5	0.32 J	5.2	1.1 J
Carbon Tetrachloride	1.5	Not Detected	9.5	Not Detected
2,2,4-Trimethylpentane	1.5	1.8	7.1	8.6
Benzene	1.5	5.7	4.8	18
1,2-Dichloroethane	1.5	Not Detected	6.1	Not Detected
Heptane	1.5	0.27 J	6.2	1.1 J
Trichloroethene	1.5	2.1	8.1	11
1,2-Dichloropropane	1.5	Not Detected	7.0	Not Detected
1,4-Dioxane	6.1	Not Detected	22	Not Detected
Bromodichloromethane	1.5	Not Detected	10	Not Detected
cis-1,3-Dichloropropene	1.5	0.34 J	6.9	1.5 J
4-Methyl-2-pentanone	1.5	37	6.2	150
Toluene	1.5	3.7	5.7	14
trans-1,3-Dichloropropene	1.5	Not Detected	6.9	Not Detected
1,1,2-Trichloroethane	1.5	Not Detected	8.3	Not Detected
Tetrachloroethene	1.5	0.52 J	10	3.5 J
2-Hexanone	6.1	Not Detected	25	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-21-5-083012

Lab ID#: 1209007A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091214**	**Date of Collection: 8/30/12 11:08:00 AM**	
Dil. Factor:	**3.03**	**Date of Analysis: 9/12/12 04:25 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.5	Not Detected	13	Not Detected
1,2-Dibromoethane (EDB)	1.5	Not Detected	12	Not Detected
Chlorobenzene	1.5	~~1.3 J~~ U	7.0	~~6.1 J~~ U
Ethyl Benzene	1.5	0.49 J	6.6	2.1 J
m,p-Xylene	1.5	1.1 J	6.6	4.6 J
o-Xylene	1.5	0.45 J	6.6	2.0 J
Styrene	1.5	0.54 J	6.4	2.3 J
Bromoform	1.5	Not Detected	16	Not Detected
Cumene	1.5	13	7.4	64
1,1,2,2-Tetrachloroethane	1.5	Not Detected	10	Not Detected
Propylbenzene	1.5	0.36 J	7.4	1.8 J
4-Ethyltoluene	1.5	Not Detected	7.4	Not Detected
1,3,5-Trimethylbenzene	1.5	0.26 J	7.4	1.3 J
1,2,4-Trimethylbenzene	1.5	0.82 J	7.4	4.0 J
1,3-Dichlorobenzene	1.5	~~0.36 J~~ U	9.1	~~2.2 J~~ U
1,4-Dichlorobenzene	1.5	~~0.53 J~~ U	9.1	~~3.2 J~~ U
alpha-Chlorotoluene	1.5	Not Detected	7.8	Not Detected
1,2-Dichlorobenzene	1.5	~~0.29 J~~ U	9.1	~~1.7 J~~ U
1,2,4-Trichlorobenzene	6.1	Not Detected	45	Not Detected
Hexachlorobutadiene	6.1	Not Detected	65	Not Detected
Butane	6.1	Not Detected	14	Not Detected
Isopentane	6.1	Not Detected	18	Not Detected
Ethyl Acetate	6.1	Not Detected	22	Not Detected
Propylene	6.1	Not Detected	10	Not Detected
Vinyl Acetate	6.1	Not Detected	21	Not Detected
Vinyl Bromide	6.1	Not Detected	26	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
1-Heptene, 3-methyl-	4810-09-7	50%	42 NJ
Unknown	NA	NA	76 J
Cyclobutanone, 2,3,3-trimethyl-	28290-01-9	64%	36 NJ
Unknown	NA	NA	30 J
Unknown	NA	NA	35 J
Decane, 2,2-dimethyl-	17302-37-3	53%	91 NJ
Dodecane, 2,7,10-trimethyl-	74645-98-0	53%	86 NJ
Decane, 2,2,9-trimethyl-	62238-00-0	64%	190 NJ
Unknown	NA	NA	51 J
1-Pentanol, 4-methyl-2-propyl-	54004-41-0	59%	110 NJ

eurofins | Air Toxics

Client Sample ID: VMP-21-5-083012

Lab ID#: 1209007A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091214**	**Date of Collection: 8/30/12 11:08:00 AM**
Dil. Factor:	**3.03**	**Date of Analysis: 9/12/12 04:25 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: VMP-42-10-083012

Lab ID#: 1209007A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091215**	**Date of Collection: 8/30/12 12:15:00 PM**	
Dil. Factor:	**3.19**	**Date of Analysis: 9/12/12 05:17 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.6	0.70 J J	7.9	3.4 J 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	0.29 J J	9.0	1.6 J J
Ethanol	6.4	49	12	93
Freon 113	1.6	Not Detected	12	Not Detected
1,1-Dichloroethene	1.6	Not Detected	6.3	Not Detected
Acetone	16	18 J J	38	43 J J
2-Propanol	6.4	34	16	84
Carbon Disulfide	6.4	~~1.1 J~~ U	20	~~3.5 J~~ U
3-Chloropropene	6.4	Not Detected	20	Not Detected
Methylene Chloride	16	0.64 J	55	2.2 J
Methyl tert-butyl ether	1.6	Not Detected	5.8	Not Detected
trans-1,2-Dichloroethene	1.6	0.37 J J	6.3	1.5 J J
Hexane	1.6	1.0 J	5.6	3.6 J
1,1-Dichloroethane	1.6	Not Detected	6.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	6.4	26	19	76
cis-1,2-Dichloroethene	1.6	Not Detected	6.3	Not Detected
Tetrahydrofuran	1.6	Not Detected	4.7	Not Detected
Chloroform	1.6	0.71 J	7.8	3.4 J
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	0.42 J	7.4	2.0 J
Benzene	1.6	8.6	5.1	28
1,2-Dichloroethane	1.6	Not Detected	6.4	Not Detected
Heptane	1.6	2.2	6.5	9.2
Trichloroethene	1.6	1.4 J	8.6	7.4 J
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	76	6.5	310
Toluene	1.6	6.4	6.0	24
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

eurofins | Air Toxics

Client Sample ID: VMP-42-10-083012

Lab ID#: 1209007A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091215**	**Date of Collection: 8/30/12 12:15:00 PM**	
Dil. Factor:	**3.19**	**Date of Analysis: 9/12/12 05:17 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.6	Not Detected	14	Not Detected
1,2-Dibromoethane (EDB)	1.6	Not Detected	12	Not Detected
Chlorobenzene	1.6	~~1.3 J~~ VI	7.3	~~5.9 J~~ VI
Ethyl Benzene	1.6	0.35 J	6.9	1.5 J
m,p-Xylene	1.6	2.0	6.9	8.7
o-Xylene	1.6	0.56 J	6.9	2.4 J
Styrene	1.6	0.74 J	6.8	3.2 J
Bromoform	1.6	Not Detected	16	Not Detected
Cumene	1.6	32	7.8	160
1,1,2,2-Tetrachloroethane	1.6	Not Detected	11	Not Detected
Propylbenzene	1.6	0.31 J	7.8	1.5 J
4-Ethyltoluene	1.6	1.1 J	7.8	5.6 J
1,3,5-Trimethylbenzene	1.6	0.42 J	7.8	2.1 J
1,2,4-Trimethylbenzene	1.6	0.99 J	7.8	4.9 J
1,3-Dichlorobenzene	1.6	Not Detected	9.6	Not Detected
1,4-Dichlorobenzene	1.6	0.63 J	9.6	3.8 J
alpha-Chlorotoluene	1.6	Not Detected	8.2	Not Detected
1,2-Dichlorobenzene	1.6	~~0.47 J~~ VI	9.6	~~2.8 J~~ VI
1,2,4-Trichlorobenzene	6.4	Not Detected	47	Not Detected
Hexachlorobutadiene	6.4	Not Detected	68	Not Detected
Butane	6.4	Not Detected	15	Not Detected
Isopentane	6.4	Not Detected	19	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.
J = Estimated value due to bias in the CCV.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
2-Heptene	592-77-8	47%	79 NJ
Unknown	NA	NA	150 J
1-Heptene, 3-methyl-	4810-09-7	53%	69 NJ
Octane, 2,2,6-trimethyl-	62016-28-8	78%	59 NJ
Decane, 2,2,9-trimethyl-	62238-00-0	72%	180 NJ
Decane, 2,2-dimethyl-	17302-37-3	72%	56 NJ
Tetradecane, 2,5-dimethyl-	56292-69-4	72%	190 NJ
Decane, 2,2,4-trimethyl-	62237-98-3	64%	390 NJ
Unknown	NA	NA	110 J
1-Pentanol, 2-ethyl-4-methyl-	106-67-2	59%	190 NJ

eurofins | Air Toxics

Client Sample ID: VMP-42-10-083012

Lab ID#: 1209007A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091215**	**Date of Collection: 8/30/12 12:15:00 PM**
Dil. Factor:	**3.19**	**Date of Analysis: 9/12/12 05:17 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	108	70-130

eurofins | Air Toxics

Client Sample ID: VMP-4-5-083012

Lab ID#: 1209007A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091216**	**Date of Collection: 8/30/12 1:15:00 PM**	
Dil. Factor:	**3.87**	**Date of Analysis: 9/12/12 05:44 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.9	0.60 J	9.6	3.0 J
Freon 114	1.9	Not Detected	14	Not Detected
Chloromethane	19	Not Detected	40	Not Detected
Vinyl Chloride	1.9	Not Detected	4.9	Not Detected
1,3-Butadiene	1.9	Not Detected	4.3	Not Detected
Bromomethane	19	Not Detected	75	Not Detected
Chloroethane	7.7	Not Detected	20	Not Detected
Freon 11	1.9	Not Detected	11	Not Detected
Ethanol	7.7	74	14	140
Freon 113	1.9	Not Detected	15	Not Detected
1,1-Dichloroethene	1.9	Not Detected	7.7	Not Detected
Acetone	19	28 J	46	67 J
2-Propanol	7.7	35	19	86
Carbon Disulfide	7.7	2.5 J	24	7.7 J
3-Chloropropene	7.7	Not Detected	24	Not Detected
Methylene Chloride	19	0.67 J	67	2.3 J
Methyl tert-butyl ether	1.9	Not Detected	7.0	Not Detected
trans-1,2-Dichloroethene	1.9	Not Detected	7.7	Not Detected
Hexane	1.9	0.91 J	6.8	3.2 J
1,1-Dichloroethane	1.9	Not Detected	7.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	7.7	32	23	96
cis-1,2-Dichloroethene	1.9	Not Detected	7.7	Not Detected
Tetrahydrofuran	1.9	Not Detected	5.7	Not Detected
Chloroform	1.9	0.39 J	9.4	1.9 J
1,1,1-Trichloroethane	1.9	Not Detected	10	Not Detected
Cyclohexane	1.9	Not Detected	6.7	Not Detected
Carbon Tetrachloride	1.9	Not Detected	12	Not Detected
2,2,4-Trimethylpentane	1.9	0.75 J	9.0	3.5 J
Benzene	1.9	83	6.2	260
1,2-Dichloroethane	1.9	Not Detected	7.8	Not Detected
Heptane	1.9	Not Detected	7.9	Not Detected
Trichloroethene	1.9	1.8 J	10	9.9 J
1,2-Dichloropropane	1.9	Not Detected	8.9	Not Detected
1,4-Dioxane	7.7	Not Detected	28	Not Detected
Bromodichloromethane	1.9	Not Detected	13	Not Detected
cis-1,3-Dichloropropene	1.9	Not Detected	8.8	Not Detected
4-Methyl-2-pentanone	1.9	81	7.9	330
Toluene	1.9	8.7	7.3	33
trans-1,3-Dichloropropene	1.9	Not Detected	8.8	Not Detected
1,1,2-Trichloroethane	1.9	Not Detected	10	Not Detected
Tetrachloroethene	1.9	0.46 J	13	3.1 J
2-Hexanone	7.7	Not Detected	32	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-4-5-083012

Lab ID#: 1209007A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091216**	**Date of Collection: 8/30/12 1:15:00 PM**	
Dil. Factor:	**3.87**	**Date of Analysis: 9/12/12 05:44 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.9	Not Detected	16	Not Detected
1,2-Dibromoethane (EDB)	1.9	Not Detected	15	Not Detected
Chlorobenzene	1.9	1.8 J	8.9	8.2 J
Ethyl Benzene	1.9	0.89 J	8.4	3.9 J
m,p-Xylene	1.9	2.6	8.4	11
o-Xylene	1.9	1.0 J	8.4	4.3 J
Styrene	1.9	1.0 J	8.2	4.4 J
Bromoform	1.9	Not Detected	20	Not Detected
Cumene	1.9	35	9.5	170
1,1,2,2-Tetrachloroethane	1.9	Not Detected	13	Not Detected
Propylbenzene	1.9	0.50 J	9.5	2.4 J
4-Ethyltoluene	1.9	1.4 J	9.5	6.7 J
1,3,5-Trimethylbenzene	1.9	0.50 J	9.5	2.5 J
1,2,4-Trimethylbenzene	1.9	1.3 J	9.5	6.6 J
1,3-Dichlorobenzene	1.9	~~0.57 J~~	12	~~3.4 J~~
1,4-Dichlorobenzene	1.9	~~0.49 J~~	12	~~2.9 J~~
alpha-Chlorotoluene	1.9	Not Detected	10	Not Detected
1,2-Dichlorobenzene	1.9	~~0.42 J~~	12	~~2.5 J~~
1,2,4-Trichlorobenzene	7.7	Not Detected	57	Not Detected
Hexachlorobutadiene	7.7	Not Detected	82	Not Detected
Butane	7.7	9.9	18	24
Isopentane	7.7	11	23	32
Ethyl Acetate	7.7	Not Detected	28	Not Detected
Propylene	7.7	Not Detected	13	Not Detected
Vinyl Acetate	7.7	Not Detected	27	Not Detected
Vinyl Bromide	7.7	Not Detected	34	Not Detected

J = Estimated value.
J = Estimated value due to bias in the CCV.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
2-Heptenal, (Z)-	57266-86-1	59%	89 NJ
Unknown	NA	NA	160 J
Decane, 2,2,7-trimethyl-	62237-99-4	64%	81 NJ
Undecane, 2,2-dimethyl-	17312-64-0	72%	220 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	64%	72 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	72%	250 NJ
Decane, 2,2-dimethyl-	17302-37-3	64%	590 NJ
Unknown	NA	NA	200 J
1-Pentanol, 4-methyl-2-propyl-	54004-41-0	53%	360 NJ
Ethanone, 1-phenyl-	98-86-2	91%	71 NJ

eurofins | Air Toxics

Client Sample ID: VMP-4-5-083012

Lab ID#: 1209007A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091216**	**Date of Collection: 8/30/12 1:15:00 PM**
Dil. Factor:	**3.87**	**Date of Analysis: 9/12/12 05:44 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	99	70-130

eurofins | Air Toxics

Client Sample ID: VMP-11-5-083112

Lab ID#: 1209007A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091217**	**Date of Collection: 8/31/12 9:12:00 AM**	
Dil. Factor:	**2.82**	**Date of Analysis: 9/12/12 06:24 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.68 J	7.0	3.4 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	0.94 J	55	3.7 J
Chloroethane	5.6	Not Detected	15	Not Detected
Freon 11	1.4	0.28 J	7.9	1.6 J
Ethanol	5.6	36	11	68
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.6	Not Detected
Acetone	14	15 J	33	35 J
2-Propanol	5.6	14	14	35
Carbon Disulfide	5.6	3.1 J	18	9.8 J
3-Chloropropene	5.6	Not Detected	18	Not Detected
Methylene Chloride	14	Not Detected	49	Not Detected
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	Not Detected	5.0	Not Detected
1,1-Dichloroethane	1.4	Not Detected	5.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.6	14	17	43
cis-1,2-Dichloroethene	1.4	Not Detected	5.6	Not Detected
Tetrahydrofuran	1.4	Not Detected	4.2	Not Detected
Chloroform	1.4	0.85 J	6.9	4.1 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	0.41 J	6.6	1.9 J
Benzene	1.4	44	4.5	140
1,2-Dichloroethane	1.4	Not Detected	5.7	Not Detected
Heptane	1.4	0.46 J	5.8	1.9 J
Trichloroethene	1.4	0.83 J	7.6	4.5 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	0.58 J	9.4	3.9 J
cis-1,3-Dichloropropene	1.4	Not Detected	6.4	Not Detected
4-Methyl-2-pentanone	1.4	34	5.8	140
Toluene	1.4	3.4	5.3	13
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

eurofins | Air Toxics

Client Sample ID: VMP-11-5-083112

Lab ID#: 1209007A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j091217	**Date of Collection:**	8/31/12 9:12:00 AM
Dil. Factor:	2.82	**Date of Analysis:**	9/12/12 06:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.4	0.71 J	12	6.0 J
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	~~1.4~~ 4	6.5	~~6.5~~ 4
Ethyl Benzene	1.4	0.53 J	6.1	2.3 J
m,p-Xylene	1.4	0.96 J	6.1	4.2 J
o-Xylene	1.4	0.38 J	6.1	1.6 J
Styrene	1.4	0.32 J	6.0	1.4 J
Bromoform	1.4	1.3 J	14	14 J
Cumene	1.4	12	6.9	61
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.7	Not Detected
Propylbenzene	1.4	0.33 J	6.9	1.6 J
4-Ethyltoluene	1.4	0.52 J	6.9	2.6 J
1,3,5-Trimethylbenzene	1.4	0.27 J	6.9	1.3 J
1,2,4-Trimethylbenzene	1.4	0.63 J	6.9	3.1 J
1,3-Dichlorobenzene	1.4	Not Detected	8.5	Not Detected
1,4-Dichlorobenzene	1.4	~~0.34 J~~ 4	8.5	~~2.0 J~~ 4
alpha-Chlorotoluene	1.4	Not Detected	7.3	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.5	Not Detected
1,2,4-Trichlorobenzene	5.6	Not Detected	42	Not Detected
Hexachlorobutadiene	5.6	Not Detected	60	Not Detected
Butane	5.6	Not Detected	13	Not Detected
Isopentane	5.6	Not Detected	17	Not Detected
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.
J = Estimated value due to bias in the CCV.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Unknown	NA	NA	40 J
Cyclopentane, 1-methyl-2-propyl-	3728-57-2	40%	69 NJ
Cyclopentane, 1,2,3-trimethyl-, (1.alpha	2613-69-6	72%	32 NJ
Unknown	NA	NA	37 J
Pentane, 2,2,3,4-tetramethyl-	1186-53-4	59%	37 NJ
Undecane, 2,2-dimethyl-	17312-64-0	59%	96 NJ
Undecane, 5,5-dimethyl-	17312-73-1	59%	95 NJ
Decane, 2,2,9-trimethyl-	62238-00-0	72%	220 NJ
Unknown	NA	NA	69 J

eurofins | Air Toxics

Client Sample ID: VMP-11-5-083112

Lab ID#: 1209007A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091217**	**Date of Collection: 8/31/12 9:12:00 AM**	
Dil. Factor:	**2.82**	**Date of Analysis: 9/12/12 06:24 PM**	

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
1-Pentanol, 4-methyl-2-propyl-	54004-41-0	72%	150 NJ

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: VMP-13-S-083112

Lab ID#: 1209007A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091218**	**Date of Collection: 8/31/12 10:07:00 AM**	
Dil. Factor:	**2.89**	**Date of Analysis: 9/12/12 07:00 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.69 J	7.1	3.4 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	0.36 J	8.1	2.0 J
Ethanol	5.8	34	11	65
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Acetone	14	14 J	34	33 J
2-Propanol	5.8	13	14	32
Carbon Disulfide	5.8	3.8 J	18	12 J
3-Chloropropene	5.8	Not Detected	18	Not Detected
Methylene Chloride	14	Not Detected	50	Not Detected
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	0.66 J	5.1	2.3 J
1,1-Dichloroethane	1.4	Not Detected	5.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.8	12	17	36
cis-1,2-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Tetrahydrofuran	1.4	Not Detected	4.3	Not Detected
Chloroform	1.4	0.54 J	7.0	2.6 J
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	5.1	6.8	24
Benzene	1.4	39	4.6	120
1,2-Dichloroethane	1.4	Not Detected	5.8	Not Detected
Heptane	1.4	0.80 J	5.9	3.3 J
Trichloroethene	1.4	0.99 J	7.8	5.3 J
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	34	5.9	140
Toluene	1.4	3.6	5.4	14
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

eurofins | Air Toxics

Client Sample ID: VMP-13-5-083112

Lab ID#: 1209007A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091218**	**Date of Collection: 8/31/12 10:07:00 AM**	
Dil. Factor:	**2.89**	**Date of Analysis: 9/12/12 07:00 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	~~1.6 J~~ u	6.6	~~4.7 J~~ u
Ethyl Benzene	1.4	0.54 J	6.3	2.4 J
m,p-Xylene	1.4	0.76 J	6.3	3.3 J
o-Xylene	1.4	0.43 J	6.3	1.9 J
Styrene	1.4	0.40 J	6.2	1.7 J
Bromoform	1.4	Not Detected	15	Not Detected
Cumene	1.4	15	7.1	74
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.9	Not Detected
Propylbenzene	1.4	0.22 J	7.1	1.1 J
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	0.58 J	7.1	2.9 J
1,3-Dichlorobenzene	1.4	~~0.44 J~~ u	8.7	~~2.6 J~~ u
1,4-Dichlorobenzene	1.4	~~0.30 J~~ u	8.7	~~1.8 J~~ u
alpha-Chlorotoluene	1.4	Not Detected	7.5	Not Detected
1,2-Dichlorobenzene	1.4	~~0.26 J~~ u	8.7	~~1.6 J~~ u
1,2,4-Trichlorobenzene	5.8	Not Detected	43	Not Detected
Hexachlorobutadiene	5.8	Not Detected	62	Not Detected
Butane	5.8	Not Detected	14	Not Detected
Isopentane	5.8	1.5 J	17	4.3 J
Ethyl Acetate	5.8	Not Detected	21	Not Detected
Propylene	5.8	Not Detected	9.9	Not Detected
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))
Unknown	NA	NA	39 J
Unknown	NA	NA	69 J
Cyclopentane, 1,2,3-trimethyl-, (1.alpha	2613-69-6	74%	32 NJ
Unknown	NA	NA	36 J
Decane, 2,2,5-trimethyl-	62237-96-1	64%	40 NJ
Decane, 2,2-dimethyl-	17302-37-3	64%	100 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	72%	100 NJ
Heptane, 2,2-dimethyl-	1071-26-7	42%	240 NJ
Unknown	NA	NA	84 J
Decane, 2,5,6-trimethyl-	62108-23-0	59%	96 NJ

eurofins | Air Toxics

Client Sample ID: VMP-13-5-083112

Lab ID#: 1209007A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091218**	**Date of Collection: 8/31/12 10:07:00 AM**
Dil. Factor:	**2.89**	**Date of Analysis: 9/12/12 07:00 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	106	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: VMP-10-5-083112

Lab ID#: 1209007A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091219**	**Date of Collection:**	**8/31/12 11:02:00 AM**
Dil. Factor:	**2.89**	**Date of Analysis:**	**9/12/12 07:34 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.44 J	7.1	2.2 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	0.32 J	8.1	1.8 J
Ethanol	5.8	25	11	48
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Acetone	14	11 J	34	26 J
2-Propanol	5.8	9.6	14	23
Carbon Disulfide	5.8	2.3 J	18	7.1 J
3-Chloropropene	5.8	Not Detected	18	Not Detected
Methylene Chloride	14	Not Detected	50	Not Detected
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	Not Detected	5.1	Not Detected
1,1-Dichloroethane	1.4	Not Detected	5.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.8	12	17	34
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	0.20 J	6.8	0.94 J
Benzene	1.4	12	4.6	39
1,2-Dichloroethane	1.4	Not Detected	5.8	Not Detected
Heptane	1.4	Not Detected	5.9	Not Detected
Trichloroethene	1.4	0.78 J	7.8	4.2 J
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	27	5.9	110
Toluene	1.4	2.5	5.4	9.3
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

eurofins | Air Toxics

Client Sample ID: VMP-10-5-083112

Lab ID#: 1209007A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091219**	**Date of Collection:**	**8/31/12 11:02:00 AM**
Dil. Factor:	**2.89**	**Date of Analysis:**	**9/12/12 07:34 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	~~1.0 J~~	6.6	~~4.6 J~~
Ethyl Benzene	1.4	0.52 J	6.3	2.2 J
m,p-Xylene	1.4	0.88 J	6.3	3.8 J
o-Xylene	1.4	0.35 J	6.3	1.5 J
Styrene	1.4	0.42 J	6.2	1.8 J
Bromoform	1.4	Not Detected	15	Not Detected
Cumene	1.4	13	7.1	65
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.9	Not Detected
Propylbenzene	1.4	0.25 J	7.1	1.2 J
4-Ethyltoluene	1.4	0.78 J	7.1	3.8 J
1,3,5-Trimethylbenzene	1.4	Not Detected	7.1	Not Detected
1,2,4-Trimethylbenzene	1.4	0.42 J	7.1	2.1 J
1,3-Dichlorobenzene	1.4	Not Detected	8.7	Not Detected
1,4-Dichlorobenzene	1.4	~~0.27 J~~	8.7	~~1.6 J~~
alpha-Chlorotoluene	1.4	Not Detected	7.5	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.7	Not Detected
1,2,4-Trichlorobenzene	5.8	Not Detected	43	Not Detected
Hexachlorobutadiene	5.8	Not Detected	62	Not Detected
Butane	5.8	Not Detected	14	Not Detected
Isopentane	5.8	Not Detected	17	Not Detected
Ethyl Acetate	5.8	Not Detected	21	Not Detected
Propylene	5.8	Not Detected	9.9	Not Detected
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))
Cyclopentane, 2-ethyl-1,1-dimethyl-	54549-80-3	43%	30 NJ
Cycloheptane, methyl-	4126-78-7	53%	51 NJ
Unknown	NA	NA	38 J
Octane, 2,2,6-trimethyl-	62016-28-8	83%	30 NJ
Decane, 2,2,5-trimethyl-	62237-96-1	64%	96 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	78%	93 NJ
Decane, 2,2,6-trimethyl-	62237-97-2	64%	230 NJ
Unknown	NA	NA	77 J
Cyclohexanone, 4-methyl-	589-92-4	50%	120 NJ
Ethanone, 1-phenyl-	98-86-2	87%	32 NJ

eurofins | Air Toxics

Client Sample ID: VMP-10-5-083112

Lab ID#: 1209007A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091219**	**Date of Collection: 8/31/12 11:02:00 AM**
Dil. Factor:	**2.89**	**Date of Analysis: 9/12/12 07:34 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	93	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	99	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209007A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091210a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/12/12 01:31 PM**	

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
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected UJ	12	Not Detected UJ
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	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	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	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	0.088 J	1.6	0.28 J
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
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	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	0.11 J	1.9	0.40 J
trans-1,3-Dichloropropene	0.50	0.13 J	2.3	0.59 J
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209007A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091210a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/12/12 01:31 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	0.30 J	2.3	1.4 J
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	0.095 J	2.4	0.46 J
1,3-Dichlorobenzene	0.50	0.18 J	3.0	1.1 J
1,4-Dichlorobenzene	0.50	0.12 J	3.0	0.69 J
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	0.12 J	3.0	0.73 J
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
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

UJ = Non-detected compound associated with low bias in the CCV and/or LCS.
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	91	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1209007A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091203**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/12/12 09:18 AM**	

Compound	%Recovery
Freon 12	120
Freon 114	120
Chloromethane	86
Vinyl Chloride	84
1,3-Butadiene	70
Bromomethane	108
Chloroethane	85
Freon 11	122
Ethanol	74
Freon 113	120
1,1-Dichloroethene	119
Acetone	68 Q
2-Propanol	81
Carbon Disulfide	96
3-Chloropropene	102
Methylene Chloride	77
Methyl tert-butyl ether	113
trans-1,2-Dichloroethene	110
Hexane	86
1,1-Dichloroethane	87
2-Butanone (Methyl Ethyl Ketone)	100
cis-1,2-Dichloroethene	87
Tetrahydrofuran	76
Chloroform	103
1,1,1-Trichloroethane	116
Cyclohexane	97
Carbon Tetrachloride	115
2,2,4-Trimethylpentane	76
Benzene	94
1,2-Dichloroethane	109
Heptane	110
Trichloroethene	126
1,2-Dichloropropane	77
1,4-Dioxane	92
Bromodichloromethane	108
cis-1,3-Dichloropropene	95
4-Methyl-2-pentanone	78
Toluene	89
trans-1,3-Dichloropropene	111
1,1,2-Trichloroethane	96
Tetrachloroethene	103
2-Hexanone	84

eurofins | Air Toxics

Client Sample ID: CCV
Lab ID#: 1209007A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091203**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/12/12 09:18 AM**	

Compound	%Recovery
Dibromochloromethane	114
1,2-Dibromoethane (EDB)	98
Chlorobenzene	83
Ethyl Benzene	101
m,p-Xylene	102
o-Xylene	101
Styrene	108
Bromoform	114
Cumene	109
1,1,2,2-Tetrachloroethane	71
Propylbenzene	107
4-Ethyltoluene	98
1,3,5-Trimethylbenzene	103
1,2,4-Trimethylbenzene	105
1,3-Dichlorobenzene	97
1,4-Dichlorobenzene	94
alpha-Chlorotoluene	110
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	102
Hexachlorobutadiene	123
Butane	80
Isopentane	76
Ethyl Acetate	70
Propylene	71
Vinyl Acetate	97
Vinyl Bromide	108

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	90	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	108	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209007A-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/12/12 09:52 AM**	

Compound	%Recovery
Freon 12	142 Q
Freon 114	135 Q
Chloromethane	100
Vinyl Chloride	99
1,3-Butadiene	79
Bromomethane	116
Chloroethane	98
Freon 11	137 Q
Ethanol	79
Freon 113	136 Q
1,1-Dichloroethene	140 Q
Acetone	76
2-Propanol	93
Carbon Disulfide	132 Q
3-Chloropropene	122
Methylene Chloride	87
Methyl tert-butyl ether	129
trans-1,2-Dichloroethene	130
Hexane	95
1,1-Dichloroethane	102
2-Butanone (Methyl Ethyl Ketone)	109
cis-1,2-Dichloroethene	99
Tetrahydrofuran	82
Chloroform	119
1,1,1-Trichloroethane	133 Q
Cyclohexane	113
Carbon Tetrachloride	133 Q
2,2,4-Trimethylpentane	86
Benzene	106
1,2-Dichloroethane	119
Heptane	111
Trichloroethene	113
1,2-Dichloropropane	84
1,4-Dioxane	100
Bromodichloromethane	121
cis-1,3-Dichloropropene	105
4-Methyl-2-pentanone	84
Toluene	95
trans-1,3-Dichloropropene	120
1,1,2-Trichloroethane	98
Tetrachloroethene	108
2-Hexanone	87

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209007A-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/12/12 09:52 AM**	

Compound	%Recovery
Dibromochloromethane	119
1,2-Dibromoethane (EDB)	108
Chlorobenzene	88
Ethyl Benzene	107
m,p-Xylene	110
o-Xylene	108
Styrene	115
Bromoform	119
Cumene	119
1,1,2,2-Tetrachloroethane	99
Propylbenzene	118
4-Ethyltoluene	105
1,3,5-Trimethylbenzene	109
1,2,4-Trimethylbenzene	110
1,3-Dichlorobenzene	102
1,4-Dichlorobenzene	103
alpha-Chlorotoluene	114
1,2-Dichlorobenzene	103
1,2,4-Trichlorobenzene	112
Hexachlorobutadiene	129
Butane	98
Isopentane	84
Ethyl Acetate	Not Spiked
Propylene	74
Vinyl Acetate	112
Vinyl Bromide	Not Spiked

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	116	70-130
4-Bromofluorobenzene	109	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1209007A-09AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091205**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/12/12 10:33 AM**	

Compound	%Recovery
Freon 12	144 Q
Freon 114	146 Q
Chloromethane	99
Vinyl Chloride	97
1,3-Butadiene	83
Bromomethane	118
Chloroethane	102
Freon 11	140 Q
Ethanol	80
Freon 113	135 Q
1,1-Dichloroethene	142 Q
Acetone	78
2-Propanol	94
Carbon Disulfide	134 Q
3-Chloropropene	128
Methylene Chloride	84
Methyl tert-butyl ether	133 Q
trans-1,2-Dichloroethene	137 Q
Hexane	94
1,1-Dichloroethane	101
2-Butanone (Methyl Ethyl Ketone)	104
cis-1,2-Dichloroethene	97
Tetrahydrofuran	81
Chloroform	120
1,1,1-Trichloroethane	133 Q
Cyclohexane	115
Carbon Tetrachloride	130
2,2,4-Trimethylpentane	86
Benzene	100
1,2-Dichloroethane	114
Heptane	111
Trichloroethene	110
1,2-Dichloropropane	78
1,4-Dioxane	89
Bromodichloromethane	115
cis-1,3-Dichloropropene	100
4-Methyl-2-pentanone	81
Toluene	90
trans-1,3-Dichloropropene	116
1,1,2-Trichloroethane	103
Tetrachloroethene	106
2-Hexanone	88

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1209007A-09AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091205**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/12/12 10:33 AM**	

Compound	%Recovery
Dibromochloromethane	114
1,2-Dibromoethane (EDB)	108
Chlorobenzene	89
Ethyl Benzene	108
m,p-Xylene	107
o-Xylene	106
Styrene	114
Bromoform	119
Cumene	115
1,1,2,2-Tetrachloroethane	95
Propylbenzene	114
4-Ethyltoluene	105
1,3,5-Trimethylbenzene	108
1,2,4-Trimethylbenzene	110
1,3-Dichlorobenzene	101
1,4-Dichlorobenzene	98
alpha-Chlorotoluene	111
1,2-Dichlorobenzene	102
1,2,4-Trichlorobenzene	108
Hexachlorobutadiene	130
Butane	92
Isopentane	85
Ethyl Acetate	Not Spiked
Propylene	76
Vinyl Acetate	104
Vinyl Bromide	Not Spiked

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	93	70-130
1,2-Dichloroethane-d4	117	70-130
4-Bromofluorobenzene	103	70-130

1209097

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

Please Check Appropriate Box:
☑ BNV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SD&CH ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Robert Mcosheglan
INCIDENT # (ENV. SERVICES): 9 7 2 1 8 6 4 0 ☐ CHECK IF NO INCIDENT # APPLIES
DATE: 08/31/12
PO #:
SAP #: 3 4 0 0 6 1
PAGE: 1 of 1

SAMPLING COMPANY: URS CORPORATION
LOG CODE:
SITE ADDRESS (Street and City): 900 SOUTH CENTRAL AVE – ROXANA
State: IL
GLOBAL ID NO.:
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
EDF DELIVERABLE TO (Name, Company, City): Elizabeth Kunkel, URS, St. Louis
PHONE NO.: 314-743-4179
E-MAIL: Elizabeth_Kunkel@URSCorp.com
CONSULTANT PROJECT NAME: Roxana Vapor Additional
LABORATORY ADDRESS: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
M. Currier, A. Dey,
TELEPHONE:
FAX: 314-429-0462
E-MAIL TO: Robert.Mcosheglan@urs.com

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ LA – RWQCB REPORT FORMAT ☑ UST AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☐ OTHER (SPECIFY)
☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

Lab Use Only	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	Canister Number	Canister Pressure/Vacuum: Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
01A	VMP-21-5-083012	08/30/12	1038/1108	14515	-30	-10			X	X	
02A	VMP-42-10-083012	08/30/12	1145/1215	37418	-30	-10			X	X	
03A	VMP-4-5-083012	08/30/12	1245/1315	3019	-30	-9.5			X	X	
04A	VMP-11-5-083112	08/31/12	0842/0912	1363	-30	-9			X	X	
05A	VMP-13-5-083112	08/31/12	0937/1007	37361	-30	-9			X	X	
06A	VMP-10-5-083112	08/31/12	1033/1102	36472	-30	-11			X	X	
	DUP										

Turn Around Time: ☑ Normal ☐ Rush ☐ Specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	FEDEX	8/31/12	1600
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
		9/4/12	1030
Relinquished by: (Signature)	Received by: (Signature)	Date	Time

Custody Seal Intact?
Y N None Temp NA

08/12/09 Revision

eurofins | Air Toxics

9/18/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1209007B

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 9/4/2012 at Air Toxics Ltd.

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

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

Regards,

Kelly Buettner
Project Manager

eurofins | Air Toxics

WORK ORDER #: 1209007B

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	09/04/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	09/18/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-21-5-083012	Modified ASTM D-1946	10.0 "Hg	15 psi
02A	VMP-42-10-083012	Modified ASTM D-1946	11.0 "Hg	15 psi
03A	VMP-4-5-083012	Modified ASTM D-1946	11.0 "Hg	15 psi
04A	VMP-11-5-083112	Modified ASTM D-1946	8.5 "Hg	15 psi
05A	VMP-13-5-083112	Modified ASTM D-1946	9.0 "Hg	15 psi
06A	VMP-10-5-083112	Modified ASTM D-1946	9.0 "Hg	15 psi
07A	Lab Blank	Modified ASTM D-1946	NA	NA
07B	Lab Blank	Modified ASTM D-1946	NA	NA
08A	LCS	Modified ASTM D-1946	NA	NA
08AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 09/18/12

Technical Director

Certfication 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

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

LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1209007B

Six 1 Liter Summa Canister samples were received on September 04, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-083012

Lab ID#: 1209007B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	15
Nitrogen	0.30	80
Methane	0.00030	0.000046 J
Carbon Dioxide	0.030	5.2
Helium	0.15	0.20

Client Sample ID: VMP-42-10-083012

Lab ID#: 1209007B-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.32	18
Nitrogen	0.32	80
Carbon Dioxide	0.032	1.8

Client Sample ID: VMP-4-5-083012

Lab ID#: 1209007B-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.32	18
Nitrogen	0.32	81
Methane	0.00032	0.00019 J
Carbon Dioxide	0.032	1.2
Helium	0.16	0.054 J

Client Sample ID: VMP-11-5-083112

Lab ID#: 1209007B-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	18
Nitrogen	0.28	80
Methane	0.00028	0.000048 J
Carbon Dioxide	0.028	1.8

eurofins | Air Toxics

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

Client Sample ID: VMP-13-5-083112

Lab ID#: 1209007B-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	18
Nitrogen	0.29	79
Methane	0.00029	0.000084 J
Carbon Dioxide	0.029	2.7
Helium	0.14	0.016 J

Client Sample ID: VMP-10-5-083112

Lab ID#: 1209007B-06A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	18
Nitrogen	0.29	80
Methane	0.00029	0.00014 J
Carbon Dioxide	0.029	1.5

eurofins | Air Toxics

Client Sample ID: VMP-21-5-083012

Lab ID#: 1209007B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9090706**	**Date of Collection: 8/30/12 11:08:00 AM**	
Dil. Factor:	**3.03**	**Date of Analysis: 9/7/12 09:45 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.30	15
Nitrogen	0.30	80
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	0.000046 J
Carbon Dioxide	0.030	5.2
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	0.20

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-42-10-083012

Lab ID#: 1209007B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9090707**	**Date of Collection:**	**8/30/12 12:15:00 PM**
Dil. Factor:	**3.19**	**Date of Analysis:**	**9/7/12 10:12 AM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.32	18
Nitrogen	0.32	80
Carbon Monoxide	0.032	Not Detected
Methane	0.00032	Not Detected
Carbon Dioxide	0.032	1.8
Ethane	0.0032	Not Detected
Ethene	0.0032	Not Detected
Helium	0.16	Not Detected

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-4-5-083012

Lab ID#: 1209007B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9090708**	**Date of Collection:**	**8/30/12 1:15:00 PM**
Dil. Factor:	**3.19**	**Date of Analysis:**	**9/7/12 10:38 AM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.32	18
Nitrogen	0.32	81
Carbon Monoxide	0.032	Not Detected
Methane	0.00032	0.00019 J
Carbon Dioxide	0.032	1.2
Ethane	0.0032	Not Detected
Ethene	0.0032	Not Detected
Helium	0.16	0.054 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-11-5-083112

Lab ID#: 1209007B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9090709**	**Date of Collection: 8/31/12 9:12:00 AM**	
Dil. Factor:	**2.82**	**Date of Analysis: 9/7/12 11:02 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	18
Nitrogen	0.28	80
Carbon Monoxide	0.028	Not Detected
Methane	0.00028	0.000048 J
Carbon Dioxide	0.028	1.8
Ethane	0.0028	Not Detected
Ethene	0.0028	Not Detected
Helium	0.14	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-13-5-083112

Lab ID#: 1209007B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9090710**	**Date of Collection: 8/31/12 10:07:00 AM**	
Dil. Factor:	**2.89**	**Date of Analysis: 9/7/12 11:32 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.29	18
Nitrogen	0.29	79
Carbon Monoxide	0.029	Not Detected
Methane	0.00029	0.000084 J
Carbon Dioxide	0.029	2.7
Ethane	0.0029	Not Detected
Ethene	0.0029	Not Detected
Helium	0.14	0.016 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-10-5-083112

Lab ID#: 1209007B-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9090711**	**Date of Collection:**	**8/31/12 11:02:00 AM**
Dil. Factor:	**2.89**	**Date of Analysis:**	**9/7/12 11:55 AM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	18
Nitrogen	0.29	80
Carbon Monoxide	0.029	Not Detected
Methane	0.00029	0.00014 J
Carbon Dioxide	0.029	1.5
Ethane	0.0029	Not Detected
Ethene	0.0029	Not Detected
Helium	0.14	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209007B-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9090705a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/7/12 09:18 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.012 J
Nitrogen	0.10	0.062 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209007B-07B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9090704b	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 9/7/12 08:53 AM	

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

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209007B-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9090702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/7/12 07:37 AM**	

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	99
Methane	98
Carbon Dioxide	98
Ethane	100
Ethene	96
Helium	100

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1209007B-08AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9090735**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/7/12 11:04 PM**	

Compound	%Recovery
Oxygen	100
Nitrogen	100
Carbon Monoxide	97
Methane	97
Carbon Dioxide	100
Ethane	98
Ethene	95
Helium	100

Container Type: NA - Not Applicable

1209007

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

Please Check Appropriate Box:
☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SD/SCM ☐ CONSULTANT ☐ CLOSE
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Robert Mooshegian
PO #:
INCIDENT # (ENV. SERVICES): 9 7 2 1 6 6 4 0
SAP #: 3 4 0 0 6 1
☐ CHECK IF NO INCIDENT # APPLIES
DATE: 08/31/12
PAGE: 1 of 1

SAMPLING COMPANY: URS CORPORATION
LOG CODE:
SITE ADDRESS: Street and City: 900 SOUTH CENTRAL AVE – ROXANA
State: IL
GLOBAL ID NO.:
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
LAB/VENDOR ADDRESS: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
TELEPHONE:
FAX: 314-429-0462
E-MAIL CONTACT ADDRESS: Robert.Mooshegian@urs.com
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel, URS, St Louis
PHONE NO.: 314-743-4179
E-MAIL: Elizabeth.Kunkel@URSCorp.com
CONSULTANT PROJECT NAME: Roxana Vapor Additional
M. Currier, A. Day,

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

REQUESTED ANALYSIS

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☐ OTHER (SPECIFY)

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

Turn Around Time: ☑ Normal ☐ Rush ☐ Specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab Use Only	Field Sample Identification	Sampling Date	Sampling Time	Canister Number	Canister Pressure/Vacuum Initial	Canister Pressure/Vacuum Final	Canister Pressure/Vacuum Receipt	Canister Pressure/Vacuum Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
	VMP-21-5-083012 ✓	08/30/12	1538/1158	14615	-30	-10			X	X	
	VMP-42-10-083012 ✓	08/30/12	1444/1215	37418	-30	-10			X	X	
	VMP-4-5-083012 ✓	08/30/12	1245/1316	3019	-30	-9.5			X	X	
	VMP-11-5-083112 ✓	08/31/12	0842/0912	1363	-30	-9			X	X	
	VMP-13-5-083112 ✓	08/31/12	0937/0957	37361	-30	-9			X	X	
	VMP-10-5-083112 ✓	08/31/12	1032/1102	36472	-30	-11			X	X	

8/31/12

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	FEDEX	8/31/12	1600
Relinquished by: (Signature)	Received by: (Signature)	9/4/12	1030
Relinquished by: (Signature)	Received by: (Signature)		

Fedex
Custody Seal Intact?
Y N None Temp NA

09/2006 Revision

Roxana Soil Vapor Additional – Week 5 - 2012 Data Review

Laboratory SDG: 1209148A,B

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 9/25/2012

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

Sample Identification	Sample Identification
VMP-21-5-090512	VMP-42-10-090512
VMP-4-5-090512	VMP-11-5-090612
VMP-13-5-090612	VMP-10-5-090612

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, analytes were detected in the method blank. This issue is addressed further in the appropriate section below.

No problems were indicated in the cooler receipt form.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
1209148A-07A	TO-15	Carbon disulfide	0.36 ppbv / 1.1 µg/m^3
1209148A-07A	TO-15	Methylene chloride	0.13 ppbv / 0.45 µg/m^3
1209148A-07A	TO-15	Benzene	0.072 ppbv / 0.23 µg/m^3
1209148A-07A	TO-15	cis-1,3-Dichloropropene	0.099 ppbv / 0.45 µg/m^3
1209148A-07A	TO-15	Toluene	0.11 ppbv / 0.42 µg/m^3
1209148A-07A	TO-15	trans-1,3-Dichloropropene	0.12 ppbv / 0.56 µg/m^3
1209148A-07A	TO-15	Chlorobenzene	0.45 ppbv / 2.1 µg/m^3
1209148A-07A	TO-15	Ethyl benzene	0.098 ppbv / 0.42 µg/m^3
1209148A-07A	TO-15	1,1,2,2-Tetrachloroethane	0.073 ppbv / 0.50 µg/m^3
1209148A-07A	TO-15	1,3-Dichlorobenzene	0.15 ppbv / 0.89 µg/m^3
1209148A-07A	TO-15	1,4-Dichlorobenzene	0.17 ppbv / 1.0 µg/m^3

Blank ID	Parameter	Analyte	Concentration/ Amount
1209148A-07A	TO-15	alpha-Chlorotoluene	0.11 ppbv / 0.56 µg/m^3
1209148A-07A	TO-15	1,2-Dichlorobenzene	0.16 ppbv / 0.99 µg/m^3
1209148B-07A	Natural gases	Oxygen	0.0079%
1209148B-07A	Natural gases	Nitrogen	0.033%

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

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
VMP-21-5-090512	TO-15	Carbon disulfide	-	**U**
VMP-21-5-090512	TO-15	trans-1,3-Dichloropropene	-	**U**
VMP-21-5-090512	TO-15	Chlorobenzene	-	**U**
VMP-21-5-090512	TO-15	Ethyl benzene	-	**U**
VMP-21-5-090512	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-21-5-090512	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-21.5-090512	TO-15	1,2-Dichlorobenzene	-	**U**
VMP-42-10-090512	TO-15	Carbon disulfide	-	**U**
VMP-42-10-090512	TO-15	Chlorobenzene	-	**U**
VMP-42-10-090512	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-42-10-090512	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-42-10-090512	TO-15	1,2-Dichlorobenzene	-	**U**
VMP-4-5-090512	TO-15	Carbon disulfide	-	**U**
VMP-4-5-090512	TO-15	trans-1,3-Dichloropropene	-	**U**
VMP-4-5-090512	TO-15	Chlorobenzene	-	**U**
VMP-4-5-090512	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-4-5-090512	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-11-5-090612	TO-15	Carbon disulfide	-	**U**
VMP-11-5-090612	TO-15	trans-1,3-Dichloropropene	-	**U**
VMP-11-5-090612	TO-15	Chlorobenzene	-	**U**
VMP-11-5-090612	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-11-5-090612	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-11-5-090612	TO-15	1,2-Dichlorobenzene	-	**U**
VMP-13-5-090612	TO-15	Carbon disulfide	-	**U**
VMP-13-5-090612	TO-15	Methylene chloride	-	**U**
VMP-13-5-090612	TO-15	Chlorobenzene	-	**U**
VMP-13-5-090612	TO-15	Ethyl benzene	-	**U**
VMP-13-5-090612	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-13-5-090612	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-13-5-090612	TO-15	1,2-Dichlorobenzene	-	**U**
VMP-10-5-090612	TO-15	Carbon disulfide	-	**U**
VMP-10-5-090612	TO-15	Methylene chloride	-	**U**
VMP-10-5-090612	TO-15	trans-1,3-Dichloropropene	-	**U**

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
VMP-10-5-090612	TO-15	Chlorobenzene	-	**U**
VMP-10-5-090612	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-10-5-090612	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-10-5-090612	TO-15	1,2-Dichlorobenzene	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes, however, 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.

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?

No

10.0 Sample Dilutions

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

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

11.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Air Toxics

9/24/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1209148A

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 9/10/2012 at Air Toxics Ltd.

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

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

Regards,

Kelly Buettner

Project Manager

Reviewed on 9/25/12

eurofins | Air Toxics

WORK ORDER #: 1209148A

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	09/10/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	09/24/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-21-5-090512	Modified TO-15	10.0 "Hg	15 psi
02A	VMP-42-10-090512	Modified TO-15	9.5 "Hg	15 psi
03A	VMP-4-5-090512	Modified TO-15	9.5 "Hg	15 psi
04A	VMP-11-5-090612	Modified TO-15	10.0 "Hg	15 psi
05A	VMP-13-5-090612	Modified TO-15	5.0 "Hg	15 psi
06A	VMP-10-5-090612	Modified TO-15	10.5 "Hg	15 psi
07A	Lab Blank	Modified TO-15	NA	NA
08A	CCV	Modified TO-15	NA	NA
09A	LCS	Modified TO-15	NA	NA
09AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 09/24/12

Technical Director

Certfication 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

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# 1209148A

Six 1 Liter Summa Canister samples were received on September 10, 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.

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (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

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-090512

Lab ID#: 1209148A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.55 J	7.5	2.7 J
Freon 11	1.5	0.24 J	8.5	1.4 J
Ethanol	6.1	15	11	28
Acetone	15	12 J	36	29 J
2-Propanol	6.1	19	15	46
Carbon Disulfide	6.1	~~1.6 J~~ U	19	~~5.0 J~~ U
Methylene Chloride	15	0.89 J	53	3.1 J
Hexane	1.5	0.36 J	5.3	1.3 J
2-Butanone (Methyl Ethyl Ketone)	6.1	6.3	18	19
Cyclohexane	1.5	0.27 J	5.2	0.93 J
2,2,4-Trimethylpentane	1.5	2.4	7.1	11
Benzene	1.5	4.4	4.8	14
1,2-Dichloroethane	1.5	0.42 J	6.1	1.7 J
Heptane	1.5	0.67 J	6.2	2.7 J
4-Methyl-2-pentanone	1.5	62	6.2	250
Toluene	1.5	3.5	5.7	13
trans-1,3-Dichloropropene	1.5	~~0.64 J~~ U	6.9	~~2.5 J~~ U
Tetrachloroethene	1.5	0.47 J	10	3.2 J
1,2-Dibromoethane (EDB)	1.5	0.42 J	12	3.2 J
Chlorobenzene	1.5	~~1.3 J~~ U	7.0	~~5.9 J~~ U
Ethyl Benzene	1.5	~~0.49 J~~ U	6.6	~~2.1 J~~ U
m,p-Xylene	1.5	0.92 J	6.6	4.0 J
o-Xylene	1.5	0.31 J	6.6	1.4 J
Styrene	1.5	0.51 J	6.4	2.2 J
Cumene	1.5	11	7.4	54
Propylbenzene	1.5	0.22 J	7.4	1.1 J
4-Ethyltoluene	1.5	0.42 J	7.4	2.1 J
1,3,5-Trimethylbenzene	1.5	0.28 J	7.4	1.4 J
1,2,4-Trimethylbenzene	1.5	0.60 J	7.4	2.9 J
1,3-Dichlorobenzene	1.5	~~0.68 J~~ U	9.1	~~4.1 J~~ U
1,4-Dichlorobenzene	1.5	~~0.71 J~~ U	9.1	~~4.3 J~~ U
1,2-Dichlorobenzene	1.5	~~0.45 J~~ U	9.1	~~2.7 J~~ U
1,2,4-Trichlorobenzene	6.1	1.9 J	45	14 J

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-090512

Lab ID#: 1209148A-01A

Isopentane	6.1	2.5 J	18	7.5 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	32 J
Unknown	NA	NA	57 J
Cyclopentane, 1,2,3-trimethyl-, (1.alpha	2613-69-6	78%	28 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	72%	30 NJ
Decane, 2,2,9-trimethyl-	62238-00-0	64%	81 NJ
Decane, 2,2,8-trimethyl-	62238-01-1	50%	25 NJ
Undecane, 2,5-dimethyl-	17301-22-3	50%	83 NJ
Decane, 2,2,7-trimethyl-	62237-99-4	64%	160 NJ
Unknown	NA	NA	38 J
1-Pentanol, 2-ethyl-4-methyl-	106-67-2	50%	120 NJ

Client Sample ID: VMP-42-10-090512

Lab ID#: 1209148A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.50 J	7.3	2.5 J
Freon 11	1.5	0.31 J	8.3	1.8 J
Ethanol	5.9	11	11	21
Acetone	15	25	35	60
2-Propanol	5.9	5.2 J	14	13 J
Carbon Disulfide	5.9	~~1.0 J~~	18	~~3.2 J~~
Methylene Chloride	15	0.92 J	51	3.2 J
Hexane	1.5	1.0 J	5.2	3.7 J
2-Butanone (Methyl Ethyl Ketone)	5.9	9.3	17	27
Tetrahydrofuran	1.5	1.5	4.4	4.5
Chloroform	1.5	0.84 J	7.2	4.1 J
2,2,4-Trimethylpentane	1.5	0.71 J	6.9	3.3 J
Benzene	1.5	5.2	4.7	16
1,2-Dichloroethane	1.5	0.27 J	6.0	1.1 J
Heptane	1.5	1.7	6.1	6.8
4-Methyl-2-pentanone	1.5	46	6.1	190

eurofins | Air Toxics

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

Client Sample ID: VMP-42-10-090512

Lab ID#: 1209148A-02A

Toluene	1.5	3.4	5.6	13
1,2-Dibromoethane (EDB)	1.5	0.45 J	11	3.4 J
Chlorobenzene	1.5	~~1.4 J~~ 4	6.8	~~6.4 J~~ 4
Ethyl Benzene	1.5	0.60 J	6.4	2.6 J
m,p-Xylene	1.5	1.0 J	6.4	4.6 J
o-Xylene	1.5	0.58 J	6.4	2.5 J
Styrene	1.5	0.54 J	6.3	2.3 J
Cumene	1.5	8.6	7.3	42
Propylbenzene	1.5	0.37 J	7.3	1.8 J
4-Ethyltoluene	1.5	0.42 J	7.3	2.0 J
1,2,4-Trimethylbenzene	1.5	0.49 J	7.3	2.4 J
1,3-Dichlorobenzene	1.5	~~0.69 J~~ 4	8.9	~~4.2 J~~ 4
1,4-Dichlorobenzene	1.5	~~0.68 J~~ 4	8.9	~~4.1 J~~ 4
1,2-Dichlorobenzene	1.5	~~0.56 J~~ 4	8.9	~~3.4 J~~ 4

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	22 J
Unknown	NA	NA	38 J
Decane, 2,2,8-trimethyl-	62238-01-1	72%	25 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	64%	74 NJ
Hexane, 2,2,3-trimethyl-	16747-25-4	59%	20 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	64%	71 NJ
Undecane, 2,2-dimethyl-	17312-64-0	64%	160 NJ
Unknown	NA	NA	42 J
1-Pentanol, 4-methyl-2-propyl-	54004-41-0	59%	100 NJ
Ethanone, 1-phenyl-	98-86-2	91%	32 NJ

Client Sample ID: VMP-4-5-090512

Lab ID#: 1209148A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.54 J	7.3	2.7 J
Freon 11	1.5	0.35 J	8.3	2.0 J
Ethanol	5.9	21	11	40

eurofins | Air Toxics

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

Client Sample ID: VMP-4-5-090512

Lab ID#: 1209148A-03A

Acetone	15	16	35	37
2-Propanol	5.9	16	14	40
Carbon Disulfide	5.9	~~1.2 J~~ U	18	~~3.6 J~~ U
Hexane	1.5	0.30 J	5.2	1.0 J
2-Butanone (Methyl Ethyl Ketone)	5.9	4.0 J	17	12 J
Tetrahydrofuran	1.5	1.3 J	4.4	3.9 J
2,2,4-Trimethylpentane	1.5	1.0 J	6.9	4.6 J
Benzene	1.5	11	4.7	35
4-Methyl-2-pentanone	1.5	9.0	6.1	37
Toluene	1.5	3.2	5.6	12
trans-1,3-Dichloropropene	1.5	~~0.56 J~~ U	6.7	~~2.5 J~~ U
1,2-Dibromoethane (EDB)	1.5	0.46 J	11	3.5 J
Chlorobenzene	1.5	~~4.2 J~~ U	6.8	~~5.8 J~~ U
Ethyl Benzene	1.5	0.60 J	6.4	2.6 J
m,p-Xylene	1.5	1.0 J	6.4	4.4 J
o-Xylene	1.5	0.45 J	6.4	2.0 J
Cumene	1.5	1.1 J	7.3	5.4 J
1,2,4-Trimethylbenzene	1.5	0.58 J	7.3	2.8 J
1,3-Dichlorobenzene	1.5	~~0.44 J~~ U	8.9	~~2.6 J~~ U
1,4-Dichlorobenzene	1.5	~~0.76 J~~ U	8.9	~~4.6 J~~ U

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	12 J
Undecane, 2,2-dimethyl-	17312-64-0	64%	23 NJ
Decane, 6-ethyl-2-methyl-	62108-21-8	59%	34 NJ
Unknown	NA	NA	9.9 J
Unknown	NA	NA	110 J
Unknown	NA	NA	57 J
1-Pentanol, 4-methyl-2-propyl-	54004-41-0	64%	65 NJ
Unknown	NA	NA	7.7 J
Ethanone, 1-phenyl-	98-86-2	91%	11 NJ

Client Sample ID: VMP-11-5-090612

Lab ID#: 1209148A-04A

eurofins | Air Toxics

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

Client Sample ID: VMP-11-5-090612

Lab ID#: 1209148A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.44 J	7.5	2.2 J
Ethanol	6.1	41	11	77
Acetone	15	34	36	80
2-Propanol	6.1	27	15	66
Carbon Disulfide	6.1	~~1.5 J~~ U	19	~~4.7 J~~ U
2-Butanone (Methyl Ethyl Ketone)	6.1	15	18	44
Cyclohexane	1.5	0.65 J	5.2	2.2 J
2,2,4-Trimethylpentane	1.5	29	7.1	130
Benzene	1.5	1.1 J	4.8	3.7 J
4-Methyl-2-pentanone	1.5	34	6.2	140
Toluene	1.5	3.7	5.7	14
trans-1,3-Dichloropropene	1.5	~~0.46 J~~ U	6.9	~~2.1 J~~ U
Tetrachloroethene	1.5	0.44 J	10	3.0 J
Chlorobenzene	1.5	~~1.0 J~~ U	7.0	~~4.6 J~~ U
Ethyl Benzene	1.5	0.61 J	6.6	2.6 J
m,p-Xylene	1.5	1.2 J	6.6	5.1 J
o-Xylene	1.5	0.49 J	6.6	2.1 J
Styrene	1.5	0.47 J	6.4	2.0 J
Cumene	1.5	11	7.4	55
Propylbenzene	1.5	0.29 J	7.4	1.4 J
1,2,4-Trimethylbenzene	1.5	0.66 J	7.4	3.2 J
1,3-Dichlorobenzene	1.5	~~0.54 J~~ U	9.1	~~3.2 J~~ U
1,4-Dichlorobenzene	1.5	~~0.46 J~~ U	9.1	~~2.8 J~~ U
1,2-Dichlorobenzene	1.5	~~0.34 J~~ U	9.1	~~2.0 J~~ U
Isopentane	6.1	7.8	18	23

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Heptane, 2,4-dimethyl-	2213-23-2	56%	30 NJ
Unknown	NA	NA	40 J
Unknown	NA	NA	67 J
Cyclobutanone, 2,3,3-trimethyl-	28290-01-9	64%	33 NJ
Decane, 2,2,4-trimethyl-	62237-98-3	72%	32 NJ

eurofins | Air Toxics

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

Client Sample ID: VMP-11-5-090612

Lab ID#: 1209148A-04A

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Undecane, 2,2-dimethyl-	17312-64-0	64%	85 NJ
Methane, isocyanato-	624-83-9	53%	24 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	64%	89 NJ
Hexane, 2,2,3-trimethyl-	16747-25-4	64%	140 NJ
Decane, 2,6,7-trimethyl-	62108-25-2	50%	52 NJ

Client Sample ID: VMP-13-5-090612

Lab ID#: 1209148A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.61 J	6.0	3.0 J
Freon 11	1.2	0.35 J	6.8	1.9 J
Ethanol	4.8	19	9.1	36
Acetone	12	25	29	60
2-Propanol	4.8	17	12	41
Carbon Disulfide	4.8	~~1.4 J~~ 4	15	~~4.2 J~~ 4
Methylene Chloride	12	~~0.39 J~~ 4	42	~~1.4 J~~ 4
Hexane	1.2	0.36 J	4.3	1.3 J
2-Butanone (Methyl Ethyl Ketone)	4.8	8.8	14	26
Tetrahydrofuran	1.2	1.1 J	3.6	3.2 J
Chloroform	1.2	0.83 J	5.9	4.0 J
2,2,4-Trimethylpentane	1.2	2.0	5.6	9.2
Benzene	1.2	4.1	3.9	13
4-Methyl-2-pentanone	1.2	31	5.0	130
Toluene	1.2	3.6	4.6	14
Chlorobenzene	1.2	~~1.0 J~~ 4	5.6	~~4.8 J~~ 4
Ethyl Benzene	1.2	~~0.33 J~~ 4	5.2	~~1.4 J~~ 4
m,p-Xylene	1.2	1.2	5.2	5.3
o-Xylene	1.2	0.26 J	5.2	1.1 J
Styrene	1.2	0.41 J	5.2	1.7 J
Cumene	1.2	16	5.9	78
Propylbenzene	1.2	0.23 J	5.9	1.1 J

eurofins | Air Toxics

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

Client Sample ID: VMP-13-5-090612

Lab ID#: 1209148A-05A

4-Ethyltoluene	1.2	0.59 J	5.9	2.9 J
1,3,5-Trimethylbenzene	1.2	0.30 J	5.9	1.5 J
1,2,4-Trimethylbenzene	1.2	0.72 J	5.9	3.5 J
1,3-Dichlorobenzene	1.2	~~0.33 J~~ U	7.3	~~2.0 J~~ U
1,4-Dichlorobenzene	1.2	~~0.50 J~~ U	7.3	~~3.0 J~~ U
1,2-Dichlorobenzene	1.2	~~0.35 J~~ U	7.3	~~2.1 J~~ U

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Oxirane, (3-methylbutyl)-	53229-41-7	38%	36 NJ
Cyclopentane, butyl-	2040-95-1	50%	56 NJ
Unknown	NA	NA	34 J
Undecane, 2,2-dimethyl-	17312-64-0	72%	29 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	72%	100 NJ
Decane, 2,2-dimethyl-	17302-37-3	72%	31 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	78%	100 NJ
Heptane, 2,2,3,4,6,6-hexamethyl-	62108-32-1	72%	28 NJ
Decane, 2,2,5-trimethyl-	62237-96-1	64%	210 NJ
1-Pentanol, 4-methyl-2-propyl-	54004-41-0	72%	120 NJ

Client Sample ID: VMP-10-5-090612

Lab ID#: 1209148A-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.6	0.47 J	7.7	2.3 J
Ethanol	6.2	42	12	80
Acetone	16	36	37	85
2-Propanol	6.2	23	15	57
Carbon Disulfide	6.2	~~1.0 J~~ U	19	~~3.2 J~~ U
Methylene Chloride	16	~~0.39 J~~ U	54	~~1.4 J~~ U
Hexane	1.6	0.85 J	5.5	3.0 J
2-Butanone (Methyl Ethyl Ketone)	6.2	14	18	42
Tetrahydrofuran	1.6	1.5 J	4.6	4.5 J
Cyclohexane	1.6	0.47 J	5.4	1.6 J
2,2,4-Trimethylpentane	1.6	5.0	7.3	23

eurofins | Air Toxics

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

Client Sample ID: VMP-10-5-090612

Lab ID#: 1209148A-06A

Benzene	1.6	12	5.0	37
1,2-Dichloroethane	1.6	0.23 J	6.3	0.94 J
Heptane	1.6	0.75 J	6.4	3.1 J
4-Methyl-2-pentanone	1.6	40	6.4	160
Toluene	1.6	5.5	5.8	21
trans-1,3-Dichloropropene	1.6	~~0.50 J~~ U	7.0	~~2.2 J~~ U
Tetrachloroethene	1.6	0.93 J	10	6.3 J
Chlorobenzene	1.6	~~1.3 J~~ U	7.2	~~6.0 J~~ U
Ethyl Benzene	1.6	0.65 J	6.8	2.8 J
m,p-Xylene	1.6	1.3 J	6.8	5.7 J
o-Xylene	1.6	0.85 J	6.8	3.7 J
Styrene	1.6	0.39 J	6.6	1.7 J
Cumene	1.6	16	7.6	77
Propylbenzene	1.6	0.28 J	7.6	1.4 J
4-Ethyltoluene	1.6	0.48 J	7.6	2.4 J
1,3,5-Trimethylbenzene	1.6	0.31 J	7.6	1.5 J
1,2,4-Trimethylbenzene	1.6	0.60 J	7.6	2.9 J
1,3-Dichlorobenzene	1.6	~~0.60 J~~ U	9.3	~~3.6 J~~ U
1,4-Dichlorobenzene	1.6	~~0.39 J~~ U	9.3	~~2.4 J~~ U
1,2-Dichlorobenzene	1.6	~~0.33 J~~ U	9.3	~~2.0 J~~ U
Isopentane	6.2	2.6 J	18	7.7 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
6-Oxabicyclo[3.1.0]hexane	285-67-6	43%	44 NJ
Unknown	NA	NA	80 J
Cyclobutanone, 2,3,3-trimethyl-	28290-01-9	72%	36 NJ
Undecane, 2,2-dimethyl-	17312-64-0	72%	35 NJ
Decane, 2,9-dimethyl-	1002-17-1	64%	18 NJ
Decane, 2,2,9-trimethyl-	62238-00-0	83%	60 NJ
Decane, 6-ethyl-2-methyl-	62108-21-8	64%	70 NJ
Decane, 2,2,4-trimethyl-	62237-98-3	72%	100 NJ
Unknown	NA	NA	27 J
Dodecane, 1-fluoro-	334-68-9	53%	28 NJ

eurofins | Air Toxics

Client Sample ID: VMP-21-5-090512

Lab ID#: 1209148A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091911**	**Date of Collection: 9/5/12 1:11:00 PM**	
Dil. Factor:	**3.03**	**Date of Analysis: 9/19/12 01:35 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.55 J	7.5	2.7 J
Freon 114	1.5	Not Detected	10	Not Detected
Chloromethane	15	Not Detected	31	Not Detected
Vinyl Chloride	1.5	Not Detected	3.9	Not Detected
1,3-Butadiene	1.5	Not Detected	3.4	Not Detected
Bromomethane	15	Not Detected	59	Not Detected
Chloroethane	6.1	Not Detected	16	Not Detected
Freon 11	1.5	0.24 J	8.5	1.4 J
Ethanol	6.1	15	11	28
Freon 113	1.5	Not Detected	12	Not Detected
1,1-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Acetone	15	12 J	36	29 J
2-Propanol	6.1	19	15	46
Carbon Disulfide	6.1	~~1.6 J~~	19	~~5.0 J~~
3-Chloropropene	6.1	Not Detected	19	Not Detected
Methylene Chloride	15	0.89 J	53	3.1 J
Methyl tert-butyl ether	1.5	Not Detected	5.5	Not Detected
trans-1,2-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Hexane	1.5	0.36 J	5.3	1.3 J
1,1-Dichloroethane	1.5	Not Detected	6.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	6.1	6.3	18	19
cis-1,2-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Tetrahydrofuran	1.5	Not Detected	4.5	Not Detected
Chloroform	1.5	Not Detected	7.4	Not Detected
1,1,1-Trichloroethane	1.5	Not Detected	8.3	Not Detected
Cyclohexane	1.5	0.27 J	5.2	0.93 J
Carbon Tetrachloride	1.5	Not Detected	9.5	Not Detected
2,2,4-Trimethylpentane	1.5	2.4	7.1	11
Benzene	1.5	4.4	4.8	14
1,2-Dichloroethane	1.5	0.42 J	6.1	1.7 J
Heptane	1.5	0.67 J	6.2	2.7 J
Trichloroethene	1.5	Not Detected	8.1	Not Detected
1,2-Dichloropropane	1.5	Not Detected	7.0	Not Detected
1,4-Dioxane	6.1	Not Detected	22	Not Detected
Bromodichloromethane	1.5	Not Detected	10	Not Detected
cis-1,3-Dichloropropene	1.5	Not Detected	6.9	Not Detected
4-Methyl-2-pentanone	1.5	62	6.2	250
Toluene	1.5	3.5	5.7	13
trans-1,3-Dichloropropene	1.5	~~0.54 J~~	6.9	~~2.5 J~~
1,1,2-Trichloroethane	1.5	Not Detected	8.3	Not Detected
Tetrachloroethene	1.5	0.47 J	10	3.2 J
2-Hexanone	6.1	Not Detected	25	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-21-5-090512

Lab ID#: 1209148A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j091911	Date of Collection:	9/5/12 1:11:00 PM
Dil. Factor:	3.03	Date of Analysis:	9/19/12 01:35 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.5	Not Detected	13	Not Detected
1,2-Dibromoethane (EDB)	1.5	0.42 J	12	3.2 J
Chlorobenzene	1.5	~~1.3 J~~ U	7.0	~~5.9 J~~ U
Ethyl Benzene	1.5	~~0.49 J~~ U	6.6	~~2.1 J~~ U
m,p-Xylene	1.5	0.92 J	6.6	4.0 J
o-Xylene	1.5	0.31 J	6.6	1.4 J
Styrene	1.5	0.51 J	6.4	2.2 J
Bromoform	1.5	Not Detected	16	Not Detected
Cumene	1.5	11	7.4	54
1,1,2,2-Tetrachloroethane	1.5	Not Detected	10	Not Detected
Propylbenzene	1.5	0.22 J	7.4	1.1 J
4-Ethyltoluene	1.5	0.42 J	7.4	2.1 J
1,3,5-Trimethylbenzene	1.5	0.28 J	7.4	1.4 J
1,2,4-Trimethylbenzene	1.5	0.60 J	7.4	2.9 J
1,3-Dichlorobenzene	1.5	~~0.68 J~~ U	9.1	~~4.1 J~~ U
1,4-Dichlorobenzene	1.5	~~0.71 J~~ U	9.1	~~4.3 J~~ U
alpha-Chlorotoluene	1.5	Not Detected	7.8	Not Detected
1,2-Dichlorobenzene	1.5	~~0.45 J~~ U	9.1	~~2.7 J~~ U
1,2,4-Trichlorobenzene	6.1	1.9 J	45	14 J
Hexachlorobutadiene	6.1	Not Detected	65	Not Detected
Butane	6.1	Not Detected	14	Not Detected
Isopentane	6.1	2.5 J	18	7.5 J
Ethyl Acetate	6.1	Not Detected	22	Not Detected
Propylene	6.1	Not Detected	10	Not Detected
Vinyl Acetate	6.1	Not Detected	21	Not Detected
Vinyl Bromide	6.1	Not Detected	26	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Unknown	NA	NA	32 J
Unknown	NA	NA	57 J
Cyclopentane, 1,2,3-trimethyl-, (1.alpha	2613-69-6	78%	28 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	72%	30 NJ
Decane, 2,2,9-trimethyl-	62238-00-0	64%	81 NJ
Decane, 2,2,8-trimethyl-	62238-01-1	50%	25 NJ
Undecane, 2,5-dimethyl-	17301-22-3	50%	83 NJ
Decane, 2,2,7-trimethyl-	62237-99-4	64%	160 NJ
Unknown	NA	NA	38 J
1-Pentanol, 2-ethyl-4-methyl-	106-67-2	50%	120 NJ

eurofins | Air Toxics

Client Sample ID: VMP-21-5-090512

Lab ID#: 1209148A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091911**	**Date of Collection: 9/5/12 1:11:00 PM**
Dil. Factor:	**3.03**	**Date of Analysis: 9/19/12 01:35 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	98	70-130

eurofins | Air Toxics

Client Sample ID: VMP-42-10-090512

Lab ID#: 1209148A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091912**	**Date of Collection: 9/5/12 2:03:00 PM**	
Dil. Factor:	**2.96**	**Date of Analysis: 9/19/12 02:34 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.50 J	7.3	2.5 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	0.31 J	8.3	1.8 J
Ethanol	5.9	11	11	21
Freon 113	1.5	Not Detected	11	Not Detected
1,1-Dichloroethene	1.5	Not Detected	5.9	Not Detected
Acetone	15	25	35	60
2-Propanol	5.9	5.2 J	14	13 J
Carbon Disulfide	5.9	~~1.0 J~~ U	18	~~3.2 J~~ U
3-Chloropropene	5.9	Not Detected	18	Not Detected
Methylene Chloride	15	0.92 J	51	3.2 J
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	1.0 J	5.2	3.7 J
1,1-Dichloroethane	1.5	Not Detected	6.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.9	9.3	17	27
cis-1,2-Dichloroethene	1.5	Not Detected	5.9	Not Detected
Tetrahydrofuran	1.5	1.5	4.4	4.5
Chloroform	1.5	0.84 J	7.2	4.1 J
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	0.71 J	6.9	3.3 J
Benzene	1.5	5.2	4.7	16
1,2-Dichloroethane	1.5	0.27 J	6.0	1.1 J
Heptane	1.5	1.7	6.1	6.8
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	46	6.1	190
Toluene	1.5	3.4	5.6	13
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

eurofins | Air Toxics

Client Sample ID: VMP-42-10-090512

Lab ID#: 1209148A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091912**	**Date of Collection: 9/5/12 2:03:00 PM**	
Dil. Factor:	**2.96**	**Date of Analysis: 9/19/12 02:34 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.5	Not Detected	13	Not Detected
1,2-Dibromoethane (EDB)	1.5	0.45 J	11	3.4 J
Chlorobenzene	1.5	~~1.4 J~~ U	6.8	~~6.4 J~~ U
Ethyl Benzene	1.5	0.60 J	6.4	2.6 J
m,p-Xylene	1.5	1.0 J	6.4	4.6 J
o-Xylene	1.5	0.58 J	6.4	2.5 J
Styrene	1.5	0.54 J	6.3	2.3 J
Bromoform	1.5	Not Detected	15	Not Detected
Cumene	1.5	8.6	7.3	42
1,1,2,2-Tetrachloroethane	1.5	Not Detected	10	Not Detected
Propylbenzene	1.5	0.37 J	7.3	1.8 J
4-Ethyltoluene	1.5	0.42 J	7.3	2.0 J
1,3,5-Trimethylbenzene	1.5	Not Detected	7.3	Not Detected
1,2,4-Trimethylbenzene	1.5	0.49 J	7.3	2.4 J
1,3-Dichlorobenzene	1.5	~~0.69 J~~ U	8.9	~~4.2 J~~ U
1,4-Dichlorobenzene	1.5	~~0.68 J~~ U	8.9	~~4.1 J~~ U
alpha-Chlorotoluene	1.5	Not Detected	7.7	Not Detected
1,2-Dichlorobenzene	1.5	~~0.56 J~~ U	8.9	~~3.4 J~~ U
1,2,4-Trichlorobenzene	5.9	Not Detected	44	Not Detected
Hexachlorobutadiene	5.9	Not Detected	63	Not Detected
Butane	5.9	Not Detected	14	Not Detected
Isopentane	5.9	Not Detected	17	Not Detected
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))
Unknown	NA	NA	22 J
Unknown	NA	NA	38 J
Decane, 2,2,8-trimethyl-	62238-01-1	72%	25 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	64%	74 NJ
Hexane, 2,2,3-trimethyl-	16747-25-4	59%	20 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	64%	71 NJ
Undecane, 2,2-dimethyl-	17312-64-0	64%	160 NJ
Unknown	NA	NA	42 J
1-Pentanol, 4-methyl-2-propyl-	54004-41-0	59%	100 NJ
Ethanone, 1-phenyl-	98-86-2	91%	32 NJ

eurofins | Air Toxics

Client Sample ID: VMP-42-10-090512

Lab ID#: 1209148A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j091912	Date of Collection: 9/5/12 2:03:00 PM
Dil. Factor:	2.96	Date of Analysis: 9/19/12 02:34 PM

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: VMP-4-5-090512

Lab ID#: 1209148A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091913**	**Date of Collection:**	**9/5/12 2:55:00 PM**
Dil. Factor:	**2.96**	**Date of Analysis:**	**9/19/12 03:22 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.54 J	7.3	2.7 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	0.35 J	8.3	2.0 J
Ethanol	5.9	21	11	40
Freon 113	1.5	Not Detected	11	Not Detected
1,1-Dichloroethene	1.5	Not Detected	5.9	Not Detected
Acetone	15	16	35	37
2-Propanol	5.9	16	14	40
Carbon Disulfide	5.9	~~1.2 J~~ U	18	~~3.6 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	0.30 J	5.2	1.0 J
1,1-Dichloroethane	1.5	Not Detected	6.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.9	4.0 J	17	12 J
cis-1,2-Dichloroethene	1.5	Not Detected	5.9	Not Detected
Tetrahydrofuran	1.5	1.3 J	4.4	3.9 J
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	1.0 J	6.9	4.6 J
Benzene	1.5	11	4.7	35
1,2-Dichloroethane	1.5	Not Detected	6.0	Not Detected
Heptane	1.5	Not Detected	6.1	Not Detected
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	9.0	6.1	37
Toluene	1.5	3.2	5.6	12
trans-1,3-Dichloropropene	1.5	~~0.56 J~~ U	6.7	~~2.5 J~~ U
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

eurofins | Air Toxics

Client Sample ID: VMP-4-5-090512

Lab ID#: 1209148A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091913**	**Date of Collection: 9/5/12 2:55:00 PM**	
Dil. Factor:	**2.96**	**Date of Analysis: 9/19/12 03:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.5	Not Detected	13	Not Detected
1,2-Dibromoethane (EDB)	1.5	0.46 J	11	3.5 J
Chlorobenzene	1.5	~~1.2 J~~ U	6.8	~~5.8 J~~ U
Ethyl Benzene	1.5	0.60 J	6.4	2.6 J
m,p-Xylene	1.5	1.0 J	6.4	4.4 J
o-Xylene	1.5	0.45 J	6.4	2.0 J
Styrene	1.5	Not Detected	6.3	Not Detected
Bromoform	1.5	Not Detected	15	Not Detected
Cumene	1.5	1.1 J	7.3	5.4 J
1,1,2,2-Tetrachloroethane	1.5	Not Detected	10	Not Detected
Propylbenzene	1.5	Not Detected	7.3	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	0.58 J	7.3	2.8 J
1,3-Dichlorobenzene	1.5	~~0.44 J~~ U	8.9	~~2.6 J~~ U
1,4-Dichlorobenzene	1.5	~~0.76 J~~ U	8.9	~~4.6 J~~ U
alpha-Chlorotoluene	1.5	Not Detected	7.7	Not Detected
1,2-Dichlorobenzene	1.5	Not Detected	8.9	Not Detected
1,2,4-Trichlorobenzene	5.9	Not Detected	44	Not Detected
Hexachlorobutadiene	5.9	Not Detected	63	Not Detected
Butane	5.9	Not Detected	14	Not Detected
Isopentane	5.9	Not Detected	17	Not Detected
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))
Unknown	NA	NA	12 J
Undecane, 2,2-dimethyl-	17312-64-0	64%	23 NJ
Decane, 6-ethyl-2-methyl-	62108-21-8	59%	34 NJ
Unknown	NA	NA	9.9 J
Unknown	NA	NA	110 J
Unknown	NA	NA	57 J
1-Pentanol, 4-methyl-2-propyl-	54004-41-0	64%	65 NJ
Unknown	NA	NA	7.7 J
Ethanone, 1-phenyl-	98-86-2	91%	11 NJ

eurofins | Air Toxics

Client Sample ID: VMP-4-5-090512

Lab ID#: 1209148A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j091913	Date of Collection: 9/5/12 2:55:00 PM
Dil. Factor:	2.96	Date of Analysis: 9/19/12 03:22 PM

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: VMP-11-5-090612

Lab ID#: 1209148A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091914**	**Date of Collection:**	**9/6/12 9:00:00 AM**
Dil. Factor:	**3.03**	**Date of Analysis:**	**9/19/12 03:50 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.44 J	7.5	2.2 J
Freon 114	1.5	Not Detected	10	Not Detected
Chloromethane	15	Not Detected	31	Not Detected
Vinyl Chloride	1.5	Not Detected	3.9	Not Detected
1,3-Butadiene	1.5	Not Detected	3.4	Not Detected
Bromomethane	15	Not Detected	59	Not Detected
Chloroethane	6.1	Not Detected	16	Not Detected
Freon 11	1.5	Not Detected	8.5	Not Detected
Ethanol	6.1	41	11	77
Freon 113	1.5	Not Detected	12	Not Detected
1,1-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Acetone	15	34	36	80
2-Propanol	6.1	27	15	66
Carbon Disulfide	6.1	~~1.5 J~~ U	19	~~4.7 J~~ U
3-Chloropropene	6.1	Not Detected	19	Not Detected
Methylene Chloride	15	Not Detected	53	Not Detected
Methyl tert-butyl ether	1.5	Not Detected	5.5	Not Detected
trans-1,2-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Hexane	1.5	Not Detected	5.3	Not Detected
1,1-Dichloroethane	1.5	Not Detected	6.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	6.1	15	18	44
cis-1,2-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Tetrahydrofuran	1.5	Not Detected	4.5	Not Detected
Chloroform	1.5	Not Detected	7.4	Not Detected
1,1,1-Trichloroethane	1.5	Not Detected	8.3	Not Detected
Cyclohexane	1.5	0.65 J	5.2	2.2 J
Carbon Tetrachloride	1.5	Not Detected	9.5	Not Detected
2,2,4-Trimethylpentane	1.5	29	7.1	130
Benzene	1.5	1.1 J	4.8	3.7 J
1,2-Dichloroethane	1.5	Not Detected	6.1	Not Detected
Heptane	1.5	Not Detected	6.2	Not Detected
Trichloroethene	1.5	Not Detected	8.1	Not Detected
1,2-Dichloropropane	1.5	Not Detected	7.0	Not Detected
1,4-Dioxane	6.1	Not Detected	22	Not Detected
Bromodichloromethane	1.5	Not Detected	10	Not Detected
cis-1,3-Dichloropropene	1.5	Not Detected	6.9	Not Detected
4-Methyl-2-pentanone	1.5	34	6.2	140
Toluene	1.5	3.7	5.7	14
trans-1,3-Dichloropropene	1.5	~~0.46 J~~ U	6.9	~~2.1 J~~ U
1,1,2-Trichloroethane	1.5	Not Detected	8.3	Not Detected
Tetrachloroethene	1.5	0.44 J	10	3.0 J
2-Hexanone	6.1	Not Detected	25	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-11-5-090612

Lab ID#: 1209148A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091914**	**Date of Collection:**	**9/6/12 9:00:00 AM**
Dil. Factor:	**3.03**	**Date of Analysis:**	**9/19/12 03:50 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.5	Not Detected	13	Not Detected
1,2-Dibromoethane (EDB)	1.5	Not Detected	12	Not Detected
Chlorobenzene	1.5	~~1.0 J~~ U	7.0	~~4.6 J~~ U
Ethyl Benzene	1.5	0.61 J	6.6	2.6 J
m,p-Xylene	1.5	1.2 J	6.6	5.1 J
o-Xylene	1.5	0.49 J	6.6	2.1 J
Styrene	1.5	0.47 J	6.4	2.0 J
Bromoform	1.5	Not Detected	16	Not Detected
Cumene	1.5	11	7.4	55
1,1,2,2-Tetrachloroethane	1.5	Not Detected	10	Not Detected
Propylbenzene	1.5	0.29 J	7.4	1.4 J
4-Ethyltoluene	1.5	Not Detected	7.4	Not Detected
1,3,5-Trimethylbenzene	1.5	Not Detected	7.4	Not Detected
1,2,4-Trimethylbenzene	1.5	0.66 J	7.4	3.2 J
1,3-Dichlorobenzene	1.5	~~0.54 J~~ U	9.1	~~3.2 J~~ U
1,4-Dichlorobenzene	1.5	~~0.46 J~~ U	9.1	~~2.8 J~~ U
alpha-Chlorotoluene	1.5	Not Detected	7.8	Not Detected
1,2-Dichlorobenzene	1.5	~~0.34 J~~ U	9.1	~~2.0 J~~ U
1,2,4-Trichlorobenzene	6.1	Not Detected	45	Not Detected
Hexachlorobutadiene	6.1	Not Detected	65	Not Detected
Butane	6.1	Not Detected	14	Not Detected
Isopentane	6.1	7.8	18	23
Ethyl Acetate	6.1	Not Detected	22	Not Detected
Propylene	6.1	Not Detected	10	Not Detected
Vinyl Acetate	6.1	Not Detected	21	Not Detected
Vinyl Bromide	6.1	Not Detected	26	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Heptane, 2,4-dimethyl-	2213-23-2	56%	30 NJ
Unknown	NA	NA	40 J
Unknown	NA	NA	67 J
Cyclobutanone, 2,3,3-trimethyl-	28290-01-9	64%	33 NJ
Decane, 2,2,4-trimethyl-	62237-98-3	72%	32 NJ
Undecane, 2,2-dimethyl-	17312-64-0	64%	85 NJ
Methane, isocyanato-	624-83-9	53%	24 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	64%	89 NJ
Hexane, 2,2,3-trimethyl-	16747-25-4	64%	140 NJ
Decane, 2,6,7-trimethyl-	62108-25-2	50%	52 NJ

eurofins | Air Toxics

Client Sample ID: VMP-11-5-090612

Lab ID#: 1209148A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091914**	**Date of Collection: 9/6/12 9:00:00 AM**
Dil. Factor:	3.03	**Date of Analysis: 9/19/12 03:50 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: VMP-13-5-090612

Lab ID#: 1209148A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091915**	**Date of Collection: 9/6/12 9:58:00 AM**	
Dil. Factor:	**2.42**	**Date of Analysis: 9/19/12 04:21 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.61 J	6.0	3.0 J
Freon 114	1.2	Not Detected	8.4	Not Detected
Chloromethane	12	Not Detected	25	Not Detected
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,3-Butadiene	1.2	Not Detected	2.7	Not Detected
Bromomethane	12	Not Detected	47	Not Detected
Chloroethane	4.8	Not Detected	13	Not Detected
Freon 11	1.2	0.35 J	6.8	1.9 J
Ethanol	4.8	19	9.1	36
Freon 113	1.2	Not Detected	9.3	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Acetone	12	25	29	60
2-Propanol	4.8	17	12	41
Carbon Disulfide	4.8	~~1.4 J~~	15	~~4.2 J~~
3-Chloropropene	4.8	Not Detected	15	Not Detected
Methylene Chloride	12	~~0.39 J~~	42	~~1.4 J~~
Methyl tert-butyl ether	1.2	Not Detected	4.4	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Hexane	1.2	0.36 J	4.3	1.3 J
1,1-Dichloroethane	1.2	Not Detected	4.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.8	8.8	14	26
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Tetrahydrofuran	1.2	1.1 J	3.6	3.2 J
Chloroform	1.2	0.83 J	5.9	4.0 J
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Cyclohexane	1.2	Not Detected	4.2	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.6	Not Detected
2,2,4-Trimethylpentane	1.2	2.0	5.6	9.2
Benzene	1.2	4.1	3.9	13
1,2-Dichloroethane	1.2	Not Detected	4.9	Not Detected
Heptane	1.2	Not Detected	5.0	Not Detected
Trichloroethene	1.2	Not Detected	6.5	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.6	Not Detected
1,4-Dioxane	4.8	Not Detected	17	Not Detected
Bromodichloromethane	1.2	Not Detected	8.1	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.5	Not Detected
4-Methyl-2-pentanone	1.2	31	5.0	130
Toluene	1.2	3.6	4.6	14
trans-1,3-Dichloropropene	1.2	Not Detected	5.5	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Tetrachloroethene	1.2	Not Detected	8.2	Not Detected
2-Hexanone	4.8	Not Detected	20	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-13-5-090612

Lab ID#: 1209148A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091915**	**Date of Collection:**	**9/6/12 9:58:00 AM**
Dil. Factor:	**2.42**	**Date of Analysis:**	**9/19/12 04:21 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.3	Not Detected
Chlorobenzene	1.2	~~1.0 J~~ U	5.6	~~4.8 J~~ U
Ethyl Benzene	1.2	~~0.33 J~~ U	5.2	~~1.4 J~~ U
m,p-Xylene	1.2	1.2	5.2	5.3
o-Xylene	1.2	0.26 J	5.2	1.1 J
Styrene	1.2	0.41 J	5.2	1.7 J
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	16	5.9	78
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.3	Not Detected
Propylbenzene	1.2	0.23 J	5.9	1.1 J
4-Ethyltoluene	1.2	0.59 J	5.9	2.9 J
1,3,5-Trimethylbenzene	1.2	0.30 J	5.9	1.5 J
1,2,4-Trimethylbenzene	1.2	0.72 J	5.9	3.5 J
1,3-Dichlorobenzene	1.2	~~0.33 J~~ U	7.3	~~2.0 J~~ U
1,4-Dichlorobenzene	1.2	~~0.50 J~~ U	7.3	~~3.0 J~~ U
alpha-Chlorotoluene	1.2	Not Detected	6.3	Not Detected
1,2-Dichlorobenzene	1.2	~~0.35 J~~ U	7.3	~~2.1 J~~ U
1,2,4-Trichlorobenzene	4.8	Not Detected	36	Not Detected
Hexachlorobutadiene	4.8	Not Detected	52	Not Detected
Butane	4.8	Not Detected	12	Not Detected
Isopentane	4.8	Not Detected	14	Not Detected
Ethyl Acetate	4.8	Not Detected	17	Not Detected
Propylene	4.8	Not Detected	8.3	Not Detected
Vinyl Acetate	4.8	Not Detected	17	Not Detected
Vinyl Bromide	4.8	Not Detected	21	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Oxirane, (3-methylbutyl)-	53229-41-7	38%	36 NJ
Cyclopentane, butyl-	2040-95-1	50%	56 NJ
Unknown	NA	NA	34 J
Undecane, 2,2-dimethyl-	17312-64-0	72%	29 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	72%	100 NJ
Decane, 2,2-dimethyl-	17302-37-3	72%	31 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	78%	100 NJ
Heptane, 2,2,3,4,6,6-hexamethyl-	62108-32-1	72%	28 NJ
Decane, 2,2,5-trimethyl-	62237-96-1	64%	210 NJ
1-Pentanol, 4-methyl-2-propyl-	54004-41-0	72%	120 NJ

eurofins | Air Toxics

Client Sample ID: VMP-13-5-090612

Lab ID#: 1209148A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j091915	Date of Collection: 9/6/12 9:58:00 AM
Dil. Factor:	2.42	Date of Analysis: 9/19/12 04:21 PM

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: VMP-10-5-090612

Lab ID#: 1209148A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091916**	**Date of Collection:**	**9/6/12 10:42:00 AM**
Dil. Factor:	**3.11**	**Date of Analysis:**	**9/19/12 04:52 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.6	0.47 J	7.7	2.3 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	Not Detected	8.7	Not Detected
Ethanol	6.2	42	12	80
Freon 113	1.6	Not Detected	12	Not Detected
1,1-Dichloroethene	1.6	Not Detected	6.2	Not Detected
Acetone	16	36	37	85
2-Propanol	6.2	23	15	57
Carbon Disulfide	6.2	~~1.0 J~~ U	19	~~3.2 J~~ U
3-Chloropropene	6.2	Not Detected	19	Not Detected
Methylene Chloride	16	~~0.39 J~~ U	54	~~1.4 J~~ U
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	0.85 J	5.5	3.0 J
1,1-Dichloroethane	1.6	Not Detected	6.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	6.2	14	18	42
cis-1,2-Dichloroethene	1.6	Not Detected	6.2	Not Detected
Tetrahydrofuran	1.6	1.5 J	4.6	4.5 J
Chloroform	1.6	Not Detected	7.6	Not Detected
1,1,1-Trichloroethane	1.6	Not Detected	8.5	Not Detected
Cyclohexane	1.6	0.47 J	5.4	1.6 J
Carbon Tetrachloride	1.6	Not Detected	9.8	Not Detected
2,2,4-Trimethylpentane	1.6	5.0	7.3	23
Benzene	1.6	12	5.0	37
1,2-Dichloroethane	1.6	0.23 J	6.3	0.94 J
Heptane	1.6	0.75 J	6.4	3.1 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	40	6.4	160
Toluene	1.6	5.5	5.8	21
trans-1,3-Dichloropropene	1.6	~~0.50 J~~ U	7.0	~~2.2 J~~ U
1,1,2-Trichloroethane	1.6	Not Detected	8.5	Not Detected
Tetrachloroethene	1.6	0.93 J	10	6.3 J
2-Hexanone	6.2	Not Detected	25	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-10-5-090612

Lab ID#: 1209148A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091916**	**Date of Collection:**	**9/6/12 10:42:00 AM**
Dil. Factor:	**3.11**	**Date of Analysis:**	**9/19/12 04:52 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.6	Not Detected	13	Not Detected
1,2-Dibromoethane (EDB)	1.6	Not Detected	12	Not Detected
Chlorobenzene	1.6	~~1.3 J~~ U	7.2	~~6.0 J~~ U
Ethyl Benzene	1.6	0.65 J	6.8	2.8 J
m,p-Xylene	1.6	1.3 J	6.8	5.7 J
o-Xylene	1.6	0.85 J	6.8	3.7 J
Styrene	1.6	0.39 J	6.6	1.7 J
Bromoform	1.6	Not Detected	16	Not Detected
Cumene	1.6	16	7.6	77
1,1,2,2-Tetrachloroethane	1.6	Not Detected	11	Not Detected
Propylbenzene	1.6	0.28 J	7.6	1.4 J
4-Ethyltoluene	1.6	0.48 J	7.6	2.4 J
1,3,5-Trimethylbenzene	1.6	0.31 J	7.6	1.5 J
1,2,4-Trimethylbenzene	1.6	0.60 J	7.6	2.9 J
1,3-Dichlorobenzene	1.6	~~0.60 J~~ U	9.3	~~3.6 J~~ U
1,4-Dichlorobenzene	1.6	~~0.39 J~~ U	9.3	~~2.4 J~~ U
alpha-Chlorotoluene	1.6	Not Detected	8.0	Not Detected
1,2-Dichlorobenzene	1.6	~~0.33 J~~ U	9.3	~~2.0 J~~ U
1,2,4-Trichlorobenzene	6.2	Not Detected	46	Not Detected
Hexachlorobutadiene	6.2	Not Detected	66	Not Detected
Butane	6.2	Not Detected	15	Not Detected
Isopentane	6.2	2.6 J	18	7.7 J
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))
6-Oxabicyclo[3.1.0]hexane	285-67-6	43%	44 NJ
Unknown	NA	NA	80 J
Cyclobutanone, 2,3,3-trimethyl-	28290-01-9	72%	36 NJ
Undecane, 2,2-dimethyl-	17312-64-0	72%	35 NJ
Decane, 2,9-dimethyl-	1002-17-1	64%	18 NJ
Decane, 2,2,9-trimethyl-	62238-00-0	83%	60 NJ
Decane, 6-ethyl-2-methyl-	62108-21-8	64%	70 NJ
Decane, 2,2,4-trimethyl-	62237-98-3	72%	100 NJ
Unknown	NA	NA	27 J
Dodecane, 1-fluoro-	334-68-9	53%	28 NJ

eurofins | Air Toxics

Client Sample ID: VMP-10-5-090612

Lab ID#: 1209148A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j091916	Date of Collection: 9/6/12 10:42:00 AM
Dil. Factor:	3.11	Date of Analysis: 9/19/12 04:52 PM

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	98	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209148A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091909a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/19/12 11:35 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
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	0.36 J	6.2	1.1 J
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	0.13 J	17	0.45 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	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	0.072 J	1.6	0.23 J
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
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	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	0.099 J	2.3	0.45 J
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	0.11 J	1.9	0.42 J
trans-1,3-Dichloropropene	0.50	0.12 J	2.3	0.56 J
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209148A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j091909a	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 9/19/12 11:35 AM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	0.45 J	2.3	2.1 J
Ethyl Benzene	0.50	0.098 J	2.2	0.42 J
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	0.073 J	3.4	0.50 J
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	0.15 J	3.0	0.89 J
1,4-Dichlorobenzene	0.50	0.17 J	3.0	1.0 J
alpha-Chlorotoluene	0.50	0.11 J	2.6	0.56 J
1,2-Dichlorobenzene	0.50	0.16 J	3.0	0.99 J
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
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	100	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	97	70-130

eurofins | Air Toxics

Client Sample ID: CCV
Lab ID#: 1209148A-08A
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j091902	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 9/19/12 07:02 AM	

Compound	%Recovery
Freon 12	95
Freon 114	94
Chloromethane	91
Vinyl Chloride	97
1,3-Butadiene	97
Bromomethane	84
Chloroethane	89
Freon 11	96
Ethanol	85
Freon 113	93
1,1-Dichloroethene	98
Acetone	89
2-Propanol	98
Carbon Disulfide	88
3-Chloropropene	88
Methylene Chloride	93
Methyl tert-butyl ether	97
trans-1,2-Dichloroethene	99
Hexane	99
1,1-Dichloroethane	96
2-Butanone (Methyl Ethyl Ketone)	95
cis-1,2-Dichloroethene	97
Tetrahydrofuran	97
Chloroform	96
1,1,1-Trichloroethane	98
Cyclohexane	93
Carbon Tetrachloride	102
2,2,4-Trimethylpentane	101
Benzene	93
1,2-Dichloroethane	98
Heptane	101
Trichloroethene	88
1,2-Dichloropropane	94
1,4-Dioxane	91
Bromodichloromethane	95
cis-1,3-Dichloropropene	98
4-Methyl-2-pentanone	99
Toluene	92
trans-1,3-Dichloropropene	91
1,1,2-Trichloroethane	98
Tetrachloroethene	101
2-Hexanone	97

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1209148A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091902**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/19/12 07:02 AM**	

Compound	%Recovery
Dibromochloromethane	98
1,2-Dibromoethane (EDB)	98
Chlorobenzene	83
Ethyl Benzene	98
m,p-Xylene	93
o-Xylene	103
Styrene	102
Bromoform	97
Cumene	103
1,1,2,2-Tetrachloroethane	95
Propylbenzene	98
4-Ethyltoluene	102
1,3,5-Trimethylbenzene	104
1,2,4-Trimethylbenzene	105
1,3-Dichlorobenzene	95
1,4-Dichlorobenzene	93
alpha-Chlorotoluene	100
1,2-Dichlorobenzene	95
1,2,4-Trichlorobenzene	84
Hexachlorobutadiene	89
Butane	89
Isopentane	103
Ethyl Acetate	80
Propylene	92
Vinyl Acetate	104
Vinyl Bromide	115

Container Type: NA - Not Applicable

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

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209148A-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091903**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/19/12 07:40 AM**	

Compound	%Recovery
Freon 12	99
Freon 114	93
Chloromethane	95
Vinyl Chloride	103
1,3-Butadiene	100
Bromomethane	88
Chloroethane	89
Freon 11	101
Ethanol	86
Freon 113	99
1,1-Dichloroethene	102
Acetone	98
2-Propanol	103
Carbon Disulfide	114
3-Chloropropene	91
Methylene Chloride	94
Methyl tert-butyl ether	101
trans-1,2-Dichloroethene	116
Hexane	101
1,1-Dichloroethane	99
2-Butanone (Methyl Ethyl Ketone)	98
cis-1,2-Dichloroethene	102
Tetrahydrofuran	98
Chloroform	99
1,1,1-Trichloroethane	102
Cyclohexane	98
Carbon Tetrachloride	107
2,2,4-Trimethylpentane	103
Benzene	106
1,2-Dichloroethane	104
Heptane	109
Trichloroethene	99
1,2-Dichloropropane	101
1,4-Dioxane	107
Bromodichloromethane	104
cis-1,3-Dichloropropene	102
4-Methyl-2-pentanone	107
Toluene	101
trans-1,3-Dichloropropene	100
1,1,2-Trichloroethane	104
Tetrachloroethene	106
2-Hexanone	102

eurofins | Air Toxics

Client Sample ID: LCS
Lab ID#: 1209148A-09A
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091903**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/19/12 07:40 AM**	

Compound	%Recovery
Dibromochloromethane	104
1,2-Dibromoethane (EDB)	106
Chlorobenzene	93
Ethyl Benzene	106
m,p-Xylene	102
o-Xylene	112
Styrene	109
Bromoform	102
Cumene	113
1,1,2,2-Tetrachloroethane	103
Propylbenzene	109
4-Ethyltoluene	106
1,3,5-Trimethylbenzene	111
1,2,4-Trimethylbenzene	112
1,3-Dichlorobenzene	104
1,4-Dichlorobenzene	100
alpha-Chlorotoluene	104
1,2-Dichlorobenzene	104
1,2,4-Trichlorobenzene	91
Hexachlorobutadiene	92
Butane	92
Isopentane	106
Ethyl Acetate	Not Spiked
Propylene	84
Vinyl Acetate	99
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: LCSD
Lab ID#: 1209148A-09AA
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/19/12 08:11 AM**	

Compound	%Recovery
Freon 12	102
Freon 114	100
Chloromethane	98
Vinyl Chloride	108
1,3-Butadiene	99
Bromomethane	93
Chloroethane	89
Freon 11	105
Ethanol	93
Freon 113	100
1,1-Dichloroethene	113
Acetone	95
2-Propanol	106
Carbon Disulfide	112
3-Chloropropene	107
Methylene Chloride	98
Methyl tert-butyl ether	106
trans-1,2-Dichloroethene	121
Hexane	108
1,1-Dichloroethane	101
2-Butanone (Methyl Ethyl Ketone)	103
cis-1,2-Dichloroethene	109
Tetrahydrofuran	99
Chloroform	103
1,1,1-Trichloroethane	106
Cyclohexane	107
Carbon Tetrachloride	110
2,2,4-Trimethylpentane	104
Benzene	106
1,2-Dichloroethane	101
Heptane	111
Trichloroethene	97
1,2-Dichloropropane	101
1,4-Dioxane	103
Bromodichloromethane	106
cis-1,3-Dichloropropene	105
4-Methyl-2-pentanone	107
Toluene	102
trans-1,3-Dichloropropene	99
1,1,2-Trichloroethane	103
Tetrachloroethene	107
2-Hexanone	103

eurofins | Air Toxics

Client Sample ID: LCSD
Lab ID#: 1209148A-09AA
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/19/12 08:11 AM**	

Compound	%Recovery
Dibromochloromethane	105
1,2-Dibromoethane (EDB)	106
Chlorobenzene	92
Ethyl Benzene	105
m,p-Xylene	105
o-Xylene	112
Styrene	109
Bromoform	102
Cumene	113
1,1,2,2-Tetrachloroethane	102
Propylbenzene	107
4-Ethyltoluene	107
1,3,5-Trimethylbenzene	110
1,2,4-Trimethylbenzene	110
1,3-Dichlorobenzene	104
1,4-Dichlorobenzene	102
alpha-Chlorotoluene	105
1,2-Dichlorobenzene	104
1,2,4-Trichlorobenzene	92
Hexachlorobutadiene	95
Butane	93
Isopentane	106
Ethyl Acetate	Not Spiked
Propylene	84
Vinyl Acetate	108
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	99	70-130

1209148

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

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

Print Bill To Contact Name: Robert Moosheglan
INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0
☐ CHECK IF NO INCIDENT # APPLIES
PO #:
SAP #: 3 4 0 0 6 1
DATE: 09/07/12
PAGE: 1 of 1

SAMPLING COMPANY: URS CORPORATION
LOCATION:
SITE ADDRESS: Street and City: 900 SOUTH CENTRAL AVE – ROXANA
State: IL
GLOBAL ID NO.:
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
PROJECT MANAGER (NAME, COMPANY, CITY/STATE ZIP): Elizabeth Kunkel, URS, St. Louis
PHONE NO.: 314-743-4179
E-MAIL: Elizabeth_Kunkel@URSCorp.com
CONSULTANT PROJECT NAME #: Roxana Vapor Additional
LOGGED/ADDRESS: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
A. Day, J. Jackson
TELEPHONE:
FAX: 314-429-0462
Bill to Contact E-MAIL: Robert.Moosheglan@urs.com

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☐ OTHER (SPECIFY)
☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	Canister Number	Canister Pressure/Vacuum: Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
DNA	VMP-21-5-090512	09/05/12	1241/1351	1728	-30	-11			X	X	
DNE	VMP-42-10-090512	09/05/12	1333/1401	2106	-30	-10.5			X	X	
DNF	VMP-4-5-090512	09/05/12	1423/1455	3030	-30	-11			X	X	
DNH	VMP-11-5-090612	09/06/12	0810/0908	1025	-30	-10.5			X	X	
DNA	VMP-13-5-090612	09/06/12	0928/0958	34628	-29	-5			X	X	
DNK	VMP-10-5-090612	09/06/12	1012/1043	24397	-29.5	-9			X	X	

Turn Around Time: ☑ Normal ☐ Rush
Specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	FEDEX	9/7/12	1600
		9/10/12	0930
		Date:	Time:

Custody Seal Intact?
Y N None Temp

eurofins | Air Toxics

9/27/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1209148B

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 9/10/2012 at Air Toxics Ltd.

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

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

Regards,

Kelly Buettner

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1209148B

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	09/10/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	09/27/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-21-5-090512	Modified ASTM D-1946	10.0 "Hg	15 psi
02A	VMP-42-10-090512	Modified ASTM D-1946	9.5 "Hg	15 psi
03A	VMP-4-5-090512	Modified ASTM D-1946	9.5 "Hg	15 psi
04A	VMP-11-5-090612	Modified ASTM D-1946	10.0 "Hg	15 psi
05A	VMP-13-5-090612	Modified ASTM D-1946	5.0 "Hg	15 psi
06A	VMP-10-5-090612	Modified ASTM D-1946	10.5 "Hg	15 psi
07A	Lab Blank	Modified ASTM D-1946	NA	NA
07B	Lab Blank	Modified ASTM D-1946	NA	NA
08A	LCS	Modified ASTM D-1946	NA	NA
08AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 09/27/12

Technical Director

Certfication 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

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

LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1209148B

Six 1 Liter Summa Canister samples were received on September 10, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-090512

Lab ID#: 1209148B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	14
Nitrogen	0.30	80
Methane	0.00030	0.000045 J
Carbon Dioxide	0.030	5.6
Helium	0.15	0.020 J

Client Sample ID: VMP-42-10-090512

Lab ID#: 1209148B-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	19
Nitrogen	0.30	79
Carbon Dioxide	0.030	1.8

Client Sample ID: VMP-4-5-090512

Lab ID#: 1209148B-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	80
Methane	0.00030	0.00016 J
Carbon Dioxide	0.030	1.7
Helium	0.15	0.048 J

Client Sample ID: VMP-11-5-090612

Lab ID#: 1209148B-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	80
Methane	0.00030	0.000087 J
Carbon Dioxide	0.030	2.4

eurofins | Air Toxics

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

Client Sample ID: VMP-13-5-090612

Lab ID#: 1209148B-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	17
Nitrogen	0.24	80
Methane	0.00024	0.000076 J
Carbon Dioxide	0.024	3.4

Client Sample ID: VMP-10-5-090612

Lab ID#: 1209148B-06A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.31	18
Nitrogen	0.31	80
Methane	0.00031	0.000038 J
Carbon Dioxide	0.031	2.0

eurofins | Air Toxics

Client Sample ID: VMP-21-5-090512

Lab ID#: 1209148B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9091712**	**Date of Collection:**	**9/5/12 1:11:00 PM**
Dil. Factor:	**3.03**	**Date of Analysis:**	**9/17/12 01:22 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	14
Nitrogen	0.30	80
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	0.000045 J
Carbon Dioxide	0.030	5.6
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	0.020 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-42-10-090512

Lab ID#: 1209148B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9091713**	**Date of Collection:**	**9/5/12 2:03:00 PM**
Dil. Factor:	**2.96**	**Date of Analysis:**	**9/17/12 01:51 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	19
Nitrogen	0.30	79
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	Not Detected
Carbon Dioxide	0.030	1.8
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	Not Detected

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-4-5-090512

Lab ID#: 1209148B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9091714**	**Date of Collection:**	**9/5/12 2:55:00 PM**
Dil. Factor:	**2.96**	**Date of Analysis:**	**9/17/12 02:44 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	80
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	0.00016 J
Carbon Dioxide	0.030	1.7
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	0.048 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-11-5-090612

Lab ID#: 1209148B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9091715**	**Date of Collection:**	**9/6/12 9:00:00 AM**
Dil. Factor:	**3.03**	**Date of Analysis:**	**9/17/12 03:15 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	80
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	0.000087 J
Carbon Dioxide	0.030	2.4
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-13-5-090612

Lab ID#: 1209148B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9091716**	**Date of Collection:**	**9/6/12 9:58:00 AM**
Dil. Factor:	**2.42**	**Date of Analysis:**	**9/17/12 03:44 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	17
Nitrogen	0.24	80
Carbon Monoxide	0.024	Not Detected
Methane	0.00024	0.000076 J
Carbon Dioxide	0.024	3.4
Ethane	0.0024	Not Detected
Ethene	0.0024	Not Detected
Helium	0.12	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-10-5-090612

Lab ID#: 1209148B-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9091717**	**Date of Collection:**	**9/6/12 10:42:00 AM**
Dil. Factor:	**3.11**	**Date of Analysis:**	**9/17/12 04:13 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.31	18
Nitrogen	0.31	80
Carbon Monoxide	0.031	Not Detected
Methane	0.00031	0.000038 J
Carbon Dioxide	0.031	2.0
Ethane	0.0031	Not Detected
Ethene	0.0031	Not Detected
Helium	0.16	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209148B-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9091705a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/17/12 09:19 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.10	0.0079 J
Nitrogen	0.10	0.033 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209148B-07B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9091704b	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 9/17/12 08:46 AM	

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

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209148B-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9091702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/17/12 07:55 AM**	

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

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1209148B-08AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9091727**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/17/12 09:35 PM**	

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	98
Methane	98
Carbon Dioxide	101
Ethane	100
Ethene	97
Helium	101

Container Type: NA - Not Applicable

1209148

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

Please Check Appropriate Box:
☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SOECM ☐ CONSULTANT ☐ CUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Robert Moosheglan
PO #:
INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0
SAP #: 3 4 0 0 6 1
☐ CHECK IF NO INCIDENT # APPLIES
DATE: 09/07/12
PAGE: 1 of 1

SHIPPING COMPANY: URS CORPORATION
LOT CODE:
SITE ADDRESS: Street and City: 900 SOUTH CENTRAL AVE -- ROXANA
State: IL
GLOBAL ID NO.:

ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300: ST. LOUIS, MO 63110
CONSULTANT ADDRESS: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
TELEPHONE:
FAX: 314-429-0462
CC TO CONTACT E-MAIL: Robert.Moosheglan@URS.COM
FOR DELIVERABLE TO Name, Company, Office Location: Elizabeth Kunkel, URS, St. Louis
PHONE NO.: 314-743-4179
E-MAIL: Elizabeth.Kunkel@URSCorp.com
CONSULTANT PROJECT NUMBER: Roxana Vapor Additional
A. Dey, J. Jackson

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☐ OTHER (SPECIFY)

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

Turn Around Time: ☑ Normal ☐ Rush ☐ Specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	Canister Number	Canister Pressure/Vacuum: Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
01A	VMP-21-5-090512	09/05/12	1341/1311	1728	-30	-11			X	X	
02A	VMP-42-10-090512	09/05/12	1333/1403	2106	-30	-10.5			X	X	
03A	VMP-4-5-090512	09/05/12	1425/1455	3030	-30	-11			X	X	
04A	VMP-11-5-090612	09/06/12	0930/0959	1325	-30	-10.5			X	X	
05A	VMP-13-5-090612	09/06/12	0928/0958	34628	-29	-5			X	X	
06A	VMP-10-5-090612	09/06/12	1012/1042	24397	-29.5	-9			X	X	

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by (Signature)	Received by (Signature)	Date	Time
	FEDEX	9/7/12	1600
		9/10/12	0930

Custody Seal Intact?
Y N None Temp

Roxana Soil Vapor Additional – Week 5 - 2012 Data Review

Laboratory SDG: 1209274A,B

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Steve Gragert

Date Reviewed: 10/2/2012

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

Sample Identification
VMP-16-5-090512

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated sample VMP-16-5-090512 was diluted due to high levels of target analytes. Sample VMP-16-5-090512 was re-analyzed to bring the compound, 2,2,4-trimethylpentane within the calibration range of the instrument. The result for 2,2,4-trimethylpentane was reported from the re-anlysis run and the remaining compounds were reported from the original analysis. 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.

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
1209274A-02A	TO-15	Carbon disulfide	0.36 ppbv / 1.1 µg/m^3
1209274A-02A	TO-15	Methylene chloride	0.13 ppbv / 0.45 µg/m^3
1209274A-02A	TO-15	Benzene	0.072 ppbv / 0.23 µg/m^3
1209274A-02A	TO-15	cis-1,3-Dichloropropene	0.099 ppbv/ 0.45 µg/m^3
1209274A-02A	TO-15	Toluene	0.11 ppbv/ 0.42 µg/m^3
1209274A-02A	TO-15	trans-1,3-Dichloropropene	0.12 ppbv/ 0.56 µg/m^3
1209274A-02A	TO-15	Chlorobenzene	0.45 ppbv / 2.1 µg/m^3
1209274A-02A	TO-15	Ethyl benzene	0.098 ppbv / 0.42 µg/m^3

Blank ID	Parameter	Analyte	Concentration/ Amount
1209274A-02A	TO-15	1,1,2,2-Tetrachloroethane	0.073 ppbv / 0.50 µg/m^3
1209274A-02A	TO-15	1,3-Dichlorobenzene	0.15 ppbv / 0.89 µg/m^3
1209274A-02A	TO-15	1,4-Dichlorobenzene	0.17 ppbv / 1.0 µg/m^3
1209274A-02A	TO-15	alpha-Chlorotoluene	0.11 ppbv / 0.56 µg/m^3
1209274A-02A	TO-15	1,2-Dichlorobenzene	0.16 ppbv / 0.99 µg/m^3
1209274B-02A	Natural gases	Nitrogen	0.045%

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes; 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 of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

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?

No

10.0 Sample Dilutions

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

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

11.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Air Toxics

9/30/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1209274A

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 9/14/2012 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
10/2/2012

eurofins | Air Toxics

WORK ORDER #: 1209274A

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	09/14/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	09/30/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-16-5-090512	Modified TO-15 / TICs	9.5 "Hg	15 psi
01B	VMP-16-5-090512	Modified TO-15 / TICs	9.5 "Hg	15 psi
02A	Lab Blank	Modified TO-15 / TICs	NA	NA
03A	CCV	Modified TO-15 / TICs	NA	NA
04A	LCS	Modified TO-15 / TICs	NA	NA
04AA	LCSD	Modified TO-15 / TICs	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 09/30/12

Technical Director

Certfication 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

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# 1209274A

One 1 Liter Summa Canister sample was received on September 14, 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.

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (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.

Due to high-level target compounds, sample VMP-16-5-090512 was analyzed twice. In the "A" fraction, the sample was diluted to bring the highest-level compounds within the calibration range. The "B" fraction is also reported by client request and may be reported with "S" flags indicating the compound exceeds the calibration range. Both runs and associated QC are reported.

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

eurofins | Air Toxics

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

Client Sample ID: VMP-16-5-090512 * Use these results only. All other data was reported from the 2960X dilution analysis.

Lab ID#: 1209274A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	59000	60000	140000	140000
Carbon Disulfide	24000	7200 J	74000	22000 J
* 2,2,4-Trimethylpentane	5900	1800000	28000	8200000
Benzene	5900	1800 J	19000	5800 J
Toluene	5900	4900 J	22000	18000 J
Chlorobenzene	5900	4000 J	27000	18000 J
m,p-Xylene	5900	1000 J	26000	4300 J
Butane	24000	27000	56000	64000
Isopentane	24000	520000	70000	1500000

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	530000 J
Pentane, 2-methyl-	107-83-5	40%	420000 NJ
Pentane, 3-methyl-	96-14-0	40%	520000 NJ
1-Pentene, 4-methyl-	691-37-2	59%	1000000 NJ
Unknown	NA	NA	1900000 J
Nonane, 2,5-dimethyl-	17302-27-1	59%	180000 NJ
Unknown	NA	NA	270000 J
Pentane, 2,3,4-trimethyl-	565-75-3	78%	810000 NJ
Octane, 4-methyl-	2216-34-4	78%	1100000 NJ
Heptane, 2,2-dimethyl-	1071-26-7	50%	160000 NJ

Client Sample ID: VMP-16-5-090512 * Do not use this data. Use all other data.

Lab ID#: 1209274A-01B DF = 2960X

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	15000	22000	35000	54000
2-Propanol	5900	940 J	14000	2300 J
Carbon Disulfide	5900	3200 J	18000	10000 J
Methyl tert-butyl ether	1500	130 J	5300	480 J
~~* 2,2,4-Trimethylpentane~~	~~1500~~	~~>1400000 S~~	~~6900~~	~~>6800000 S~~
Benzene	1500	2300	4700	7400

eurofins | Air Toxics

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

Client Sample ID: VMP-16-5-090512

Lab ID#: 1209274A-01B

1,2-Dichloroethane	1500	380 J	6000	1600 J
Toluene	1500	3600	5600	14000
Chlorobenzene	1500	1300 J	6800	6000 J
Ethyl Benzene	1500	410 J	6400	1800 J
m,p-Xylene	1500	600 J	6400	2600 J
o-Xylene	1500	380 J	6400	1700 J
Styrene	1500	360 J	6300	1600 J
1,4-Dichlorobenzene	1500	330 J	8900	2000 J
Butane	5900	27000	14000	64000
Isopentane	5900	530000	17000	1600000

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	430000 J
Pentane, 2-methyl-	107-83-5	4.0%	350000 NJ
Pentane, 3-methyl-	96-14-0	43%	420000 NJ
1-Pentene, 4-methyl-	691-37-2	59%	870000 NJ
Unknown	NA	NA	1600000 J
Nonane, 2,5-dimethyl-	17302-27-1	45%	180000 NJ
Unknown	NA	NA	270000 J
Pentane, 2,3,4-trimethyl-	565-75-3	74%	790000 NJ
Octane, 4-methyl-	2216-34-4	50%	1100000 NJ
Heptane, 2,2-dimethyl-	1071-26-7	56%	160000 NJ

eurofins | Air Toxics

Client Sample ID: VMP-16-5-090512 * Use these results only.
Lab ID#: 1209274A-01A All other data was reported from the 2960X dilution analysis.
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091920**	**Date of Collection:**	**9/5/12 4:08:00 PM**
Dil. Factor:	**11800**	**Date of Analysis:**	**9/19/12 07:33 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5900	Not Detected	29000	Not Detected
Freon 114	5900	Not Detected	41000	Not Detected
Chloromethane	59000	Not Detected	120000	Not Detected
Vinyl Chloride	5900	Not Detected	15000	Not Detected
1,3-Butadiene	5900	Not Detected	13000	Not Detected
Bromomethane	59000	Not Detected	230000	Not Detected
Chloroethane	24000	Not Detected	62000	Not Detected
Freon 11	5900	Not Detected	33000	Not Detected
Ethanol	24000	Not Detected	45000	Not Detected
Freon 113	5900	Not Detected	45000	Not Detected
1,1-Dichloroethene	5900	Not Detected	23000	Not Detected
Acetone	59000	60000	140000	140000
2-Propanol	24000	Not Detected	58000	Not Detected
Carbon Disulfide	24000	7200 J	74000	22000 J
3-Chloropropene	24000	Not Detected	74000	Not Detected
Methylene Chloride	59000	Not Detected	200000	Not Detected
Methyl tert-butyl ether	5900	Not Detected	21000	Not Detected
trans-1,2-Dichloroethene	5900	Not Detected	23000	Not Detected
Hexane	5900	Not Detected	21000	Not Detected
1,1-Dichloroethane	5900	Not Detected	24000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	24000	Not Detected	70000	Not Detected
cis-1,2-Dichloroethene	5900	Not Detected	23000	Not Detected
Tetrahydrofuran	5900	Not Detected	17000	Not Detected
Chloroform	5900	Not Detected	29000	Not Detected
1,1,1-Trichloroethane	5900	Not Detected	32000	Not Detected
Cyclohexane	5900	Not Detected	20000	Not Detected
Carbon Tetrachloride	5900	Not Detected	37000	Not Detected
* 2,2,4-Trimethylpentane	5900	1800000	28000	8200000
Benzene	5900	1800 J	19000	5800 J
1,2-Dichloroethane	5900	Not Detected	24000	Not Detected
Heptane	5900	Not Detected	24000	Not Detected
Trichloroethene	5900	Not Detected	32000	Not Detected
1,2-Dichloropropane	5900	Not Detected	27000	Not Detected
1,4-Dioxane	24000	Not Detected	85000	Not Detected
Bromodichloromethane	5900	Not Detected	40000	Not Detected
cis-1,3-Dichloropropene	5900	Not Detected	27000	Not Detected
4-Methyl-2-pentanone	5900	Not Detected	24000	Not Detected
Toluene	5900	4900 J	22000	18000 J
trans-1,3-Dichloropropene	5900	Not Detected	27000	Not Detected
1,1,2-Trichloroethane	5900	Not Detected	32000	Not Detected
Tetrachloroethene	5900	Not Detected	40000	Not Detected
2-Hexanone	24000	Not Detected	97000	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-16-5-090512

Lab ID#: 1209274A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091920**	**Date of Collection:**	**9/5/12 4:08:00 PM**
Dil. Factor:	**11800**	**Date of Analysis:**	**9/19/12 07:33 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	5900	Not Detected	50000	Not Detected
1,2-Dibromoethane (EDB)	5900	Not Detected	45000	Not Detected
Chlorobenzene	5900	4000 J	27000	18000 J
Ethyl Benzene	5900	Not Detected	26000	Not Detected
m,p-Xylene	5900	1000 J	26000	4300 J
o-Xylene	5900	Not Detected	26000	Not Detected
Styrene	5900	Not Detected	25000	Not Detected
Bromoform	5900	Not Detected	61000	Not Detected
Cumene	5900	Not Detected	29000	Not Detected
1,1,2,2-Tetrachloroethane	5900	Not Detected	41000	Not Detected
Propylbenzene	5900	Not Detected	29000	Not Detected
4-Ethyltoluene	5900	Not Detected	29000	Not Detected
1,3,5-Trimethylbenzene	5900	Not Detected	29000	Not Detected
1,2,4-Trimethylbenzene	5900	Not Detected	29000	Not Detected
1,3-Dichlorobenzene	5900	Not Detected	36000	Not Detected
1,4-Dichlorobenzene	5900	Not Detected	36000	Not Detected
alpha-Chlorotoluene	5900	Not Detected	31000	Not Detected
1,2-Dichlorobenzene	5900	Not Detected	36000	Not Detected
1,2,4-Trichlorobenzene	24000	Not Detected	180000	Not Detected
Hexachlorobutadiene	24000	Not Detected	250000	Not Detected
Butane	24000	27000	56000	64000
Isopentane	24000	520000	70000	1500000
Ethyl Acetate	24000	Not Detected	85000	Not Detected
Propylene	24000	Not Detected	41000	Not Detected
Vinyl Acetate	24000	Not Detected	83000	Not Detected
Vinyl Bromide	24000	Not Detected	100000	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Unknown	NA	NA	530000 J
Pentane, 2-methyl-	107-83-5	40%	420000 NJ
Pentane, 3-methyl-	96-14-0	40%	520000 NJ
1-Pentene, 4-methyl-	691-37-2	59%	1000000 NJ
Unknown	NA	NA	1900000 J
Nonane, 2,5-dimethyl-	17302-27-1	59%	180000 NJ
Unknown	NA	NA	270000 J
Pentane, 2,3,4-trimethyl-	565-75-3	78%	810000 NJ
Octane, 4-methyl-	2216-34-4	78%	1100000 NJ
Heptane, 2,2-dimethyl-	1071-26-7	50%	160000 NJ

eurofins | Air Toxics

Client Sample ID: VMP-16-5-090512

Lab ID#: 1209274A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091920**	**Date of Collection: 9/5/12 4:08:00 PM**
Dil. Factor:	**11800**	**Date of Analysis: 9/19/12 07:33 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	109	70-130
4-Bromofluorobenzene	98	70-130

eurofins | Air Toxics

Client Sample ID: VMP-16-5-090512 QL Do not use this data.
Lab ID#: 1209274A-01B Use all other data.

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091917**	**Date of Collection:**	**9/5/12 4:08:00 PM**
Dil. Factor:	**2960**	**Date of Analysis:**	**9/19/12 05:36 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1500	Not Detected	7300	Not Detected
Freon 114	1500	Not Detected	10000	Not Detected
Chloromethane	15000	Not Detected	30000	Not Detected
Vinyl Chloride	1500	Not Detected	3800	Not Detected
1,3-Butadiene	1500	Not Detected	3300	Not Detected
Bromomethane	15000	Not Detected	57000	Not Detected
Chloroethane	5900	Not Detected	16000	Not Detected
Freon 11	1500	Not Detected	8300	Not Detected
Ethanol	5900	Not Detected	11000	Not Detected
Freon 113	1500	Not Detected	11000	Not Detected
1,1-Dichloroethene	1500	Not Detected	5900	Not Detected
Acetone	15000	22000	35000	54000
2-Propanol	5900	940 J	14000	2300 J
Carbon Disulfide	5900	3200 J	18000	10000 J
3-Chloropropene	5900	Not Detected	18000	Not Detected
Methylene Chloride	15000	Not Detected	51000	Not Detected
Methyl tert-butyl ether	1500	130 J	5300	480 J
trans-1,2-Dichloroethene	1500	Not Detected	5900	Not Detected
Hexane	1500	Not Detected	5200	Not Detected
1,1-Dichloroethane	1500	Not Detected	6000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5900	Not Detected	17000	Not Detected
cis-1,2-Dichloroethene	1500	Not Detected	5900	Not Detected
Tetrahydrofuran	1500	Not Detected	4400	Not Detected
Chloroform	1500	Not Detected	7200	Not Detected
1,1,1-Trichloroethane	1500	Not Detected	8100	Not Detected
Cyclohexane	1500	Not Detected	5100	Not Detected
Carbon Tetrachloride	1500	Not Detected	9300	Not Detected
~~2,2,4-Trimethylpentane~~	~~1500~~	~~>1400000 S~~	~~6900~~	~~>6800000 S~~
Benzene	1500	2300	4700	7400
1,2-Dichloroethane	1500	380 J	6000	1600 J
Heptane	1500	Not Detected	6100	Not Detected
Trichloroethene	1500	Not Detected	8000	Not Detected
1,2-Dichloropropane	1500	Not Detected	6800	Not Detected
1,4-Dioxane	5900	Not Detected	21000	Not Detected
Bromodichloromethane	1500	Not Detected	9900	Not Detected
cis-1,3-Dichloropropene	1500	Not Detected	6700	Not Detected
4-Methyl-2-pentanone	1500	Not Detected	6100	Not Detected
Toluene	1500	3600	5600	14000
trans-1,3-Dichloropropene	1500	Not Detected	6700	Not Detected
1,1,2-Trichloroethane	1500	Not Detected	8100	Not Detected
Tetrachloroethene	1500	Not Detected	10000	Not Detected
2-Hexanone	5900	Not Detected	24000	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-16-5-090512

Lab ID#: 1209274A-01B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091917**	**Date of Collection: 9/5/12 4:08:00 PM**	
Dil. Factor:	**2960**	**Date of Analysis: 9/19/12 05:36 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1500	Not Detected	13000	Not Detected
1,2-Dibromoethane (EDB)	1500	Not Detected	11000	Not Detected
Chlorobenzene	1500	1300 J	6800	6000 J
Ethyl Benzene	1500	410 J	6400	1800 J
m,p-Xylene	1500	600 J	6400	2600 J
o-Xylene	1500	380 J	6400	1700 J
Styrene	1500	360 J	6300	1600 J
Bromoform	1500	Not Detected	15000	Not Detected
Cumene	1500	Not Detected	7300	Not Detected
1,1,2,2-Tetrachloroethane	1500	Not Detected	10000	Not Detected
Propylbenzene	1500	Not Detected	7300	Not Detected
4-Ethyltoluene	1500	Not Detected	7300	Not Detected
1,3,5-Trimethylbenzene	1500	Not Detected	7300	Not Detected
1,2,4-Trimethylbenzene	1500	Not Detected	7300	Not Detected
1,3-Dichlorobenzene	1500	Not Detected	8900	Not Detected
1,4-Dichlorobenzene	1500	330 J	8900	2000 J
alpha-Chlorotoluene	1500	Not Detected	7700	Not Detected
1,2-Dichlorobenzene	1500	Not Detected	8900	Not Detected
1,2,4-Trichlorobenzene	5900	Not Detected	44000	Not Detected
Hexachlorobutadiene	5900	Not Detected	63000	Not Detected
Butane	5900	27000	14000	64000
Isopentane	5900	530000	17000	1600000
Ethyl Acetate	5900	Not Detected	21000	Not Detected
Propylene	5900	Not Detected	10000	Not Detected
Vinyl Acetate	5900	Not Detected	21000	Not Detected
Vinyl Bromide	5900	Not Detected	26000	Not Detected

J = Estimated value.
S = Saturated peak; data reported as estimated.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Unknown	NA	NA	430000 J
Pentane, 2-methyl-	107-83-5	4.0%	350000 NJ
Pentane, 3-methyl-	96-14-0	43%	420000 NJ
1-Pentene, 4-methyl-	691-37-2	59%	870000 NJ
Unknown	NA	NA	1600000 J
Nonane, 2,5-dimethyl-	17302-27-1	45%	180000 NJ
Unknown	NA	NA	270000 J
Pentane, 2,3,4-trimethyl-	565-75-3	74%	790000 NJ
Octane, 4-methyl-	2216-34-4	50%	1100000 NJ
Heptane, 2,2-dimethyl-	1071-26-7	56%	160000 NJ

eurofins | Air Toxics

Client Sample ID: VMP-16-S-090512

Lab ID#: 1209274A-01B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091917**	**Date of Collection: 9/5/12 4:08:00 PM**
Dil. Factor:	**2960**	**Date of Analysis: 9/19/12 05:36 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	100	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209274A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091909a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/19/12 11:35 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
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	0.36 J	6.2	1.1 J
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	0.13 J	17	0.45 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	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	0.072 J	1.6	0.23 J
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
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	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	0.099 J	2.3	0.45 J
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	0.11 J	1.9	0.42 J
trans-1,3-Dichloropropene	0.50	0.12 J	2.3	0.56 J
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209274A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j091909a	**Date of Collection: NA**	
Dil. Factor:	1.00	**Date of Analysis: 9/19/12 11:35 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	0.45 J	2.3	2.1 J
Ethyl Benzene	0.50	0.098 J	2.2	0.42 J
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	0.073 J	3.4	0.50 J
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	0.15 J	3.0	0.89 J
1,4-Dichlorobenzene	0.50	0.17 J	3.0	1.0 J
alpha-Chlorotoluene	0.50	0.11 J	2.6	0.56 J
1,2-Dichlorobenzene	0.50	0.16 J	3.0	0.99 J
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
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	100	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	97	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1209274A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091902**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/19/12 07:02 AM**	

Compound	%Recovery
Freon 12	95
Freon 114	94
Chloromethane	91
Vinyl Chloride	97
1,3-Butadiene	97
Bromomethane	84
Chloroethane	89
Freon 11	96
Ethanol	85
Freon 113	93
1,1-Dichloroethene	98
Acetone	89
2-Propanol	98
Carbon Disulfide	88
3-Chloropropene	88
Methylene Chloride	93
Methyl tert-butyl ether	97
trans-1,2-Dichloroethene	99
Hexane	99
1,1-Dichloroethane	96
2-Butanone (Methyl Ethyl Ketone)	95
cis-1,2-Dichloroethene	97
Tetrahydrofuran	97
Chloroform	96
1,1,1-Trichloroethane	98
Cyclohexane	93
Carbon Tetrachloride	102
2,2,4-Trimethylpentane	101
Benzene	93
1,2-Dichloroethane	98
Heptane	101
Trichloroethene	88
1,2-Dichloropropane	94
1,4-Dioxane	91
Bromodichloromethane	95
cis-1,3-Dichloropropene	98
4-Methyl-2-pentanone	99
Toluene	92
trans-1,3-Dichloropropene	91
1,1,2-Trichloroethane	98
Tetrachloroethene	101
2-Hexanone	97

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1209274A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091902**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/19/12 07:02 AM**	

Compound	%Recovery
Dibromochloromethane	98
1,2-Dibromoethane (EDB)	98
Chlorobenzene	83
Ethyl Benzene	98
m,p-Xylene	93
o-Xylene	103
Styrene	102
Bromoform	97
Cumene	103
1,1,2,2-Tetrachloroethane	95
Propylbenzene	98
4-Ethyltoluene	102
1,3,5-Trimethylbenzene	104
1,2,4-Trimethylbenzene	105
1,3-Dichlorobenzene	95
1,4-Dichlorobenzene	93
alpha-Chlorotoluene	100
1,2-Dichlorobenzene	95
1,2,4-Trichlorobenzene	84
Hexachlorobutadiene	89
Butane	89
Isopentane	103
Ethyl Acetate	80
Propylene	92
Vinyl Acetate	104
Vinyl Bromide	115

Container Type: NA - Not Applicable

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

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209274A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091903**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/19/12 07:40 AM**	

Compound	%Recovery
Freon 12	99
Freon 114	93
Chloromethane	95
Vinyl Chloride	103
1,3-Butadiene	100
Bromomethane	88
Chloroethane	89
Freon 11	101
Ethanol	86
Freon 113	99
1,1-Dichloroethene	102
Acetone	98
2-Propanol	103
Carbon Disulfide	114
3-Chloropropene	91
Methylene Chloride	94
Methyl tert-butyl ether	101
trans-1,2-Dichloroethene	116
Hexane	101
1,1-Dichloroethane	99
2-Butanone (Methyl Ethyl Ketone)	98
cis-1,2-Dichloroethene	102
Tetrahydrofuran	98
Chloroform	99
1,1,1-Trichloroethane	102
Cyclohexane	98
Carbon Tetrachloride	107
2,2,4-Trimethylpentane	103
Benzene	106
1,2-Dichloroethane	104
Heptane	109
Trichloroethene	99
1,2-Dichloropropane	101
1,4-Dioxane	107
Bromodichloromethane	104
cis-1,3-Dichloropropene	102
4-Methyl-2-pentanone	107
Toluene	101
trans-1,3-Dichloropropene	100
1,1,2-Trichloroethane	104
Tetrachloroethene	106
2-Hexanone	102

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209274A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091903**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/19/12 07:40 AM**	

Compound	%Recovery
Dibromochloromethane	104
1,2-Dibromoethane (EDB)	106
Chlorobenzene	93
Ethyl Benzene	106
m,p-Xylene	102
o-Xylene	112
Styrene	109
Bromoform	102
Cumene	113
1,1,2,2-Tetrachloroethane	103
Propylbenzene	109
4-Ethyltoluene	106
1,3,5-Trimethylbenzene	111
1,2,4-Trimethylbenzene	112
1,3-Dichlorobenzene	104
1,4-Dichlorobenzene	100
alpha-Chlorotoluene	104
1,2-Dichlorobenzene	104
1,2,4-Trichlorobenzene	91
Hexachlorobutadiene	92
Butane	92
Isopentane	106
Ethyl Acetate	Not Spiked
Propylene	84
Vinyl Acetate	99
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1209274A-04AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/19/12 08:11 AM**	

Compound	%Recovery
Freon 12	102
Freon 114	100
Chloromethane	98
Vinyl Chloride	108
1,3-Butadiene	99
Bromomethane	93
Chloroethane	89
Freon 11	105
Ethanol	93
Freon 113	100
1,1-Dichloroethene	113
Acetone	95
2-Propanol	106
Carbon Disulfide	112
3-Chloropropene	107
Methylene Chloride	98
Methyl tert-butyl ether	106
trans-1,2-Dichloroethene	121
Hexane	108
1,1-Dichloroethane	101
2-Butanone (Methyl Ethyl Ketone)	103
cis-1,2-Dichloroethene	109
Tetrahydrofuran	99
Chloroform	103
1,1,1-Trichloroethane	106
Cyclohexane	107
Carbon Tetrachloride	110
2,2,4-Trimethylpentane	104
Benzene	106
1,2-Dichloroethane	101
Heptane	111
Trichloroethene	97
1,2-Dichloropropane	101
1,4-Dioxane	103
Bromodichloromethane	106
cis-1,3-Dichloropropene	105
4-Methyl-2-pentanone	107
Toluene	102
trans-1,3-Dichloropropene	99
1,1,2-Trichloroethane	103
Tetrachloroethene	107
2-Hexanone	103

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1209274A-04AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j091904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/19/12 08:11 AM**	

Compound	%Recovery
Dibromochloromethane	105
1,2-Dibromoethane (EDB)	106
Chlorobenzene	92
Ethyl Benzene	105
m,p-Xylene	105
o-Xylene	112
Styrene	109
Bromoform	102
Cumene	113
1,1,2,2-Tetrachloroethane	102
Propylbenzene	107
4-Ethyltoluene	107
1,3,5-Trimethylbenzene	110
1,2,4-Trimethylbenzene	110
1,3-Dichlorobenzene	104
1,4-Dichlorobenzene	102
alpha-Chlorotoluene	105
1,2-Dichlorobenzene	104
1,2,4-Trichlorobenzene	92
Hexachlorobutadiene	95
Butane	93
Isopentane	106
Ethyl Acetate	Not Spiked
Propylene	84
Vinyl Acetate	108
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	99	70-130

1209274

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.	Please Check Appropriate Box: ☒ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL ☐ MOTIVA SD&CM ☐ CONSULTANT ☐ LUBES ☐ SHELL PIPELINE ☐ OTHER
Project Name: Roxana Vapor Additional	Print Bill To Contact Name: Robert Mooshegian
Project # 21562735.10100	INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0 ☐ CHECK IF NO INCIDENT # APPLIES
Lab Vendor #	PO #:
	SAP #: 3 4 0 0 6 1
	DATE: 09/13/12 PAGE: 1 of 1
Sampling Company: URS CORPORATION	Log Code:
Address: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110	Site Address: Street and City: 900 SOUTH CENTRAL AVE -- ROXANA; State: IL; Global ID No.:
Laboratory Address: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719	EDF Deliverable To (Name, Company, Office Location): Elizabeth Kunkel, URS, St. Louis; Phone No.: 314-743-4179; E-mail: Elizabeth_Kunkel@URSCorp.com; Consultant Project Number: Roxana Soil Vapor
Telephone: 314-429-0100; Fax: 314-429-0462; Email: Robert.Mooshegian@urs.com	Sampler Name(s) (Print): M. Currier, A. Day, J. Jackson.

TURNAROUND TIME (CALENDAR DAYS): ☒ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☒ UST AGENCY:

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

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

REQUESTED ANALYSIS

Lab Use Only	Field Sample Identification	Sampling Date	Sampling Time	Canister Number	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
01	VMP-16-5-090512	09/05/12	1535-1635	1002	-30	-10.5			X	X	

Turn Around Time: ☒ Normal ☐ Rush Specify

Lab Use Only: Pressurized by: Date: Pressurization Gas: N2 He

ADDITIONAL NOTES:

- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

9/13/12

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
[signature]	FEDEX	9/13/12	1630
Relinquished by: (Signature)	Received by: (Signature) [signature] ATL	9/14/12	0945
Relinquished by: (Signature)	Received by: (Signature)		

05/2/06 Revision

CUSTODY SEAL INTACT? Y N NONE [initials]

eurofins | Air Toxics

10/2/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1209274B

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 9/14/2012 at Air Toxics Ltd.

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

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

Regards,

Kelly Buettner

Project Manager

Reviewed
on
10/2/2012

eurofins | Air Toxics

WORK ORDER #: 1209274B

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	09/14/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	10/02/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-16-5-090512	Modified ASTM D-1946	9.5 "Hg	15 psi
02A	Lab Blank	Modified ASTM D-1946	NA	NA
02B	Lab Blank	Modified ASTM D-1946	NA	NA
03A	LCS	Modified ASTM D-1946	NA	NA
03AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Rooyen DATE: 10/02/12

Technical Director

Certfication 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

LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1209274B

One 1 Liter Summa Canister sample was received on September 14, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

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

Client Sample ID: VMP-16-5-090512

Lab ID#: 1209274B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	1.9
Nitrogen	0.30	74
Methane	0.00030	6.8
Carbon Dioxide	0.030	17
Ethane	0.0030	0.00034 J
Helium	0.15	0.51

eurofins | Air Toxics

Client Sample ID: VMP-16-5-090512

Lab ID#: 1209274B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9091928**	**Date of Collection: 9/5/12 4:08:00 PM**	
Dil. Factor:	**2.96**	**Date of Analysis: 9/19/12 10:30 PM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	1.9
Nitrogen	0.30	74
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	6.8
Carbon Dioxide	0.030	17
Ethane	0.0030	0.00034 J
Ethene	0.0030	Not Detected
Helium	0.15	0.51

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209274B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9091904a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/19/12 09:56 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Nitrogen	0.10	0.045 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209274B-02B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9091903b**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/19/12 09:30 AM**	

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

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209274B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9091902**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 9/19/12 09:06 AM**

Compound	%Recovery
Oxygen	100
Nitrogen	100
Carbon Monoxide	98
Methane	98
Carbon Dioxide	102
Ethane	100
Ethene	96
Helium	100

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1209274B-03AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9091929**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/19/12 10:54 PM**	

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	97
Methane	98
Carbon Dioxide	102
Ethane	99
Ethene	96
Helium	99

Container Type: NA - Not Applicable

1209274

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD. Project Name: Roxana Vapor Additional Project # 21562735.10100 Lab Vendor #	Please Check Appropriate Box: ☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL ☐ MOTIVA SD&CM ☐ CONSULTANT ☐ LUBES ☐ SHELL PIPELINE ☐ OTHER ____	Print Bill To Contact Name: Robert Mooshegian PO #	INCIDENT # (ENV SERVICES): 9 7 2 1 6 8 4 0 SAP #: 3 4 0 0 6 1 ☐ CHECK IF NO INCIDENT # APPLIES DATE: 09/13/12 PAGE: 1 of 1

SAMPLING COMPANY: URS CORPORATION	LOG CODE:
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110	SITE ADDRESS (Street and City): 900 SOUTH CENTRAL AVE – ROXANA; State: IL; GLOBAL ID NO.:
Laboratory Address: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719	EDF DELIVERABLE TO: Elizabeth Kunkel, URS, St. Louis; PHONE NO.: 314-743-4179; E-MAIL: Elizabeth_Kunkel@URSCorp.com; CONSULTANT PROJECT NAME: Roxana Soil Vapor
TELEPHONE: 314-429-0100; FAX: 314-429-0462; EMAIL: Robert.Mooshegian@urs.com	M. Currier, A. Day, J. Jackson.

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☐ OTHER (SPECIFY) ____

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

Turn Around Time: ☑ Normal ☐ Rush Specify

Lab Use Only: Pressurized by: Date: Pressurization Gas: N_2 He

LAB USE ONLY	Field Sample Identification	Sampling Date	Sampling Time	Canister Number	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
02	VMP-16-5-090512	09/05/12	1539-1609	1002	-30	-10.5			x	x	

ADDITIONAL NOTES:

- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

9/13/12

Relinquished by (Signature)	Received by (Signature)	Date	Time
[signature]	FEDEX	9/13/12	1630
	[signature] ATL	9/14/12	0945

CUSTODY SEAL INTACT? Y N NC

Roxana Soil Vapor Additional – Week 6 - Data Review

Laboratory SDG: 1209275A,B

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Steve Gragert

Date Reviewed: 10/4/2012

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

Sample Identification
VMP-16-5-091112

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated sample VMP-16-5-091112 was diluted due to high levels of target analytes. 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.

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
1209275A-02A	TO-15	2,2,4-Trimethylpentane	0.078 ppbv / 0.36 µg/m^3
1209275A-02A	TO-15	1,2-Dichloroethane	0.11 ppbv / 0.44 µg/m^3
1209275A-02A	TO-15	Trichloroethene	0.25 ppbv / 1.3 µg/m^3
1209275A-02A	TO-15	Toluene	0.11 ppbv / 0.40 µg/m^3
1209275A-02A	TO-15	Tetrachloroethene	0.21 ppbv / 1.4 µg/m^3
1209275A-02A	TO-15	Chlorobenzene	0.34 ppbv / 1.6 µg/m^3
1209275A-02A	TO-15	m,p-Xylenes	0.12 ppbv / 0.52 µg/m^3
1209275A-02A	TO-15	Propylbenzene	0.093 ppbv / 0.46 µg/m^3
1209275A-02A	TO-15	1,3-Dichlorobenzene	0.16 ppbv / 0.94 µg/m^3
1209275A-02A	TO-15	1,4-Dichlorobenzene	0.17 ppbv / 1.0 µg/m^3
1209275A-02A	TO-15	alpha-Chlorotoluene	0.098 ppbv / 0.51 µg/m^3

Blank ID	Parameter	Analyte	Concentration/ Amount
1209275A-02A	TO-15	1,2-Dichlorobenzene	0.16 ppbv / 1.0 µg/m^3
1209275B-02A	Natural gases	Oxygen	0.0098%
1209275B-02A	Natural gases	Nitrogen	0.066%

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes; 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 of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

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?

No

10.0 Sample Dilutions

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

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

11.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Air Toxics

10/1/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1209275A

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 9/14/2012 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
10/4/2012

eurofins | Air Toxics

WORK ORDER #: 1209275A

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor
DATE RECEIVED:	09/14/2012	**CONTACT:**	Additional Kelly Buettner
DATE COMPLETED:	10/01/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-16-5-091112	Modified TO-15/ TICs	9.5 "Hg	15 psi
02A	Lab Blank	Modified TO-15/ TICs	NA	NA
03A	CCV	Modified TO-15/ TICs	NA	NA
04A	LCS	Modified TO-15/ TICs	NA	NA
04AA	LCSD	Modified TO-15/ TICs	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 10/01/12

Technical Director

Certfication 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

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# 1209275A

One 1 Liter Summa Canister sample was received on September 14, 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.

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (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.

Dilution was performed on sample VMP-16-5-091112 due to the presence of high level target species.

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

eurofins | Air Toxics

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

Client Sample ID: VMP-16-5-091112

Lab ID#: 1209275A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	59	16 J	140	39 J
Carbon Disulfide	59	7.9 J	180	25 J
2,2,4-Trimethylpentane	15	4700	69	22000
Benzene	15	3.6 J	47	12 J
4-Methyl-2-pentanone	15	44	61	180
Toluene	15	27	56	100
Chlorobenzene	15	9.0 J	68	41 J
Cumene	15	4.6 J	73	23 J
Isopentane	59	63	170	190

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	460 J
Pentane, 2,4-dimethyl-	108-08-7	50%	200 NJ
Butane, 2,2,3-trimethyl-	464-06-2	39%	740 NJ
Pentane, 2,3-dimethyl-	565-59-3	64%	520 NJ
Unknown	NA	NA	510 J
Hexane, 2,2,5,5-tetramethyl-	1071-81-4	78%	480 NJ
Pentane, 2,3,4-trimethyl-	565-75-3	78%	2000 NJ
Octane, 4-methyl-	2216-34-4	72%	9100 NJ
Heptane, 4-ethyl-2,2,6,6-tetramethyl-	62108-31-0	64%	240 NJ
Decane, 2,2,8-trimethyl-	62238-01-1	64%	220 NJ

eurofins | Air Toxics

Client Sample ID: VMP-16-5-091112

Lab ID#: 1209275A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092120**	**Date of Collection:**	**9/11/12 10:04:00 AM**
Dil. Factor:	**29.6**	**Date of Analysis:**	**9/21/12 11:03 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	15	Not Detected	73	Not Detected
Freon 114	15	Not Detected	100	Not Detected
Chloromethane	150	Not Detected	300	Not Detected
Vinyl Chloride	15	Not Detected	38	Not Detected
1,3-Butadiene	15	Not Detected	33	Not Detected
Bromomethane	150	Not Detected	570	Not Detected
Chloroethane	59	Not Detected	160	Not Detected
Freon 11	15	Not Detected	83	Not Detected
Ethanol	59	Not Detected	110	Not Detected
Freon 113	15	Not Detected	110	Not Detected
1,1-Dichloroethene	15	Not Detected	59	Not Detected
Acetone	150	Not Detected	350	Not Detected
2-Propanol	59	16 J	140	39 J
Carbon Disulfide	59	7.9 J	180	25 J
3-Chloropropene	59	Not Detected	180	Not Detected
Methylene Chloride	150	Not Detected	510	Not Detected
Methyl tert-butyl ether	15	Not Detected	53	Not Detected
trans-1,2-Dichloroethene	15	Not Detected	59	Not Detected
Hexane	15	Not Detected	52	Not Detected
1,1-Dichloroethane	15	Not Detected	60	Not Detected
2-Butanone (Methyl Ethyl Ketone)	59	Not Detected	170	Not Detected
cis-1,2-Dichloroethene	15	Not Detected	59	Not Detected
Tetrahydrofuran	15	Not Detected	44	Not Detected
Chloroform	15	Not Detected	72	Not Detected
1,1,1-Trichloroethane	15	Not Detected	81	Not Detected
Cyclohexane	15	Not Detected	51	Not Detected
Carbon Tetrachloride	15	Not Detected	93	Not Detected
2,2,4-Trimethylpentane	15	4700	69	22000
Benzene	15	3.6 J	47	12 J
1,2-Dichloroethane	15	Not Detected	60	Not Detected
Heptane	15	Not Detected	61	Not Detected
Trichloroethene	15	Not Detected	80	Not Detected
1,2-Dichloropropane	15	Not Detected	68	Not Detected
1,4-Dioxane	59	Not Detected	210	Not Detected
Bromodichloromethane	15	Not Detected	99	Not Detected
cis-1,3-Dichloropropene	15	Not Detected	67	Not Detected
4-Methyl-2-pentanone	15	44	61	180
Toluene	15	27	56	100
trans-1,3-Dichloropropene	15	Not Detected	67	Not Detected
1,1,2-Trichloroethane	15	Not Detected	81	Not Detected
Tetrachloroethene	15	Not Detected	100	Not Detected
2-Hexanone	59	Not Detected	240	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-16-5-091112

Lab ID#: 1209275A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092120**	**Date of Collection:**	**9/11/12 10:04:00 AM**
Dil. Factor:	**29.6**	**Date of Analysis:**	**9/21/12 11:03 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	15	Not Detected	130	Not Detected
1,2-Dibromoethane (EDB)	15	Not Detected	110	Not Detected
Chlorobenzene	15	9.0 J	68	41 J
Ethyl Benzene	15	Not Detected	64	Not Detected
m,p-Xylene	15	Not Detected	64	Not Detected
o-Xylene	15	Not Detected	64	Not Detected
Styrene	15	Not Detected	63	Not Detected
Bromoform	15	Not Detected	150	Not Detected
Cumene	15	4.6 J	73	23 J
1,1,2,2-Tetrachloroethane	15	Not Detected	100	Not Detected
Propylbenzene	15	Not Detected	73	Not Detected
4-Ethyltoluene	15	Not Detected	73	Not Detected
1,3,5-Trimethylbenzene	15	Not Detected	73	Not Detected
1,2,4-Trimethylbenzene	15	Not Detected	73	Not Detected
1,3-Dichlorobenzene	15	Not Detected	89	Not Detected
1,4-Dichlorobenzene	15	Not Detected	89	Not Detected
alpha-Chlorotoluene	15	Not Detected	77	Not Detected
1,2-Dichlorobenzene	15	Not Detected	89	Not Detected
1,2,4-Trichlorobenzene	59	Not Detected	440	Not Detected
Hexachlorobutadiene	59	Not Detected	630	Not Detected
Butane	59	Not Detected	140	Not Detected
Isopentane	59	63	170	190
Ethyl Acetate	59	Not Detected	210	Not Detected
Propylene	59	Not Detected	100	Not Detected
Vinyl Acetate	59	Not Detected	210	Not Detected
Vinyl Bromide	59	Not Detected	260	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Unknown	NA	NA	460 J
Pentane, 2,4-dimethyl-	108-08-7	50%	200 NJ
Butane, 2,2,3-trimethyl-	464-06-2	39%	740 NJ
Pentane, 2,3-dimethyl-	565-59-3	64%	520 NJ
Unknown	NA	NA	510 J
Hexane, 2,2,5,5-tetramethyl-	1071-81-4	78%	480 NJ
Pentane, 2,3,4-trimethyl-	565-75-3	78%	2000 NJ
Octane, 4-methyl-	2216-34-4	72%	9100 NJ
Heptane, 4-ethyl-2,2,6,6-tetramethyl-	62108-31-0	64%	240 NJ
Decane, 2,2,8-trimethyl-	62238-01-1	64%	220 NJ

eurofins | Air Toxics

Client Sample ID: VMP-16-5-091112

Lab ID#: 1209275A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092120**	**Date of Collection: 9/11/12 10:04:00 AM**
Dil. Factor:	**29.6**	**Date of Analysis: 9/21/12 11:03 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	122	70-130
4-Bromofluorobenzene	95	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209275A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092108c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 01:14 PM**	

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
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	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	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	0.078 J	2.3	0.36 J
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	0.11 J	2.0	0.44 J
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	0.25 J	2.7	1.3 J
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	0.11 J	1.9	0.40 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	0.21 J	3.4	1.4 J
2-Hexanone	2.0	Not Detected	8.2	Not Detected

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209275A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092108c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 01:14 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	0.34 J	2.3	1.6 J
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	0.12 J	2.2	0.52 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
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	0.093 J	2.4	0.46 J
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	0.16 J	3.0	0.94 J
1,4-Dichlorobenzene	0.50	0.17 J	3.0	1.0 J
alpha-Chlorotoluene	0.50	0.098 J	2.6	0.51 J
1,2-Dichlorobenzene	0.50	0.16 J	3.0	1.0 J
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
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	99	70-130
1,2-Dichloroethane-d4	111	70-130
4-Bromofluorobenzene	99	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1209275A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 08:03 AM**	

Compound	%Recovery
Freon 12	102
Freon 114	91
Chloromethane	95
Vinyl Chloride	96
1,3-Butadiene	99
Bromomethane	85
Chloroethane	87
Freon 11	103
Ethanol	92
Freon 113	93
1,1-Dichloroethene	98
Acetone	88
2-Propanol	110
Carbon Disulfide	84
3-Chloropropene	80
Methylene Chloride	103
Methyl tert-butyl ether	97
trans-1,2-Dichloroethene	100
Hexane	104
1,1-Dichloroethane	101
2-Butanone (Methyl Ethyl Ketone)	96
cis-1,2-Dichloroethene	102
Tetrahydrofuran	109
Chloroform	101
1,1,1-Trichloroethane	106
Cyclohexane	99
Carbon Tetrachloride	109
2,2,4-Trimethylpentane	105
Benzene	93
1,2-Dichloroethane	106
Heptane	97
Trichloroethene	96
1,2-Dichloropropane	92
1,4-Dioxane	102
Bromodichloromethane	101
cis-1,3-Dichloropropene	99
4-Methyl-2-pentanone	105
Toluene	95
trans-1,3-Dichloropropene	93
1,1,2-Trichloroethane	94
Tetrachloroethene	101
2-Hexanone	98

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1209275A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 08:03 AM**	

Compound	%Recovery
Dibromochloromethane	102
1,2-Dibromoethane (EDB)	98
Chlorobenzene	86
Ethyl Benzene	101
m,p-Xylene	98
o-Xylene	106
Styrene	106
Bromoform	101
Cumene	106
1,1,2,2-Tetrachloroethane	99
Propylbenzene	103
4-Ethyltoluene	107
1,3,5-Trimethylbenzene	109
1,2,4-Trimethylbenzene	107
1,3-Dichlorobenzene	102
1,4-Dichlorobenzene	101
alpha-Chlorotoluene	108
1,2-Dichlorobenzene	102
1,2,4-Trichlorobenzene	93
Hexachlorobutadiene	99
Butane	89
Isopentane	100
Ethyl Acetate	73
Propylene	93
Vinyl Acetate	113
Vinyl Bromide	107

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	118	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209275A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 08:41 AM**	

Compound	%Recovery
Freon 12	113
Freon 114	103
Chloromethane	111
Vinyl Chloride	107
1,3-Butadiene	108
Bromomethane	98
Chloroethane	95
Freon 11	112
Ethanol	99
Freon 113	108
1,1-Dichloroethene	106
Acetone	97
2-Propanol	116
Carbon Disulfide	115
3-Chloropropene	106
Methylene Chloride	112
Methyl tert-butyl ether	110
trans-1,2-Dichloroethene	119
Hexane	111
1,1-Dichloroethane	107
2-Butanone (Methyl Ethyl Ketone)	106
cis-1,2-Dichloroethene	109
Tetrahydrofuran	110
Chloroform	110
1,1,1-Trichloroethane	117
Cyclohexane	112
Carbon Tetrachloride	120
2,2,4-Trimethylpentane	114
Benzene	107
1,2-Dichloroethane	120
Heptane	106
Trichloroethene	104
1,2-Dichloropropane	110
1,4-Dioxane	109
Bromodichloromethane	114
cis-1,3-Dichloropropene	111
4-Methyl-2-pentanone	115
Toluene	107
trans-1,3-Dichloropropene	97
1,1,2-Trichloroethane	101
Tetrachloroethene	103
2-Hexanone	104

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209275A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 08:41 AM**	

Compound	%Recovery
Dibromochloromethane	108
1,2-Dibromoethane (EDB)	108
Chlorobenzene	91
Ethyl Benzene	106
m,p-Xylene	103
o-Xylene	115
Styrene	110
Bromoform	105
Cumene	113
1,1,2,2-Tetrachloroethane	105
Propylbenzene	111
4-Ethyltoluene	109
1,3,5-Trimethylbenzene	117
1,2,4-Trimethylbenzene	119
1,3-Dichlorobenzene	110
1,4-Dichlorobenzene	103
alpha-Chlorotoluene	109
1,2-Dichlorobenzene	108
1,2,4-Trichlorobenzene	95
Hexachlorobutadiene	101
Butane	90
Isopentane	119
Ethyl Acetate	Not Spiked
Propylene	92
Vinyl Acetate	108
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	110	70-130
1,2-Dichloroethane-d4	115	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1209275A-04AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 09:15 AM**	

Compound	%Recovery
Freon 12	112
Freon 114	102
Chloromethane	107
Vinyl Chloride	108
1,3-Butadiene	110
Bromomethane	94
Chloroethane	92
Freon 11	111
Ethanol	100
Freon 113	106
1,1-Dichloroethene	108
Acetone	101
2-Propanol	115
Carbon Disulfide	114
3-Chloropropene	104
Methylene Chloride	109
Methyl tert-butyl ether	106
trans-1,2-Dichloroethene	112
Hexane	109
1,1-Dichloroethane	105
2-Butanone (Methyl Ethyl Ketone)	106
cis-1,2-Dichloroethene	113
Tetrahydrofuran	114
Chloroform	109
1,1,1-Trichloroethane	113
Cyclohexane	110
Carbon Tetrachloride	117
2,2,4-Trimethylpentane	109
Benzene	105
1,2-Dichloroethane	112
Heptane	103
Trichloroethene	98
1,2-Dichloropropane	97
1,4-Dioxane	104
Bromodichloromethane	107
cis-1,3-Dichloropropene	102
4-Methyl-2-pentanone	110
Toluene	101
trans-1,3-Dichloropropene	100
1,1,2-Trichloroethane	100
Tetrachloroethene	109
2-Hexanone	110

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1209275A-04AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 09:15 AM**	

Compound	%Recovery
Dibromochloromethane	109
1,2-Dibromoethane (EDB)	106
Chlorobenzene	92
Ethyl Benzene	107
m,p-Xylene	104
o-Xylene	112
Styrene	111
Bromoform	108
Cumene	114
1,1,2,2-Tetrachloroethane	108
Propylbenzene	113
4-Ethyltoluene	110
1,3,5-Trimethylbenzene	118
1,2,4-Trimethylbenzene	116
1,3-Dichlorobenzene	110
1,4-Dichlorobenzene	107
alpha-Chlorotoluene	114
1,2-Dichlorobenzene	109
1,2,4-Trichlorobenzene	100
Hexachlorobutadiene	101
Butane	94
Isopentane	114
Ethyl Acetate	Not Spiked
Propylene	95
Vinyl Acetate	113
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	114	70-130
4-Bromofluorobenzene	103	70-130

1209275

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

Please Check Appropriate Box:
☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA S&M/CM ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Robert Moosheglan
PO #:
INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0
☐ CHECK IF NO INCIDENT # APPLIES
SAP #: 3 4 0 0 6 1
DATE: 09/13/12
PAGE 1 of 1

LAB / END COMPANY: URS CORPORATION
LOG CODE:
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
LABORATORY ADDRESS: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
TELEPHONE: 314-429-0100
FAX: 314-429-0462
EDD TO CONTACT/EMAIL: Robert.Moosheglan@urs.com

SITE ADDRESS: Street and City: 900 SOUTH CENTRAL AVE – ROXANA
State: IL
GLOBAL ID NO.:
OUT DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel, URS, St. Louis
PHONE NO.: 314-743-4179
E-MAIL: Elizabeth_Kunkel@URSCorp.com
CONSULTANT PROJECT NAME: Roxana Soil Vapor
M. Currier, A. Day, J. Jackson.

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:

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

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	Canister Number	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
01	VMP-16-5-091112	09/11/12	0934-1304	37349	-30	-10			X	X	

Turn Around Time: ☑ Normal ☐ Rush — Specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 Air

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

	Relinquished by: (Signature)	Received by: (Signature)	Date	Time
1		FEDEX	9/13/12	1630
2		IATL	09/14/12	0945
3				

05/2008 Revision

eurofins | Air Toxics

10/2/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1209275B

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 9/14/2012 at Air Toxics Ltd.

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

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

Regards,

Kelly Buettner

Project Manager

Reviewed
on
10/4/2012

eurofins | Air Toxics

WORK ORDER #: 1209275B

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	09/14/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	10/02/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-16-5-091112	Modified ASTM D-1946	9.5 "Hg	15 psi
02A	Lab Blank	Modified ASTM D-1946	NA	NA
02B	Lab Blank	Modified ASTM D-1946	NA	NA
03A	LCS	Modified ASTM D-1946	NA	NA
03AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 10/02/12

Technical Director

Certfication 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

LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1209275B

One 1 Liter Summa Canister sample was received on September 14, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

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

Client Sample ID: VMP-16-5-091112

Lab ID#: 1209275B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	6.0
Nitrogen	0.30	82
Methane	0.00030	0.00022 J
Carbon Dioxide	0.030	12
Helium	0.15	0.024 J

eurofins | Air Toxics

Client Sample ID: VMP-16-5-091112

Lab ID#: 1209275B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092518**	**Date of Collection:**	**9/11/12 10:04:00 AM**
Dil. Factor:	**2.96**	**Date of Analysis:**	**9/25/12 04:36 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	6.0
Nitrogen	0.30	82
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	0.00022 J
Carbon Dioxide	0.030	12
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	0.024 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209275B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092505a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/25/12 09:50 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.0098 J
Nitrogen	0.10	0.066 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209275B-02B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9092504b	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 9/25/12 09:23 AM	

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

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209275B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092502**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/25/12 08:15 AM**	

Compound	%Recovery
Oxygen	100
Nitrogen	100
Carbon Monoxide	99
Methane	98
Carbon Dioxide	105
Ethane	100
Ethene	97
Helium	100

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1209275B-03AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092531**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/25/12 10:14 PM**	

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	98
Methane	98
Carbon Dioxide	104
Ethane	99
Ethene	96
Helium	100

Container Type: NA - Not Applicable

1203275

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD. Project Name: Roxana Vapor Additional Project # 21562735.10100 Lab Vendor #	Please Check Appropriate Box: ☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL ☐ MOTIVA STA.OM ☐ CONSULTANT ☐ LUBES ☐ SHELL PIPELINE ☐ OTHER	Print Bill To Contact Name: Robert Mooshegian PO #:	INCIDENT # (ENV SERVICES) 9 7 2 1 6 6 4 0 SAP #: 2 4 6 0 6 1
☐ CHECK IF NO INCIDENT # APPLIES DATE: 09/13/12 PAGE: 1 of 1			

SAMPLING COMPANY: URS CORPORATION
LOG CODE:
SITE ADDRESS: Street and City: 900 SOUTH CENTRAL AVE – ROXANA
State: IL
GLOBAL ID NO.:
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel, URS, St. Louis
PROJECT NO.: 314-743-4178
EMAIL: Elizabeth.Kunkel@URSCorp.com
CONSULTANT PROJECT NUMBER: Roxana Soil Vapor
Laboratory Address: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
M. Currier, A. Day, J. Jackson
TELEPHONE NO.: 314-429-0100
FAX: 314-429-0462
SEND TO CONTACT E-MAIL: Robert.Mooshegian@urs.com

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

REQUESTED ANALYSIS

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:

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

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	Canister Number	Canister Pressure/Vacuum: Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
01	VMP-16-5-091112	09/11/12	0934-1004	37349	-30	-10			X	X	

Turn Around Time: ☑ Normal ☐ Rush
Specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

ADDITIONAL NOTES:

- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

9/13/12

Relinquished by: (Signature)	Received by: (Signature) FEDEX	Date: 9/13/12	Time: 1630
Relinquished by: (Signature)	Received by: (Signature) HFL	Date: 09/14/12	Time: 0945
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

05/30/8 Revision

Roxana Soil Vapor Additional – Week 6 - Data Review

Laboratory SDG: 1209276A,B

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Steve Gragert

Date Reviewed: 10/8/2012

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

Sample Identification	Sample Identification
VMP-21-5-091112	VMP-42-10-091112
VMP-4-5-091112	VMP-11-5-091112
VMP-13-5-091112	VMP-13-5-091112-Dup
VMP-10-5-091112	

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, 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.

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
1209276A-08A	TO-15	2,2,4-Trimethylpentane	0.078 ppbv / 0.36 µg/m^3
1209276A-08A	TO-15	1,2-Dichloroethane	0.11 ppbv / 0.44 µg/m^3
1209276A-08A	TO-15	Trichloroethene	0.25 ppbv / 1.3 µg/m^3
1209276A-08A	TO-15	Toluene	0.11 ppbv / 0.40 µg/m^3
1209276A-08A	TO-15	Tetrachloroethene	0.21 ppbv / 1.4 µg/m^3
1209276A-08A	TO-15	Chlorobenzene	0.34 ppbv / 1.6 µg/m^3
1209276A-08A	TO-15	m,p-Xylenes	0.12 ppbv / 0.52 µg/m^3
1209276A-08A	TO-15	Propylbenzene	0.093 ppbv / 0.46 µg/m^3
1209276A-08A	TO-15	1,3-Dichlorobenzene	0.16 ppbv / 0.94 µg/m^3
1209276A-08A	TO-15	1,4-Dichlorobenzene	0.17 ppbv / 1.0 µg/m^3

Blank ID	Parameter	Analyte	Concentration/ Amount
1209276A-08A	TO-15	alpha-Chlorotoluene	0.098 ppbv / 0.51 µg/m^3
1209276A-08A	TO-15	1,2-Dichlorobenzene	0.16 ppbv / 1.0 µg/m^3
1209276B-08A	Natural gases	Oxygen	0.0098%
1209276B-08A	Natural gases	Nitrogen	0.066%

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

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
VMP-21-5-091112	TO-15	Tetrachloroethene	-	**U**
VMP-21-5-091112	TO-15	Chlorobenzene	-	**U**
VMP-21-5-091112	TO-15	Propylbenzene	-	**U**
VMP-21-5-091112	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-21-5-091112	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-42-10-091112	TO-15	1,2-Dichloroethane	-	**U**
VMP-42-10-091112	TO-15	Trichloroethene	-	**U**
VMP-42-10-091112	TO-15	Tetrachloroethene	-	**U**
VMP-42-10-091112	TO-15	Chlorobenzene	-	**U**
VMP-42-10-091112	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-42-10-091112	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-42-10-091112	TO-15	1,2-Dichlorobenzene	-	**U**
VMP-4-5-091112	TO-15	Trichloroethene	-	**U**
VMP-11-5-091112	TO-15	Trichloroethene	-	**U**
VMP-11-5-091112	TO-15	Chlorobenzene	-	**U**
VMP-11-5-091112	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-11-5-091112	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-13-5-091112	TO-15	Chlorobenzene	-	**U**
VMP-13-5-091112	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-13-5-091112	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-13-5-091112-Dup	TO-15	2,2,4-Trimethylpentane	-	**U**
VMP-13-5-091112-Dup	TO-15	Toluene	-	**U**
VMP-13-5-091112-Dup	TO-15	Tetrachloroethene	-	**U**
VMP-13-5-091112-Dup	TO-15	Chlorobenzene	-	**U**
VMP-13-5-091112-Dup	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-13-5-091112-Dup	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-10-5-091112	TO-15	Tetrachloroethene	-	**U**
VMP-10-5-091112	TO-15	Chlorobenzene	-	**U**
VMP-10-5-091112	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-10-5-091112	TO-15	alpha-Chlorotoluene	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes; 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 of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

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
VMP-13-5-091112	VMP-13-5-091112-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

eurofins | Air Toxics

10/1/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1209276A

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 9/14/2012 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
10/8/2012

eurofins | Air Toxics

WORK ORDER #: 1209276A

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	09/14/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	10/01/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-21-5-091112	Modified TO-15/TICs	8.5 "Hg	15 psi
02A	VMP-42-10-091112	Modified TO-15/TICs	10.0 "Hg	15 psi
03A	VMP-4-5-091112	Modified TO-15/TICs	8.5 "Hg	15 psi
04A	VMP-11-5-091212	Modified TO-15/TICs	9.5 "Hg	15 psi
05A	VMP-13-5-091212	Modified TO-15/TICs	10.0 "Hg	15 psi
06A	VMP-13-5-091212-Dup	Modified TO-15/TICs	7.0 "Hg	15 psi
07A	VMP-10-5-091212	Modified TO-15/TICs	11.0 "Hg	15 psi
08A	Lab Blank	Modified TO-15/TICs	NA	NA
09A	CCV	Modified TO-15/TICs	NA	NA
10A	LCS	Modified TO-15/TICs	NA	NA
10AA	LCSD	Modified TO-15/TICs	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 10/01/12

Technical Director

Certfication 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

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# 1209276A

Seven 1 Liter Summa Canister samples were received on September 14, 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.

As per client project requirements, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (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

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-091112

Lab ID#: 1209276A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.38 J	7.0	1.9 J
Ethanol	5.6	9.0	11	17
Acetone	14	18	33	42
2-Propanol	5.6	6.4	14	16
Carbon Disulfide	5.6	0.86 J	18	2.7 J
Hexane	1.4	0.46 J	5.0	1.6 J
2-Butanone (Methyl Ethyl Ketone)	5.6	3.4 J	17	9.9 J
Cyclohexane	1.4	0.44 J	4.8	1.5 J
2,2,4-Trimethylpentane	1.4	1.6	6.6	7.6
Benzene	1.4	2.7	4.5	8.8
Heptane	1.4	0.60 J	5.8	2.4 J
4-Methyl-2-pentanone	1.4	24	5.8	97
Toluene	1.4	16	5.3	60
trans-1,3-Dichloropropene	1.4	0.36 J	6.4	1.6 J
Tetrachloroethene	1.4	~~0.52~~ J U	9.6	~~3.5 J~~ U
Chlorobenzene	1.4	~~1.2~~ J U	6.5	~~5.4~~ J U
Ethyl Benzene	1.4	0.70 J	6.1	3.0 J
m,p-Xylene	1.4	2.6	6.1	11
o-Xylene	1.4	1.5	6.1	6.4
Cumene	1.4	3.0	6.9	14
Propylbenzene	1.4	~~0.32~~ J U	6.9	~~1.6~~ J U
4-Ethyltoluene	1.4	1.1 J	6.9	5.5 J
1,3,5-Trimethylbenzene	1.4	0.34 J	6.9	1.7 J
1,2,4-Trimethylbenzene	1.4	1.2 J	6.9	6.0 J
1,3-Dichlorobenzene	1.4	~~0.39~~ J U	8.5	~~2.4~~ J U
1,4-Dichlorobenzene	1.4	~~0.40~~ J U	8.5	~~2.4~~ J U
Isopentane	5.6	2.1 J	17	6.2 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	10 J
Unknown	NA	NA	20 J
Heptane, 2,2,3,4,6,6-hexamethyl-	62108-32-1	64%	9.1 NJ

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-091112

Lab ID#: 1209276A-01A

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Decane, 2,2,8-trimethyl-	62238-01-1	64%	32 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	59%	9.6 NJ
Undecane	1120-21-4	59%	37 NJ
Tetradecane, 1-iodo-	19218-94-1	53%	12 NJ
Decane, 2,2,9-trimethyl-	62238-00-0	72%	75 NJ
1-Octanol, 2-butyl-	3913-02-8	47%	29 NJ
Ethanone, 1-phenyl-	98-86-2	91%	14 NJ

Client Sample ID: VMP-42-10-091112

Lab ID#: 1209276A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	6.1	18	11	34
Acetone	15	21	36	50
2-Propanol	6.1	20	15	50
Carbon Disulfide	6.1	1.1 J	19	3.6 J
2-Butanone (Methyl Ethyl Ketone)	6.1	8.9	18	26
Chloroform	1.5	1.2 J	7.4	5.8 J
2,2,4-Trimethylpentane	1.5	0.65 J	7.1	3.0 J
Benzene	1.5	4.3	4.8	14
1,2-Dichloroethane	1.5	~~0.17~~ J U	6.1	~~0.70~~ J U
Heptane	1.5	0.96 J	6.2	3.9 J
Trichloroethene	1.5	~~0.68~~ J U	8.1	~~3.7~~ J U
4-Methyl-2-pentanone	1.5	67	6.2	270
Toluene	1.5	41	5.7	160
Tetrachloroethene	1.5	~~0.56~~ J U	10	~~3.8~~ J U
Chlorobenzene	1.5	~~4.5~~ J U	7.0	~~6.9~~ J U
Ethyl Benzene	1.5	0.92 J	6.6	4.0 J
m,p-Xylene	1.5	1.8	6.6	8.0
o-Xylene	1.5	0.71 J	6.6	3.1 J
Styrene	1.5	0.56 J	6.4	2.4 J
Cumene	1.5	8.2	7.4	40

eurofins | Air Toxics

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

Client Sample ID: VMP-42-10-091112

Lab ID#: 1209276A-02A

1,1,2,2-Tetrachloroethane	1.5	0.55 J	10	3.8 J
Propylbenzene	1.5	0.31 J	7.4	1.5 J
4-Ethyltoluene	1.5	0.94 J	7.4	4.6 J
1,3,5-Trimethylbenzene	1.5	0.49 J	7.4	2.4 J
1,2,4-Trimethylbenzene	1.5	0.64 J	7.4	3.1 J
1,3-Dichlorobenzene	1.5	~~0.49~~ J U	9.1	~~2.9~~ J U
1,4-Dichlorobenzene	1.5	~~0.51~~ J U	9.1	~~3.1~~ J U
1,2-Dichlorobenzene	1.5	~~0.28~~ J U	9.1	~~1.7~~ J U
Isopentane	6.1	2.2 J	18	6.5 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	29 J
Decane, 2,2-dimethyl-	17302-37-3	64%	100 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	72%	30 NJ
Decane, 6-ethyl-2-methyl-	62108-21-8	53%	110 NJ
Undecane, 2,2-dimethyl-	17312-64-0	64%	240 NJ
Unknown	NA	NA	150 J
Ethanone, 1-phenyl-	98-86-2	74%	82 NJ
Unknown	NA	NA	58 J
Unknown	NA	NA	36 J
Unknown	NA	NA	29 J

Client Sample ID: VMP-4-5-091112

Lab ID#: 1209276A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.44 J	7.0	2.2 J
Ethanol	5.6	20	11	38
Acetone	14	24	33	56
2-Propanol	5.6	13	14	31
Carbon Disulfide	5.6	1.7 J	18	5.2 J
Methylene Chloride	14	0.74 J	49	2.6 J
2-Butanone (Methyl Ethyl Ketone)	5.6	7.8	17	23
2,2,4-Trimethylpentane	1.4	4.9	6.6	23

eurofins | Air Toxics

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

Client Sample ID: VMP-4-5-091112

Lab ID#: 1209276A-03A

Benzene	1.4	25	4.5	80
Heptane	1.4	0.93 J	5.8	3.8 J
Trichloroethene	1.4	~~0.48~~ J d	7.6	~~2.6~~ J d
4-Methyl-2-pentanone	1.4	67	5.8	270
Toluene	1.4	31	5.3	120
Tetrachloroethene	1.4	0.71 J	9.6	4.8 J
Chlorobenzene	1.4	1.2 J	6.5	5.3 J
Ethyl Benzene	1.4	0.48 J	6.1	2.1 J
m,p-Xylene	1.4	1.6	6.1	7.0
o-Xylene	1.4	0.56 J	6.1	2.4 J
Styrene	1.4	0.67 J	6.0	2.9 J
Cumene	1.4	7.7	6.9	38
Propylbenzene	1.4	0.34 J	6.9	1.7 J
4-Ethyltoluene	1.4	0.94 J	6.9	4.6 J
1,3,5-Trimethylbenzene	1.4	0.47 J	6.9	2.3 J
1,2,4-Trimethylbenzene	1.4	0.66 J	6.9	3.2 J
1,3-Dichlorobenzene	1.4	0.51 J	8.5	3.1 J
1,4-Dichlorobenzene	1.4	0.44 J	8.5	2.6 J
1,2-Dichlorobenzene	1.4	0.27 J	8.5	1.6 J
Butane	5.6	7.7	13	18
Isopentane	5.6	10	17	30
Propylene	5.6	2.7 J	9.7	4.7 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	35 J
Decane, 2,2,5-trimethyl-	62237-96-1	72%	30 NJ
Decane, 2,2,4-trimethyl-	62237-98-3	64%	97 NJ
Undecane, 2,2-dimethyl-	17312-64-0	56%	30 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	64%	110 NJ
Decane, 2,2,7-trimethyl-	62237-99-4	64%	260 NJ
Unknown	NA	NA	73 J
Cyclohexanone, 4-methyl-	589-92-4	50%	190 NJ
Ethanone, 1-phenyl-	98-86-2	90%	71 NJ
Unknown	NA	NA	48 J

eurofins | Air Toxics

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

Client Sample ID: VMP-11-5-091212

Lab ID#: 1209276A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.42 J	7.3	2.1 J
Freon 11	1.5	0.28 J	8.3	1.6 J
Acetone	15	19	35	44
2-Propanol	5.9	1.8 J	14	4.4 J
Carbon Disulfide	5.9	1.8 J	18	5.6 J
Methylene Chloride	15	1.5 J	51	5.4 J
2-Butanone (Methyl Ethyl Ketone)	5.9	3.2 J	17	9.6 J
Cyclohexane	1.5	0.60 J	5.1	2.0 J
2,2,4-Trimethylpentane	1.5	4.9	6.9	23
Benzene	1.5	4.4	4.7	14
Trichloroethene	1.5	~~0.65~~ J u	8.0	~~3.5~~ J u
4-Methyl-2-pentanone	1.5	1.6	6.1	6.4
Toluene	1.5	0.81 J	5.6	3.1 J
Tetrachloroethene	1.5	14	10	96
Chlorobenzene	1.5	~~1.2~~ J u	6.8	~~5.6~~ J u
m,p-Xylene	1.5	0.33 J	6.4	1.4 J
Cumene	1.5	0.21 J	7.3	1.0 J
1,3-Dichlorobenzene	1.5	~~0.36~~ J u	8.9	~~2.2~~ J u
1,4-Dichlorobenzene	1.5	~~0.37~~ J u	8.9	~~2.2~~ J u
Isopentane	5.9	2.3 J	17	6.9 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Unknown	NA	NA	13 J

Client Sample ID: VMP-13-5-091212

Lab ID#: 1209276A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.53 J	7.5	2.6 J
Ethanol	6.1	3.8 J	11	7.1 J
Acetone	15	26	36	61
2-Propanol	6.1	1.1 J	15	2.7 J

eurofins | Air Toxics

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

Client Sample ID: VMP-13-5-091212

Lab ID#: 1209276A-05A

Carbon Disulfide	6.1	6.2	19	19
Hexane	1.5	0.44 J	5.3	1.5 J
2-Butanone (Methyl Ethyl Ketone)	6.1	3.5 J	18	10 J
Chloroform	1.5	0.64 J	7.4	3.1 J
2,2,4-Trimethylpentane	1.5	0.84 J	7.1	3.9 J
Benzene	1.5	3.1	4.8	9.9
Toluene	1.5	0.75 J	5.7	2.8 J
Chlorobenzene	1.5	~~1.3~~ J U	7.0	~~6.8~~ J U
1,3-Dichlorobenzene	1.5	~~0.35~~ J U	9.1	~~2.1~~ J U
1,4-Dichlorobenzene	1.5	~~0.38~~ J U	9.1	~~2.3~~ J U
Propylene	6.1	3.0 J	10	5.1 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
1-Propene, 2-methyl-	115-11-7	10%	15 NJ
Unknown	NA	NA	7.7 J
1-Pentene, 4,4-dimethyl-	762-62-9	37%	14 NJ
1-Pentanol, 2-ethyl-4-methyl-	106-67-2	64%	13 NJ

Client Sample ID: VMP-13-5-091212-Dup

Lab ID#: 1209276A-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.53 J	6.5	2.6 J
Freon 11	1.3	0.29 J	7.4	1.6 J
Ethanol	5.3	5.3	9.9	9.9
Acetone	13	19	31	45
2-Propanol	5.3	1.0 J	13	2.6 J
Carbon Disulfide	5.3	1.8 J	16	5.8 J
Methylene Chloride	13	0.42 J	46	1.4 J
Hexane	1.3	0.31 J	4.6	1.1 J
2-Butanone (Methyl Ethyl Ketone)	5.3	3.2 J	16	9.4 J
Chloroform	1.3	0.80 J	6.4	3.9 J
2,2,4-Trimethylpentane	1.3	~~0.39~~ J U	6.2	~~1.8~~ J U
Benzene	1.3	1.7	4.2	5.5

eurofins | Air Toxics

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

Client Sample ID: VMP-13-5-091212-Dup

Lab ID#: 1209276A-06A

4-Methyl-2-pentanone	1.3	0.50 J	5.4	2.0 J
Toluene	1.3	~~0.47~~ J U	5.0	~~1.8~~ J U
trans-1,3-Dichloropropene	1.3	0.42 J	6.0	1.9 J
Tetrachloroethene	1.3	~~0.47~~ J U	9.0	~~3.2~~ J U
Chlorobenzene	1.3	~~1.0~~ J U	6.1	~~4.6~~ J U
Ethyl Benzene	1.3	0.34 J	5.7	1.5 J
1,3-Dichlorobenzene	1.3	~~0.32~~ J U	7.9	~~1.9~~ J U
1,4-Dichlorobenzene	1.3	~~0.26~~ J U	7.9	~~1.6~~ J U
Isopentane	5.3	1.4 J	16	4.0 J
Propylene	5.3	1.2 J	9.1	2.0 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
1-Propene, 2-methyl-	115-11-7	86%	15 NJ

Client Sample ID: VMP-10-5-091212

Lab ID#: 1209276A-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.6	0.48 J	7.9	2.4 J
Freon 11	1.6	0.28 J	9.0	1.6 J
Acetone	16	15 J	38	35 J
Carbon Disulfide	6.4	1.8 J	20	5.7 J
Methylene Chloride	16	0.36 J	55	1.3 J
Hexane	1.6	1.4 J	5.6	4.8 J
Cyclohexane	1.6	0.60 J	5.5	2.1 J
2,2,4-Trimethylpentane	1.6	3.4	7.4	16
Benzene	1.6	2.6	5.1	8.4
Heptane	1.6	1.0 J	6.5	4.3 J
Toluene	1.6	2.6	6.0	9.6
Tetrachloroethene	1.6	~~0.37~~ J U	11	~~2.5~~ J U
Chlorobenzene	1.6	~~1.3~~ J U	7.3	~~5.8~~ J U
Ethyl Benzene	1.6	0.67 J	6.9	2.9 J
m,p-Xylene	1.6	2.2	6.9	9.6
o-Xylene	1.6	0.72 J	6.9	3.1 J

eurofins | Air Toxics

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

Client Sample ID: VMP-10-5-091212

Lab ID#: 1209276A-07A

1,1,2,2-Tetrachloroethane	1.6	0.21 J	11	1.4 J
4-Ethyltoluene	1.6	0.70 J	7.8	3.4 J
1,2,4-Trimethylbenzene	1.6	0.46 J	7.8	2.3 J
1,4-Dichlorobenzene	1.6	~~0.30~~ J U	9.6	~~1.8~~ J U
alpha-Chlorotoluene	1.6	~~0.25~~ J U	8.2	~~1.3~~ J U
Isopentane	6.4	6.4	19	19

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
1-Propene, 2-methyl-	115-11-7	10%	26 NJ

eurofins | Air Toxics

Client Sample ID: VMP-21-5-091112

Lab ID#: 1209276A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092113**	**Date of Collection:**	**9/11/12 11:23:00 AM**
Dil. Factor:	**2.82**	**Date of Analysis:**	**9/21/12 07:14 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.38 J	7.0	1.9 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	Not Detected	7.9	Not Detected
Ethanol	5.6	9.0	11	17
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.6	Not Detected
Acetone	14	18	33	42
2-Propanol	5.6	6.4	14	16
Carbon Disulfide	5.6	0.86 J	18	2.7 J
3-Chloropropene	5.6	Not Detected	18	Not Detected
Methylene Chloride	14	Not Detected	49	Not Detected
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	0.46 J	5.0	1.6 J
1,1-Dichloroethane	1.4	Not Detected	5.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.6	3.4 J	17	9.9 J
cis-1,2-Dichloroethene	1.4	Not Detected	5.6	Not Detected
Tetrahydrofuran	1.4	Not Detected	4.2	Not Detected
Chloroform	1.4	Not Detected	6.9	Not Detected
1,1,1-Trichloroethane	1.4	Not Detected	7.7	Not Detected
Cyclohexane	1.4	0.44 J	4.8	1.5 J
Carbon Tetrachloride	1.4	Not Detected	8.9	Not Detected
2,2,4-Trimethylpentane	1.4	1.6	6.6	7.6
Benzene	1.4	2.7	4.5	8.8
1,2-Dichloroethane	1.4	Not Detected	5.7	Not Detected
Heptane	1.4	0.60 J	5.8	2.4 J
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	24	5.8	97
Toluene	1.4	16	5.3	60
trans-1,3-Dichloropropene	1.4	0.36 J	6.4	1.6 J
1,1,2-Trichloroethane	1.4	Not Detected	7.7	Not Detected
Tetrachloroethene	1.4	~~0.52~~ J U	9.6	~~3.5~~ J U
2-Hexanone	5.6	Not Detected	23	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-21-5-091112

Lab ID#: 1209276A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092113**	**Date of Collection:**	**9/11/12 11:23:00 AM**
Dil. Factor:	**2.82**	**Date of Analysis:**	**9/21/12 07:14 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	~~4.2 J~~ U	6.5	~~5.4 J~~ U
Ethyl Benzene	1.4	0.70 J	6.1	3.0 J
m,p-Xylene	1.4	2.6	6.1	11
o-Xylene	1.4	1.5	6.1	6.4
Styrene	1.4	Not Detected	6.0	Not Detected
Bromoform	1.4	Not Detected	14	Not Detected
Cumene	1.4	3.0	6.9	14
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.7	Not Detected
Propylbenzene	1.4	~~0.32~~ J U	6.9	~~1.6~~ J U
4-Ethyltoluene	1.4	1.1 J	6.9	5.5 J
1,3,5-Trimethylbenzene	1.4	0.34 J	6.9	1.7 J
1,2,4-Trimethylbenzene	1.4	1.2 J	6.9	6.0 J
1,3-Dichlorobenzene	1.4	~~0.39~~ J U	8.5	~~2.4~~ J U
1,4-Dichlorobenzene	1.4	~~0.40~~ J U	8.5	~~2.4~~ J U
alpha-Chlorotoluene	1.4	Not Detected	7.3	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.5	Not Detected
1,2,4-Trichlorobenzene	5.6	Not Detected	42	Not Detected
Hexachlorobutadiene	5.6	Not Detected	60	Not Detected
Butane	5.6	Not Detected	13	Not Detected
Isopentane	5.6	2.1 J	17	6.2 J
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))
Unknown	NA	NA	10 J
Unknown	NA	NA	20 J
Heptane, 2,2,3,4,6,6-hexamethyl-	62108-32-1	64%	9.1 NJ
Decane, 2,2,8-trimethyl-	62238-01-1	64%	32 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	59%	9.6 NJ
Undecane	1120-21-4	59%	37 NJ
Tetradecane, 1-iodo-	19218-94-1	53%	12 NJ
Decane, 2,2,9-trimethyl-	62238-00-0	72%	75 NJ
1-Octanol, 2-butyl-	3913-02-8	47%	29 NJ
Ethanone, 1-phenyl-	98-86-2	91%	14 NJ

eurofins | Air Toxics

Client Sample ID: VMP-21-5-091112

Lab ID#: 1209276A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092113**	**Date of Collection: 9/11/12 11:23:00 AM**
Dil. Factor:	**2.82**	**Date of Analysis: 9/21/12 07:14 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

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

eurofins | Air Toxics

Client Sample ID: VMP-42-10-091112

Lab ID#: 1209276A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092114**	**Date of Collection:**	**9/11/12 12:30:00 PM**
Dil. Factor:	**3.03**	**Date of Analysis:**	**9/21/12 07:39 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	Not Detected	7.5	Not Detected
Freon 114	1.5	Not Detected	10	Not Detected
Chloromethane	15	Not Detected	31	Not Detected
Vinyl Chloride	1.5	Not Detected	3.9	Not Detected
1,3-Butadiene	1.5	Not Detected	3.4	Not Detected
Bromomethane	15	Not Detected	59	Not Detected
Chloroethane	6.1	Not Detected	16	Not Detected
Freon 11	1.5	Not Detected	8.5	Not Detected
Ethanol	6.1	18	11	34
Freon 113	1.5	Not Detected	12	Not Detected
1,1-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Acetone	15	21	36	50
2-Propanol	6.1	20	15	50
Carbon Disulfide	6.1	1.1 J	19	3.6 J
3-Chloropropene	6.1	Not Detected	19	Not Detected
Methylene Chloride	15	Not Detected	53	Not Detected
Methyl tert-butyl ether	1.5	Not Detected	5.5	Not Detected
trans-1,2-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Hexane	1.5	Not Detected	5.3	Not Detected
1,1-Dichloroethane	1.5	Not Detected	6.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	6.1	8.9	18	26
cis-1,2-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Tetrahydrofuran	1.5	Not Detected	4.5	Not Detected
Chloroform	1.5	1.2 J	7.4	5.8 J
1,1,1-Trichloroethane	1.5	Not Detected	8.3	Not Detected
Cyclohexane	1.5	Not Detected	5.2	Not Detected
Carbon Tetrachloride	1.5	Not Detected	9.5	Not Detected
2,2,4-Trimethylpentane	1.5	0.65 J	7.1	3.0 J
Benzene	1.5	4.3	4.8	14
1,2-Dichloroethane	1.5	~~0.17~~ J U	6.1	~~0.70~~ J U
Heptane	1.5	0.96 J	6.2	3.9 J
Trichloroethene	1.5	~~0.68~~ J U	8.1	~~3.7~~ J U
1,2-Dichloropropane	1.5	Not Detected	7.0	Not Detected
1,4-Dioxane	6.1	Not Detected	22	Not Detected
Bromodichloromethane	1.5	Not Detected	10	Not Detected
cis-1,3-Dichloropropene	1.5	Not Detected	6.9	Not Detected
4-Methyl-2-pentanone	1.5	67	6.2	270
Toluene	1.5	41	5.7	160
trans-1,3-Dichloropropene	1.5	Not Detected	6.9	Not Detected
1,1,2-Trichloroethane	1.5	Not Detected	8.3	Not Detected
Tetrachloroethene	1.5	~~0.55~~ J U	10	~~3.8~~ J U
2-Hexanone	6.1	Not Detected	25	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-42-10-091112

Lab ID#: 1209276A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092114**	**Date of Collection:**	**9/11/12 12:30:00 PM**
Dil. Factor:	**3.03**	**Date of Analysis:**	**9/21/12 07:39 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.5	Not Detected	13	Not Detected
1,2-Dibromoethane (EDB)	1.5	Not Detected	12	Not Detected
Chlorobenzene	1.5	~~1.5~~ J U	7.0	~~6.9~~ J U
Ethyl Benzene	1.5	0.92 J	6.6	4.0 J
m,p-Xylene	1.5	1.8	6.6	8.0
o-Xylene	1.5	0.71 J	6.6	3.1 J
Styrene	1.5	0.56 J	6.4	2.4 J
Bromoform	1.5	Not Detected	16	Not Detected
Cumene	1.5	8.2	7.4	40
1,1,2,2-Tetrachloroethane	1.5	0.55 J	10	3.8 J
Propylbenzene	1.5	0.31 J	7.4	1.5 J
4-Ethyltoluene	1.5	0.94 J	7.4	4.6 J
1,3,5-Trimethylbenzene	1.5	0.49 J	7.4	2.4 J
1,2,4-Trimethylbenzene	1.5	0.64 J	7.4	3.1 J
1,3-Dichlorobenzene	1.5	~~0.49~~ J U	9.1	~~2.9~~ J U
1,4-Dichlorobenzene	1.5	~~0.51~~ J U	9.1	~~3.1~~ J U
alpha-Chlorotoluene	1.5	Not Detected	7.8	Not Detected
1,2-Dichlorobenzene	1.5	~~0.28~~ J U	9.1	~~1.7~~ J U
1,2,4-Trichlorobenzene	6.1	Not Detected	45	Not Detected
Hexachlorobutadiene	6.1	Not Detected	65	Not Detected
Butane	6.1	Not Detected	14	Not Detected
Isopentane	6.1	2.2 J	18	6.5 J
Ethyl Acetate	6.1	Not Detected	22	Not Detected
Propylene	6.1	Not Detected	10	Not Detected
Vinyl Acetate	6.1	Not Detected	21	Not Detected
Vinyl Bromide	6.1	Not Detected	26	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Unknown	NA	NA	29 J
Decane, 2,2-dimethyl-	17302-37-3	64%	100 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	72%	30 NJ
Decane, 6-ethyl-2-methyl-	62108-21-8	53%	110 NJ
Undecane, 2,2-dimethyl-	17312-64-0	64%	240 NJ
Unknown	NA	NA	150 J
Ethanone, 1-phenyl-	98-86-2	74%	82 NJ
Unknown	NA	NA	58 J
Unknown	NA	NA	36 J
Unknown	NA	NA	29 J

eurofins | Air Toxics

Client Sample ID: VMP-42-10-091112

Lab ID#: 1209276A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092114**	**Date of Collection: 9/11/12 12:30:00 PM**
Dil. Factor:	**3.03**	**Date of Analysis: 9/21/12 07:39 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	106	70-130
4-Bromofluorobenzene	107	70-130

eurofins | Air Toxics

Client Sample ID: VMP-4-5-091112

Lab ID#: 1209276A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092115**	**Date of Collection:**	**9/11/12 1:23:00 PM**
Dil. Factor:	**2.82**	**Date of Analysis:**	**9/21/12 08:05 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.44 J	7.0	2.2 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	Not Detected	7.9	Not Detected
Ethanol	5.6	20	11	38
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.6	Not Detected
Acetone	14	24	33	56
2-Propanol	5.6	13	14	31
Carbon Disulfide	5.6	1.7 J	18	5.2 J
3-Chloropropene	5.6	Not Detected	18	Not Detected
Methylene Chloride	14	0.74 J	49	2.6 J
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	Not Detected	5.0	Not Detected
1,1-Dichloroethane	1.4	Not Detected	5.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.6	7.8	17	23
cis-1,2-Dichloroethene	1.4	Not Detected	5.6	Not Detected
Tetrahydrofuran	1.4	Not Detected	4.2	Not Detected
Chloroform	1.4	Not Detected	6.9	Not Detected
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	4.9	6.6	23
Benzene	1.4	25	4.5	80
1,2-Dichloroethane	1.4	Not Detected	5.7	Not Detected
Heptane	1.4	0.93 J	5.8	3.8 J
Trichloroethene	1.4	~~0.48 J~~ U	7.6	~~2.6 J~~ U
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	67	5.8	270
Toluene	1.4	31	5.3	120
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	0.71 J	9.6	4.8 J
2-Hexanone	5.6	Not Detected	23	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-4-5-091112

Lab ID#: 1209276A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092115**	**Date of Collection: 9/11/12 1:23:00 PM**	
Dil. Factor:	**2.82**	**Date of Analysis: 9/21/12 08:05 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	1.2 J	6.5	5.3 J
Ethyl Benzene	1.4	0.48 J	6.1	2.1 J
m,p-Xylene	1.4	1.6	6.1	7.0
o-Xylene	1.4	0.56 J	6.1	2.4 J
Styrene	1.4	0.67 J	6.0	2.9 J
Bromoform	1.4	Not Detected	14	Not Detected
Cumene	1.4	7.7	6.9	38
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.7	Not Detected
Propylbenzene	1.4	0.34 J	6.9	1.7 J
4-Ethyltoluene	1.4	0.94 J	6.9	4.6 J
1,3,5-Trimethylbenzene	1.4	0.47 J	6.9	2.3 J
1,2,4-Trimethylbenzene	1.4	0.66 J	6.9	3.2 J
1,3-Dichlorobenzene	1.4	0.51 J	8.5	3.1 J
1,4-Dichlorobenzene	1.4	0.44 J	8.5	2.6 J
alpha-Chlorotoluene	1.4	Not Detected	7.3	Not Detected
1,2-Dichlorobenzene	1.4	0.27 J	8.5	1.6 J
1,2,4-Trichlorobenzene	5.6	Not Detected	42	Not Detected
Hexachlorobutadiene	5.6	Not Detected	60	Not Detected
Butane	5.6	7.7	13	18
Isopentane	5.6	10	17	30
Ethyl Acetate	5.6	Not Detected	20	Not Detected
Propylene	5.6	2.7 J	9.7	4.7 J
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))
Unknown	NA	NA	35 J
Decane, 2,2,5-trimethyl-	62237-96-1	72%	30 NJ
Decane, 2,2,4-trimethyl-	62237-98-3	64%	97 NJ
Undecane, 2,2-dimethyl-	17312-64-0	56%	30 NJ
Octane, 2,4,6-trimethyl-	62016-37-9	64%	110 NJ
Decane, 2,2,7-trimethyl-	62237-99-4	64%	260 NJ
Unknown	NA	NA	73 J
Cyclohexanone, 4-methyl-	589-92-4	50%	190 NJ
Ethanone, 1-phenyl-	98-86-2	90%	71 NJ
Unknown	NA	NA	48 J

eurofins | Air Toxics

Client Sample ID: VMP-4-5-091112

Lab ID#: 1209276A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092115**	**Date of Collection: 9/11/12 1:23:00 PM**
Dil. Factor:	**2.82**	**Date of Analysis: 9/21/12 08:05 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	107	70-130

eurofins | Air Toxics

Client Sample ID: VMP-11-5-091212

Lab ID#: 1209276A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092116**	**Date of Collection:**	**9/12/12 9:34:00 AM**
Dil. Factor:	**2.96**	**Date of Analysis:**	**9/21/12 08:44 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.42 J	7.3	2.1 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	0.28 J	8.3	1.6 J
Ethanol	5.9	Not Detected	11	Not Detected
Freon 113	1.5	Not Detected	11	Not Detected
1,1-Dichloroethene	1.5	Not Detected	5.9	Not Detected
Acetone	15	19	35	44
2-Propanol	5.9	1.8 J	14	4.4 J
Carbon Disulfide	5.9	1.8 J	18	5.6 J
3-Chloropropene	5.9	Not Detected	18	Not Detected
Methylene Chloride	15	1.5 J	51	5.4 J
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	Not Detected	5.2	Not Detected
1,1-Dichloroethane	1.5	Not Detected	6.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.9	3.2 J	17	9.6 J
cis-1,2-Dichloroethene	1.5	Not Detected	5.9	Not Detected
Tetrahydrofuran	1.5	Not Detected	4.4	Not Detected
Chloroform	1.5	Not Detected	7.2	Not Detected
1,1,1-Trichloroethane	1.5	Not Detected	8.1	Not Detected
Cyclohexane	1.5	0.60 J	5.1	2.0 J
Carbon Tetrachloride	1.5	Not Detected	9.3	Not Detected
2,2,4-Trimethylpentane	1.5	4.9	6.9	23
Benzene	1.5	4.4	4.7	14
1,2-Dichloroethane	1.5	Not Detected	6.0	Not Detected
Heptane	1.5	Not Detected	6.1	Not Detected
Trichloroethene	1.5	~~0.65~~ J	8.0	~~3.5~~ J
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	1.6	6.1	6.4
Toluene	1.5	0.81 J	5.6	3.1 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	14	10	96
2-Hexanone	5.9	Not Detected	24	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-11-5-091212

Lab ID#: 1209276A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092116**	**Date of Collection:**	**9/12/12 9:34:00 AM**
Dil. Factor:	**2.96**	**Date of Analysis:**	**9/21/12 08:44 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.5	Not Detected	13	Not Detected
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	0.33 J	6.4	1.4 J
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
Cumene	1.5	0.21 J	7.3	1.0 J
1,1,2,2-Tetrachloroethane	1.5	Not Detected	10	Not Detected
Propylbenzene	1.5	Not Detected	7.3	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	~~0.37~~ J U	8.9	~~2.2~~ J U
alpha-Chlorotoluene	1.5	Not Detected	7.7	Not Detected
1,2-Dichlorobenzene	1.5	Not Detected	8.9	Not Detected
1,2,4-Trichlorobenzene	5.9	Not Detected	44	Not Detected
Hexachlorobutadiene	5.9	Not Detected	63	Not Detected
Butane	5.9	Not Detected	14	Not Detected
Isopentane	5.9	2.3 J	17	6.9 J
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))
Unknown	NA	NA	13 J

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	111	70-130
4-Bromofluorobenzene	99	70-130

eurofins | Air Toxics

Client Sample ID: VMP-13-5-091212

Lab ID#: 1209276A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092117**	**Date of Collection:**	**9/12/12 10:47:00 AM**
Dil. Factor:	**3.03**	**Date of Analysis:**	**9/21/12 09:15 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.53 J	7.5	2.6 J
Freon 114	1.5	Not Detected	10	Not Detected
Chloromethane	15	Not Detected	31	Not Detected
Vinyl Chloride	1.5	Not Detected	3.9	Not Detected
1,3-Butadiene	1.5	Not Detected	3.4	Not Detected
Bromomethane	15	Not Detected	59	Not Detected
Chloroethane	6.1	Not Detected	16	Not Detected
Freon 11	1.5	Not Detected	8.5	Not Detected
Ethanol	6.1	3.8 J	11	7.1 J
Freon 113	1.5	Not Detected	12	Not Detected
1,1-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Acetone	15	26	36	61
2-Propanol	6.1	1.1 J	15	2.7 J
Carbon Disulfide	6.1	6.2	19	19
3-Chloropropene	6.1	Not Detected	19	Not Detected
Methylene Chloride	15	Not Detected	53	Not Detected
Methyl tert-butyl ether	1.5	Not Detected	5.5	Not Detected
trans-1,2-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Hexane	1.5	0.44 J	5.3	1.5 J
1,1-Dichloroethane	1.5	Not Detected	6.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	6.1	3.5 J	18	10 J
cis-1,2-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Tetrahydrofuran	1.5	Not Detected	4.5	Not Detected
Chloroform	1.5	0.64 J	7.4	3.1 J
1,1,1-Trichloroethane	1.5	Not Detected	8.3	Not Detected
Cyclohexane	1.5	Not Detected	5.2	Not Detected
Carbon Tetrachloride	1.5	Not Detected	9.5	Not Detected
2,2,4-Trimethylpentane	1.5	0.84 J	7.1	3.9 J
Benzene	1.5	3.1	4.8	9.9
1,2-Dichloroethane	1.5	Not Detected	6.1	Not Detected
Heptane	1.5	Not Detected	6.2	Not Detected
Trichloroethene	1.5	Not Detected	8.1	Not Detected
1,2-Dichloropropane	1.5	Not Detected	7.0	Not Detected
1,4-Dioxane	6.1	Not Detected	22	Not Detected
Bromodichloromethane	1.5	Not Detected	10	Not Detected
cis-1,3-Dichloropropene	1.5	Not Detected	6.9	Not Detected
4-Methyl-2-pentanone	1.5	Not Detected	6.2	Not Detected
Toluene	1.5	0.75 J	5.7	2.8 J
trans-1,3-Dichloropropene	1.5	Not Detected	6.9	Not Detected
1,1,2-Trichloroethane	1.5	Not Detected	8.3	Not Detected
Tetrachloroethene	1.5	Not Detected	10	Not Detected
2-Hexanone	6.1	Not Detected	25	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-13-5-091212

Lab ID#: 1209276A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092117**	**Date of Collection:**	**9/12/12 10:47:00 AM**
Dil. Factor:	**3.03**	**Date of Analysis:**	**9/21/12 09:15 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.5	Not Detected	13	Not Detected
1,2-Dibromoethane (EDB)	1.5	Not Detected	12	Not Detected
Chlorobenzene	1.5	~~1.3~~ J U	7.0	~~5.8~~ J U
Ethyl Benzene	1.5	Not Detected	6.6	Not Detected
m,p-Xylene	1.5	Not Detected	6.6	Not Detected
o-Xylene	1.5	Not Detected	6.6	Not Detected
Styrene	1.5	Not Detected	6.4	Not Detected
Bromoform	1.5	Not Detected	16	Not Detected
Cumene	1.5	Not Detected	7.4	Not Detected
1,1,2,2-Tetrachloroethane	1.5	Not Detected	10	Not Detected
Propylbenzene	1.5	Not Detected	7.4	Not Detected
4-Ethyltoluene	1.5	Not Detected	7.4	Not Detected
1,3,5-Trimethylbenzene	1.5	Not Detected	7.4	Not Detected
1,2,4-Trimethylbenzene	1.5	Not Detected	7.4	Not Detected
1,3-Dichlorobenzene	1.5	~~0.35~~ J U	9.1	~~2.1~~ J U
1,4-Dichlorobenzene	1.5	~~0.38~~ J U	9.1	~~2.3~~ J U
alpha-Chlorotoluene	1.5	Not Detected	7.8	Not Detected
1,2-Dichlorobenzene	1.5	Not Detected	9.1	Not Detected
1,2,4-Trichlorobenzene	6.1	Not Detected	45	Not Detected
Hexachlorobutadiene	6.1	Not Detected	65	Not Detected
Butane	6.1	Not Detected	14	Not Detected
Isopentane	6.1	Not Detected	18	Not Detected
Ethyl Acetate	6.1	Not Detected	22	Not Detected
Propylene	6.1	3.0 J	10	5.1 J
Vinyl Acetate	6.1	Not Detected	21	Not Detected
Vinyl Bromide	6.1	Not Detected	26	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
1-Propene, 2-methyl-	115-11-7	10%	15 NJ
Unknown	NA	NA	7.7 J
1-Pentene, 4,4-dimethyl-	762-62-9	37%	14 NJ
1-Pentanol, 2-ethyl-4-methyl-	106-67-2	64%	13 NJ

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130

eurofins | Air Toxics

Client Sample ID: VMP-13-5-091212

Lab ID#: 1209276A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092117**	**Date of Collection:**	**9/12/12 10:47:00 AM**
Dil. Factor:	**3.03**	**Date of Analysis:**	**9/21/12 09:15 PM**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: VMP-13-5-091212-Dup

Lab ID#: 1209276A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092118**	**Date of Collection:**	**9/12/12 10:47:00 AM**
Dil. Factor:	**2.64**	**Date of Analysis:**	**9/21/12 09:48 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.53 J	6.5	2.6 J
Freon 114	1.3	Not Detected	9.2	Not Detected
Chloromethane	13	Not Detected	27	Not Detected
Vinyl Chloride	1.3	Not Detected	3.4	Not Detected
1,3-Butadiene	1.3	Not Detected	2.9	Not Detected
Bromomethane	13	Not Detected	51	Not Detected
Chloroethane	5.3	Not Detected	14	Not Detected
Freon 11	1.3	0.29 J	7.4	1.6 J
Ethanol	5.3	5.3	9.9	9.9
Freon 113	1.3	Not Detected	10	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.2	Not Detected
Acetone	13	19	31	45
2-Propanol	5.3	1.0 J	13	2.6 J
Carbon Disulfide	5.3	1.8 J	16	5.8 J
3-Chloropropene	5.3	Not Detected	16	Not Detected
Methylene Chloride	13	0.42 J	46	1.4 J
Methyl tert-butyl ether	1.3	Not Detected	4.8	Not Detected
trans-1,2-Dichloroethene	1.3	Not Detected	5.2	Not Detected
Hexane	1.3	0.31 J	4.6	1.1 J
1,1-Dichloroethane	1.3	Not Detected	5.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.3	3.2 J	16	9.4 J
cis-1,2-Dichloroethene	1.3	Not Detected	5.2	Not Detected
Tetrahydrofuran	1.3	Not Detected	3.9	Not Detected
Chloroform	1.3	0.80 J	6.4	3.9 J
1,1,1-Trichloroethane	1.3	Not Detected	7.2	Not Detected
Cyclohexane	1.3	Not Detected	4.5	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.3	Not Detected
2,2,4-Trimethylpentane	1.3	~~0.39~~ J U	6.2	~~1.8~~ J U
Benzene	1.3	1.7	4.2	5.5
1,2-Dichloroethane	1.3	Not Detected	5.3	Not Detected
Heptane	1.3	Not Detected	5.4	Not Detected
Trichloroethene	1.3	Not Detected	7.1	Not Detected
1,2-Dichloropropane	1.3	Not Detected	6.1	Not Detected
1,4-Dioxane	5.3	Not Detected	19	Not Detected
Bromodichloromethane	1.3	Not Detected	8.8	Not Detected
cis-1,3-Dichloropropene	1.3	Not Detected	6.0	Not Detected
4-Methyl-2-pentanone	1.3	0.50 J	5.4	2.0 J
Toluene	1.3	~~0.47~~ J U	5.0	~~1.8~~ J U
trans-1,3-Dichloropropene	1.3	0.42 J	6.0	1.9 J
1,1,2-Trichloroethane	1.3	Not Detected	7.2	Not Detected
Tetrachloroethene	1.3	~~0.47~~ J U	9.0	~~3.2~~ J U
2-Hexanone	5.3	Not Detected	22	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-13-5-091212-Dup

Lab ID#: 1209276A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092118**	**Date of Collection: 9/12/12 10:47:00 AM**	
Dil. Factor:	**2.64**	**Date of Analysis: 9/21/12 09:48 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.3	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.3	Not Detected	10	Not Detected
Chlorobenzene	1.3	~~1.0~~ J U	6.1	~~4.6~~ J U
Ethyl Benzene	1.3	0.34 J	5.7	1.5 J
m,p-Xylene	1.3	Not Detected	5.7	Not Detected
o-Xylene	1.3	Not Detected	5.7	Not Detected
Styrene	1.3	Not Detected	5.6	Not Detected
Bromoform	1.3	Not Detected	14	Not Detected
Cumene	1.3	Not Detected	6.5	Not Detected
1,1,2,2-Tetrachloroethane	1.3	Not Detected	9.1	Not Detected
Propylbenzene	1.3	Not Detected	6.5	Not Detected
4-Ethyltoluene	1.3	Not Detected	6.5	Not Detected
1,3,5-Trimethylbenzene	1.3	Not Detected	6.5	Not Detected
1,2,4-Trimethylbenzene	1.3	Not Detected	6.5	Not Detected
1,3-Dichlorobenzene	1.3	~~0.32~~ J U	7.9	~~1.9~~ J U
1,4-Dichlorobenzene	1.3	~~0.26~~ J U	7.9	~~1.6~~ J U
alpha-Chlorotoluene	1.3	Not Detected	6.8	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.9	Not Detected
1,2,4-Trichlorobenzene	5.3	Not Detected	39	Not Detected
Hexachlorobutadiene	5.3	Not Detected	56	Not Detected
Butane	5.3	Not Detected	12	Not Detected
Isopentane	5.3	1.4 J	16	4.0 J
Ethyl Acetate	5.3	Not Detected	19	Not Detected
Propylene	5.3	1.2 J	9.1	2.0 J
Vinyl Acetate	5.3	Not Detected	18	Not Detected
Vinyl Bromide	5.3	Not Detected	23	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
1-Propene, 2-methyl-	115-11-7	86%	15 NJ

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	109	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: VMP-10-5-091212

Lab ID#: 1209276A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092119**	**Date of Collection:**	**9/12/12 11:57:00 AM**
Dil. Factor:	**3.19**	**Date of Analysis:**	**9/21/12 10:32 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.6	0.48 J	7.9	2.4 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	0.28 J	9.0	1.6 J
Ethanol	6.4	Not Detected	12	Not Detected
Freon 113	1.6	Not Detected	12	Not Detected
1,1-Dichloroethene	1.6	Not Detected	6.3	Not Detected
Acetone	16	15 J	38	35 J
2-Propanol	6.4	Not Detected	16	Not Detected
Carbon Disulfide	6.4	1.8 J	20	5.7 J
3-Chloropropene	6.4	Not Detected	20	Not Detected
Methylene Chloride	16	0.36 J	55	1.3 J
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	1.4 J	5.6	4.8 J
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	0.60 J	5.5	2.1 J
Carbon Tetrachloride	1.6	Not Detected	10	Not Detected
2,2,4-Trimethylpentane	1.6	3.4	7.4	16
Benzene	1.6	2.6	5.1	8.4
1,2-Dichloroethane	1.6	Not Detected	6.4	Not Detected
Heptane	1.6	1.0 J	6.5	4.3 J
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	2.6	6.0	9.6
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	~~0.37~~ J U	11	~~2.5~~ J U
2-Hexanone	6.4	Not Detected	26	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-10-5-091212

Lab ID#: 1209276A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092119**	**Date of Collection: 9/12/12 11:57:00 AM**	
Dil. Factor:	**3.19**	**Date of Analysis: 9/21/12 10:32 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.6	Not Detected	14	Not Detected
1,2-Dibromoethane (EDB)	1.6	Not Detected	12	Not Detected
Chlorobenzene	1.6	~~4.3~~ J U	7.3	~~5.8~~ J U
Ethyl Benzene	1.6	0.67 J	6.9	2.9 J
m,p-Xylene	1.6	2.2	6.9	9.6
o-Xylene	1.6	0.72 J	6.9	3.1 J
Styrene	1.6	Not Detected	6.8	Not Detected
Bromoform	1.6	Not Detected	16	Not Detected
Cumene	1.6	Not Detected	7.8	Not Detected
1,1,2,2-Tetrachloroethane	1.6	0.21 J	11	1.4 J
Propylbenzene	1.6	Not Detected	7.8	Not Detected
4-Ethyltoluene	1.6	0.70 J	7.8	3.4 J
1,3,5-Trimethylbenzene	1.6	Not Detected	7.8	Not Detected
1,2,4-Trimethylbenzene	1.6	0.46 J	7.8	2.3 J
1,3-Dichlorobenzene	1.6	Not Detected	9.6	Not Detected
1,4-Dichlorobenzene	1.6	~~0.30~~ J U	9.6	~~1.8~~ J U
alpha-Chlorotoluene	1.6	~~0.25~~ J U	8.2	~~1.3~~ J U
1,2-Dichlorobenzene	1.6	Not Detected	9.6	Not Detected
1,2,4-Trichlorobenzene	6.4	Not Detected	47	Not Detected
Hexachlorobutadiene	6.4	Not Detected	68	Not Detected
Butane	6.4	Not Detected	15	Not Detected
Isopentane	6.4	6.4	19	19
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))
1-Propene, 2-methyl-	115-11-7	10%	26 NJ

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209276A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092108c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 01:14 PM**	

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
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	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	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	0.078 J	2.3	< 0.36 J
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	0.11 J	2.0	0.44 J
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	0.25 J	2.7	1.3 J
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	0.11 J	1.9	0.40 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	0.21 J	3.4	1.4 J
2-Hexanone	2.0	Not Detected	8.2	Not Detected

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209276A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092108c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 01:14 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	0.34 J	2.3	1.6 J
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	0.12 J	2.2	0.52 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
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	0.093 J	2.4	0.46 J
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	0.16 J	3.0	0.94 J
1,4-Dichlorobenzene	0.50	0.17 J	3.0	1.0 J
alpha-Chlorotoluene	0.50	0.098 J	2.6	0.51 J
1,2-Dichlorobenzene	0.50	0.16 J	3.0	1.0 J
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
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	99	70-130
1,2-Dichloroethane-d4	111	70-130
4-Bromofluorobenzene	99	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1209276A-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 08:03 AM**	

Compound	%Recovery
Freon 12	102
Freon 114	91
Chloromethane	95
Vinyl Chloride	96
1,3-Butadiene	99
Bromomethane	85
Chloroethane	87
Freon 11	103
Ethanol	92
Freon 113	93
1,1-Dichloroethene	98
Acetone	88
2-Propanol	110
Carbon Disulfide	84
3-Chloropropene	80
Methylene Chloride	103
Methyl tert-butyl ether	97
trans-1,2-Dichloroethene	100
Hexane	104
1,1-Dichloroethane	101
2-Butanone (Methyl Ethyl Ketone)	96
cis-1,2-Dichloroethene	102
Tetrahydrofuran	109
Chloroform	101
1,1,1-Trichloroethane	106
Cyclohexane	99
Carbon Tetrachloride	109
2,2,4-Trimethylpentane	105
Benzene	93
1,2-Dichloroethane	106
Heptane	97
Trichloroethene	96
1,2-Dichloropropane	92
1,4-Dioxane	102
Bromodichloromethane	101
cis-1,3-Dichloropropene	99
4-Methyl-2-pentanone	105
Toluene	95
trans-1,3-Dichloropropene	93
1,1,2-Trichloroethane	94
Tetrachloroethene	101
2-Hexanone	98

eurofins | Air Toxics

Client Sample ID: CCV
Lab ID#: 1209276A-09A
EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 08:03 AM**	

Compound	%Recovery
Dibromochloromethane	102
1,2-Dibromoethane (EDB)	98
Chlorobenzene	86
Ethyl Benzene	101
m,p-Xylene	98
o-Xylene	106
Styrene	106
Bromoform	101
Cumene	106
1,1,2,2-Tetrachloroethane	99
Propylbenzene	103
4-Ethyltoluene	107
1,3,5-Trimethylbenzene	109
1,2,4-Trimethylbenzene	107
1,3-Dichlorobenzene	102
1,4-Dichlorobenzene	101
alpha-Chlorotoluene	108
1,2-Dichlorobenzene	102
1,2,4-Trichlorobenzene	93
Hexachlorobutadiene	99
Butane	89
Isopentane	100
Ethyl Acetate	73
Propylene	93
Vinyl Acetate	113
Vinyl Bromide	107

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	118	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209276A-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 08:41 AM**	

Compound	%Recovery
Freon 12	113
Freon 114	103
Chloromethane	111
Vinyl Chloride	107
1,3-Butadiene	108
Bromomethane	98
Chloroethane	95
Freon 11	112
Ethanol	99
Freon 113	108
1,1-Dichloroethene	106
Acetone	97
2-Propanol	116
Carbon Disulfide	115
3-Chloropropene	106
Methylene Chloride	112
Methyl tert-butyl ether	110
trans-1,2-Dichloroethene	119
Hexane	111
1,1-Dichloroethane	107
2-Butanone (Methyl Ethyl Ketone)	106
cis-1,2-Dichloroethene	109
Tetrahydrofuran	110
Chloroform	110
1,1,1-Trichloroethane	117
Cyclohexane	112
Carbon Tetrachloride	120
2,2,4-Trimethylpentane	114
Benzene	107
1,2-Dichloroethane	120
Heptane	106
Trichloroethene	104
1,2-Dichloropropane	110
1,4-Dioxane	109
Bromodichloromethane	114
cis-1,3-Dichloropropene	111
4-Methyl-2-pentanone	115
Toluene	107
trans-1,3-Dichloropropene	97
1,1,2-Trichloroethane	101
Tetrachloroethene	103
2-Hexanone	104

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209276A-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 08:41 AM**	

Compound	%Recovery
Dibromochloromethane	108
1,2-Dibromoethane (EDB)	108
Chlorobenzene	91
Ethyl Benzene	106
m,p-Xylene	103
o-Xylene	115
Styrene	110
Bromoform	105
Cumene	113
1,1,2,2-Tetrachloroethane	105
Propylbenzene	111
4-Ethyltoluene	109
1,3,5-Trimethylbenzene	117
1,2,4-Trimethylbenzene	119
1,3-Dichlorobenzene	110
1,4-Dichlorobenzene	103
alpha-Chlorotoluene	109
1,2-Dichlorobenzene	108
1,2,4-Trichlorobenzene	95
Hexachlorobutadiene	101
Butane	90
Isopentane	119
Ethyl Acetate	Not Spiked
Propylene	92
Vinyl Acetate	108
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	110	70-130
1,2-Dichloroethane-d4	115	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1209276A-10AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 09:15 AM**	

Compound	%Recovery
Freon 12	112
Freon 114	102
Chloromethane	107
Vinyl Chloride	108
1,3-Butadiene	110
Bromomethane	94
Chloroethane	92
Freon 11	111
Ethanol	100
Freon 113	106
1,1-Dichloroethene	108
Acetone	101
2-Propanol	115
Carbon Disulfide	114
3-Chloropropene	104
Methylene Chloride	109
Methyl tert-butyl ether	106
trans-1,2-Dichloroethene	112
Hexane	109
1,1-Dichloroethane	105
2-Butanone (Methyl Ethyl Ketone)	106
cis-1,2-Dichloroethene	113
Tetrahydrofuran	114
Chloroform	109
1,1,1-Trichloroethane	113
Cyclohexane	110
Carbon Tetrachloride	117
2,2,4-Trimethylpentane	109
Benzene	105
1,2-Dichloroethane	112
Heptane	103
Trichloroethene	98
1,2-Dichloropropane	97
1,4-Dioxane	104
Bromodichloromethane	107
cis-1,3-Dichloropropene	102
4-Methyl-2-pentanone	110
Toluene	101
trans-1,3-Dichloropropene	100
1,1,2-Trichloroethane	100
Tetrachloroethene	109
2-Hexanone	110

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1209276A-10AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j092104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 09:15 AM**	

Compound	%Recovery
Dibromochloromethane	109
1,2-Dibromoethane (EDB)	106
Chlorobenzene	92
Ethyl Benzene	107
m,p-Xylene	104
o-Xylene	112
Styrene	111
Bromoform	108
Cumene	114
1,1,2,2-Tetrachloroethane	108
Propylbenzene	113
4-Ethyltoluene	110
1,3,5-Trimethylbenzene	118
1,2,4-Trimethylbenzene	116
1,3-Dichlorobenzene	110
1,4-Dichlorobenzene	107
alpha-Chlorotoluene	114
1,2-Dichlorobenzene	109
1,2,4-Trichlorobenzene	100
Hexachlorobutadiene	101
Butane	94
Isopentane	114
Ethyl Acetate	Not Spiked
Propylene	95
Vinyl Acetate	113
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	114	70-130
4-Bromofluorobenzene	103	70-130

1209276

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD. Project Name: Roxana Vapor Additional Project # 21562735.10100 Lab Vendor #	Please Check Appropriate Box: ☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL ☐ MOTIVA SD&CM ☐ CONSULTANT ☐ LUBES ☐ SHELL PIPELINE ☐ OTHER ________	Print Bill To Contact Name: Robert Moosheglan PO #	INCIDENT # (ENV SERVICES): 9 7 2 1 5 6 4 0 SAP #: 3 4 0 0 6 1 ☐ CHECK IF NO INCIDENT # APPLIES DATE: 09/13/12 PAGE: 1 of 1

Sampling Company: URS CORPORATION — Log Code:

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

Laboratory Address: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719

Telephone: — Fax: 314-429-0462 — Bill To Contact E-Mail: Robert.Moosheglan@urs.com

Site Address: Street and City: 900 SOUTH CENTRAL AVE -- ROXANA — State: IL — Global ID No.:

EDF Deliverable To (Name, Company, Office Location): Elizabeth Kunkel, URS, St. Louis — Phone No.: 314-743-4179 — E-Mail: Elizabeth_Kunkel@URSCorp.com — Consultant Project Name: Roxana Vapor Additional

Sampler Name(s): A. Day, J.C. Williams, M. Currier

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☐ OTHER (SPECIFY) ________

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

Turn Around Time: ☑ Normal ☐ Rush — Specify

Lab Use Only: Pressurized by: — Date: — Pressurization Gas: N_2 He

LAB USE ONLY	Field Sample Identification	Sampling Date	Sampling Time	Canister Number	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
01A	VMP-21-5-091112	09/11/12	1053-1123	13900	-30	-10.5			X	X	
02A	VMP-42-10-091112	09/11/12	1200-1230	37342	-30	-10			X	X	
03A	VMP-4-5-091112	09/11/12	1253-1323	8030	-30	-6.5			X	X	
04A	VMP-11-5-091212	09/12/12	0936-0954	31769	-30	-10			X	X	
05A	VMP-13-5-091212	09/12/12	1017-1047	34062	-30	-10.5			X	X	
06A	VMP-13-5-091212-Dup	09/12/12	1017-1047	15745	-30	-10			X	X	
07A	VMP-10-5-091212	09/12/12	1127-1157	34632	-30	-12			X	X	

9/13/12

ADDITIONAL NOTES:

- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
[signature]	FEDEX	9/13/12	1630
Relinquished by: (Signature)	Received by: (Signature) B. Whittaker AL 9/14/12 0845	Date	Time
Relinquished by: (Signature)	Received by: (Signature)	Date	Time

CUSTODY SEAL INTACT? Y N NONE TEMP N/A

Fedex

eurofins | Air Toxics

10/2/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1209276B

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 9/14/2012 at Air Toxics Ltd.

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

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

Regards,

Kelly Buettner
Project Manager

Reviewed
on
10/8/2012

eurofins | Air Toxics

WORK ORDER #: 1209276B

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	09/14/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	10/02/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-21-5-091112	Modified ASTM D-1946	8.5 "Hg	15 psi
02A	VMP-42-10-091112	Modified ASTM D-1946	10.0 "Hg	15 psi
03A	VMP-4-5-091112	Modified ASTM D-1946	8.5 "Hg	15 psi
04A	VMP-11-5-091212	Modified ASTM D-1946	9.5 "Hg	15 psi
05A	VMP-13-5-091212	Modified ASTM D-1946	10.0 "Hg	15 psi
06A	VMP-13-5-091212-Dup	Modified ASTM D-1946	7.0 "Hg	15 psi
07A	VMP-10-5-091212	Modified ASTM D-1946	11.0 "Hg	15 psi
08A	Lab Blank	Modified ASTM D-1946	NA	NA
08B	Lab Blank	Modified ASTM D-1946	NA	NA
09A	LCS	Modified ASTM D-1946	NA	NA
09AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 10/02/12

Technical Director

Certfication 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

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

LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1209276B

Seven 1 Liter Summa Canister samples were received on September 14, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-091112

Lab ID#: 1209276B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	14
Nitrogen	0.28	80
Methane	0.00028	0.000038 J
Carbon Dioxide	0.028	5.9

Client Sample ID: VMP-42-10-091112

Lab ID#: 1209276B-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	80
Methane	0.00030	0.00013 J
Carbon Dioxide	0.030	1.6

Client Sample ID: VMP-4-5-091112

Lab ID#: 1209276B-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	18
Nitrogen	0.28	80
Methane	0.00028	0.00016 J
Carbon Dioxide	0.028	1.7
Helium	0.14	0.14

Client Sample ID: VMP-11-5-091212

Lab ID#: 1209276B-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.60	19
Nitrogen	0.60	79
Methane	0.00060	0.000057 J
Carbon Dioxide	0.060	1.8

eurofins | Air Toxics

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

Client Sample ID: VMP-11-5-091212

Lab ID#: 1209276B-04A

Helium	0.30	0.063

Client Sample ID: VMP-13-5-091212

Lab ID#: 1209276B-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	17
Nitrogen	0.30	80
Methane	0.00030	0.000062 J
Carbon Dioxide	0.030	2.8
Helium	0.15	0.020 J

Client Sample ID: VMP-13-5-091212-Dup

Lab ID#: 1209276B-06A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	17
Nitrogen	0.29	80
Methane	0.00029	0.000065 J
Carbon Dioxide	0.029	2.8
Helium	0.14	0.021 J

Client Sample ID: VMP-10-5-091212

Lab ID#: 1209276B-07A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.32	18
Nitrogen	0.32	80
Methane	0.00032	0.000034 J
Carbon Dioxide	0.032	2.0
Helium	0.16	0.060

eurofins | Air Toxics

Client Sample ID: VMP-21-5-091112

Lab ID#: 1209276B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092511**	**Date of Collection:**	**9/11/12 11:23:00 AM**
Dil. Factor:	**2.82**	**Date of Analysis:**	**9/25/12 01:08 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Oxygen	0.28	14
Nitrogen	0.28	80
Carbon Monoxide	0.028	Not Detected
Methane	0.00028	0.000038 J
Carbon Dioxide	0.028	5.9
Ethane	0.0028	Not Detected
Ethene	0.0028	Not Detected
Helium	0.14	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-42-10-091112

Lab ID#: 1209276B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092512**	**Date of Collection:**	**9/11/12 12:30:00 PM**
Dil. Factor:	**3.03**	**Date of Analysis:**	**9/25/12 01:41 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	80
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	0.00013 J
Carbon Dioxide	0.030	1.6
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-4-5-091112

Lab ID#: 1209276B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9092513	Date of Collection:	9/11/12 1:23:00 PM
Dil. Factor:	2.82	Date of Analysis:	9/25/12 02:03 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	18
Nitrogen	0.28	80
Carbon Monoxide	0.028	Not Detected
Methane	0.00028	0.00016 J
Carbon Dioxide	0.028	1.7
Ethane	0.0028	Not Detected
Ethene	0.0028	Not Detected
Helium	0.14	0.14

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-11-5-091212

Lab ID#: 1209276B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092517**	**Date of Collection:**	**9/12/12 9:34:00 AM**
Dil. Factor:	**5.98**	**Date of Analysis:**	**9/25/12 04:07 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.60	19
Nitrogen	0.60	79
Carbon Monoxide	0.060	Not Detected
Methane	0.00060	0.000057 J
Carbon Dioxide	0.060	1.8
Ethane	0.0060	Not Detected
Ethene	0.0060	Not Detected
Helium	0.30	0.063

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-13-5-091212

Lab ID#: 1209276B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092514**	**Date of Collection: 9/12/12 10:47:00 AM**	
Dil. Factor:	**3.03**	**Date of Analysis: 9/25/12 02:35 PM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	17
Nitrogen	0.30	80
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	0.000062 J
Carbon Dioxide	0.030	2.8
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	0.020 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-13-5-091212-Dup

Lab ID#: 1209276B-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092515**	**Date of Collection:**	**9/12/12 10:47:00 AM**
Dil. Factor:	**2.89**	**Date of Analysis:**	**9/25/12 03:08 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	17
Nitrogen	0.29	80
Carbon Monoxide	0.029	Not Detected
Methane	0.00029	0.000065 J
Carbon Dioxide	0.029	2.8
Ethane	0.0029	Not Detected
Ethene	0.0029	Not Detected
Helium	0.14	0.021 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-10-5-091212

Lab ID#: 1209276B-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092516**	**Date of Collection:**	**9/12/12 11:57:00 AM**
Dil. Factor:	**3.19**	**Date of Analysis:**	**9/25/12 03:38 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.32	18
Nitrogen	0.32	80
Carbon Monoxide	0.032	Not Detected
Methane	0.00032	0.000034 J
Carbon Dioxide	0.032	2.0
Ethane	0.0032	Not Detected
Ethene	0.0032	Not Detected
Helium	0.16	0.060

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209276B-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092505a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/25/12 09:50 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.0098 J
Nitrogen	0.10	0.066 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209276B-08B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092504b**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/25/12 09:23 AM**	

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

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209276B-09A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092502**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/25/12 08:15 AM**	

Compound	%Recovery
Oxygen	100
Nitrogen	100
Carbon Monoxide	99
Methane	98
Carbon Dioxide	105
Ethane	100
Ethene	97
Helium	100

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1209276B-09AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9092531**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/25/12 10:14 PM**	

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	98
Methane	98
Carbon Dioxide	104
Ethane	99
Ethene	96
Helium	100

Container Type: NA - Not Applicable

1209276

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

Please Check Appropriate Box: ☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL ☐ MOTIVA SD&CM ☐ CONSULTANT ☐ LUBES ☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Robert Moosheglan

PO #

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

☐ CHECK IF NO INCIDENT # APPLIES

DATE: 09/13/12

SAP #: 3 4 0 0 6 1

PAGE: 1 of 1

Sampling Company: URS CORPORATION

Log Code:

Site Address: 900 SOUTH CENTRAL AVE -- ROXANA

State: IL

Global ID No.:

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

EDF Deliverable To: Elizabeth Kunkel, URS, St. Louis

Phone No.: 314-743-4179

E-mail: Elizabeth_Kunkel@URSCorp.com

Consultant Project Name: Roxana Vapor Additional

Laboratory Address: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719

Sampler Name(s): A. Day J.C. Williams, M. Currier

Telephone:

Fax: 314-429-0462

Bill To Contact E-mail: Robert.Moosheglan@urs.com

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:

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

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

Turn Around Time: ☑ Normal ☐ Rush Specify

Lab Use Only: Pressurized by: Date: Pressurization Gas: N_2 He

LAB USE ONLY	Field Sample Identification	Sampling Date	Sampling Time	Canister Number	Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
01A	VMP-21-5-091112	09/11/12	1050-1123	13900	-30	-10.5			X	X	
02A	VMP-42-10-091112	09/11/12	1200-1230	37342	-30	-10			X	X	
03A	VMP-4-5-091112	09/11/12	1253-1323	6030	-30	-6.5			X	X	
04A	VMP-11-5-091212	09/12/12	0904-0934	31759	-30	-10			X	X	
05A	VMP-13-5-091212	09/12/12	1017-1047	34062	-30	-10.5			X	X	
06A	VMP-13-5-091212-Dup	09/12/12	1017-1047	15745	-30	-10			X	X	
07A	VMP-10-5-091212	09/12/12	1127-1157	34632	-30	-12			X	X	

9/13/12

ADDITIONAL NOTES:

- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
[signature]	FEDEX	9/13/12	1630
Relinquished by: (Signature)	Received by: (Signature) B. Whittaker AAL 9/14/12 0945	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

CUSTODY SEAL INTACT? (Y) N NONE TEMP NA

Fedex

06/06 Revision

Roxana Soil Vapor Additional – Week 7 - Data Review

Laboratory SDG: 1209540A,B

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Steve Gragert

Date Reviewed: 10/11/2012

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

Sample Identification	Sample Identification
VMP-21-5-091712	VMP-42-10-091712
VMP-4-5-091712	VMP-11-5-091812
VMP-13-5-091812	VMP-10-5-091812

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, analytes were detected in the method blank. This issue is addressed further in the appropriate section below.

No problems were indicated in the cooler receipt form.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
1209540A-07A	TO-15	Carbon disulfide	0.30 ppbv / 0.94 µg/m^3
1209540A-07A	TO-15	Toluene	0.071 ppbv / 0.27 µg/m^3
1209540A-07A	TO-15	1,2-Dibromoethane (EDB)	0.42 ppbv / 1.9 µg/m^3
1209540B-07A	Natural gases	Oxygen	0.011%
1209540B-07A	Natural gases	Nitrogen	0.057%

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

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
VMP-21-5-091712	TO-15	Carbon disulfide	-	**U**
VMP-21-5-091712	TO-15	Chlorobenzene	-	**U**
VMP-42-10-091712	TO-15	Carbon disulfide	-	**U**
VMP-42-10-091712	TO-15	Chlorobenzene	-	**U**
VMP-4-5-091712	TO-15	Chlorobenzene	-	**U**
VMP-11-5-091812	TO-15	Carbon disulfide	-	**U**
VMP-11-5-091812	TO-15	Chlorobenzene	-	**U**
VMP-13-5-091812	TO-15	Chlorobenzene	-	**U**
VMP-10-5-091812	TO-15	Carbon disulfide	-	**U**
VMP-10-5-091812	TO-15	Chlorobenzene	-	**U**

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes; 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 of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

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?

No

10.0 Sample Dilutions

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

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

11.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Air Toxics

10/10/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1209540A

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 9/26/2012 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
10/11/2012

eurofins | Air Toxics

WORK ORDER #: 1209540A

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	09/26/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	10/09/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-21-5-091712	Modified TO-15/TICs	8.6 "Hg	15 psi
02A	VMP-42-10-091712	Modified TO-15/TICs	8.8 "Hg	15 psi
03A	VMP-4-5-091712	Modified TO-15/TICs	10.0 "Hg	15 psi
04A	VMP-11-5-091812	Modified TO-15/TICs	8.8 "Hg	15 psi
05A	VMP-13-5-091812	Modified TO-15/TICs	9.8 "Hg	15 psi
06A	VMP-10-5-091812	Modified TO-15/TICs	9.0 "Hg	15 psi
07A	Lab Blank	Modified TO-15/TICs	NA	NA
08A	CCV	Modified TO-15/TICs	NA	NA
09A	LCS	Modified TO-15/TICs	NA	NA
09AA	LCSD	Modified TO-15/TICs	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 10/10/12

Technical Director

Certfication 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

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# 1209540A

Six 1 Liter Summa Canister samples were received on September 26, 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.

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

Definition of Data Qualifying Flags

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

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV 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

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-091712

Lab ID#: 1209540A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.29 J	7.0	1.4 J
Ethanol	5.7	5.9	11	11
Acetone	14	8.3 J	34	20 J
2-Propanol	5.7	4.6 J	14	11 J
Carbon Disulfide	5.7	~~0.81~~ J U	18	~~2.5~~ J U
Methylene Chloride	14	0.15 J	49	0.53 J
Hexane	1.4	0.28 J	5.0	0.98 J
2-Butanone (Methyl Ethyl Ketone)	5.7	3.8 J	17	11 J
Tetrahydrofuran	1.4	0.38 J	4.2	1.1 J
2,2,4-Trimethylpentane	1.4	0.73 J	6.6	3.4 J
Benzene	1.4	0.88 J	4.5	2.8 J
Heptane	1.4	0.62 J	5.8	2.5 J
4-Methyl-2-pentanone	1.4	25	5.8	100
Toluene	1.4	34	5.3	130
Tetrachloroethene	1.4	0.40 J	9.6	2.7 J
Chlorobenzene	1.4	~~0.89~~ J U	6.5	~~4.1~~ J U
Ethyl Benzene	1.4	0.39 J	6.1	1.7 J
m,p-Xylene	1.4	0.76 J	6.1	3.3 J
o-Xylene	1.4	0.32 J	6.1	1.4 J
Cumene	1.4	2.5	7.0	12
1,1,2,2-Tetrachloroethane	1.4	0.21 J	9.7	1.4 J
4-Ethyltoluene	1.4	0.36 J	7.0	1.8 J
1,2,4-Trimethylbenzene	1.4	0.23 J	7.0	1.1 J
1,4-Dichlorobenzene	1.4	0.22 J	8.5	1.3 J
Propylene	5.7	1.3 J	9.7	2.2 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Hexanal	66-25-1	59%	9.1 NJ
4-Nonene	2198-23-4	59%	11 NJ
Propanal, 2-hydroxy-2-methyl-	20818-81-9	25%	19 NJ
Heptane, 2,2,4-trimethyl-	14720-74-2	59%	8.8 NJ
Decane, 2,2-dimethyl-	17302-37-3	72%	29 NJ

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-091712

Lab ID#: 1209540A-01A

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Decane, 2,2,9-trimethyl-	62238-00-0	72%	8.4 NJ
Decane, 6-ethyl-2-methyl-	62108-21-8	64%	35 NJ
Hexane, 2,2,4-trimethyl-	16747-26-5	64%	50 NJ
Heptane, 3,3'-[oxybis(methylene)]bis-	10143-60-9	50%	21 NJ
Ethanone, 1-phenyl-	98-86-2	91%	11 NJ

Client Sample ID: VMP-42-10-091712

Lab ID#: 1209540A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.49 J	7.1	2.4 J
Ethanol	5.7	16	11	30
Acetone	14	11 J	34	27 J
2-Propanol	5.7	4.4 J	14	11 J
Carbon Disulfide	5.7	~~0.79~~ J ul	18	~~2.5~~ J ul
Methylene Chloride	14	0.25 J	50	0.87 J
Hexane	1.4	0.25 J	5.0	0.89 J
2-Butanone (Methyl Ethyl Ketone)	5.7	4.2 J	17	12 J
Chloroform	1.4	1.3 J	7.0	6.6 J
Cyclohexane	1.4	1.7	4.9	5.7
2,2,4-Trimethylpentane	1.4	140	6.7	680
Benzene	1.4	14	4.6	45
4-Methyl-2-pentanone	1.4	17	5.8	71
Toluene	1.4	30	5.4	110
Chlorobenzene	1.4	~~4.2~~ J ul	6.6	~~5.3~~ J ul
Ethyl Benzene	1.4	0.54 J	6.2	2.3 J
m,p-Xylene	1.4	0.86 J	6.2	3.7 J
o-Xylene	1.4	0.30 J	6.2	1.3 J
Cumene	1.4	2.7	7.0	13
Propylbenzene	1.4	0.52 J	7.0	2.6 J
4-Ethyltoluene	1.4	0.50 J	7.0	2.5 J
1,3,5-Trimethylbenzene	1.4	0.31 J	7.0	1.5 J

eurofins | Air Toxics

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

Client Sample ID: VMP-42-10-091712

Lab ID#: 1209540A-02A

1,2,4-Trimethylbenzene	1.4	0.42 J	7.0	2.1 J
1,4-Dichlorobenzene	1.4	0.26 J	8.6	1.6 J
Isopentane	5.7	7.2	17	21

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Pentane, 2,4-dimethyl-	108-08-7	80%	68 NJ
Pentane, 2,3-dimethyl-	565-59-3	47%	200 NJ
Cyclohexane, methyl-	108-87-2	37%	58 NJ
Pentane, 2,3,4-trimethyl-	565-75-3	91%	220 NJ
Pentane, 2,3,3-trimethyl-	560-21-4	90%	320 NJ
Hexane, 2,2,5-trimethyl-	3522-94-9	78%	60 NJ
Octane, 2,2,6-trimethyl-	62016-28-8	72%	53 NJ
Decane, 2,2-dimethyl-	17302-37-3	72%	42 NJ
Decane, 2,3,5-trimethyl-	62238-11-3	78%	45 NJ
Decane, 2,2,6-trimethyl-	62237-97-2	53%	92 NJ

Client Sample ID: VMP-4-5-091712

Lab ID#: 1209540A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.38 J	7.5	1.9 J
Ethanol	6.1	21	11	39
Acetone	15	11 J	36	26 J
2-Propanol	6.1	4.5 J	15	11 J
Methylene Chloride	15	0.32 J	53	1.1 J
Hexane	1.5	0.50 J	5.3	1.7 J
2-Butanone (Methyl Ethyl Ketone)	6.1	4.8 J	18	14 J
Tetrahydrofuran	1.5	0.64 J	4.5	1.9 J
2,2,4-Trimethylpentane	1.5	0.88 J	7.1	4.1 J
Benzene	1.5	25	4.8	80
Heptane	1.5	0.78 J	6.2	3.2 J
4-Methyl-2-pentanone	1.5	15	6.2	63
Toluene	1.5	38	5.7	140
Chlorobenzene	1.5	~~4.4~~ J ul	7.0	~~5.0~~ J ul

eurofins | Air Toxics

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

Client Sample ID: VMP-4-5-091712

Lab ID#: 1209540A-03A

Ethyl Benzene	1.5	0.31 J	6.6	1.4 J
m,p-Xylene	1.5	0.76 J	6.6	3.3 J
o-Xylene	1.5	0.39 J	6.6	1.7 J
Cumene	1.5	1.8	7.4	8.7
1,2,4-Trimethylbenzene	1.5	0.25 J	7.4	1.2 J
1,4-Dichlorobenzene	1.5	0.23 J	9.1	1.4 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Acetaldehyde	75-07-0	9.0%	8.0 NJ
1-Hexyn-3-ol	105-31-7	59%	14 NJ
Hexanal	66-25-1	86%	8.8 NJ
Unknown	NA	NA	8.8 J
Decane, 2,2,8-trimethyl-	62238-01-1	78%	10 NJ
Decane, 2,2,5-trimethyl-	62237-96-1	78%	21 NJ
Undecane, 4,6-dimethyl-	17312-82-2	64%	30 NJ
Decane, 2,2,6-trimethyl-	62237-97-2	59%	66 NJ
1-Hexene, 3-methyl-	3404-61-3	22%	23 NJ
Decanedioic acid, didecyl ester	2432-89-5	59%	27 NJ

Client Sample ID: VMP-11-5-091812

Lab ID#: 1209540A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.36 J	7.1	1.8 J
Ethanol	5.7	9.0	11	17
Acetone	14	8.2 J	34	20 J
2-Propanol	5.7	5.0 J	14	12 J
Carbon Disulfide	5.7	~~0.90~~ J UL	18	~~2.8~~ J UL
Methylene Chloride	14	0.26 J	50	0.90 J
Hexane	1.4	0.16 J	5.0	0.57 J
2-Butanone (Methyl Ethyl Ketone)	5.7	3.3 J	17	9.7 J
Tetrahydrofuran	1.4	4.0	4.2	12
Cyclohexane	1.4	0.63 J	4.9	2.2 J
2,2,4-Trimethylpentane	1.4	18	6.7	83

eurofins | Air Toxics

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

Client Sample ID: VMP-11-5-091812

Lab ID#: 1209540A-04A

Benzene	1.4	8.8	4.6	28
Heptane	1.4	0.62 J	5.9	2.6 J
4-Methyl-2-pentanone	1.4	13	5.8	52
Toluene	1.4	48	5.4	180
Chlorobenzene	1.4	~~1.2 J~~ U	6.6	~~5.5 J~~ U
Ethyl Benzene	1.4	0.38 J	6.2	1.6 J
m,p-Xylene	1.4	0.82 J	6.2	3.5 J
o-Xylene	1.4	0.31 J	6.2	1.4 J
Cumene	1.4	1.5	7.0	7.5
Propylbenzene	1.4	0.22 J	7.0	1.1 J
4-Ethyltoluene	1.4	0.34 J	7.0	1.7 J
1,2,4-Trimethylbenzene	1.4	0.33 J	7.0	1.6 J
Isopentane	5.7	5.1 J	17	15 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Pentane, 2,4-dimethyl-	108-08-7	64%	11 NJ
Unknown	NA	NA	11 J
Pentane, 2,3-dimethyl-	565-59-3	43%	27 NJ
Pentane, 2,3,4-trimethyl-	565-75-3	86%	23 NJ
Pentane, 2,3,3-trimethyl-	560-21-4	83%	30 NJ
Decane, 2,2-dimethyl-	17302-37-3	72%	8.8 NJ
Decane, 2,2,4-trimethyl-	62237-98-3	64%	20 NJ
Undecane, 3,8-dimethyl-	17301-30-3	64%	26 NJ
Unknown	NA	NA	18 J
Cyclooctane, 1,4-dimethyl-, cis-	13151-99-0	78%	23 NJ

Client Sample ID: VMP-13-5-091812

Lab ID#: 1209540A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.36 J	7.4	1.8 J
Ethanol	6.0	2.2 J	11	4.1 J
Acetone	15	8.9 J	36	21 J
Carbon Disulfide	6.0	2.4 J	19	7.4 J

eurofins | Air Toxics

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

Client Sample ID: VMP-13-5-091812

Lab ID#: 1209540A-05A

Methylene Chloride	15	0.49 J	52	1.7 J
Hexane	1.5	0.46 J	5.3	1.6 J
Tetrahydrofuran	1.5	0.56 J	4.4	1.7 J
Chloroform	1.5	0.36 J	7.3	1.7 J
2,2,4-Trimethylpentane	1.5	2.0	7.0	9.5
Benzene	1.5	0.95 J	4.8	3.0 J
Heptane	1.5	0.47 J	6.1	1.9 J
Toluene	1.5	1.0 J	5.6	3.9 J
Chlorobenzene	1.5	~~1.2~~ J U	6.9	~~5.6~~ J U
1,4-Dichlorobenzene	1.5	0.18 J	9.0	1.1 J

Client Sample ID: VMP-10-5-091812

Lab ID#: 1209540A-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.41 J	7.1	2.0 J
Acetone	14	13 J	34	30 J
Carbon Disulfide	5.8	~~0.88~~ J U	18	~~2.8~~ J U
Methylene Chloride	14	0.17 J	50	0.59 J
Hexane	1.4	0.33 J	5.1	1.2 J
2,2,4-Trimethylpentane	1.4	1.5	6.8	7.1
Benzene	1.4	4.6	4.6	15
Heptane	1.4	0.28 J	5.9	1.2 J
Toluene	1.4	0.43 J	5.4	1.6 J
Chlorobenzene	1.4	~~1.1~~ J U	6.6	~~4.9~~ J U

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
1-Propene, 2-methyl-	115-11-7	80%	32 NJ

eurofins | Air Toxics

Client Sample ID: VMP-21-5-091712

Lab ID#: 1209540A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100116**	**Date of Collection: 9/17/12 11:12:00 AM**	
Dil. Factor:	**2.83**	**Date of Analysis: 10/1/12 04:26 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.29 J	7.0	1.4 J
Freon 114	1.4	Not Detected	9.9	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	5.7	Not Detected	15	Not Detected
Freon 11	1.4	Not Detected	8.0	Not Detected
Ethanol	5.7	5.9	11	11
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.6	Not Detected
Acetone	14	8.3 J	34	20 J
2-Propanol	5.7	4.6 J	14	11 J
Carbon Disulfide	5.7	~~0.81 J~~ UL	18	~~2.5 J~~ UL
3-Chloropropene	5.7	Not Detected	18	Not Detected
Methylene Chloride	14	0.15 J	49	0.53 J
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	0.28 J	5.0	0.98 J
1,1-Dichloroethane	1.4	Not Detected	5.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.7	3.8 J	17	11 J
cis-1,2-Dichloroethene	1.4	Not Detected	5.6	Not Detected
Tetrahydrofuran	1.4	0.38 J	4.2	1.1 J
Chloroform	1.4	Not Detected	6.9	Not Detected
1,1,1-Trichloroethane	1.4	Not Detected	7.7	Not Detected
Cyclohexane	1.4	Not Detected	4.9	Not Detected
Carbon Tetrachloride	1.4	Not Detected	8.9	Not Detected
2,2,4-Trimethylpentane	1.4	0.73 J	6.6	3.4 J
Benzene	1.4	0.88 J	4.5	2.8 J
1,2-Dichloroethane	1.4	Not Detected	5.7	Not Detected
Heptane	1.4	0.62 J	5.8	2.5 J
Trichloroethene	1.4	Not Detected	7.6	Not Detected
1,2-Dichloropropane	1.4	Not Detected	6.5	Not Detected
1,4-Dioxane	5.7	Not Detected	20	Not Detected
Bromodichloromethane	1.4	Not Detected	9.5	Not Detected
cis-1,3-Dichloropropene	1.4	Not Detected	6.4	Not Detected
4-Methyl-2-pentanone	1.4	25	5.8	100
Toluene	1.4	34	5.3	130
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	0.40 J	9.6	2.7 J
2-Hexanone	5.7	Not Detected	23	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-21-5-091712

Lab ID#: 1209540A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100116**	**Date of Collection:**	**9/17/12 11:12:00 AM**
Dil. Factor:	**2.83**	**Date of Analysis:**	**10/1/12 04:26 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	~~0.89 J~~ U	6.5	~~4.1 J~~ U
Ethyl Benzene	1.4	0.39 J	6.1	1.7 J
m,p-Xylene	1.4	0.76 J	6.1	3.3 J
o-Xylene	1.4	0.32 J	6.1	1.4 J
Styrene	1.4	Not Detected	6.0	Not Detected
Bromoform	1.4	Not Detected	15	Not Detected
Cumene	1.4	2.5	7.0	12
1,1,2,2-Tetrachloroethane	1.4	0.21 J	9.7	1.4 J
Propylbenzene	1.4	Not Detected	7.0	Not Detected
4-Ethyltoluene	1.4	0.36 J	7.0	1.8 J
1,3,5-Trimethylbenzene	1.4	Not Detected	7.0	Not Detected
1,2,4-Trimethylbenzene	1.4	0.23 J	7.0	1.1 J
1,3-Dichlorobenzene	1.4	Not Detected	8.5	Not Detected
1,4-Dichlorobenzene	1.4	0.22 J	8.5	1.3 J
alpha-Chlorotoluene	1.4	Not Detected	7.3	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.5	Not Detected
1,2,4-Trichlorobenzene	5.7	Not Detected	42	Not Detected
Hexachlorobutadiene	5.7	Not Detected	60	Not Detected
Butane	5.7	Not Detected	13	Not Detected
Isopentane	5.7	Not Detected	17	Not Detected
Ethyl Acetate	5.7	Not Detected	20	Not Detected
Propylene	5.7	1.3 J	9.7	2.2 J
Vinyl Acetate	5.7	Not Detected	20	Not Detected
Vinyl Bromide	5.7	Not Detected	25	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Hexanal	66-25-1	59%	9.1 NJ
4-Nonene	2198-23-4	59%	11 NJ
Propanal, 2-hydroxy-2-methyl-	20818-81-9	25%	19 NJ
Heptane, 2,2,4-trimethyl-	14720-74-2	59%	8.8 NJ
Decane, 2,2-dimethyl-	17302-37-3	72%	29 NJ
Decane, 2,2,9-trimethyl-	62238-00-0	72%	8.4 NJ
Decane, 6-ethyl-2-methyl-	62108-21-8	64%	35 NJ
Hexane, 2,2,4-trimethyl-	16747-26-5	64%	50 NJ
Heptane, 3,3'-[oxybis(methylene)]bis-	10143-60-9	50%	21 NJ
Ethanone, 1-phenyl-	98-86-2	91%	11 NJ

eurofins | Air Toxics

Client Sample ID: VMP-21-5-091712

Lab ID#: 1209540A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100116**	**Date of Collection: 9/17/12 11:12:00 AM**
Dil. Factor:	**2.83**	**Date of Analysis: 10/1/12 04:26 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	88	70-130

eurofins | Air Toxics

Client Sample ID: VMP-42-10-091712

Lab ID#: 1209540A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100117**	**Date of Collection:**	**9/17/12 12:08:00 PM**
Dil. Factor:	**2.86**	**Date of Analysis:**	**10/1/12 05:00 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.49 J	7.1	2.4 J
Freon 114	1.4	Not Detected	10	Not Detected
Chloromethane	14	Not Detected	30	Not Detected
Vinyl Chloride	1.4	Not Detected	3.6	Not Detected
1,3-Butadiene	1.4	Not Detected	3.2	Not Detected
Bromomethane	14	Not Detected	56	Not Detected
Chloroethane	5.7	Not Detected	15	Not Detected
Freon 11	1.4	Not Detected	8.0	Not Detected
Ethanol	5.7	16	11	30
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Acetone	14	11 J	34	27 J
2-Propanol	5.7	4.4 J	14	11 J
Carbon Disulfide	5.7	~~0.79~~ J U	18	~~2.5~~ J U
3-Chloropropene	5.7	Not Detected	18	Not Detected
Methylene Chloride	14	0.25 J	50	0.87 J
Methyl tert-butyl ether	1.4	Not Detected	5.2	Not Detected
trans-1,2-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Hexane	1.4	0.25 J	5.0	0.89 J
1,1-Dichloroethane	1.4	Not Detected	5.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.7	4.2 J	17	12 J
cis-1,2-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Tetrahydrofuran	1.4	Not Detected	4.2	Not Detected
Chloroform	1.4	1.3 J	7.0	6.6 J
1,1,1-Trichloroethane	1.4	Not Detected	7.8	Not Detected
Cyclohexane	1.4	1.7	4.9	5.7
Carbon Tetrachloride	1.4	Not Detected	9.0	Not Detected
2,2,4-Trimethylpentane	1.4	140	6.7	680
Benzene	1.4	14	4.6	45
1,2-Dichloroethane	1.4	Not Detected	5.8	Not Detected
Heptane	1.4	Not Detected	5.9	Not Detected
Trichloroethene	1.4	Not Detected	7.7	Not Detected
1,2-Dichloropropane	1.4	Not Detected	6.6	Not Detected
1,4-Dioxane	5.7	Not Detected	21	Not Detected
Bromodichloromethane	1.4	Not Detected	9.6	Not Detected
cis-1,3-Dichloropropene	1.4	Not Detected	6.5	Not Detected
4-Methyl-2-pentanone	1.4	17	5.8	71
Toluene	1.4	30	5.4	110
trans-1,3-Dichloropropene	1.4	Not Detected	6.5	Not Detected
1,1,2-Trichloroethane	1.4	Not Detected	7.8	Not Detected
Tetrachloroethene	1.4	Not Detected	9.7	Not Detected
2-Hexanone	5.7	Not Detected	23	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-42-10-091712

Lab ID#: 1209540A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100117**	**Date of Collection:**	**9/17/12 12:08:00 PM**
Dil. Factor:	**2.86**	**Date of Analysis:**	**10/1/12 05:00 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	~~1.2 J~~ U	6.6	~~5.3 J~~ U
Ethyl Benzene	1.4	0.54 J	6.2	2.3 J
m,p-Xylene	1.4	0.86 J	6.2	3.7 J
o-Xylene	1.4	0.30 J	6.2	1.3 J
Styrene	1.4	Not Detected	6.1	Not Detected
Bromoform	1.4	Not Detected	15	Not Detected
Cumene	1.4	2.7	7.0	13
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.8	Not Detected
Propylbenzene	1.4	0.52 J	7.0	2.6 J
4-Ethyltoluene	1.4	0.50 J	7.0	2.5 J
1,3,5-Trimethylbenzene	1.4	0.31 J	7.0	1.5 J
1,2,4-Trimethylbenzene	1.4	0.42 J	7.0	2.1 J
1,3-Dichlorobenzene	1.4	Not Detected	8.6	Not Detected
1,4-Dichlorobenzene	1.4	0.26 J	8.6	1.6 J
alpha-Chlorotoluene	1.4	Not Detected	7.4	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.6	Not Detected
1,2,4-Trichlorobenzene	5.7	Not Detected	42	Not Detected
Hexachlorobutadiene	5.7	Not Detected	61	Not Detected
Butane	5.7	Not Detected	14	Not Detected
Isopentane	5.7	7.2	17	21
Ethyl Acetate	5.7	Not Detected	21	Not Detected
Propylene	5.7	Not Detected	9.8	Not Detected
Vinyl Acetate	5.7	Not Detected	20	Not Detected
Vinyl Bromide	5.7	Not Detected	25	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Pentane, 2,4-dimethyl-	108-08-7	80%	68 NJ
Pentane, 2,3-dimethyl-	565-59-3	47%	200 NJ
Cyclohexane, methyl-	108-87-2	37%	58 NJ
Pentane, 2,3,4-trimethyl-	565-75-3	91%	220 NJ
Pentane, 2,3,3-trimethyl-	560-21-4	90%	320 NJ
Hexane, 2,2,5-trimethyl-	3522-94-9	78%	60 NJ
Octane, 2,2,6-trimethyl-	62016-28-8	72%	53 NJ
Decane, 2,2-dimethyl-	17302-37-3	72%	42 NJ
Decane, 2,3,5-trimethyl-	62238-11-3	78%	45 NJ
Decane, 2,2,6-trimethyl-	62237-97-2	53%	92 NJ

eurofins | Air Toxics

Client Sample ID: VMP-42-10-091712

Lab ID#: 1209540A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100117**	**Date of Collection: 9/17/12 12:08:00 PM**
Dil. Factor:	**2.86**	**Date of Analysis: 10/1/12 05:00 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	87	70-130

eurofins | Air Toxics

Client Sample ID: VMP-4-5-091712

Lab ID#: 1209540A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100118**	**Date of Collection: 9/17/12 1:00:00 PM**	
Dil. Factor:	**3.03**	**Date of Analysis: 10/1/12 05:24 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.38 J	7.5	1.9 J
Freon 114	1.5	Not Detected	10	Not Detected
Chloromethane	15	Not Detected	31	Not Detected
Vinyl Chloride	1.5	Not Detected	3.9	Not Detected
1,3-Butadiene	1.5	Not Detected	3.4	Not Detected
Bromomethane	15	Not Detected	59	Not Detected
Chloroethane	6.1	Not Detected	16	Not Detected
Freon 11	1.5	Not Detected	8.5	Not Detected
Ethanol	6.1	21	11	39
Freon 113	1.5	Not Detected	12	Not Detected
1,1-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Acetone	15	11 J	36	26 J
2-Propanol	6.1	4.5 J	15	11 J
Carbon Disulfide	6.1	Not Detected	19	Not Detected
3-Chloropropene	6.1	Not Detected	19	Not Detected
Methylene Chloride	15	0.32 J	53	1.1 J
Methyl tert-butyl ether	1.5	Not Detected	5.5	Not Detected
trans-1,2-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Hexane	1.5	0.50 J	5.3	1.7 J
1,1-Dichloroethane	1.5	Not Detected	6.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	6.1	4.8 J	18	14 J
cis-1,2-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Tetrahydrofuran	1.5	0.64 J	4.5	1.9 J
Chloroform	1.5	Not Detected	7.4	Not Detected
1,1,1-Trichloroethane	1.5	Not Detected	8.3	Not Detected
Cyclohexane	1.5	Not Detected	5.2	Not Detected
Carbon Tetrachloride	1.5	Not Detected	9.5	Not Detected
2,2,4-Trimethylpentane	1.5	0.88 J	7.1	4.1 J
Benzene	1.5	25	4.8	80
1,2-Dichloroethane	1.5	Not Detected	6.1	Not Detected
Heptane	1.5	0.78 J	6.2	3.2 J
Trichloroethene	1.5	Not Detected	8.1	Not Detected
1,2-Dichloropropane	1.5	Not Detected	7.0	Not Detected
1,4-Dioxane	6.1	Not Detected	22	Not Detected
Bromodichloromethane	1.5	Not Detected	10	Not Detected
cis-1,3-Dichloropropene	1.5	Not Detected	6.9	Not Detected
4-Methyl-2-pentanone	1.5	15	6.2	63
Toluene	1.5	38	5.7	140
trans-1,3-Dichloropropene	1.5	Not Detected	6.9	Not Detected
1,1,2-Trichloroethane	1.5	Not Detected	8.3	Not Detected
Tetrachloroethene	1.5	Not Detected	10	Not Detected
2-Hexanone	6.1	Not Detected	25	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-4-5-091712

Lab ID#: 1209540A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100118**	**Date of Collection: 9/17/12 1:00:00 PM**	
Dil. Factor:	**3.03**	**Date of Analysis: 10/1/12 05:24 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.5	Not Detected	13	Not Detected
1,2-Dibromoethane (EDB)	1.5	Not Detected	12	Not Detected
Chlorobenzene	1.5	~~4.4~~ J ul	7.0	~~5.0~~ J ul
Ethyl Benzene	1.5	0.31 J	6.6	1.4 J
m,p-Xylene	1.5	0.76 J	6.6	3.3 J
o-Xylene	1.5	0.39 J	6.6	1.7 J
Styrene	1.5	Not Detected	6.4	Not Detected
Bromoform	1.5	Not Detected	16	Not Detected
Cumene	1.5	1.8	7.4	8.7
1,1,2,2-Tetrachloroethane	1.5	Not Detected	10	Not Detected
Propylbenzene	1.5	Not Detected	7.4	Not Detected
4-Ethyltoluene	1.5	Not Detected	7.4	Not Detected
1,3,5-Trimethylbenzene	1.5	Not Detected	7.4	Not Detected
1,2,4-Trimethylbenzene	1.5	0.25 J	7.4	1.2 J
1,3-Dichlorobenzene	1.5	Not Detected	9.1	Not Detected
1,4-Dichlorobenzene	1.5	0.23 J	9.1	1.4 J
alpha-Chlorotoluene	1.5	Not Detected	7.8	Not Detected
1,2-Dichlorobenzene	1.5	Not Detected	9.1	Not Detected
1,2,4-Trichlorobenzene	6.1	Not Detected	45	Not Detected
Hexachlorobutadiene	6.1	Not Detected	65	Not Detected
Butane	6.1	Not Detected	14	Not Detected
Isopentane	6.1	Not Detected	18	Not Detected
Ethyl Acetate	6.1	Not Detected	22	Not Detected
Propylene	6.1	Not Detected	10	Not Detected
Vinyl Acetate	6.1	Not Detected	21	Not Detected
Vinyl Bromide	6.1	Not Detected	26	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Acetaldehyde	75-07-0	9.0%	8.0 NJ
1-Hexyn-3-ol	105-31-7	59%	14 NJ
Hexanal	66-25-1	86%	8.8 NJ
Unknown	NA	NA	8.8 J
Decane, 2,2,8-trimethyl-	62238-01-1	78%	10 NJ
Decane, 2,2,5-trimethyl-	62237-96-1	78%	21 NJ
Undecane, 4,6-dimethyl-	17312-82-2	64%	30 NJ
Decane, 2,2,6-trimethyl-	62237-97-2	59%	66 NJ
1-Hexene, 3-methyl-	3404-61-3	22%	23 NJ
Decanedioic acid, didecyl ester	2432-89-5	59%	27 NJ

eurofins | Air Toxics

Client Sample ID: VMP-4-5-091712

Lab ID#: 1209540A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100118**	**Date of Collection: 9/17/12 1:00:00 PM**
Dil. Factor:	**3.03**	**Date of Analysis: 10/1/12 05:24 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	87	70-130

eurofins | Air Toxics

Client Sample ID: VMP-11-5-091812

Lab ID#: 1209540A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100121**	**Date of Collection:**	**9/18/12 10:20:00 AM**
Dil. Factor:	**2.86**	**Date of Analysis:**	**10/1/12 07:16 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.36 J	7.1	1.8 J
Freon 114	1.4	Not Detected	10	Not Detected
Chloromethane	14	Not Detected	30	Not Detected
Vinyl Chloride	1.4	Not Detected	3.6	Not Detected
1,3-Butadiene	1.4	Not Detected	3.2	Not Detected
Bromomethane	14	Not Detected	56	Not Detected
Chloroethane	5.7	Not Detected	15	Not Detected
Freon 11	1.4	Not Detected	8.0	Not Detected
Ethanol	5.7	9.0	11	17
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Acetone	14	8.2 J	34	20 J
2-Propanol	5.7	5.0 J	14	12 J
Carbon Disulfide	5.7	~~0.90~~ J	18	~~2.8~~ J
3-Chloropropene	5.7	Not Detected	18	Not Detected
Methylene Chloride	14	0.26 J	50	0.90 J
Methyl tert-butyl ether	1.4	Not Detected	5.2	Not Detected
trans-1,2-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Hexane	1.4	0.16 J	5.0	0.57 J
1,1-Dichloroethane	1.4	Not Detected	5.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.7	3.3 J	17	9.7 J
cis-1,2-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Tetrahydrofuran	1.4	4.0	4.2	12
Chloroform	1.4	Not Detected	7.0	Not Detected
1,1,1-Trichloroethane	1.4	Not Detected	7.8	Not Detected
Cyclohexane	1.4	0.63 J	4.9	2.2 J
Carbon Tetrachloride	1.4	Not Detected	9.0	Not Detected
2,2,4-Trimethylpentane	1.4	18	6.7	83
Benzene	1.4	8.8	4.6	28
1,2-Dichloroethane	1.4	Not Detected	5.8	Not Detected
Heptane	1.4	0.62 J	5.9	2.6 J
Trichloroethene	1.4	Not Detected	7.7	Not Detected
1,2-Dichloropropane	1.4	Not Detected	6.6	Not Detected
1,4-Dioxane	5.7	Not Detected	21	Not Detected
Bromodichloromethane	1.4	Not Detected	9.6	Not Detected
cis-1,3-Dichloropropene	1.4	Not Detected	6.5	Not Detected
4-Methyl-2-pentanone	1.4	13	5.8	52
Toluene	1.4	48	5.4	180
trans-1,3-Dichloropropene	1.4	Not Detected	6.5	Not Detected
1,1,2-Trichloroethane	1.4	Not Detected	7.8	Not Detected
Tetrachloroethene	1.4	Not Detected	9.7	Not Detected
2-Hexanone	5.7	Not Detected	23	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-11-5-091812

Lab ID#: 1209540A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100121**	**Date of Collection:**	**9/18/12 10:20:00 AM**
Dil. Factor:	**2.86**	**Date of Analysis:**	**10/1/12 07:16 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	~~4.2~~ J U	6.6	~~5.5~~ J U
Ethyl Benzene	1.4	0.38 J	6.2	1.6 J
m,p-Xylene	1.4	0.82 J	6.2	3.5 J
o-Xylene	1.4	0.31 J	6.2	1.4 J
Styrene	1.4	Not Detected	6.1	Not Detected
Bromoform	1.4	Not Detected	15	Not Detected
Cumene	1.4	1.5	7.0	7.5
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.8	Not Detected
Propylbenzene	1.4	0.22 J	7.0	1.1 J
4-Ethyltoluene	1.4	0.34 J	7.0	1.7 J
1,3,5-Trimethylbenzene	1.4	Not Detected	7.0	Not Detected
1,2,4-Trimethylbenzene	1.4	0.33 J	7.0	1.6 J
1,3-Dichlorobenzene	1.4	Not Detected	8.6	Not Detected
1,4-Dichlorobenzene	1.4	Not Detected	8.6	Not Detected
alpha-Chlorotoluene	1.4	Not Detected	7.4	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.6	Not Detected
1,2,4-Trichlorobenzene	5.7	Not Detected	42	Not Detected
Hexachlorobutadiene	5.7	Not Detected	61	Not Detected
Butane	5.7	Not Detected	14	Not Detected
Isopentane	5.7	5.1 J	17	15 J
Ethyl Acetate	5.7	Not Detected	21	Not Detected
Propylene	5.7	Not Detected	9.8	Not Detected
Vinyl Acetate	5.7	Not Detected	20	Not Detected
Vinyl Bromide	5.7	Not Detected	25	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Pentane, 2,4-dimethyl-	108-08-7	64%	11 NJ
Unknown	NA	NA	11 J
Pentane, 2,3-dimethyl-	565-59-3	43%	27 NJ
Pentane, 2,3,4-trimethyl-	565-75-3	86%	23 NJ
Pentane, 2,3,3-trimethyl-	560-21-4	83%	30 NJ
Decane, 2,2-dimethyl-	17302-37-3	72%	8.8 NJ
Decane, 2,2,4-trimethyl-	62237-98-3	64%	20 NJ
Undecane, 3,8-dimethyl-	17301-30-3	64%	26 NJ
Unknown	NA	NA	18 J
Cyclooctane, 1,4-dimethyl-, cis-	13151-99-0	78%	23 NJ

eurofins | Air Toxics

Client Sample ID: VMP-11-5-091812

Lab ID#: 1209540A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100121**	**Date of Collection: 9/18/12 10:20:00 AM**
Dil. Factor:	**2.86**	**Date of Analysis: 10/1/12 07:16 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	88	70-130

eurofins | Air Toxics

Client Sample ID: VMP-13-5-091812

Lab ID#: 1209540A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100123**	**Date of Collection: 9/18/12 11:27:00 AM**	
Dil. Factor:	**3.00**	**Date of Analysis: 10/1/12 08:19 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.36 J	7.4	1.8 J
Freon 114	1.5	Not Detected	10	Not Detected
Chloromethane	15	Not Detected	31	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	58	Not Detected
Chloroethane	6.0	Not Detected	16	Not Detected
Freon 11	1.5	Not Detected	8.4	Not Detected
Ethanol	6.0	2.2 J	11	4.1 J
Freon 113	1.5	Not Detected	11	Not Detected
1,1-Dichloroethene	1.5	Not Detected	5.9	Not Detected
Acetone	15	8.9 J	36	21 J
2-Propanol	6.0	Not Detected	15	Not Detected
Carbon Disulfide	6.0	2.4 J	19	7.4 J
3-Chloropropene	6.0	Not Detected	19	Not Detected
Methylene Chloride	15	0.49 J	52	1.7 J
Methyl tert-butyl ether	1.5	Not Detected	5.4	Not Detected
trans-1,2-Dichloroethene	1.5	Not Detected	5.9	Not Detected
Hexane	1.5	0.46 J	5.3	1.6 J
1,1-Dichloroethane	1.5	Not Detected	6.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	6.0	Not Detected	18	Not Detected
cis-1,2-Dichloroethene	1.5	Not Detected	5.9	Not Detected
Tetrahydrofuran	1.5	0.56 J	4.4	1.7 J
Chloroform	1.5	0.36 J	7.3	1.7 J
1,1,1-Trichloroethane	1.5	Not Detected	8.2	Not Detected
Cyclohexane	1.5	Not Detected	5.2	Not Detected
Carbon Tetrachloride	1.5	Not Detected	9.4	Not Detected
2,2,4-Trimethylpentane	1.5	2.0	7.0	9.5
Benzene	1.5	0.95 J	4.8	3.0 J
1,2-Dichloroethane	1.5	Not Detected	6.1	Not Detected
Heptane	1.5	0.47 J	6.1	1.9 J
Trichloroethene	1.5	Not Detected	8.1	Not Detected
1,2-Dichloropropane	1.5	Not Detected	6.9	Not Detected
1,4-Dioxane	6.0	Not Detected	22	Not Detected
Bromodichloromethane	1.5	Not Detected	10	Not Detected
cis-1,3-Dichloropropene	1.5	Not Detected	6.8	Not Detected
4-Methyl-2-pentanone	1.5	Not Detected	6.1	Not Detected
Toluene	1.5	1.0 J	5.6	3.9 J
trans-1,3-Dichloropropene	1.5	Not Detected	6.8	Not Detected
1,1,2-Trichloroethane	1.5	Not Detected	8.2	Not Detected
Tetrachloroethene	1.5	Not Detected	10	Not Detected
2-Hexanone	6.0	Not Detected	24	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-13-5-091812

Lab ID#: 1209540A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100123**	**Date of Collection: 9/18/12 11:27:00 AM**	
Dil. Factor:	**3.00**	**Date of Analysis: 10/1/12 08:19 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.5	Not Detected	13	Not Detected
1,2-Dibromoethane (EDB)	1.5	Not Detected	12	Not Detected
Chlorobenzene	1.5	~~1.2 J~~ ب	6.9	~~5.6 J~~ ب
Ethyl Benzene	1.5	Not Detected	6.5	Not Detected
m,p-Xylene	1.5	Not Detected	6.5	Not Detected
o-Xylene	1.5	Not Detected	6.5	Not Detected
Styrene	1.5	Not Detected	6.4	Not Detected
Bromoform	1.5	Not Detected	16	Not Detected
Cumene	1.5	Not Detected	7.4	Not Detected
1,1,2,2-Tetrachloroethane	1.5	Not Detected	10	Not Detected
Propylbenzene	1.5	Not Detected	7.4	Not Detected
4-Ethyltoluene	1.5	Not Detected	7.4	Not Detected
1,3,5-Trimethylbenzene	1.5	Not Detected	7.4	Not Detected
1,2,4-Trimethylbenzene	1.5	Not Detected	7.4	Not Detected
1,3-Dichlorobenzene	1.5	Not Detected	9.0	Not Detected
1,4-Dichlorobenzene	1.5	0.18 J	9.0	1.1 J
alpha-Chlorotoluene	1.5	Not Detected	7.8	Not Detected
1,2-Dichlorobenzene	1.5	Not Detected	9.0	Not Detected
1,2,4-Trichlorobenzene	6.0	Not Detected	44	Not Detected
Hexachlorobutadiene	6.0	Not Detected	64	Not Detected
Butane	6.0	Not Detected	14	Not Detected
Isopentane	6.0	Not Detected	18	Not Detected
Ethyl Acetate	6.0	Not Detected	22	Not Detected
Propylene	6.0	Not Detected	10	Not Detected
Vinyl Acetate	6.0	Not Detected	21	Not Detected
Vinyl Bromide	6.0	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

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	87	70-130

eurofins | Air Toxics

Client Sample ID: VMP-10-5-091812

Lab ID#: 1209540A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100122**	**Date of Collection: 9/18/12 12:30:00 PM**	
Dil. Factor:	**2.89**	**Date of Analysis: 10/1/12 07:44 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.41 J	7.1	2.0 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	Not Detected	8.1	Not Detected
Ethanol	5.8	Not Detected	11	Not Detected
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Acetone	14	13 J	34	30 J
2-Propanol	5.8	Not Detected	14	Not Detected
Carbon Disulfide	5.8	~~0.88 J~~ UL	18	~~2.8 J~~ UL
3-Chloropropene	5.8	Not Detected	18	Not Detected
Methylene Chloride	14	0.17 J	50	0.59 J
Methyl tert-butyl ether	1.4	Not Detected	5.2	Not Detected
trans-1,2-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Hexane	1.4	0.33 J	5.1	1.2 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	1.5	6.8	7.1
Benzene	1.4	4.6	4.6	15
1,2-Dichloroethane	1.4	Not Detected	5.8	Not Detected
Heptane	1.4	0.28 J	5.9	1.2 J
Trichloroethene	1.4	Not Detected	7.8	Not Detected
1,2-Dichloropropane	1.4	Not Detected	6.7	Not Detected
1,4-Dioxane	5.8	Not Detected	21	Not Detected
Bromodichloromethane	1.4	Not Detected	9.7	Not Detected
cis-1,3-Dichloropropene	1.4	Not Detected	6.6	Not Detected
4-Methyl-2-pentanone	1.4	Not Detected	5.9	Not Detected
Toluene	1.4	0.43 J	5.4	1.6 J
trans-1,3-Dichloropropene	1.4	Not Detected	6.6	Not Detected
1,1,2-Trichloroethane	1.4	Not Detected	7.9	Not Detected
Tetrachloroethene	1.4	Not Detected	9.8	Not Detected
2-Hexanone	5.8	Not Detected	24	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-10-5-091812

Lab ID#: 1209540A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100122**	**Date of Collection: 9/18/12 12:30:00 PM**	
Dil. Factor:	**2.89**	**Date of Analysis: 10/1/12 07:44 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	~~1.1~~ J U	6.6	~~4.9~~ 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
Cumene	1.4	Not Detected	7.1	Not Detected
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.9	Not Detected
Propylbenzene	1.4	Not Detected	7.1	Not Detected
4-Ethyltoluene	1.4	Not Detected	7.1	Not Detected
1,3,5-Trimethylbenzene	1.4	Not Detected	7.1	Not Detected
1,2,4-Trimethylbenzene	1.4	Not Detected	7.1	Not Detected
1,3-Dichlorobenzene	1.4	Not Detected	8.7	Not Detected
1,4-Dichlorobenzene	1.4	Not Detected	8.7	Not Detected
alpha-Chlorotoluene	1.4	Not Detected	7.5	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.7	Not Detected
1,2,4-Trichlorobenzene	5.8	Not Detected	43	Not Detected
Hexachlorobutadiene	5.8	Not Detected	62	Not Detected
Butane	5.8	Not Detected	14	Not Detected
Isopentane	5.8	Not Detected	17	Not Detected
Ethyl Acetate	5.8	Not Detected	21	Not Detected
Propylene	5.8	Not Detected	9.9	Not Detected
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))
1-Propene, 2-methyl-	115-11-7	80%	32 NJ

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	89	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209540A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100115a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 03:18 PM**	

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
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	0.30 J	6.2	0.94 J
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	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	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	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	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	0.071 J	1.9	0.27 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	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209540A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100115a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 03:18 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	0.42 J	2.3	1.9 J
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
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	102	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	87	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1209540A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 08:19 AM**	

Compound	%Recovery
Freon 12	89
Freon 114	86
Chloromethane	81
Vinyl Chloride	82
1,3-Butadiene	76
Bromomethane	83
Chloroethane	82
Freon 11	87
Ethanol	84
Freon 113	82
1,1-Dichloroethene	78
Acetone	82
2-Propanol	87
Carbon Disulfide	81
3-Chloropropene	80
Methylene Chloride	87
Methyl tert-butyl ether	84
trans-1,2-Dichloroethene	84
Hexane	81
1,1-Dichloroethane	88
2-Butanone (Methyl Ethyl Ketone)	94
cis-1,2-Dichloroethene	90
Tetrahydrofuran	91
Chloroform	94
1,1,1-Trichloroethane	89
Cyclohexane	90
Carbon Tetrachloride	92
2,2,4-Trimethylpentane	84
Benzene	95
1,2-Dichloroethane	93
Heptane	97
Trichloroethene	99
1,2-Dichloropropane	96
1,4-Dioxane	99
Bromodichloromethane	98
cis-1,3-Dichloropropene	103
4-Methyl-2-pentanone	85
Toluene	99
trans-1,3-Dichloropropene	89
1,1,2-Trichloroethane	96
Tetrachloroethene	90
2-Hexanone	85

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1209540A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 08:19 AM**	

Compound	%Recovery
Dibromochloromethane	94
1,2-Dibromoethane (EDB)	96
Chlorobenzene	83
Ethyl Benzene	92
m,p-Xylene	90
o-Xylene	90
Styrene	83
Bromoform	89
Cumene	90
1,1,2,2-Tetrachloroethane	100
Propylbenzene	96
4-Ethyltoluene	91
1,3,5-Trimethylbenzene	88
1,2,4-Trimethylbenzene	84
1,3-Dichlorobenzene	87
1,4-Dichlorobenzene	87
alpha-Chlorotoluene	87
1,2-Dichlorobenzene	85
1,2,4-Trichlorobenzene	79
Hexachlorobutadiene	78
Butane	81
Isopentane	90
Ethyl Acetate	101
Propylene	96
Vinyl Acetate	90
Vinyl Bromide	92

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	95	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209540A-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 09:11 AM**	

Compound	%Recovery
Freon 12	86
Freon 114	83
Chloromethane	79
Vinyl Chloride	82
1,3-Butadiene	76
Bromomethane	80
Chloroethane	79
Freon 11	86
Ethanol	74
Freon 113	81
1,1-Dichloroethene	80
Acetone	82
2-Propanol	84
Carbon Disulfide	100
3-Chloropropene	89
Methylene Chloride	86
Methyl tert-butyl ether	85
trans-1,2-Dichloroethene	92
Hexane	78
1,1-Dichloroethane	86
2-Butanone (Methyl Ethyl Ketone)	93
cis-1,2-Dichloroethene	90
Tetrahydrofuran	85
Chloroform	93
1,1,1-Trichloroethane	86
Cyclohexane	92
Carbon Tetrachloride	94
2,2,4-Trimethylpentane	81
Benzene	100
1,2-Dichloroethane	93
Heptane	99
Trichloroethene	103
1,2-Dichloropropane	99
1,4-Dioxane	95
Bromodichloromethane	100
cis-1,3-Dichloropropene	102
4-Methyl-2-pentanone	82
Toluene	101
trans-1,3-Dichloropropene	93
1,1,2-Trichloroethane	103
Tetrachloroethene	92
2-Hexanone	83

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209540A-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 09:11 AM**	

Compound	%Recovery
Dibromochloromethane	96
1,2-Dibromoethane (EDB)	101
Chlorobenzene	87
Ethyl Benzene	94
m,p-Xylene	93
o-Xylene	94
Styrene	83
Bromoform	88
Cumene	92
1,1,2,2-Tetrachloroethane	105
Propylbenzene	100
4-Ethyltoluene	90
1,3,5-Trimethylbenzene	89
1,2,4-Trimethylbenzene	84
1,3-Dichlorobenzene	88
1,4-Dichlorobenzene	87
alpha-Chlorotoluene	86
1,2-Dichlorobenzene	86
1,2,4-Trichlorobenzene	80
Hexachlorobutadiene	78
Butane	72
Isopentane	87
Ethyl Acetate	Not Spiked
Propylene	83
Vinyl Acetate	84
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	92	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1209540A-09AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100108**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 11:58 AM**	

Compound	%Recovery
Freon 12	92
Freon 114	90
Chloromethane	84
Vinyl Chloride	85
1,3-Butadiene	77
Bromomethane	84
Chloroethane	85
Freon 11	89
Ethanol	77
Freon 113	84
1,1-Dichloroethene	83
Acetone	84
2-Propanol	84
Carbon Disulfide	101
3-Chloropropene	90
Methylene Chloride	86
Methyl tert-butyl ether	87
trans-1,2-Dichloroethene	97
Hexane	79
1,1-Dichloroethane	89
2-Butanone (Methyl Ethyl Ketone)	97
cis-1,2-Dichloroethene	90
Tetrahydrofuran	86
Chloroform	96
1,1,1-Trichloroethane	90
Cyclohexane	93
Carbon Tetrachloride	94
2,2,4-Trimethylpentane	82
Benzene	100
1,2-Dichloroethane	93
Heptane	97
Trichloroethene	102
1,2-Dichloropropane	98
1,4-Dioxane	96
Bromodichloromethane	98
cis-1,3-Dichloropropene	103
4-Methyl-2-pentanone	81
Toluene	100
trans-1,3-Dichloropropene	94
1,1,2-Trichloroethane	103
Tetrachloroethene	92
2-Hexanone	84

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1209540A-09AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100108**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 11:58 AM**	

Compound	%Recovery
Dibromochloromethane	96
1,2-Dibromoethane (EDB)	101
Chlorobenzene	88
Ethyl Benzene	96
m,p-Xylene	94
o-Xylene	93
Styrene	84
Bromoform	88
Cumene	92
1,1,2,2-Tetrachloroethane	106
Propylbenzene	100
4-Ethyltoluene	89
1,3,5-Trimethylbenzene	91
1,2,4-Trimethylbenzene	84
1,3-Dichlorobenzene	88
1,4-Dichlorobenzene	86
alpha-Chlorotoluene	85
1,2-Dichlorobenzene	85
1,2,4-Trichlorobenzene	76
Hexachlorobutadiene	74
Butane	81
Isopentane	92
Ethyl Acetate	Not Spiked
Propylene	87
Vinyl Acetate	86
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	92	70-130

1209540

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

Please Check Appropriate Box: ☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL ☐ MOTIVA SD&CM ☐ CONSULTANT ☐ LUBES ☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Robert Mooshagian

INCIDENT # (ENV SERVICES): 9 7 2 1 6 8 4 0 ☐ CHECK IF NO INCIDENT # APPLIES

PO #:

SAP #: 3 4 0 0 6 1

DATE: 09/25/12

PAGE 1 of 1

SAMPLING COMPANY: URS CORPORATION

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

Laboratory Address: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719

TELEPHONE: FAX: 314-429-0462

E-MAIL TO CONTACT: Robert.Mooshagian@urs.com

SITE ADDRESS: Street and City: 900 SOUTH CENTRAL AVE – ROXANA

State: IL

GLOBAL ID NO:

CON. DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel, URS, St. Louis

PHONE NO: 314-743-4179

EMAIL: Elizabeth_Kunkel@URSCorp.com

CONSULTANT PROJECT NAME: Roxana Vapor Additional

J.C. Williams, M. Currier

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:

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

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

Turn Around Time: ☑ Normal ☐ Rush ☐ Specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab Use Only	Field Sample Identification	Sampling Date	Sampling Time	Canister Number	Canister Pressure/Vacuum Initial	Canister Pressure/Vacuum Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
01A	VMP-21-5-091712	09/17/12	1040-1112	37383	-30	-8.5			X	X	
02A	VMP-42-10-091712	09/17/12	1138-1208	37710	-30	-9			X	X	
03A	VMP-4-5-091712	09/17/12	1230-1306	22963	-30	-10			X	X	
04A	VMP-11-5-091812	09/18/12	0950-1026	35864	-30	-9.5			X	X	
05A	VMP-13-5-091812	09/18/12	1057-1127	8027	-30	-10			X	X	
06A	VMP-10-5-091812	09/18/12	1200-1230	37696	-30	-9			X	X	

ADDITIONAL NOTES:

- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by (Signature)	Received by (Signature)	Date	Time
	FEDEX	9/25/12	1600
Relinquished by (Signature)	Received by (Signature)	9/26/12	0945
Relinquished by (Signature)	Received by (Signature)		

09/2006 Revision

CUSTODY SEAL INTACT? Y N NO N/A

fedex

eurofins | Air Toxics

10/10/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1209540B

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 9/26/2012 at Air Toxics Ltd.

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

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

Regards,

Kelly Buettner
Project Manager

Reviewed
on
10/11/2012

eurofins | Air Toxics

WORK ORDER #: 1209540B

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor
DATE RECEIVED:	09/26/2012	**CONTACT:**	Additional Kelly Buettner
DATE COMPLETED:	10/10/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-21-5-091712	Modified ASTM D-1946	8.6 "Hg	15 psi
02A	VMP-42-10-091712	Modified ASTM D-1946	8.8 "Hg	15 psi
03A	VMP-4-5-091712	Modified ASTM D-1946	10.0 "Hg	15 psi
04A	VMP-11-5-091812	Modified ASTM D-1946	8.8 "Hg	15 psi
05A	VMP-13-5-091812	Modified ASTM D-1946	9.8 "Hg	15 psi
06A	VMP-10-5-091812	Modified ASTM D-1946	9.0 "Hg	15 psi
07A	Lab Blank	Modified ASTM D-1946	NA	NA
07B	Lab Blank	Modified ASTM D-1946	NA	NA
08A	LCS	Modified ASTM D-1946	NA	NA
08AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 10/10/12

Technical Director

Certfication 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

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

LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1209540B

Six 1 Liter Summa Canister samples were received on September 26, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-091712

Lab ID#: 1209540B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	15
Nitrogen	0.28	80
Methane	0.00028	0.000034 J
Carbon Dioxide	0.028	5.5
Helium	0.14	0.038 J

Client Sample ID: VMP-42-10-091712

Lab ID#: 1209540B-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	19
Nitrogen	0.29	79
Carbon Dioxide	0.029	1.7

Client Sample ID: VMP-4-5-091712

Lab ID#: 1209540B-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	19
Nitrogen	0.30	80
Methane	0.00030	0.00016 J
Carbon Dioxide	0.030	1.1
Helium	0.15	0.087 J

Client Sample ID: VMP-11-5-091812

Lab ID#: 1209540B-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	18
Nitrogen	0.29	80
Methane	0.00029	0.000096 J
Carbon Dioxide	0.029	1.8

eurofins | Air Toxics

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

Client Sample ID: VMP-11-5-091812

Lab ID#: 1209540B-04A

Helium	0.14	0.016 J

Client Sample ID: VMP-13-5-091812

Lab ID#: 1209540B-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	80
Methane	0.00030	0.000057 J
Carbon Dioxide	0.030	2.4
Helium	0.15	0.042 J

Client Sample ID: VMP-10-5-091812

Lab ID#: 1209540B-06A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	18
Nitrogen	0.29	80
Methane	0.00029	0.000047 J
Carbon Dioxide	0.029	1.6
Helium	0.14	0.081 J

eurofins | Air Toxics

Client Sample ID: VMP-21-5-091712

Lab ID#: 1209540B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100119**	**Date of Collection:**	**9/17/12 11:12:00 AM**
Dil. Factor:	**2.83**	**Date of Analysis:**	**10/1/12 05:18 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	15
Nitrogen	0.28	80
Carbon Monoxide	0.028	Not Detected
Methane	0.00028	0.000034 J
Carbon Dioxide	0.028	5.5
Ethane	0.0028	Not Detected
Ethene	0.0028	Not Detected
Helium	0.14	0.038 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-42-10-091712

Lab ID#: 1209540B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100120**	**Date of Collection:**	**9/17/12 12:08:00 PM**
Dil. Factor:	**2.86**	**Date of Analysis:**	**10/1/12 05:45 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	19
Nitrogen	0.29	79
Carbon Monoxide	0.029	Not Detected
Methane	0.00029	Not Detected
Carbon Dioxide	0.029	1.7
Ethane	0.0029	Not Detected
Ethene	0.0029	Not Detected
Helium	0.14	Not Detected

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-4-5-091712

Lab ID#: 1209540B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100121**	**Date of Collection:**	**9/17/12 1:00:00 PM**
Dil. Factor:	**3.03**	**Date of Analysis:**	**10/1/12 06:15 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	19
Nitrogen	0.30	80
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	0.00016 J
Carbon Dioxide	0.030	1.1
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	0.087 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-11-5-091812

Lab ID#: 1209540B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100122**	**Date of Collection:**	**9/18/12 10:20:00 AM**
Dil. Factor:	**2.86**	**Date of Analysis:**	**10/1/12 06:46 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	18
Nitrogen	0.29	80
Carbon Monoxide	0.029	Not Detected
Methane	0.00029	0.000096 J
Carbon Dioxide	0.029	1.8
Ethane	0.0029	Not Detected
Ethene	0.0029	Not Detected
Helium	0.14	0.016 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-13-5-091812

Lab ID#: 1209540B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100123**	**Date of Collection:**	**9/18/12 11:27:00 AM**
Dil. Factor:	**3.00**	**Date of Analysis:**	**10/1/12 07:14 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	80
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	0.000057 J
Carbon Dioxide	0.030	2.4
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	0.042 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-10-5-091812

Lab ID#: 1209540B-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100124**	**Date of Collection:**	**9/18/12 12:30:00 PM**
Dil. Factor:	**2.89**	**Date of Analysis:**	**10/1/12 07:44 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.29	18
Nitrogen	0.29	80
Carbon Monoxide	0.029	Not Detected
Methane	0.00029	0.000047 J
Carbon Dioxide	0.029	1.6
Ethane	0.0029	Not Detected
Ethene	0.0029	Not Detected
Helium	0.14	0.081 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209540B-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100118a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 04:22 PM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.011 J
Nitrogen	0.10	0.057 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209540B-07B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100117b**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 03:56 PM**	

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

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209540B-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100114**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 01:14 PM**	

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

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1209540B-08AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100139**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/2/12 11:46 AM**	

Compound	%Recovery
Oxygen	100
Nitrogen	101
Carbon Monoxide	97
Methane	99
Carbon Dioxide	101
Ethane	100
Ethene	97
Helium	100

Container Type: NA - Not Applicable

1209540

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

Please Check Appropriate Box:
☑ E&W, SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA S/B/CH ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Robert Mooshegian
PO #:
INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0
SAP #: 3 4 0 0 6 1
☐ CHECK IF NO INCIDENT # APPLIES
DATE: 09/25/12
PAGE 1 of 1

SAMPLING COMPANY: URS CORPORATION
LOGIC CODE:
SITE ADDRESS: Street and City: 900 SOUTH CENTRAL AVE – ROXANA
State: IL
GLOBAL ID NO.:
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
CDX DELIVERABLE TO (name, company, city, location): Elizabeth Kunkel, URS, St. Louis
PHONE NO.: 314-743-4179
EMAIL: Elizabeth_Kunkel@URSCorp.com
CONSULTANT PROJECT NAME#: Roxana Vapor Additional
Laboratory Address: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
J.C. Williams, M. Currier
TELEPHONE:
FAX: 314-429-0462
SHELL CONSULTANT E-MAIL: Robert.MooshegianEURS.com

*TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

REQUESTED ANALYSIS

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☐ OTHER (SPECIFY) _____

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ PO# NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

Turn Around Time: ☑ Normal ☐ Rush ☐ Specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab Sample ID (Lab Use Only)	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	Canister Number	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946				
01A	VMP-21-5-091712	09/17/12	1040-1112	37383	-30	-8.5			X	X					
02A	VMP-42-10-091712	09/17/12	1136-1208	37710	-30	-9			X	X					
03A	VMP-4-5-091712	09/17/12	1230-1300	22983	-30	-10			X	X					
04A	VMP-11-5-091812	09/18/12	0900-1000	35664	-30	-9.5			X	X					
05A	VMP-13-5-091812	09/18/12	1057-1127	8027	-30	-10			X	X					
06A	VMP-10-5-091812	09/18/12	1200-1230	37696	-30	-9			X	X					

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by (Signature)	Received by (Signature)	Date	Time
	FEDEX	9/25/12	1600
Relinquished by (Signature)	Received by (Signature)	Date	Time
		9/26/12	0945
Relinquished by (Signature)	Received by (Signature)	Date	Time

10/2006 Revision

CUSTODY SEAL INTACT? Y N NO N/A
fedex

Roxana Soil Vapor Additional – Week 7 - Data Review

Laboratory SDG: 1209541A,B

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Steve Gragert

Date Reviewed: 10/12/2012

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

Sample Identification
VMP-16-5-091712

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated that sample VMP-16-5-091712 was diluted due to high levels of target analytes. 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.

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
1209541A-02A	TO-15	Carbon disulfide	0.30 ppbv / 0.94 µg/m^3
1209541A-02A	TO-15	Toluene	0.071 ppbv / 0.27 µg/m^3
1209541A-02A	TO-15	Chlrobenzene	0.42 ppbv / 1.9 µg/m^3
1209541B-02A	Natural gases	Oxygen	0.011%
1209541B-02A	Natural gases	Nitrogen	0.057%

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes; 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 of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

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?

No

10.0 Sample Dilutions

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

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

11.0 Additional Qualifications

Were additional qualifications applied?

No

eurofins | Air Toxics

10/11/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1209541A

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 9/26/2012 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
10/11/2012

eurofins | Air Toxics

WORK ORDER #: 1209541A

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	09/26/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	10/10/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-16-5-091712	Modified TO-15/TICs	8.6 "Hg	15 psi
02A	Lab Blank	Modified TO-15/TICs	NA	NA
03A	CCV	Modified TO-15/TICs	NA	NA
04A	LCS	Modified TO-15/TICs	NA	NA
04AA	LCSD	Modified TO-15/TICs	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 10/11/12

Technical Director

Certfication 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

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# 1209541A

One 1 Liter Summa Canister sample was received on September 26, 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

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

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.

Dilution was performed on sample VMP-16-5-091712 due to the presence of high level target species.

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

eurofins | Air Toxics

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

Client Sample ID: VMP-16-5-091712

Lab ID#: 1209541A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	56000	45000 J	130000	110000 J
Carbon Disulfide	23000	4000 J	70000	12000 J
2,2,4-Trimethylpentane	5600	1600000	26000	7300000
Benzene	5600	3400 J	18000	11000 J
Toluene	5600	1800 J	21000	6600 J
Chlorobenzene	5600	3900 J	26000	18000 J
Butane	23000	24000	54000	57000
Isopentane	23000	500000	67000	1500000

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Pentane, 2-methyl-	107-83-5	23%	500000 NJ
Pentane, 3-methyl-	96-14-0	47%	570000 NJ
Pentane, 2,4-dimethyl-	108-08-7	80%	1300000 NJ
Pentane, 2,3-dimethyl-	565-59-3	87%	2400000 NJ
Hexane, 2,5-dimethyl-	592-13-2	87%	240000 NJ
Cyclohexane, methyl-	108-87-2	43%	360000 NJ
Pentane, 2,2,3-trimethyl-	564-02-3	74%	170000 NJ
Pentane, 2,3,4-trimethyl-	565-75-3	87%	1100000 NJ
Pentane, 2,3,3-trimethyl-	560-21-4	90%	1500000 NJ
Decane, 2,2,6-trimethyl-	62237-97-2	72%	220000 NJ

eurofins | Air Toxics

Client Sample ID: VMP-16-5-091712

Lab ID#: 1209541A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100119**	**Date of Collection: 9/17/12 9:50:00 AM**	
Dil. Factor:	**11300**	**Date of Analysis: 10/1/12 05:48 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5600	Not Detected	28000	Not Detected
Freon 114	5600	Not Detected	39000	Not Detected
Chloromethane	56000	Not Detected	120000	Not Detected
Vinyl Chloride	5600	Not Detected	14000	Not Detected
1,3-Butadiene	5600	Not Detected	12000	Not Detected
Bromomethane	56000	Not Detected	220000	Not Detected
Chloroethane	23000	Not Detected	60000	Not Detected
Freon 11	5600	Not Detected	32000	Not Detected
Ethanol	23000	Not Detected	42000	Not Detected
Freon 113	5600	Not Detected	43000	Not Detected
1,1-Dichloroethene	5600	Not Detected	22000	Not Detected
Acetone	56000	45000 J	130000	110000 J
2-Propanol	23000	Not Detected	56000	Not Detected
Carbon Disulfide	23000	4000 J	70000	12000 J
3-Chloropropene	23000	Not Detected	71000	Not Detected
Methylene Chloride	56000	Not Detected	200000	Not Detected
Methyl tert-butyl ether	5600	Not Detected	20000	Not Detected
trans-1,2-Dichloroethene	5600	Not Detected	22000	Not Detected
Hexane	5600	Not Detected	20000	Not Detected
1,1-Dichloroethane	5600	Not Detected	23000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	23000	Not Detected	67000	Not Detected
cis-1,2-Dichloroethene	5600	Not Detected	22000	Not Detected
Tetrahydrofuran	5600	Not Detected	17000	Not Detected
Chloroform	5600	Not Detected	28000	Not Detected
1,1,1-Trichloroethane	5600	Not Detected	31000	Not Detected
Cyclohexane	5600	Not Detected	19000	Not Detected
Carbon Tetrachloride	5600	Not Detected	36000	Not Detected
2,2,4-Trimethylpentane	5600	1600000	26000	7300000
Benzene	5600	3400 J	18000	11000 J
1,2-Dichloroethane	5600	Not Detected	23000	Not Detected
Heptane	5600	Not Detected	23000	Not Detected
Trichloroethene	5600	Not Detected	30000	Not Detected
1,2-Dichloropropane	5600	Not Detected	26000	Not Detected
1,4-Dioxane	23000	Not Detected	81000	Not Detected
Bromodichloromethane	5600	Not Detected	38000	Not Detected
cis-1,3-Dichloropropene	5600	Not Detected	26000	Not Detected
4-Methyl-2-pentanone	5600	Not Detected	23000	Not Detected
Toluene	5600	1800 J	21000	6600 J
trans-1,3-Dichloropropene	5600	Not Detected	26000	Not Detected
1,1,2-Trichloroethane	5600	Not Detected	31000	Not Detected
Tetrachloroethene	5600	Not Detected	38000	Not Detected
2-Hexanone	23000	Not Detected	92000	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-16-5-091712

Lab ID#: 1209541A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100119**	**Date of Collection:**	**9/17/12 9:50:00 AM**
Dil. Factor:	**11300**	**Date of Analysis:**	**10/1/12 05:48 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	5600	Not Detected	48000	Not Detected
1,2-Dibromoethane (EDB)	5600	Not Detected	43000	Not Detected
Chlorobenzene	5600	3900 J	26000	18000 J
Ethyl Benzene	5600	Not Detected	24000	Not Detected
m,p-Xylene	5600	Not Detected	24000	Not Detected
o-Xylene	5600	Not Detected	24000	Not Detected
Styrene	5600	Not Detected	24000	Not Detected
Bromoform	5600	Not Detected	58000	Not Detected
Cumene	5600	Not Detected	28000	Not Detected
1,1,2,2-Tetrachloroethane	5600	Not Detected	39000	Not Detected
Propylbenzene	5600	Not Detected	28000	Not Detected
4-Ethyltoluene	5600	Not Detected	28000	Not Detected
1,3,5-Trimethylbenzene	5600	Not Detected	28000	Not Detected
1,2,4-Trimethylbenzene	5600	Not Detected	28000	Not Detected
1,3-Dichlorobenzene	5600	Not Detected	34000	Not Detected
1,4-Dichlorobenzene	5600	Not Detected	34000	Not Detected
alpha-Chlorotoluene	5600	Not Detected	29000	Not Detected
1,2-Dichlorobenzene	5600	Not Detected	34000	Not Detected
1,2,4-Trichlorobenzene	23000	Not Detected	170000	Not Detected
Hexachlorobutadiene	23000	Not Detected	240000	Not Detected
Butane	23000	24000	54000	57000
Isopentane	23000	500000	67000	1500000
Ethyl Acetate	23000	Not Detected	81000	Not Detected
Propylene	23000	Not Detected	39000	Not Detected
Vinyl Acetate	23000	Not Detected	80000	Not Detected
Vinyl Bromide	23000	Not Detected	99000	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Pentane, 2-methyl-	107-83-5	23%	500000 NJ
Pentane, 3-methyl-	96-14-0	47%	570000 NJ
Pentane, 2,4-dimethyl-	108-08-7	80%	1300000 NJ
Pentane, 2,3-dimethyl-	565-59-3	87%	2400000 NJ
Hexane, 2,5-dimethyl-	592-13-2	87%	240000 NJ
Cyclohexane, methyl-	108-87-2	43%	360000 NJ
Pentane, 2,2,3-trimethyl-	564-02-3	74%	170000 NJ
Pentane, 2,3,4-trimethyl-	565-75-3	87%	1100000 NJ
Pentane, 2,3,3-trimethyl-	560-21-4	90%	1500000 NJ
Decane, 2,2,6-trimethyl-	62237-97-2	72%	220000 NJ

eurofins | Air Toxics

Client Sample ID: VMP-16-5-091712

Lab ID#: 1209541A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100119**	**Date of Collection: 9/17/12 9:50:00 AM**
Dil. Factor:	**11300**	**Date of Analysis: 10/1/12 05:48 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	88	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209541A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100115a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 03:18 PM**	

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
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	0.30 J	6.2	0.94 J
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	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	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	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	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	0.071 J	1.9	0.27 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	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209541A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100115a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 03:18 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	0.42 J	2.3	1.9 J
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
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	102	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	87	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1209541A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 08:19 AM**	

Compound	%Recovery
Freon 12	89
Freon 114	86
Chloromethane	81
Vinyl Chloride	82
1,3-Butadiene	76
Bromomethane	83
Chloroethane	82
Freon 11	87
Ethanol	84
Freon 113	82
1,1-Dichloroethene	78
Acetone	82
2-Propanol	87
Carbon Disulfide	81
3-Chloropropene	80
Methylene Chloride	87
Methyl tert-butyl ether	84
trans-1,2-Dichloroethene	84
Hexane	81
1,1-Dichloroethane	88
2-Butanone (Methyl Ethyl Ketone)	94
cis-1,2-Dichloroethene	90
Tetrahydrofuran	91
Chloroform	94
1,1,1-Trichloroethane	89
Cyclohexane	90
Carbon Tetrachloride	92
2,2,4-Trimethylpentane	84
Benzene	95
1,2-Dichloroethane	93
Heptane	97
Trichloroethene	99
1,2-Dichloropropane	96
1,4-Dioxane	99
Bromodichloromethane	98
cis-1,3-Dichloropropene	103
4-Methyl-2-pentanone	85
Toluene	99
trans-1,3-Dichloropropene	89
1,1,2-Trichloroethane	96
Tetrachloroethene	90
2-Hexanone	85

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1209541A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 08:19 AM**	

Compound	%Recovery
Dibromochloromethane	94
1,2-Dibromoethane (EDB)	96
Chlorobenzene	83
Ethyl Benzene	92
m,p-Xylene	90
o-Xylene	90
Styrene	83
Bromoform	89
Cumene	90
1,1,2,2-Tetrachloroethane	100
Propylbenzene	96
4-Ethyltoluene	91
1,3,5-Trimethylbenzene	88
1,2,4-Trimethylbenzene	84
1,3-Dichlorobenzene	87
1,4-Dichlorobenzene	87
alpha-Chlorotoluene	87
1,2-Dichlorobenzene	85
1,2,4-Trichlorobenzene	79
Hexachlorobutadiene	78
Butane	81
Isopentane	90
Ethyl Acetate	101
Propylene	96
Vinyl Acetate	90
Vinyl Bromide	92

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	95	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209541A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 09:11 AM**	

Compound	%Recovery
Freon 12	86
Freon 114	83
Chloromethane	79
Vinyl Chloride	82
1,3-Butadiene	76
Bromomethane	80
Chloroethane	79
Freon 11	86
Ethanol	74
Freon 113	81
1,1-Dichloroethene	80
Acetone	82
2-Propanol	84
Carbon Disulfide	100
3-Chloropropene	89
Methylene Chloride	86
Methyl tert-butyl ether	85
trans-1,2-Dichloroethene	92
Hexane	78
1,1-Dichloroethane	86
2-Butanone (Methyl Ethyl Ketone)	93
cis-1,2-Dichloroethene	90
Tetrahydrofuran	85
Chloroform	93
1,1,1-Trichloroethane	86
Cyclohexane	92
Carbon Tetrachloride	94
2,2,4-Trimethylpentane	81
Benzene	100
1,2-Dichloroethane	93
Heptane	99
Trichloroethene	103
1,2-Dichloropropane	99
1,4-Dioxane	95
Bromodichloromethane	100
cis-1,3-Dichloropropene	102
4-Methyl-2-pentanone	82
Toluene	101
trans-1,3-Dichloropropene	93
1,1,2-Trichloroethane	103
Tetrachloroethene	92
2-Hexanone	83

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209541A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 09:11 AM**	

Compound	%Recovery
Dibromochloromethane	96
1,2-Dibromoethane (EDB)	101
Chlorobenzene	87
Ethyl Benzene	94
m,p-Xylene	93
o-Xylene	94
Styrene	83
Bromoform	88
Cumene	92
1,1,2,2-Tetrachloroethane	105
Propylbenzene	100
4-Ethyltoluene	90
1,3,5-Trimethylbenzene	89
1,2,4-Trimethylbenzene	84
1,3-Dichlorobenzene	88
1,4-Dichlorobenzene	87
alpha-Chlorotoluene	86
1,2-Dichlorobenzene	86
1,2,4-Trichlorobenzene	80
Hexachlorobutadiene	78
Butane	72
Isopentane	87
Ethyl Acetate	Not Spiked
Propylene	83
Vinyl Acetate	84
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	92	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1209541A-04AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100108**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 11:58 AM**	

Compound	%Recovery
Freon 12	92
Freon 114	90
Chloromethane	84
Vinyl Chloride	85
1,3-Butadiene	77
Bromomethane	84
Chloroethane	85
Freon 11	89
Ethanol	77
Freon 113	84
1,1-Dichloroethene	83
Acetone	84
2-Propanol	84
Carbon Disulfide	101
3-Chloropropene	90
Methylene Chloride	86
Methyl tert-butyl ether	87
trans-1,2-Dichloroethene	97
Hexane	79
1,1-Dichloroethane	89
2-Butanone (Methyl Ethyl Ketone)	97
cis-1,2-Dichloroethene	90
Tetrahydrofuran	86
Chloroform	96
1,1,1-Trichloroethane	90
Cyclohexane	93
Carbon Tetrachloride	94
2,2,4-Trimethylpentane	82
Benzene	100
1,2-Dichloroethane	93
Heptane	97
Trichloroethene	102
1,2-Dichloropropane	98
1,4-Dioxane	96
Bromodichloromethane	98
cis-1,3-Dichloropropene	103
4-Methyl-2-pentanone	81
Toluene	100
trans-1,3-Dichloropropene	94
1,1,2-Trichloroethane	103
Tetrachloroethene	92
2-Hexanone	84

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1209541A-04AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100108**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 11:58 AM**	

Compound	%Recovery
Dibromochloromethane	96
1,2-Dibromoethane (EDB)	101
Chlorobenzene	88
Ethyl Benzene	96
m,p-Xylene	94
o-Xylene	93
Styrene	84
Bromoform	88
Cumene	92
1,1,2,2-Tetrachloroethane	106
Propylbenzene	100
4-Ethyltoluene	89
1,3,5-Trimethylbenzene	91
1,2,4-Trimethylbenzene	84
1,3-Dichlorobenzene	88
1,4-Dichlorobenzene	86
alpha-Chlorotoluene	85
1,2-Dichlorobenzene	85
1,2,4-Trichlorobenzene	76
Hexachlorobutadiene	74
Butane	81
Isopentane	92
Ethyl Acetate	Not Spiked
Propylene	87
Vinyl Acetate	86
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	92	70-130

1209541

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD. Project Name: Roxana Vapor Additional Project # 21562735.10100 Lab Vendor #	Please Check Appropriate Box: ☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL ☐ MOTIVA SD&CM ☐ CONSULTANT ☐ LUBES ☐ SHELL PIPELINE ☐ OTHER ______	Print Bill To Contact Name: Robert Moosheglan PO #	INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0 SAP #: 3 4 0 0 6 1 ☐ CHECK IF NO INCIDENT # APPLIES DATE: 09/25/12 PAGE: 1 of 1

SAMPLING COMPANY: URS CORPORATION

LOG CODE:

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

MAILING ADDRESS: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719

TELEPHONE: 314-429-0100 FAX: 314-429-0462 E-MAIL: Robert_Moosheglan@urs.com

SITE ADDRESS: Street and City: 900 SOUTH CENTRAL AVE – ROXANA State: IL GLOBAL ID NO:

EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel, URS, St. Louis PHONE NO: 314-743-4179 E-MAIL: Elizabeth_Kunkel@URSCorp.com CONSULTANT PROJECT NAME: Roxana Soil Vapor

J.C. Williams, M. Currier

TURNAROUND TIME (CALENDAR DAYS): ☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☐ OTHER (SPECIFY) ______

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	Sampling Date	Sampling Time	Canister Number	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946					
1A	VMP-16-5-091712	09/17/12	0923-0950	37360	-30	-9			x	x						

Turn Around Time: ☑ Normal ☐ Rush Specify

Lab Use Only: Pressurized by: Date: Pressurization Gas: N2 He

ADDITIONAL NOTES:

- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

9/25/12

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
[signature]	FEDEX	9/25/12	1600
Relinquished by: (Signature)	Received by: (Signature) [signature] ATL	9/26/12	0945
Relinquished by: (Signature)	Received by: (Signature)	Date	Time

05/2/08 Revision

CUSTODY SEAL INTACT? Y N NO

eurofins | Air Toxics

10/10/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1209541B

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 9/26/2012 at Air Toxics Ltd.

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

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

Regards,

Kelly Buettner

Project Manager

Reviewed
on
10/11/2012

eurofins | Air Toxics

WORK ORDER #: 1209541B

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	09/26/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	10/10/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-16-5-091712	Modified ASTM D-1946	8.6 "Hg	15 psi
02A	Lab Blank	Modified ASTM D-1946	NA	NA
02B	Lab Blank	Modified ASTM D-1946	NA	NA
03A	LCS	Modified ASTM D-1946	NA	NA
03AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 10/10/12

Technical Director

Certfication 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

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

LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1209541B

One 1 Liter Summa Canister sample was received on September 26, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

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

Client Sample ID: VMP-16-5-091712

Lab ID#: 1209541B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	1.4
Nitrogen	0.28	74
Methane	0.00028	7.9
Carbon Dioxide	0.028	16
Ethane	0.0028	0.00030 J

eurofins | Air Toxics

Client Sample ID: VMP-16-5-091712

Lab ID#: 1209541B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100125**	**Date of Collection:**	**9/17/12 9:50:00 AM**
Dil. Factor:	**2.83**	**Date of Analysis:**	**10/1/12 08:16 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	1.4
Nitrogen	0.28	74
Carbon Monoxide	0.028	Not Detected
Methane	0.00028	7.9
Carbon Dioxide	0.028	16
Ethane	0.0028	0.00030 J
Ethene	0.0028	Not Detected
Helium	0.14	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209541B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100118a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 04:22 PM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.011 J
Nitrogen	0.10	0.057 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1209541B-02B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100117b**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 03:56 PM**	

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

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1209541B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100114**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/1/12 01:14 PM**	

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

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1209541B-03AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100139**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/2/12 11:46 AM**	

Compound	%Recovery
Oxygen	100
Nitrogen	101
Carbon Monoxide	97
Methane	99
Carbon Dioxide	101
Ethane	100
Ethene	97
Helium	100

Container Type: NA - Not Applicable

1209541

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

Please Check Appropriate Box:
☒ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA S/S/C/M ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Robert Mooshegian
PO #:
INCIDENT # (ENV. SERVICES): 9 7 2 1 6 6 4 0
☐ CHECK IF NO INCIDENT # APPLIES
SAP #: 3 4 0 0 6 1
DATE: 09/25/12
PAGE: 1 of 1

SAMPLING COMPANY: URS CORPORATION
LOG CODE:
SITE ADDRESS: Street and City: 900 SOUTH CENTRAL AVE – ROXANA
State: IL
GLOBAL ID NO.:
ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
EDF DELIVERABLE TO (NAME, COMPANY, OFFICE LOCATION): Elizabeth Kunkel, URS, St. Louis
PHONE NO.: 314-743-4178
EMAIL: Elizabeth_Kunkel@URSCorp.com
CONSULTANT PROJECT NAME/#: Roxana Soil Vapor
LABORATORY NAME/ADDRESS: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
J.C. Williams, M. Culmer
TELEPHONE: 314-429-0100
FAX: 314-429-0462
SEND CONTACT E-MAIL: Robert.Mooshegian@urs.com

TURNAROUND TIME (CALENDAR DAYS):
☒ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

REQUESTED ANALYSIS

☐ LA - RWQCB REPORT FORMAT ☒ EDF AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☒ LEVEL 4 ☐ OTHER (SPECIFY)

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

Turn Around Time: ☒ Normal ☐ Rush ☐ Specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

LABORATORY ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	Canister Number	Canister Pressure/Vacuum Initial	Canister Pressure/Vacuum Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946
10	VMP-16-5-091712	09/17/12	0920-0950	37360	-30	-9			X	X	

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

	Relinquished by (Signature)	Received by (Signature)	Date	Time
1		FEDEX	9/25/12	1600
2		ATL	9/26/12	0946
3				

CUSTODY SEAL INTACT? Y N NO N/A

06/08/8 Revision

Roxana Soil Vapor Additional – Week 8 - Data Review

Laboratory SDG: 1210008A,BR1

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Steve Gragert

Date Reviewed: 10/15/2012

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

Sample Identification	Sample Identification
VMP-21-5-092712	VMP-42-10-092712
VMP-42-10-092712-Dup	VMP-16-5-092712
VMP-4-5-092712	VMP-11-5-092812
VMP-11-5-092812-Dup	VMP-13-5-092812
VMP-10-5-092812	VMP-10-5-092812-Dup

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, analytes were detected in the method blanks. These issues are addressed further in the appropriate sections below. Additionally, the laboratory report was revised on October 23, 2012 to correct a laboratory error in the original ASTM D-1946 analysis of sample VMP-21-5-092712.

No problems were indicated in the cooler receipt form.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
1210008A-11A	TO-15	Methylene chloride	0.094 ppbv / 0.33 µg/m^3
1210008A-11A	TO-15	1,1-Dichloroethane	0.070 ppbv / 0.28 µg/m^3
1210008A-11A	TO-15	1,2-Dichloroethane	0.089 ppbv / 0.36 µg/m^3
1210008A-11A	TO-15	cis-1,3-Dichloropropene	0.11 ppbv / 0.49 µg/m^3
1210008A-11A	TO-15	trans-1,3-Dichloropropene	0.14 ppbv / 0.62 µg/m^3
1210008A-11A	TO-15	Chlorobenzene	0.52 ppbv / 2.4 µg/m^3
1210008A-11A	TO-15	1,1,2,2-Tetrachloroethane	0.071 ppbv / 0.49 µg/m^3

Blank ID	Parameter	Analyte	Concentration/ Amount
1210008A-11A	TO-15	Propylbenzene	0.10 ppbv / 0.50 µg/m^3
1210008A-11A	TO-15	1,3,5-Trimethylbenzene	0.084 ppbv / 0.41 µg/m^3
1210008A-11A	TO-15	1,2,4-Trimethylbenzene	0.094 ppbv / 0.46 µg/m^3
1210008A-11A	TO-15	1,3-Dichlorobenzene	0.25 ppbv / 1.5 µg/m^3
1210008A-11A	TO-15	1,4-Dichlorobenzene	0.28 ppbv / 1.7 µg/m^3
1210008A-11A	TO-15	alpha-Chlorotoluene	0.091 ppbv / 0.47 µg/m^3
1210008A-11A	TO-15	1,2-Dichlorobenzene	0.20 ppbv / 1.2 µg/m^3
1210008A-11A	TO-15	1,2,4-Trichlorobenzene	0.58 ppbv / 4.3 µg/m^3
1210008A-11B	TO-15	Bromomethane	0.13 ppbv / 0.52 µg/m^3
1210008A-11B	TO-15	Carbon disulfide	0.32 ppbv / 1.0 µg/m^3
1210008A-11B	TO-15	Methylene chloride	0.11 ppbv / 0.39 µg/m^3
1210008A-11B	TO-15	Chloroform	0.089 ppbv / 0.43 µg/m^3
1210008A-11B	TO-15	1,2-Dichloroethane	0.074 ppbv / 0.30 µg/m^3
1210008A-11B	TO-15	trans-1,3-Dichloropropene	0.14 ppbv / 0.63 µg/m^3
1210008A-11B	TO-15	Chlorobenzene	0.48 ppbv / 2.2 µg/m^3
1210008A-11B	TO-15	1,1,2,2-Tetrachloroethane	0.078 ppbv / 0.54 µg/m^3
1210008A-11B	TO-15	Propylbenzene	0.12 ppbv / 0.60 µg/m^3
1210008A-11B	TO-15	1,3,5-Trimethylbenzene	0.12 ppbv / 0.58 µg/m^3
1210008A-11B	TO-15	1,2,4-Trimethylbenzene	0.15 ppbv / 0.76 µg/m^3
1210008A-11B	TO-15	1,3-Dichlorobenzene	0.26 ppbv / 1.6 µg/m^3
1210008A-11B	TO-15	1,4-Dichlorobenzene	0.30 ppbv / 1.8 µg/m^3
1210008A-11B	TO-15	alpha-Chlorotoluene	0.13 ppbv / 0.67 µg/m^3
1210008A-11B	TO-15	1,2-Dichlorobenzene	0.23 ppbv / 1.4 µg/m^3
1210008A-11B	TO-15	1,2,4-Trichlorobenzene	0.72 ppbv / 5.3 µg/m^3
1210008B-11A	Natural gases	Oxygen	0.018%
1210008B-11A	Natural gases	Nitrogen	0.090%

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

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
VMP-21-5-092712	TO-15	Chlorobenzene	-	**U**
VMP-21-5-092712	TO-15	1,3,5-Trimethylbenzene	-	**U**
VMP-21-5-092712	TO-15	1,2,4-Trimethylbenzene	-	**U**
VMP-21-5-092712	TO-15	1,3-Dichlorobenzene	-	**U**
VMP-21-5-092712	TO-15	1,4-Dichlorobenzene	-	**U**
VMP-21-5-092712	TO-15	alpha-Chlorotoluene	-	**U**
VMP-21-5-092712	TO-15	1,2-Dichlorobenzene	-	**U**
VMP-42-10-092712	TO-15	Methylene chloride	-	**U**
VMP-42-10-09271	TO-15	Chlorobenzene	**7.0**	**U**
VMP-42-10-09271	TO-15	Propylbenzene	-	**U**

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
VMP-42-10-09271	TO-15	1,3,5-Trimethylbenzene	-	U
VMP-42-10-09271	TO-15	1,2,4-Trimethylbenzene	-	U
VMP-42-10-09271	TO-15	1,3-Dichlorobenzene	-	U
VMP-42-10-09271	TO-15	1,4-Dichlorobenzene	-	U
VMP-42-10-09271	TO-15	1,2-Dichlorobenzene	-	U
VMP-42-10-092712-Dup	TO-15	Methylene chloride	-	U
VMP-42-10-092712-Dup	TO-15	Chlorobenzene	-	U
VMP-42-10-092712-Dup	TO-15	1,2,4-Trimethylbenzene	-	U
VMP-42-10-092712-Dup	TO-15	1,4-Dichlorobenzene	-	U
VMP-16-5-092712	TO-15	Chlorobenzene	6.3	U
VMP-16-5-092712	TO-15	1,4-Dichlorobenzene	-	U
VMP-4-5-092712	TO-15	Methylene chloride	-	U
VMP-4-5-092712	TO-15	Chlorobenzene	-	U
VMP-4-5-092712	TO-15	1,2,4-Trimethylbenzene	-	U
VMP-4-5-092712	TO-15	1,4-Dichlorobenzene	-	U
VMP-11-5-092812	TO-15	Chlorobenzene	-	U
VMP-11-5-092812	TO-15	1,4-Dichlorobenzene	-	U
VMP-11-5-092812-Dup	TO-15	Chlorobenzene	-	U
VMP-13-5-092812	TO-15	1,1,2,2-Tetrachloroethane	-	U
VMP-13-5-092812	TO-15	Propylbenzene	-	U
VMP-13-5-092812	TO-15	1,3,5-Trimethylbenzene	-	U
VMP-13-5-092812	TO-15	1,2,4-Trimethylbenzene	-	U
VMP-13-5-092812	TO-15	1,2,4-Trichlorobenzene	-	U
VMP-10-5-092812	TO-15	Carbon disulfide	-	U
VMP-10-5-092812	TO-15	Methylene chloride	-	U
VMP-10-5-092812	TO-15	Chloroform	-	U
VMP-10-5-092812	TO-15	trans-1,3-Dichloropropene	-	U
VMP-10-5-092812	TO-15	Chlorobenzene	8.1	U
VMP-10-5-092812	TO-15	1,1,2,2-Tetrachloroethane	-	U
VMP-10-5-092812	TO-15	Propylbenzene	-	U
VMP-10-5-092812	TO-15	1,3,5-Trimethylbenzene	-	U
VMP-10-5-092812	TO-15	1,2,4-Trimethylbenzene	-	U
VMP-10-5-092812	TO-15	1,3-Dichlorobenzene	-	U
VMP-10-5-092812	TO-15	1,4-Dichlorobenzene	-	U

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
VMP-10-5-092812	TO-15	alpha-Chlorotoluene	-	U
VMP-10-5-092812	TO-15	1,2-Dichlorobenzene	-	U
VMP-10-5-092812	TO-15	1,2,4-Trichlorobenzene	-	U
VMP-10-5-092812-Dup	TO-15	Carbon disulfide	-	U
VMP-10-5-092812-Dup	TO-15	Chloroform	-	U
VMP-10-5-092812-Dup	TO-15	trans-1,3-Dichloropropene	-	U
VMP-10-5-092812-Dup	TO-15	Chlorobenzene	7.8	U
VMP-10-5-092812-Dup	TO-15	Propylbenzene	-	U
VMP-10-5-092812-Dup	TO-15	1,2,4-Trimethylbenzene	-	U
VMP-10-5-092812-Dup	TO-15	1,3-Dichlorobenzene	-	U
VMP-10-5-092812-Dup	TO-15	1,4-Dichlorobenzene	-	U
VMP-10-5-092812-Dup	TO-15	alpha-Chlorotoluene	-	U
VMP-10-5-092812-Dup	TO-15	1,2-Dichlorobenzene	-	U
VMP-10-5-092812-Dup	TO-15	1,2,4-Trichlorobenzene	-	U

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes; 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 of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

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
VMP-42-10-092712	VMP-42-10-092712-Dup
VMP-11-5-092812	VMP-11-5-092812-Dup
VMP-10-5-092812	VMP-10-5-092812-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

eurofins | Air Toxics

10/15/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1210008A

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 10/1/2012 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
10/15/2012

eurofins | Air Toxics

WORK ORDER #: 1210008A

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	10/01/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	10/15/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-21-5-092712	Modified TO-15/TICs	8.0 "Hg	15 psi
02A	VMP-42-10-092712	Modified TO-15/TICs	7.5 "Hg	15 psi
03A	VMP-42-10-092712-Dup	Modified TO-15/TICs	6.5 "Hg	15 psi
04A	VMP-16-5-092712	Modified TO-15/TICs	7.5 "Hg	15 psi
05A	VMP-4-5-092712	Modified TO-15/TICs	6.0 "Hg	15 psi
06A	VMP-11-5-092812	Modified TO-15/TICs	9.5 "Hg	15 psi
07A	VMP-11-5-092812-Dup	Modified TO-15/TICs	9.0 "Hg	15 psi
08A	VMP-13-5-092812	Modified TO-15/TICs	8.5 "Hg	15 psi
09A	VMP-10-5-092812	Modified TO-15/TICs	10.5 "Hg	15 psi
10A	VMP-10-5-092812-Dup	Modified TO-15/TICs	10.0 "Hg	15 psi
11A	Lab Blank	Modified TO-15/TICs	NA	NA
11B	Lab Blank	Modified TO-15/TICs	NA	NA
12A	CCV	Modified TO-15/TICs	NA	NA
12B	CCV	Modified TO-15/TICs	NA	NA
13A	LCS	Modified TO-15/TICs	NA	NA
13AA	LCSD	Modified TO-15/TICs	NA	NA
13B	LCS	Modified TO-15/TICs	NA	NA
13BB	LCSD	Modified TO-15/TICs	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 10/15/12

Technical Director

Certfication 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

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# 1210008A

Ten 1 Liter Summa Canister samples were received on October 01, 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.

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

Chlorobenzene was detected in the laboratory blank analyzed on 10/8/12 at less than 5X the reporting limit. Associated samples that contained Chlorobenzene were flagged as indicated.

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

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-092712

Lab ID#: 1210008A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.47 J	6.8	2.3 J
Freon 11	1.4	0.28 J	7.8	1.6 J
Ethanol	5.5	6.8	10	13
Acetone	14	11 J	33	25 J
2-Propanol	5.5	20	14	49
Methylene Chloride	14	0.85 J	48	3.0 J
Hexane	1.4	0.15 J	4.9	0.52 J
2-Butanone (Methyl Ethyl Ketone)	5.5	5.3 J	16	16 J
Tetrahydrofuran	1.4	0.78 J	4.1	2.3 J
2,2,4-Trimethylpentane	1.4	0.33 J	6.4	1.5 J
Benzene	1.4	1.3 J	4.4	4.1 J
1,4-Dioxane	5.5	1.4 J	20	4.9 J
4-Methyl-2-pentanone	1.4	32	5.6	130
Toluene	1.4	1.4	5.2	5.4
Tetrachloroethene	1.4	0.65 J	9.4	4.4 J
Chlorobenzene	1.4	~~1.3~~ J ↓	6.4	~~5.9~~ J ↓
Ethyl Benzene	1.4	0.41 J	6.0	1.8 J
m,p-Xylene	1.4	0.79 J	6.0	3.4 J
o-Xylene	1.4	0.31 J	6.0	1.3 J
Styrene	1.4	0.30 J	5.9	1.3 J
Cumene	1.4	6.6	6.8	32
Propylbenzene	1.4	0.24 J	6.8	1.2 J
4-Ethyltoluene	1.4	0.46 J	6.8	2.3 J
1,3,5-Trimethylbenzene	1.4	~~0.27~~ J ↓	6.8	~~1.3~~ J ↓
1,2,4-Trimethylbenzene	1.4	~~0.43~~ J ↓	6.8	~~2.1~~ J ↓
1,3-Dichlorobenzene	1.4	~~0.55~~ J ↓	8.3	~~3.3~~ J ↓
1,4-Dichlorobenzene	1.4	~~0.58~~ J ↓	8.3	~~3.5~~ J ↓
alpha-Chlorotoluene	1.4	~~0.40~~ J ↓	7.1	~~2.0~~ J ↓
1,2-Dichlorobenzene	1.4	~~0.42~~ J ↓	8.3	~~2.6~~ J ↓
Propylene	5.5	1.8 J	9.5	3.1 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-092712

Lab ID#: 1210008A-01A

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Hexanal	66-25-1	42%	18 NJ
4-Nonene	2198-23-4	72%	31 NJ
Cyclobutanone, 2,3,3-trimethyl-	28290-01-9	50%	16 NJ
Propanal, 2-hydroxy-2-methyl-	20818-81-9	16%	15 NJ
Decane, 2,2,8-trimethyl-	62238-01-1	64%	51 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	83%	16 NJ
Nonane, 2-methyl-5-propyl-	31081-17-1	72%	57 NJ
Decane, 2,6,6-trimethyl-	62108-24-1	72%	16 NJ
Heptane, 4-ethyl-2,2,6,6-tetramethyl-	62108-31-0	72%	83 NJ
Undecane, 2,8-dimethyl-	17301-25-6	78%	34 NJ

Client Sample ID: VMP-42-10-092712

Lab ID#: 1210008A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.52 J	6.6	2.6 J
Ethanol	5.4	3.5 J	10	6.5 J
Acetone	13	11 J	32	26 J
2-Propanol	5.4	2.3 J	13	5.6 J
Carbon Disulfide	5.4	0.75 J	17	2.3 J
Methylene Chloride	13	~~0.46~~ J U	47	~~4.6~~ J U
Hexane	1.3	0.27 J	4.7	0.97 J
2-Butanone (Methyl Ethyl Ketone)	5.4	3.4 J	16	10 J
Chloroform	1.3	1.0 J	6.6	5.0 J
2,2,4-Trimethylpentane	1.3	0.20 J	6.3	0.94 J
Benzene	1.3	2.4	4.3	7.6
4-Methyl-2-pentanone	1.3	17	5.5	71
Toluene	1.3	1.1 J	5.1	4.1 J
Tetrachloroethene	1.3	0.44 J	9.1	3.0 J
Chlorobenzene	~~1.3~~ 1.5	~~1.5~~ B U	~~6.2~~ 7.0	~~7.0~~ B U
Ethyl Benzene	1.3	0.27 J	5.8	1.2 J
m,p-Xylene	1.3	0.78 J	5.8	3.4 J

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

Client Sample ID: VMP-42-10-092712

Lab ID#: 1210008A-02A

o-Xylene	1.3	0.35 J	5.8	1.5 J
Cumene	1.3	7.3	6.6	36
Propylbenzene	1.3	~~0.24~~ J U	6.6	~~1.2~~ J U
1,3,5-Trimethylbenzene	1.3	~~0.25~~ J U	6.6	~~1.2~~ J U
1,2,4-Trimethylbenzene	1.3	~~0.43~~ J U	6.6	~~2.1~~ J U
1,3-Dichlorobenzene	1.3	~~0.36~~ J U	8.1	~~2.1~~ J U
1,4-Dichlorobenzene	1.3	~~0.43~~ J U	8.1	~~2.6~~ J U
1,2-Dichlorobenzene	1.3	~~0.36~~ J U	8.1	~~2.2~~ J U

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
4-Nonene	2198-23-4	74%	17 NJ
Decane, 2,2,8-trimethyl-	62238-01-1	64%	15 NJ
Decane, 2,2,4-trimethyl-	62237-98-3	64%	56 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	83%	17 NJ
Hexane, 3,3-dimethyl-	563-16-6	64%	62 NJ
Hexane, 2,2,5-trimethyl-	3522-94-9	53%	14 NJ
Heptane, 2,2-dimethyl-	1071-26-7	72%	100 NJ
Hexane, 1-(hexyloxy)-5-methyl-	74421-19-5	50%	50 NJ
Cycloheptane, methoxy-	42604-04-6	28%	15 NJ
Ethanone, 1-phenyl-	98-86-2	94%	22 NJ

Client Sample ID: VMP-42-10-092712-Dup

Lab ID#: 1210008A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.54 J	6.4	2.7 J
Freon 11	1.3	0.22 J	7.2	1.2 J
Ethanol	5.2	4.0 J	9.7	7.5 J
Acetone	13	10 J	31	24 J
2-Propanol	5.2	1.4 J	13	3.6 J
Carbon Disulfide	5.2	0.76 J	16	2.4 J
Methylene Chloride	13	~~0.46~~ J U	45	~~1.6~~ J U
2-Butanone (Methyl Ethyl Ketone)	5.2	1.8 J	15	5.4 J
Chloroform	1.3	0.89 J	6.3	4.4 J

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

Client Sample ID: VMP-42-10-092712-Dup

Lab ID#: 1210008A-03A

Benzene	1.3	0.52 J	4.1	1.7 J
Heptane	1.3	0.18 J	5.3	0.73 J
4-Methyl-2-pentanone	1.3	15	5.3	61
Toluene	1.3	0.91 J	4.9	3.4 J
Chlorobenzene	1.3	~~4.1~~ J u	5.9	~~5.1~~ J u
m,p-Xylene	1.3	0.66 J	5.6	2.9 J
Cumene	1.3	5.8	6.3	28
1,2,4-Trimethylbenzene	1.3	~~0.30~~ J u	6.3	~~1.5~~ J u
1,4-Dichlorobenzene	1.3	~~0.25~~ J u	7.8	~~1.5~~ J u

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
4-Nonene	2198-23-4	80%	15 NJ
Octane, 2,2,6-trimethyl-	62016-28-8	72%	10 NJ
Undecane, 2,2-dimethyl-	17312-64-0	64%	42 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	83%	13 NJ
Nonane, 3-methyl-5-propyl-	31081-18-2	72%	48 NJ
Heptane, 4-ethyl-2,2,6,6-tetramethyl-	62108-31-0	72%	11 NJ
Heptane, 2,2-dimethyl-	1071-26-7	59%	80 NJ
Undecane, 2,8-dimethyl-	17301-25-6	64%	30 NJ
Propanoic acid, 2-methyl-, 2-(hydroxymet	74367-32-1	9.0%	12 NJ
Ethanone, 1-phenyl-	98-86-2	91%	16 NJ

Client Sample ID: VMP-16-5-092712

Lab ID#: 1210008A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.62 J	6.6	3.1 J
Ethanol	5.4	7.6	10	14
Acetone	13	48	32	110
2-Propanol	5.4	2.7 J	13	6.7 J
Carbon Disulfide	5.4	0.90 J	17	2.8 J
Methylene Chloride	13	0.65 J	47	2.2 J
2-Butanone (Methyl Ethyl Ketone)	5.4	12	16	35
Chloroform	1.3	1.6	6.6	7.9

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

Client Sample ID: VMP-16-5-092712

Lab ID#: 1210008A-04A

2,2,4-Trimethylpentane	1.3	480	6.3	2200
Benzene	1.3	2.1	4.3	6.8
4-Methyl-2-pentanone	1.3	25	5.5	100
Toluene	1.3	1.7	5.1	6.5
Tetrachloroethene	1.3	0.37 J	9.1	2.5 J
Chlorobenzene	~~1.3~~ 1.4	~~1.4~~ B U	~~6.2~~ 6.3	~~6.3~~ B U
Ethyl Benzene	1.3	0.94 J	5.8	4.0 J
m,p-Xylene	1.3	1.0 J	5.8	4.4 J
o-Xylene	1.3	0.32 J	5.8	1.4 J
Cumene	1.3	5.8	6.6	28
Propylbenzene	1.3	0.95 J	6.6	4.6 J
1,3,5-Trimethylbenzene	1.3	0.44 J	6.6	2.2 J
1,2,4-Trimethylbenzene	1.3	0.85 J	6.6	4.2 J
1,4-Dichlorobenzene	1.3	~~0.20~~ J U	8.1	~~1.2~~ J U
Isopentane	5.4	9.3	16	28
Propylene	5.4	3.8 J	9.2	6.5 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Pentane, 2,4-dimethyl-	108-08-7	86%	170 NJ
Butane, 2,2,3-trimethyl-	464-06-2	56%	180 NJ
Pentane, 2,3-dimethyl-	565-59-3	43%	500 NJ
Unknown	NA	NA	130 J
Pentane, 2,3,4-trimethyl-	565-75-3	90%	600 NJ
Pentane, 2,3,3-trimethyl-	560-21-4	90%	1700 NJ
Hexane, 3,4-dimethyl-	583-48-2	64%	77 NJ
Hexane, 2,2,4-trimethyl-	16747-26-5	78%	170 NJ
Hexane, 2,2,3-trimethyl-	16747-25-4	56%	63 NJ
Heptane, 4-ethyl-2,2,6,6-tetramethyl-	62108-31-0	72%	73 NJ

Client Sample ID: VMP-4-5-092712

Lab ID#: 1210008A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.56 J	6.2	2.7 J

eurofins | Air Toxics

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

Client Sample ID: VMP-4-5-092712

Lab ID#: 1210008A-05A

Freon 11	1.3	0.35 J	7.1	2.0 J
Ethanol	5.0	6.5	9.5	12
Acetone	13	16	30	38
2-Propanol	5.0	2.7 J	12	6.7 J
Carbon Disulfide	5.0	1.2 J	16	3.7 J
Methylene Chloride	13	~~0.36~~ J ul	44	~~1.3~~ J ul
2-Butanone (Methyl Ethyl Ketone)	5.0	5.0	15	15
Chloroform	1.3	0.18 J	6.2	0.90 J
Cyclohexane	1.3	0.20 J	4.3	0.70 J
2,2,4-Trimethylpentane	1.3	4.1	5.9	19
Benzene	1.3	3.4	4.0	11
Heptane	1.3	0.23 J	5.2	0.96 J
4-Methyl-2-pentanone	1.3	19	5.2	76
Toluene	1.3	0.94 J	4.7	3.5 J
Chlorobenzene	1.3	~~1.2~~ J ul	5.8	~~5.6~~ J ul
Ethyl Benzene	1.3	0.24 J	5.5	1.0 J
m,p-Xylene	1.3	0.56 J	5.5	2.4 J
Cumene	1.3	3.8	6.2	18
1,2,4-Trimethylbenzene	1.3	~~0.24~~ J ul	6.2	~~1.2~~ J ul
1,4-Dichlorobenzene	1.3	~~0.20~~ J ul	7.6	~~1.2~~ J ul
Propylene	5.0	1.8 J	8.7	3.2 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
Pentane, 2,3,3-trimethyl-	560-21-4	72%	11 NJ
1-Hexene, 5-methyl-	3524-73-0	55%	12 NJ
Cyclopropane, 1-ethyl-2-heptyl-	74663-86-8	59%	20 NJ
2-Decene, 8-methyl-, (Z)-	74630-25-4	64%	12 NJ
Decane, 2,2,5-trimethyl-	62237-96-1	64%	15 NJ
Decane, 2,6,7-trimethyl-	62108-25-2	53%	9.2 NJ
Decane, 2,2,6-trimethyl-	62237-97-2	64%	27 NJ
Eicosane, 10-methyl-	54833-23-7	64%	34 NJ
Heptane, 4-ethyl-2,2,6,6-tetramethyl-	62108-31-0	64%	59 NJ
Decane, 3,4-dimethyl-	17312-45-7	53%	21 NJ

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

Client Sample ID: VMP-11-5-092812

Lab ID#: 1210008A-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.56 J	7.3	2.8 J
Freon 11	1.5	0.33 J	8.3	1.8 J
Ethanol	5.9	1.9 J	11	3.5 J
Acetone	15	6.4 J	35	15 J
2-Propanol	5.9	1.1 J	14	2.6 J
Carbon Disulfide	5.9	1.0 J	18	3.2 J
Methylene Chloride	15	0.50 J	51	1.7 J
Hexane	1.5	0.45 J	5.2	1.6 J
Tetrahydrofuran	1.5	0.61 J	4.4	1.8 J
Chloroform	1.5	0.20 J	7.2	0.97 J
2,2,4-Trimethylpentane	1.5	2.6	6.9	12
Benzene	1.5	3.5	4.7	11
Chlorobenzene	1.5	~~4.2~~ J u	6.8	~~5.7~~ J u
1,4-Dichlorobenzene	1.5	~~0.25~~ J u	8.9	~~1.5~~ J u
Propylene	5.9	1.5 J	10	2.6 J

Client Sample ID: VMP-11-5-092812-Dup

Lab ID#: 1210008A-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.59 J	7.1	2.9 J
Ethanol	5.8	2.1 J	11	4.0 J
Acetone	14	7.1 J	34	17 J
2-Propanol	5.8	1.1 J	14	2.7 J
Carbon Disulfide	5.8	0.98 J	18	3.1 J
Methylene Chloride	14	0.70 J	50	2.4 J
2-Butanone (Methyl Ethyl Ketone)	5.8	1.6 J	17	4.7 J
2,2,4-Trimethylpentane	1.4	0.48 J	6.8	2.3 J
Benzene	1.4	4.4	4.6	14
Chlorobenzene	1.4	~~4.3~~ J u	6.6	~~6.1~~ J u
Isopentane	5.8	2.2 J	17	6.4 J

eurofins | Air Toxics

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

Client Sample ID: VMP-13-5-092812

Lab ID#: 1210008A-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.50 J	7.0	2.5 J
Chloromethane	14	6.2 J	29	13 J
Freon 11	1.4	0.30 J	7.9	1.7 J
Ethanol	5.6	3.6 J	11	6.7 J
Acetone	14	33	33	78
2-Propanol	5.6	1.2 J	14	2.9 J
Carbon Disulfide	5.6	3.0 J	18	9.3 J
Methylene Chloride	14	0.94 J	49	3.3 J
trans-1,2-Dichloroethene	1.4	0.64 J	5.6	2.6 J
Hexane	1.4	0.86 J	5.0	3.0 J
1,1-Dichloroethane	1.4	0.20 J	5.7	0.80 J
2-Butanone (Methyl Ethyl Ketone)	5.6	7.6	17	22
cis-1,2-Dichloroethene	1.4	0.57 J	5.6	2.2 J
Chloroform	1.4	0.89 J	6.9	4.4 J
Cyclohexane	1.4	0.49 J	4.8	1.7 J
2,2,4-Trimethylpentane	1.4	4.5	6.6	21
Benzene	1.4	7.6	4.5	24
Heptane	1.4	1.0 J	5.8	4.3 J
Trichloroethene	1.4	1.3 J	7.6	6.9 J
cis-1,3-Dichloropropene	1.4	1.0 J	6.4	4.5 J
4-Methyl-2-pentanone	1.4	0.66 J	5.8	2.7 J
Toluene	1.4	0.62 J	5.3	2.3 J
trans-1,3-Dichloropropene	1.4	1.5	6.4	6.7
1,1,2-Trichloroethane	1.4	0.48 J	7.7	2.6 J
Tetrachloroethene	1.4	0.94 J	9.6	6.4 J
1,2-Dibromoethane (EDB)	1.4	1.3 J	11	10 J
Chlorobenzene	1.4	3.8	6.5	17
Ethyl Benzene	1.4	0.40 J	6.1	1.7 J
m,p-Xylene	1.4	0.50 J	6.1	2.2 J
o-Xylene	1.4	0.28 J	6.1	1.2 J
Styrene	1.4	0.63 J	6.0	2.7 J
Bromoform	1.4	0.39 J	14	4.0 J
Cumene	1.4	0.24 J	6.9	1.2 J

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

Client Sample ID: VMP-13-5-092812

Lab ID#: 1210008A-08A

1,1,2,2-Tetrachloroethane	1.4	~~0.30~~ J U	9.7	~~2.1~~ J U
Propylbenzene	1.4	~~0.40~~ J U	6.9	~~2.3~~ J U
4-Ethyltoluene	1.4	0.63 J	6.9	3.1 J
1,3,5-Trimethylbenzene	1.4	~~0.46~~ J U	6.9	~~2.3~~ J U
1,2,4-Trimethylbenzene	1.4	~~0.62~~ J U	6.9	~~3.0~~ J U
1,3-Dichlorobenzene	1.4	1.7	8.5	10
1,4-Dichlorobenzene	1.4	1.9	8.5	12
alpha-Chlorotoluene	1.4	0.93 J	7.3	4.8 J
1,2-Dichlorobenzene	1.4	1.3 J	8.5	7.6 J
1,2,4-Trichlorobenzene	5.6	~~3.4~~ J U	42	~~25~~ J U
Isopentane	5.6	1.7 J	17	5.0 J
Propylene	5.6	4.0 J	9.7	6.9 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
1-Propene, 2-methyl-	115-11-7	46%	19 NJ
Acetaldehyde	75-07-0	3.0%	12 NJ
Hexane, 2,3,4-trimethyl-	921-47-1	64%	10 NJ

Client Sample ID: VMP-10-5-092812

Lab ID#: 1210008A-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.6	0.58 J	7.7	2.8 J
Freon 11	1.6	0.28 J	8.7	1.6 J
Ethanol	6.2	2.7 J	12	5.0 J
Acetone	16	17	37	41
2-Propanol	6.2	1.8 J	15	4.4 J
Carbon Disulfide	6.2	~~1.2~~ J U	19	~~3.6~~ J U
Methylene Chloride	16	~~0.46~~ J U	54	~~1.6~~ J U
trans-1,2-Dichloroethene	1.6	0.54 J	6.2	2.2 J
Hexane	1.6	0.40 J	5.5	1.4 J
2-Butanone (Methyl Ethyl Ketone)	6.2	3.9 J	18	12 J
Chloroform	1.6	~~0.36~~ J U	7.6	~~1.7~~ J U
1,1,1-Trichloroethane	1.6	0.15 J	8.5	0.82 J

eurofins | Air Toxics

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

Client Sample ID: VMP-10-5-092812

Lab ID#: 1210008A-09A

Benzene	1.6	0.35 J	5.0	1.1 J
Heptane	1.6	0.52 J	6.4	2.1 J
Bromodichloromethane	1.6	0.24 J	10	1.6 J
Toluene	1.6	0.28 J	5.8	1.1 J
trans-1,3-Dichloropropene	1.6	~~0.58~~ J U	7.0	~~2.6~~ J U
Tetrachloroethene	1.6	0.50 J	10	3.4 J
Chlorobenzene	~~1.6~~ 1.8	~~1.8~~ U	~~7.2~~ 8.1	~~8.1~~ U
m,p-Xylene	1.6	0.31 J	6.8	1.3 J
1,1,2,2-Tetrachloroethane	1.6	~~0.22~~ J U	11	~~1.5~~ J U
Propylbenzene	1.6	~~0.37~~ J U	7.6	~~1.8~~ J U
4-Ethyltoluene	1.6	0.41 J	7.6	2.0 J
1,3,5-Trimethylbenzene	1.6	~~0.28~~ J U	7.6	~~1.4~~ J U
1,2,4-Trimethylbenzene	1.6	~~0.49~~ J U	7.6	~~2.4~~ J U
1,3-Dichlorobenzene	1.6	~~0.91~~ J U	9.3	~~5.5~~ J U
1,4-Dichlorobenzene	1.6	~~1.2~~ J U	9.3	~~7.5~~ J U
alpha-Chlorotoluene	1.6	~~0.48~~ J U	8.0	~~2.5~~ J U
1,2-Dichlorobenzene	1.6	~~0.70~~ J U	9.3	~~4.2~~ J U
1,2,4-Trichlorobenzene	6.2	~~2.8~~ J U	46	~~21~~ J U
Isopentane	6.2	1.6 J	18	4.6 J
Propylene	6.2	1.7 J	11	2.9 J

Client Sample ID: VMP-10-5-092812-Dup

Lab ID#: 1210008A-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.45 J	7.5	2.2 J
Freon 11	1.5	0.24 J	8.5	1.4 J
Ethanol	6.1	2.1 J	11	4.0 J
Acetone	15	19	36	45
2-Propanol	6.1	2.4 J	15	5.9 J
Carbon Disulfide	6.1	~~1.0~~ J U	19	~~3.3~~ J U
Methylene Chloride	15	0.63 J	53	2.2 J
Hexane	1.5	0.54 J	5.3	1.9 J
2-Butanone (Methyl Ethyl Ketone)	6.1	3.0 J	18	9.0 J
Chloroform	1.5	~~0.22~~ J U	7.4	~~1.0~~ J U

eurofins | Air Toxics

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

Client Sample ID: VMP-10-5-092812-Dup

Lab ID#: 1210008A-10A

Benzene	1.5	1.3 J	4.8	4.3 J
Heptane	1.5	0.69 J	6.2	2.8 J
Trichloroethene	1.5	0.36 J	8.1	1.9 J
Toluene	1.5	0.25 J	5.7	0.96 J
trans-1,3-Dichloropropene	1.5	~~0.67~~ J U	6.9	~~3.0~~ J U
Tetrachloroethene	1.5	0.44 J	10	3.0 J
Chlorobenzene	~~4.5~~ 1.7	~~1.7~~ U	~~7.0~~ 7.8	~~7.8~~ U
Propylbenzene	1.5	~~0.30~~ J U	7.4	~~1.4~~ J U
1,2,4-Trimethylbenzene	1.5	~~0.31~~ J U	7.4	~~1.5~~ J U
1,3-Dichlorobenzene	1.5	~~0.68~~ J U	9.1	~~4.1~~ J U
1,4-Dichlorobenzene	1.5	~~0.90~~ J U	9.1	~~5.4~~ J U
alpha-Chlorotoluene	1.5	~~0.29~~ J U	7.8	~~1.5~~ J U
1,2-Dichlorobenzene	1.5	~~0.52~~ J U	9.1	~~3.1~~ J U
1,2,4-Trichlorobenzene	6.1	~~4.9~~ J U	45	~~14~~ J U
Propylene	6.1	1.6 J	10	2.8 J

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount (ppbv)
1-Propene, 2-methyl-	115-11-7	64%	9.1 NJ

eurofins | Air Toxics

Client Sample ID: VMP-21-5-092712

Lab ID#: 1210008A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100835**	**Date of Collection:**	**9/27/12 11:45:00 AM**
Dil. Factor:	**2.76**	**Date of Analysis:**	**10/9/12 07:09 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.47 J	6.8	2.3 J
Freon 114	1.4	Not Detected	9.6	Not Detected
Chloromethane	14	Not Detected	28	Not Detected
Vinyl Chloride	1.4	Not Detected	3.5	Not Detected
1,3-Butadiene	1.4	Not Detected	3.0	Not Detected
Bromomethane	14	Not Detected	54	Not Detected
Chloroethane	5.5	Not Detected	14	Not Detected
Freon 11	1.4	0.28 J	7.8	1.6 J
Ethanol	5.5	6.8	10	13
Freon 113	1.4	Not Detected	10	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.5	Not Detected
Acetone	14	11 J	33	25 J
2-Propanol	5.5	20	14	49
Carbon Disulfide	5.5	Not Detected	17	Not Detected
3-Chloropropene	5.5	Not Detected	17	Not Detected
Methylene Chloride	14	0.85 J	48	3.0 J
Methyl tert-butyl ether	1.4	Not Detected	5.0	Not Detected
trans-1,2-Dichloroethene	1.4	Not Detected	5.5	Not Detected
Hexane	1.4	0.15 J	4.9	0.52 J
1,1-Dichloroethane	1.4	Not Detected	5.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.5	5.3 J	16	16 J
cis-1,2-Dichloroethene	1.4	Not Detected	5.5	Not Detected
Tetrahydrofuran	1.4	0.78 J	4.1	2.3 J
Chloroform	1.4	Not Detected	6.7	Not Detected
1,1,1-Trichloroethane	1.4	Not Detected	7.5	Not Detected
Cyclohexane	1.4	Not Detected	4.8	Not Detected
Carbon Tetrachloride	1.4	Not Detected	8.7	Not Detected
2,2,4-Trimethylpentane	1.4	0.33 J	6.4	1.5 J
Benzene	1.4	1.3 J	4.4	4.1 J
1,2-Dichloroethane	1.4	Not Detected	5.6	Not Detected
Heptane	1.4	Not Detected	5.6	Not Detected
Trichloroethene	1.4	Not Detected	7.4	Not Detected
1,2-Dichloropropane	1.4	Not Detected	6.4	Not Detected
1,4-Dioxane	5.5	1.4 J	20	4.9 J
Bromodichloromethane	1.4	Not Detected	9.2	Not Detected
cis-1,3-Dichloropropene	1.4	Not Detected	6.3	Not Detected
4-Methyl-2-pentanone	1.4	32	5.6	130
Toluene	1.4	1.4	5.2	5.4
trans-1,3-Dichloropropene	1.4	Not Detected	6.3	Not Detected
1,1,2-Trichloroethane	1.4	Not Detected	7.5	Not Detected
Tetrachloroethene	1.4	0.65 J	9.4	4.4 J
2-Hexanone	5.5	Not Detected	23	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-21-5-092712

Lab ID#: 1210008A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100835**	**Date of Collection:**	**9/27/12 11:45:00 AM**
Dil. Factor:	**2.76**	**Date of Analysis:**	**10/9/12 07:09 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	~~1.3~~ J U	6.4	~~5.9~~ J U
Ethyl Benzene	1.4	0.41 J	6.0	1.8 J
m,p-Xylene	1.4	0.79 J	6.0	3.4 J
o-Xylene	1.4	0.31 J	6.0	1.3 J
Styrene	1.4	0.30 J	5.9	1.3 J
Bromoform	1.4	Not Detected	14	Not Detected
Cumene	1.4	6.6	6.8	32
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.5	Not Detected
Propylbenzene	1.4	0.24 J	6.8	1.2 J
4-Ethyltoluene	1.4	0.46 J	6.8	2.3 J
1,3,5-Trimethylbenzene	1.4	~~0.27~~ J U	6.8	~~1.3~~ J U
1,2,4-Trimethylbenzene	1.4	~~0.43~~ J U	6.8	~~2.1~~ J U
1,3-Dichlorobenzene	1.4	~~0.55~~ J U	8.3	~~3.3~~ J U
1,4-Dichlorobenzene	1.4	~~0.56~~ J U	8.3	~~3.5~~ J U
alpha-Chlorotoluene	1.4	~~0.40~~ J U	7.1	~~2.0~~ J U
1,2-Dichlorobenzene	1.4	~~0.42~~ J U	8.3	~~2.6~~ J U
1,2,4-Trichlorobenzene	5.5	Not Detected	41	Not Detected
Hexachlorobutadiene	5.5	Not Detected	59	Not Detected
Butane	5.5	Not Detected	13	Not Detected
Isopentane	5.5	Not Detected	16	Not Detected
Ethyl Acetate	5.5	Not Detected	20	Not Detected
Propylene	5.5	1.8 J	9.5	3.1 J
Vinyl Acetate	5.5	Not Detected	19	Not Detected
Vinyl Bromide	5.5	Not Detected	24	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Hexanal	66-25-1	42%	18 NJ
4-Nonene	2198-23-4	72%	31 NJ
Cyclobutanone, 2,3,3-trimethyl-	28290-01-9	50%	16 NJ
Propanal, 2-hydroxy-2-methyl-	20818-81-9	16%	15 NJ
Decane, 2,2,8-trimethyl-	62238-01-1	64%	51 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	83%	16 NJ
Nonane, 2-methyl-5-propyl-	31081-17-1	72%	57 NJ
Decane, 2,6,6-trimethyl-	62108-24-1	72%	16 NJ
Heptane, 4-ethyl-2,2,6,6-tetramethyl-	62108-31-0	72%	83 NJ
Undecane, 2,8-dimethyl-	17301-25-6	78%	34 NJ

eurofins | Air Toxics

Client Sample ID: VMP-21-5-092712

Lab ID#: 1210008A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100835**	**Date of Collection: 9/27/12 11:45:00 AM**
Dil. Factor:	**2.76**	**Date of Analysis: 10/9/12 07:09 AM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	77	70-130

Client Sample ID: VMP-42-10-092712

Lab ID#: 1210008A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100836**	**Date of Collection:**	**9/27/12 12:47:00 PM**
Dil. Factor:	**2.69**	**Date of Analysis:**	**10/9/12 07:32 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.52 J	6.6	2.6 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	Not Detected	7.6	Not Detected
Ethanol	5.4	3.5 J	10	6.5 J
Freon 113	1.3	Not Detected	10	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.3	Not Detected
Acetone	13	11 J	32	26 J
2-Propanol	5.4	2.3 J	13	5.6 J
Carbon Disulfide	5.4	0.75 J	17	2.3 J
3-Chloropropene	5.4	Not Detected	17	Not Detected
Methylene Chloride	13	~~0.46~~ J UL	47	~~1.6~~ J UL
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	0.27 J	4.7	0.97 J
1,1-Dichloroethane	1.3	Not Detected	5.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.4	3.4 J	16	10 J
cis-1,2-Dichloroethene	1.3	Not Detected	5.3	Not Detected
Tetrahydrofuran	1.3	Not Detected	4.0	Not Detected
Chloroform	1.3	1.0 J	6.6	5.0 J
1,1,1-Trichloroethane	1.3	Not Detected	7.3	Not Detected
Cyclohexane	1.3	Not Detected	4.6	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.5	Not Detected
2,2,4-Trimethylpentane	1.3	0.20 J	6.3	0.94 J
Benzene	1.3	2.4	4.3	7.6
1,2-Dichloroethane	1.3	Not Detected	5.4	Not Detected
Heptane	1.3	Not Detected	5.5	Not Detected
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	17	5.5	71
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	0.44 J	9.1	3.0 J
2-Hexanone	5.4	Not Detected	22	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-42-10-092712

Lab ID#: 1210008A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100836**	**Date of Collection: 9/27/12 12:47:00 PM**	
Dil. Factor:	**2.69**	**Date of Analysis: 10/9/12 07:32 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.3	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.3	Not Detected	10	Not Detected
Chlorobenzene	~~1.3~~ 1.5	~~1.5~~ B U	~~6.2~~ 7.0	~~7.0~~ B U
Ethyl Benzene	1.3	0.27 J	5.8	1.2 J
m,p-Xylene	1.3	0.78 J	5.8	3.4 J
o-Xylene	1.3	0.35 J	5.8	1.5 J
Styrene	1.3	Not Detected	5.7	Not Detected
Bromoform	1.3	Not Detected	14	Not Detected
Cumene	1.3	7.3	6.6	36
1,1,2,2-Tetrachloroethane	1.3	Not Detected	9.2	Not Detected
Propylbenzene	1.3	~~0.24~~ J U	6.6	~~1.2~~ J U
4-Ethyltoluene	1.3	Not Detected	6.6	Not Detected
1,3,5-Trimethylbenzene	1.3	~~0.25~~ J U	6.6	~~1.2~~ J U
1,2,4-Trimethylbenzene	1.3	~~0.43~~ J U	6.6	~~2.1~~ J U
1,3-Dichlorobenzene	1.3	~~0.36~~ J U	8.1	~~2.1~~ J U
1,4-Dichlorobenzene	1.3	~~0.43~~ J U	8.1	~~2.6~~ J U
alpha-Chlorotoluene	1.3	Not Detected	7.0	Not Detected
1,2-Dichlorobenzene	1.3	~~0.36~~ J U	8.1	~~2.2~~ J U
1,2,4-Trichlorobenzene	5.4	Not Detected	40	Not Detected
Hexachlorobutadiene	5.4	Not Detected	57	Not Detected
Butane	5.4	Not Detected	13	Not Detected
Isopentane	5.4	Not Detected	16	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.
B = Compound present in laboratory blank greater than reporting limit, background subtraction not performed.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
4-Nonene	2198-23-4	74%	17 NJ
Decane, 2,2,8-trimethyl-	62238-01-1	64%	15 NJ
Decane, 2,2,4-trimethyl-	62237-98-3	64%	56 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	83%	17 NJ
Hexane, 3,3-dimethyl-	563-16-6	64%	62 NJ
Hexane, 2,2,5-trimethyl-	3522-94-9	53%	14 NJ
Heptane, 2,2-dimethyl-	1071-26-7	72%	100 NJ
Hexane, 1-(hexyloxy)-5-methyl-	74421-19-5	50%	50 NJ
Cycloheptane, methoxy-	42604-04-6	28%	15 NJ
Ethanone, 1-phenyl-	98-86-2	94%	22 NJ

eurofins | Air Toxics

Client Sample ID: VMP-42-10-092712

Lab ID#: 1210008A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100836**	**Date of Collection: 9/27/12 12:47:00 PM**
Dil. Factor:	**2.69**	**Date of Analysis: 10/9/12 07:32 AM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	81	70-130

Client Sample ID: VMP-42-10-092712-Dup

Lab ID#: 1210008A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100843**	**Date of Collection:**	**9/27/12 12:47:00 PM**
Dil. Factor:	**2.58**	**Date of Analysis:**	**10/9/12 11:51 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.54 J	6.4	2.7 J
Freon 114	1.3	Not Detected	9.0	Not Detected
Chloromethane	13	Not Detected	27	Not Detected
Vinyl Chloride	1.3	Not Detected	3.3	Not Detected
1,3-Butadiene	1.3	Not Detected	2.8	Not Detected
Bromomethane	13	Not Detected	50	Not Detected
Chloroethane	5.2	Not Detected	14	Not Detected
Freon 11	1.3	0.22 J	7.2	1.2 J
Ethanol	5.2	4.0 J	9.7	7.5 J
Freon 113	1.3	Not Detected	9.9	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Acetone	13	10 J	31	24 J
2-Propanol	5.2	1.4 J	13	3.6 J
Carbon Disulfide	5.2	0.76 J	16	2.4 J
3-Chloropropene	5.2	Not Detected	16	Not Detected
Methylene Chloride	13	~~0.46~~ J UL	45	~~1.6~~ J UL
Methyl tert-butyl ether	1.3	Not Detected	4.6	Not Detected
trans-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Hexane	1.3	Not Detected	4.5	Not Detected
1,1-Dichloroethane	1.3	Not Detected	5.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.2	1.8 J	15	5.4 J
cis-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Tetrahydrofuran	1.3	Not Detected	3.8	Not Detected
Chloroform	1.3	0.89 J	6.3	4.4 J
1,1,1-Trichloroethane	1.3	Not Detected	7.0	Not Detected
Cyclohexane	1.3	Not Detected	4.4	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.1	Not Detected
2,2,4-Trimethylpentane	1.3	Not Detected	6.0	Not Detected
Benzene	1.3	0.52 J	4.1	1.7 J
1,2-Dichloroethane	1.3	Not Detected	5.2	Not Detected
Heptane	1.3	0.18 J	5.3	0.73 J
Trichloroethene	1.3	Not Detected	6.9	Not Detected
1,2-Dichloropropane	1.3	Not Detected	6.0	Not Detected
1,4-Dioxane	5.2	Not Detected	18	Not Detected
Bromodichloromethane	1.3	Not Detected	8.6	Not Detected
cis-1,3-Dichloropropene	1.3	Not Detected	5.8	Not Detected
4-Methyl-2-pentanone	1.3	15	5.3	61
Toluene	1.3	0.91 J	4.9	3.4 J
trans-1,3-Dichloropropene	1.3	Not Detected	5.8	Not Detected
1,1,2-Trichloroethane	1.3	Not Detected	7.0	Not Detected
Tetrachloroethene	1.3	Not Detected	8.8	Not Detected
2-Hexanone	5.2	Not Detected	21	Not Detected

Client Sample ID: VMP-42-10-092712-Dup

Lab ID#: 1210008A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100843**	**Date of Collection:**	**9/27/12 12:47:00 PM**
Dil. Factor:	**2.58**	**Date of Analysis:**	**10/9/12 11:51 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.3	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.3	Not Detected	9.9	Not Detected
Chlorobenzene	1.3	~~1.1~~ J U	5.9	~~5.1~~ J U
Ethyl Benzene	1.3	Not Detected	5.6	Not Detected
m,p-Xylene	1.3	0.66 J	5.6	2.9 J
o-Xylene	1.3	Not Detected	5.6	Not Detected
Styrene	1.3	Not Detected	5.5	Not Detected
Bromoform	1.3	Not Detected	13	Not Detected
Cumene	1.3	5.8	6.3	28
1,1,2,2-Tetrachloroethane	1.3	Not Detected	8.8	Not Detected
Propylbenzene	1.3	Not Detected	6.3	Not Detected
4-Ethyltoluene	1.3	Not Detected	6.3	Not Detected
1,3,5-Trimethylbenzene	1.3	Not Detected	6.3	Not Detected
1,2,4-Trimethylbenzene	1.3	~~0.30~~ J U	6.3	~~1.5~~ J U
1,3-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,4-Dichlorobenzene	1.3	~~0.25~~ J U	7.8	~~1.5~~ J U
alpha-Chlorotoluene	1.3	Not Detected	6.7	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,2,4-Trichlorobenzene	5.2	Not Detected	38	Not Detected
Hexachlorobutadiene	5.2	Not Detected	55	Not Detected
Butane	5.2	Not Detected	12	Not Detected
Isopentane	5.2	Not Detected	15	Not Detected
Ethyl Acetate	5.2	Not Detected	18	Not Detected
Propylene	5.2	Not Detected	8.9	Not Detected
Vinyl Acetate	5.2	Not Detected	18	Not Detected
Vinyl Bromide	5.2	Not Detected	22	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
4-Nonene	2198-23-4	80%	15 NJ
Octane, 2,2,6-trimethyl-	62016-28-8	72%	10 NJ
Undecane, 2,2-dimethyl-	17312-64-0	64%	42 NJ
Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	83%	13 NJ
Nonane, 3-methyl-5-propyl-	31081-18-2	72%	48 NJ
Heptane, 4-ethyl-2,2,6,6-tetramethyl-	62108-31-0	72%	11 NJ
Heptane, 2,2-dimethyl-	1071-26-7	59%	80 NJ
Undecane, 2,8-dimethyl-	17301-25-6	64%	30 NJ
Propanoic acid, 2-methyl-, 2-(hydroxymet	74367-32-1	9.0%	12 NJ

eurofins | Air Toxics

Client Sample ID: VMP-42-10-092712-Dup

Lab ID#: 1210008A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100843**	**Date of Collection: 9/27/12 12:47:00 PM**	
Dil. Factor:	**2.58**	**Date of Analysis: 10/9/12 11:51 AM**	

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Ethanone, 1-phenyl-	98-86-2	91%	16 NJ

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	107	70-130
4-Bromofluorobenzene	82	70-130

eurofins | Air Toxics

Client Sample ID: VMP-16-5-092712

Lab ID#: 1210008A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100845**	**Date of Collection: 9/27/12 9:38:00 AM**	
Dil. Factor:	**2.69**	**Date of Analysis: 10/9/12 12:51 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.62 J	6.6	3.1 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	Not Detected	7.6	Not Detected
Ethanol	5.4	7.6	10	14
Freon 113	1.3	Not Detected	10	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.3	Not Detected
Acetone	13	48	32	110
2-Propanol	5.4	2.7 J	13	6.7 J
Carbon Disulfide	5.4	0.90 J	17	2.8 J
3-Chloropropene	5.4	Not Detected	17	Not Detected
Methylene Chloride	13	0.65 J	47	2.2 J
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	Not Detected	4.7	Not Detected
1,1-Dichloroethane	1.3	Not Detected	5.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.4	12	16	35
cis-1,2-Dichloroethene	1.3	Not Detected	5.3	Not Detected
Tetrahydrofuran	1.3	Not Detected	4.0	Not Detected
Chloroform	1.3	1.6	6.6	7.9
1,1,1-Trichloroethane	1.3	Not Detected	7.3	Not Detected
Cyclohexane	1.3	Not Detected	4.6	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.5	Not Detected
2,2,4-Trimethylpentane	1.3	480	6.3	2200
Benzene	1.3	2.1	4.3	6.8
1,2-Dichloroethane	1.3	Not Detected	5.4	Not Detected
Heptane	1.3	Not Detected	5.5	Not Detected
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	25	5.5	100
Toluene	1.3	1.7	5.1	6.5
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	0.37 J	9.1	2.5 J
2-Hexanone	5.4	Not Detected	22	Not Detected

Client Sample ID: VMP-16-5-092712

Lab ID#: 1210008A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100845**	**Date of Collection: 9/27/12 9:38:00 AM**	
Dil. Factor:	**2.69**	**Date of Analysis: 10/9/12 12:51 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.3	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.3	Not Detected	10	Not Detected
Chlorobenzene	~~1.3~~ 1.4	~~1.4~~ B U	~~6.2~~ 6.3	~~6.3~~ B U
Ethyl Benzene	1.3	0.94 J	5.8	4.0 J
m,p-Xylene	1.3	1.0 J	5.8	4.4 J
o-Xylene	1.3	0.32 J	5.8	1.4 J
Styrene	1.3	Not Detected	5.7	Not Detected
Bromoform	1.3	Not Detected	14	Not Detected
Cumene	1.3	5.8	6.6	28
1,1,2,2-Tetrachloroethane	1.3	Not Detected	9.2	Not Detected
Propylbenzene	1.3	0.95 J	6.6	4.6 J
4-Ethyltoluene	1.3	Not Detected	6.6	Not Detected
1,3,5-Trimethylbenzene	1.3	0.44 J	6.6	2.2 J
1,2,4-Trimethylbenzene	1.3	0.85 J	6.6	4.2 J
1,3-Dichlorobenzene	1.3	Not Detected	8.1	Not Detected
1,4-Dichlorobenzene	1.3	~~0.20~~ J U	8.1	~~1.2~~ J U
alpha-Chlorotoluene	1.3	Not Detected	7.0	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	8.1	Not Detected
1,2,4-Trichlorobenzene	5.4	Not Detected	40	Not Detected
Hexachlorobutadiene	5.4	Not Detected	57	Not Detected
Butane	5.4	Not Detected	13	Not Detected
Isopentane	5.4	9.3	16	28
Ethyl Acetate	5.4	Not Detected	19	Not Detected
Propylene	5.4	3.8 J	9.2	6.5 J
Vinyl Acetate	5.4	Not Detected	19	Not Detected
Vinyl Bromide	5.4	Not Detected	24	Not Detected

J = Estimated value.
B = Compound present in laboratory blank greater than reporting limit, background subtraction not performed.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Pentane, 2,4-dimethyl-	108-08-7	86%	170 NJ
Butane, 2,2,3-trimethyl-	464-06-2	56%	180 NJ
Pentane, 2,3-dimethyl-	565-59-3	43%	500 NJ
Unknown	NA	NA	130 J
Pentane, 2,3,4-trimethyl-	565-75-3	90%	600 NJ
Pentane, 2,3,3-trimethyl-	560-21-4	90%	1700 NJ
Hexane, 3,4-dimethyl-	583-48-2	64%	77 NJ
Hexane, 2,2,4-trimethyl-	16747-26-5	78%	170 NJ
Hexane, 2,2,3-trimethyl-	16747-25-4	56%	63 NJ

eurofins | Air Toxics

Client Sample ID: VMP-16-5-092712

Lab ID#: 1210008A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100845**	**Date of Collection: 9/27/12 9:38:00 AM**	
Dil. Factor:	**2.69**	**Date of Analysis: 10/9/12 12:51 PM**	

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Heptane, 4-ethyl-2,2,6,6-tetramethyl-	62108-31-0	72%	73 NJ

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	107	70-130
1,2-Dichloroethane-d4	114	70-130
4-Bromofluorobenzene	81	70-130

eurofins | Air Toxics

Client Sample ID: VMP-4-5-092712

Lab ID#: 1210008A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100846**	**Date of Collection:**	**9/27/12 1:33:00 PM**
Dil. Factor:	**2.52**	**Date of Analysis:**	**10/9/12 01:31 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.56 J	6.2	2.7 J
Freon 114	1.3	Not Detected	8.8	Not Detected
Chloromethane	13	Not Detected	26	Not Detected
Vinyl Chloride	1.3	Not Detected	3.2	Not Detected
1,3-Butadiene	1.3	Not Detected	2.8	Not Detected
Bromomethane	13	Not Detected	49	Not Detected
Chloroethane	5.0	Not Detected	13	Not Detected
Freon 11	1.3	0.35 J	7.1	2.0 J
Ethanol	5.0	6.5	9.5	12
Freon 113	1.3	Not Detected	9.6	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.0	Not Detected
Acetone	13	16	30	38
2-Propanol	5.0	2.7 J	12	6.7 J
Carbon Disulfide	5.0	1.2 J	16	3.7 J
3-Chloropropene	5.0	Not Detected	16	Not Detected
Methylene Chloride	13	~~0.36 J~~ U	44	~~1.3 J~~ U
Methyl tert-butyl ether	1.3	Not Detected	4.5	Not Detected
trans-1,2-Dichloroethene	1.3	Not Detected	5.0	Not Detected
Hexane	1.3	Not Detected	4.4	Not Detected
1,1-Dichloroethane	1.3	Not Detected	5.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	5.0	15	15
cis-1,2-Dichloroethene	1.3	Not Detected	5.0	Not Detected
Tetrahydrofuran	1.3	Not Detected	3.7	Not Detected
Chloroform	1.3	0.18 J	6.2	0.90 J
1,1,1-Trichloroethane	1.3	Not Detected	6.9	Not Detected
Cyclohexane	1.3	0.20 J	4.3	0.70 J
Carbon Tetrachloride	1.3	Not Detected	7.9	Not Detected
2,2,4-Trimethylpentane	1.3	4.1	5.9	19
Benzene	1.3	3.4	4.0	11
1,2-Dichloroethane	1.3	Not Detected	5.1	Not Detected
Heptane	1.3	0.23 J	5.2	0.96 J
Trichloroethene	1.3	Not Detected	6.8	Not Detected
1,2-Dichloropropane	1.3	Not Detected	5.8	Not Detected
1,4-Dioxane	5.0	Not Detected	18	Not Detected
Bromodichloromethane	1.3	Not Detected	8.4	Not Detected
cis-1,3-Dichloropropene	1.3	Not Detected	5.7	Not Detected
4-Methyl-2-pentanone	1.3	19	5.2	76
Toluene	1.3	0.94 J	4.7	3.5 J
trans-1,3-Dichloropropene	1.3	Not Detected	5.7	Not Detected
1,1,2-Trichloroethane	1.3	Not Detected	6.9	Not Detected
Tetrachloroethene	1.3	Not Detected	8.5	Not Detected
2-Hexanone	5.0	Not Detected	21	Not Detected

Client Sample ID: VMP-4-5-092712

Lab ID#: 1210008A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100846**	**Date of Collection: 9/27/12 1:33:00 PM**	
Dil. Factor:	**2.52**	**Date of Analysis: 10/9/12 01:31 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.3	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.3	Not Detected	9.7	Not Detected
Chlorobenzene	1.3	~~1.2~~ J U	5.8	~~5.6~~ J U
Ethyl Benzene	1.3	0.24 J	5.5	1.0 J
m,p-Xylene	1.3	0.56 J	5.5	2.4 J
o-Xylene	1.3	Not Detected	5.5	Not Detected
Styrene	1.3	Not Detected	5.4	Not Detected
Bromoform	1.3	Not Detected	13	Not Detected
Cumene	1.3	3.8	6.2	18
1,1,2,2-Tetrachloroethane	1.3	Not Detected	8.6	Not Detected
Propylbenzene	1.3	Not Detected	6.2	Not Detected
4-Ethyltoluene	1.3	Not Detected	6.2	Not Detected
1,3,5-Trimethylbenzene	1.3	Not Detected	6.2	Not Detected
1,2,4-Trimethylbenzene	1.3	~~0.24~~ J U	6.2	~~1.2~~ J U
1,3-Dichlorobenzene	1.3	Not Detected	7.6	Not Detected
1,4-Dichlorobenzene	1.3	~~0.20~~ J U	7.6	~~1.2~~ J U
alpha-Chlorotoluene	1.3	Not Detected	6.5	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.6	Not Detected
1,2,4-Trichlorobenzene	5.0	Not Detected	37	Not Detected
Hexachlorobutadiene	5.0	Not Detected	54	Not Detected
Butane	5.0	Not Detected	12	Not Detected
Isopentane	5.0	Not Detected	15	Not Detected
Ethyl Acetate	5.0	Not Detected	18	Not Detected
Propylene	5.0	1.8 J	8.7	3.2 J
Vinyl Acetate	5.0	Not Detected	18	Not Detected
Vinyl Bromide	5.0	Not Detected	22	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
Pentane, 2,3,3-trimethyl-	560-21-4	72%	11 NJ
1-Hexene, 5-methyl-	3524-73-0	55%	12 NJ
Cyclopropane, 1-ethyl-2-heptyl-	74663-86-8	59%	20 NJ
2-Decene, 8-methyl-, (Z)-	74630-25-4	64%	12 NJ
Decane, 2,2,5-trimethyl-	62237-96-1	64%	15 NJ
Decane, 2,6,7-trimethyl-	62108-25-2	53%	9.2 NJ
Decane, 2,2,6-trimethyl-	62237-97-2	64%	27 NJ
Eicosane, 10-methyl-	54833-23-7	64%	34 NJ
Heptane, 4-ethyl-2,2,6,6-tetramethyl-	62108-31-0	64%	59 NJ
Decane, 3,4-dimethyl-	17312-45-7	53%	21 NJ

eurofins | Air Toxics

Client Sample ID: VMP-4-5-092712

Lab ID#: 1210008A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100846**	**Date of Collection: 9/27/12 1:33:00 PM**
Dil. Factor:	**2.52**	**Date of Analysis: 10/9/12 01:31 PM**

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	80	70-130

eurofins | Air Toxics

Client Sample ID: VMP-11-5-092812

Lab ID#: 1210008A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100847**	**Date of Collection: 9/28/12 10:30:00 AM**	
Dil. Factor:	**2.96**	**Date of Analysis: 10/9/12 02:05 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.56 J	7.3	2.8 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	0.33 J	8.3	1.8 J
Ethanol	5.9	1.9 J	11	3.5 J
Freon 113	1.5	Not Detected	11	Not Detected
1,1-Dichloroethene	1.5	Not Detected	5.9	Not Detected
Acetone	15	6.4 J	35	15 J
2-Propanol	5.9	1.1 J	14	2.6 J
Carbon Disulfide	5.9	1.0 J	18	3.2 J
3-Chloropropene	5.9	Not Detected	18	Not Detected
Methylene Chloride	15	0.50 J	51	1.7 J
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	0.45 J	5.2	1.6 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	0.61 J	4.4	1.8 J
Chloroform	1.5	0.20 J	7.2	0.97 J
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	2.6	6.9	12
Benzene	1.5	3.5	4.7	11
1,2-Dichloroethane	1.5	Not Detected	6.0	Not Detected
Heptane	1.5	Not Detected	6.1	Not Detected
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	Not Detected	5.6	Not Detected
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

Client Sample ID: VMP-11-5-092812

Lab ID#: 1210008A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100847**	**Date of Collection:**	**9/28/12 10:30:00 AM**
Dil. Factor:	**2.96**	**Date of Analysis:**	**10/9/12 02:05 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.5	Not Detected	13	Not Detected
1,2-Dibromoethane (EDB)	1.5	Not Detected	11	Not Detected
Chlorobenzene	1.5	~~1.2~~ J U	6.8	~~5.7~~ J 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
Cumene	1.5	Not Detected	7.3	Not Detected
1,1,2,2-Tetrachloroethane	1.5	Not Detected	10	Not Detected
Propylbenzene	1.5	Not Detected	7.3	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	Not Detected	8.9	Not Detected
1,4-Dichlorobenzene	1.5	~~0.25~~ J U	8.9	~~1.5~~ J U
alpha-Chlorotoluene	1.5	Not Detected	7.7	Not Detected
1,2-Dichlorobenzene	1.5	Not Detected	8.9	Not Detected
1,2,4-Trichlorobenzene	5.9	Not Detected	44	Not Detected
Hexachlorobutadiene	5.9	Not Detected	63	Not Detected
Butane	5.9	Not Detected	14	Not Detected
Isopentane	5.9	Not Detected	17	Not Detected
Ethyl Acetate	5.9	Not Detected	21	Not Detected
Propylene	5.9	1.5 J	10	2.6 J
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

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	81	70-130

Client Sample ID: VMP-11-5-092812-Dup

Lab ID#: 1210008A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100848**	**Date of Collection:**	**9/28/12 10:30:00 AM**
Dil. Factor:	**2.89**	**Date of Analysis:**	**10/9/12 02:34 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.59 J	7.1	2.9 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	Not Detected	8.1	Not Detected
Ethanol	5.8	2.1 J	11	4.0 J
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Acetone	14	7.1 J	34	17 J
2-Propanol	5.8	1.1 J	14	2.7 J
Carbon Disulfide	5.8	0.98 J	18	3.1 J
3-Chloropropene	5.8	Not Detected	18	Not Detected
Methylene Chloride	14	0.70 J	50	2.4 J
Methyl tert-butyl ether	1.4	Not Detected	5.2	Not Detected
trans-1,2-Dichloroethene	1.4	Not Detected	5.7	Not Detected
Hexane	1.4	Not Detected	5.1	Not Detected
1,1-Dichloroethane	1.4	Not Detected	5.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.8	1.6 J	17	4.7 J
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	0.48 J	6.8	2.3 J
Benzene	1.4	4.4	4.6	14
1,2-Dichloroethane	1.4	Not Detected	5.8	Not Detected
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	Not Detected	5.4	Not Detected
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

eurofins | Air Toxics

Client Sample ID: VMP-11-5-092812-Dup

Lab ID#: 1210008A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100848**	**Date of Collection: 9/28/12 10:30:00 AM**	
Dil. Factor:	**2.89**	**Date of Analysis: 10/9/12 02:34 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	~~1.3 J~~	6.6	~~6.1 J~~
Ethyl Benzene	1.4	Not Detected	6.3	Not Detected
m,p-Xylene	1.4	Not Detected	6.3	Not Detected
o-Xylene	1.4	Not Detected	6.3	Not Detected
Styrene	1.4	Not Detected	6.2	Not Detected
Bromoform	1.4	Not Detected	15	Not Detected
Cumene	1.4	Not Detected	7.1	Not Detected
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.9	Not Detected
Propylbenzene	1.4	Not Detected	7.1	Not Detected
4-Ethyltoluene	1.4	Not Detected	7.1	Not Detected
1,3,5-Trimethylbenzene	1.4	Not Detected	7.1	Not Detected
1,2,4-Trimethylbenzene	1.4	Not Detected	7.1	Not Detected
1,3-Dichlorobenzene	1.4	Not Detected	8.7	Not Detected
1,4-Dichlorobenzene	1.4	Not Detected	8.7	Not Detected
alpha-Chlorotoluene	1.4	Not Detected	7.5	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.7	Not Detected
1,2,4-Trichlorobenzene	5.8	Not Detected	43	Not Detected
Hexachlorobutadiene	5.8	Not Detected	62	Not Detected
Butane	5.8	Not Detected	14	Not Detected
Isopentane	5.8	2.2 J	17	6.4 J
Ethyl Acetate	5.8	Not Detected	21	Not Detected
Propylene	5.8	Not Detected	9.9	Not Detected
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

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	84	70-130

Client Sample ID: VMP-13-5-092812

Lab ID#: 1210008A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100909**	**Date of Collection:**	**9/28/12 11:25:00 AM**
Dil. Factor:	**2.82**	**Date of Analysis:**	**10/9/12 08:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.50 J	7.0	2.5 J
Freon 114	1.4	Not Detected	9.8	Not Detected
Chloromethane	14	6.2 J	29	13 J
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
Ethanol	5.6	3.6 J	11	6.7 J
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.6	Not Detected
Acetone	14	33	33	78
2-Propanol	5.6	1.2 J	14	2.9 J
Carbon Disulfide	5.6	3.0 J	18	9.3 J
3-Chloropropene	5.6	Not Detected	18	Not Detected
Methylene Chloride	14	0.94 J	49	3.3 J
Methyl tert-butyl ether	1.4	Not Detected	5.1	Not Detected
trans-1,2-Dichloroethene	1.4	0.64 J	5.6	2.6 J
Hexane	1.4	0.86 J	5.0	3.0 J
1,1-Dichloroethane	1.4	0.20 J	5.7	0.80 J
2-Butanone (Methyl Ethyl Ketone)	5.6	7.6	17	22
cis-1,2-Dichloroethene	1.4	0.57 J	5.6	2.2 J
Tetrahydrofuran	1.4	Not Detected	4.2	Not Detected
Chloroform	1.4	0.89 J	6.9	4.4 J
1,1,1-Trichloroethane	1.4	Not Detected	7.7	Not Detected
Cyclohexane	1.4	0.49 J	4.8	1.7 J
Carbon Tetrachloride	1.4	Not Detected	8.9	Not Detected
2,2,4-Trimethylpentane	1.4	4.5	6.6	21
Benzene	1.4	7.6	4.5	24
1,2-Dichloroethane	1.4	Not Detected	5.7	Not Detected
Heptane	1.4	1.0 J	5.8	4.3 J
Trichloroethene	1.4	1.3 J	7.6	6.9 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	Not Detected	9.4	Not Detected
cis-1,3-Dichloropropene	1.4	1.0 J	6.4	4.5 J
4-Methyl-2-pentanone	1.4	0.66 J	5.8	2.7 J
Toluene	1.4	0.62 J	5.3	2.3 J
trans-1,3-Dichloropropene	1.4	1.5	6.4	6.7
1,1,2-Trichloroethane	1.4	0.48 J	7.7	2.6 J
Tetrachloroethene	1.4	0.94 J	9.6	6.4 J
2-Hexanone	5.6	Not Detected	23	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-13-5-092812

Lab ID#: 1210008A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100909**	**Date of Collection:**	**9/28/12 11:25:00 AM**
Dil. Factor:	**2.82**	**Date of Analysis:**	**10/9/12 08:13 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	1.3 J	11	10 J
Chlorobenzene	1.4	3.8	6.5	17
Ethyl Benzene	1.4	0.40 J	6.1	1.7 J
m,p-Xylene	1.4	0.50 J	6.1	2.2 J
o-Xylene	1.4	0.28 J	6.1	1.2 J
Styrene	1.4	0.63 J	6.0	2.7 J
Bromoform	1.4	0.39 J	14	4.0 J
Cumene	1.4	0.24 J	6.9	1.2 J
1,1,2,2-Tetrachloroethane	1.4	~~0.30 J~~ U	9.7	~~2.1 J~~ U
Propylbenzene	1.4	~~0.46 J~~ U	6.9	~~2.3 J~~ U
4-Ethyltoluene	1.4	0.63 J	6.9	3.1 J
1,3,5-Trimethylbenzene	1.4	~~0.46 J~~ U	6.9	~~2.3 J~~ U
1,2,4-Trimethylbenzene	1.4	~~0.62 J~~ U	6.9	~~3.0 J~~ U
1,3-Dichlorobenzene	1.4	1.7	8.5	10
1,4-Dichlorobenzene	1.4	1.9	8.5	12
alpha-Chlorotoluene	1.4	0.93 J	7.3	4.8 J
1,2-Dichlorobenzene	1.4	1.3 J	8.5	7.6 J
1,2,4-Trichlorobenzene	5.6	~~3.4 J~~ U	42	~~25 J~~ U
Hexachlorobutadiene	5.6	Not Detected	60	Not Detected
Butane	5.6	Not Detected	13	Not Detected
Isopentane	5.6	1.7 J	17	5.0 J
Ethyl Acetate	5.6	Not Detected	20	Not Detected
Propylene	5.6	4.0 J	9.7	6.9 J
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))
1-Propene, 2-methyl-	115-11-7	46%	19 NJ
Acetaldehyde	75-07-0	3.0%	12 NJ
Hexane, 2,3,4-trimethyl-	921-47-1	64%	10 NJ

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	107	70-130

eurofins | Air Toxics

Client Sample ID: VMP-13-5-092812

Lab ID#: 1210008A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j100909	Date of Collection:	9/28/12 11:25:00 AM
Dil. Factor:	2.82	Date of Analysis:	10/9/12 08:13 PM

Surrogates	%Recovery	Method Limits
4-Bromofluorobenzene	82	70-130

eurofins | Air Toxics

Client Sample ID: VMP-10-5-092812

Lab ID#: 1210008A-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100910**	**Date of Collection:**	**9/28/12 12:16:00 PM**
Dil. Factor:	**3.11**	**Date of Analysis:**	**10/9/12 08:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.6	0.58 J	7.7	2.8 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	0.28 J	8.7	1.6 J
Ethanol	6.2	2.7 J	12	5.0 J
Freon 113	1.6	Not Detected	12	Not Detected
1,1-Dichloroethene	1.6	Not Detected	6.2	Not Detected
Acetone	16	17	37	41
2-Propanol	6.2	1.8 J	15	4.4 J
Carbon Disulfide	6.2	~~4.2 J~~ U	19	~~9.6 J~~ U
3-Chloropropene	6.2	Not Detected	19	Not Detected
Methylene Chloride	16	~~0.46 J~~ U	54	~~1.6 J~~ U
Methyl tert-butyl ether	1.6	Not Detected	5.6	Not Detected
trans-1,2-Dichloroethene	1.6	0.54 J	6.2	2.2 J
Hexane	1.6	0.40 J	5.5	1.4 J
1,1-Dichloroethane	1.6	Not Detected	6.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	6.2	3.9 J	18	12 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	~~0.36 J~~ U	7.6	~~1.7 J~~ U
1,1,1-Trichloroethane	1.6	0.15 J	8.5	0.82 J
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	0.52 J	6.4	2.1 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	0.24 J	10	1.6 J
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	0.28 J	5.8	1.1 J
trans-1,3-Dichloropropene	1.6	~~0.58 J~~ U	7.0	~~2.6 J~~ U
1,1,2-Trichloroethane	1.6	Not Detected	8.5	Not Detected
Tetrachloroethene	1.6	0.50 J	10	3.4 J
2-Hexanone	6.2	Not Detected	25	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-10-5-092812

Lab ID#: 1210008A-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100910**	**Date of Collection: 9/28/12 12:16:00 PM**	
Dil. Factor:	**3.11**	**Date of Analysis: 10/9/12 08:54 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.6	Not Detected	13	Not Detected
1,2-Dibromoethane (EDB)	1.6	Not Detected	12	Not Detected
Chlorobenzene	~~1.6~~ 1.8	~~1.8~~ U	~~7.2~~ 8.1	~~8.1~~ U
Ethyl Benzene	1.6	Not Detected	6.8	Not Detected
m,p-Xylene	1.6	0.31 J	6.8	1.3 J
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
Cumene	1.6	Not Detected	7.6	Not Detected
1,1,2,2-Tetrachloroethane	1.6	~~0.22 J~~ U	11	~~1.5 J~~ U
Propylbenzene	1.6	~~0.37 J~~ U	7.6	~~1.8 J~~ U
4-Ethyltoluene	1.6	0.41 J	7.6	2.0 J
1,3,5-Trimethylbenzene	1.6	~~0.28 J~~ U	7.6	~~1.4 J~~ U
1,2,4-Trimethylbenzene	1.6	~~0.49 J~~ U	7.6	~~2.4 J~~ U
1,3-Dichlorobenzene	1.6	~~0.91 J~~ U	9.3	~~5.5 J~~ U
1,4-Dichlorobenzene	1.6	~~1.2 J~~ U	9.3	~~7.5 J~~ U
alpha-Chlorotoluene	1.6	~~0.48 J~~ U	8.0	~~2.5 J~~ U
1,2-Dichlorobenzene	1.6	~~0.70 J~~ U	9.3	~~4.2 J~~ U
1,2,4-Trichlorobenzene	6.2	~~2.8 J~~ U	46	~~21 J~~ U
Hexachlorobutadiene	6.2	Not Detected	66	Not Detected
Butane	6.2	Not Detected	15	Not Detected
Isopentane	6.2	1.6 J	18	4.6 J
Ethyl Acetate	6.2	Not Detected	22	Not Detected
Propylene	6.2	1.7 J	11	2.9 J
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

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	82	70-130

eurofins | Air Toxics

Client Sample ID: VMP-10-5-092812-Dup

Lab ID#: 1210008A-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100911**	**Date of Collection:**	**9/28/12 12:16:00 PM**
Dil. Factor:	**3.03**	**Date of Analysis:**	**10/9/12 09:19 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.5	0.45 J	7.5	2.2 J
Freon 114	1.5	Not Detected	10	Not Detected
Chloromethane	15	Not Detected	31	Not Detected
Vinyl Chloride	1.5	Not Detected	3.9	Not Detected
1,3-Butadiene	1.5	Not Detected	3.4	Not Detected
Bromomethane	15	Not Detected	59	Not Detected
Chloroethane	6.1	Not Detected	16	Not Detected
Freon 11	1.5	0.24 J	8.5	1.4 J
Ethanol	6.1	2.1 J	11	4.0 J
Freon 113	1.5	Not Detected	12	Not Detected
1,1-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Acetone	15	19	36	45
2-Propanol	6.1	2.4 J	15	5.9 J
Carbon Disulfide	6.1	~~1.0 J~~ U	19	~~3.3 J~~ U
3-Chloropropene	6.1	Not Detected	19	Not Detected
Methylene Chloride	15	0.63 J	53	2.2 J
Methyl tert-butyl ether	1.5	Not Detected	5.5	Not Detected
trans-1,2-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Hexane	1.5	0.54 J	5.3	1.9 J
1,1-Dichloroethane	1.5	Not Detected	6.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	6.1	3.0 J	18	9.0 J
cis-1,2-Dichloroethene	1.5	Not Detected	6.0	Not Detected
Tetrahydrofuran	1.5	Not Detected	4.5	Not Detected
Chloroform	1.5	~~0.22 J~~ U	7.4	~~1.0 J~~ U
1,1,1-Trichloroethane	1.5	Not Detected	8.3	Not Detected
Cyclohexane	1.5	Not Detected	5.2	Not Detected
Carbon Tetrachloride	1.5	Not Detected	9.5	Not Detected
2,2,4-Trimethylpentane	1.5	Not Detected	7.1	Not Detected
Benzene	1.5	1.3 J	4.8	4.3 J
1,2-Dichloroethane	1.5	Not Detected	6.1	Not Detected
Heptane	1.5	0.69 J	6.2	2.8 J
Trichloroethene	1.5	0.36 J	8.1	1.9 J
1,2-Dichloropropane	1.5	Not Detected	7.0	Not Detected
1,4-Dioxane	6.1	Not Detected	22	Not Detected
Bromodichloromethane	1.5	Not Detected	10	Not Detected
cis-1,3-Dichloropropene	1.5	Not Detected	6.9	Not Detected
4-Methyl-2-pentanone	1.5	Not Detected	6.2	Not Detected
Toluene	1.5	0.25 J	5.7	0.96 J
trans-1,3-Dichloropropene	1.5	~~0.67 J~~ U	6.9	~~3.0 J~~ U
1,1,2-Trichloroethane	1.5	Not Detected	8.3	Not Detected
Tetrachloroethene	1.5	0.44 J	10	3.0 J
2-Hexanone	6.1	Not Detected	25	Not Detected

eurofins | Air Toxics

Client Sample ID: VMP-10-5-092812-Dup

Lab ID#: 1210008A-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100911**	**Date of Collection: 9/28/12 12:16:00 PM**	
Dil. Factor:	**3.03**	**Date of Analysis: 10/9/12 09:19 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.5	Not Detected	13	Not Detected
1,2-Dibromoethane (EDB)	1.5	Not Detected	12	Not Detected
Chlorobenzene	~~1.5~~ 1.7	~~4.7~~ U	~~7.0~~ 7.8	~~7.8~~ U
Ethyl Benzene	1.5	Not Detected	6.6	Not Detected
m,p-Xylene	1.5	Not Detected	6.6	Not Detected
o-Xylene	1.5	Not Detected	6.6	Not Detected
Styrene	1.5	Not Detected	6.4	Not Detected
Bromoform	1.5	Not Detected	16	Not Detected
Cumene	1.5	Not Detected	7.4	Not Detected
1,1,2,2-Tetrachloroethane	1.5	Not Detected	10	Not Detected
Propylbenzene	1.5	~~0.30 J~~ U	7.4	~~1.4 J~~ U
4-Ethyltoluene	1.5	Not Detected	7.4	Not Detected
1,3,5-Trimethylbenzene	1.5	Not Detected	7.4	Not Detected
1,2,4-Trimethylbenzene	1.5	~~0.31 J~~ U	7.4	~~1.5 J~~ U
1,3-Dichlorobenzene	1.5	~~0.68 J~~ U	9.1	~~4.1 J~~ U
1,4-Dichlorobenzene	1.5	~~0.90 J~~ U	9.1	~~5.4 J~~ U
alpha-Chlorotoluene	1.5	~~0.29 J~~ U	7.8	~~1.5 J~~ U
1,2-Dichlorobenzene	1.5	~~0.52 J~~ U	9.1	~~3.1 J~~ U
1,2,4-Trichlorobenzene	6.1	~~1.9 J~~ U	45	~~14 J~~ U
Hexachlorobutadiene	6.1	Not Detected	65	Not Detected
Butane	6.1	Not Detected	14	Not Detected
Isopentane	6.1	Not Detected	18	Not Detected
Ethyl Acetate	6.1	Not Detected	22	Not Detected
Propylene	6.1	1.6 J	10	2.8 J
Vinyl Acetate	6.1	Not Detected	21	Not Detected
Vinyl Bromide	6.1	Not Detected	26	Not Detected

J = Estimated value.

TENTATIVELY IDENTIFIED COMPOUNDS

Compound	CAS Number	Match Quality	Amount ((ppbv))
1-Propene, 2-methyl-	115-11-7	64%	9.1 NJ

NJ =The identification is based on presumptive evidence; estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	81	70-130

Client Sample ID: Lab Blank

Lab ID#: 1210008A-11A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100834a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/8/12 10:24 PM**	

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
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	0.094 J	17	0.33 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	0.070 J	2.0	0.28 J
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	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	0.089 J	2.0	0.36 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	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	0.11 J	2.3	0.49 J
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	0.14 J	2.3	0.62 J
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1210008A-11A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100834a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/8/12 10:24 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	0.52	2.3	2.4
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	0.071 J	3.4	0.49 J
Propylbenzene	0.50	0.10 J	2.4	0.50 J
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	0.084 J	2.4	0.41 J
1,2,4-Trimethylbenzene	0.50	0.094 J	2.4	0.46 J
1,3-Dichlorobenzene	0.50	0.25 J	3.0	1.5 J
1,4-Dichlorobenzene	0.50	0.28 J	3.0	1.7 J
alpha-Chlorotoluene	0.50	0.091 J	2.6	0.47 J
1,2-Dichlorobenzene	0.50	0.20 J	3.0	1.2 J
1,2,4-Trichlorobenzene	2.0	0.58 J	15	4.3 J
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
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	101	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	78	70-130

Client Sample ID: Lab Blank

Lab ID#: 1210008A-11B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100908a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/9/12 07:24 PM**	

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	0.13 J	19	0.52 J
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	0.32 J	6.2	1.0 J
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	0.11 J	17	0.39 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	0.089 J	2.4	0.43 J
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	0.074 J	2.0	0.30 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	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	0.14 J	2.3	0.63 J
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected

Client Sample ID: Lab Blank

Lab ID#: 1210008A-11B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100908a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/9/12 07:24 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	0.48 J	2.3	2.2 J
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	0.078 J	3.4	0.54 J
Propylbenzene	0.50	0.12 J	2.4	0.60 J
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	0.12 J	2.4	0.58 J
1,2,4-Trimethylbenzene	0.50	0.15 J	2.4	0.76 J
1,3-Dichlorobenzene	0.50	0.26 J	3.0	1.6 J
1,4-Dichlorobenzene	0.50	0.30 J	3.0	1.8 J
alpha-Chlorotoluene	0.50	0.13 J	2.6	0.67 J
1,2-Dichlorobenzene	0.50	0.23 J	3.0	1.4 J
1,2,4-Trichlorobenzene	2.0	0.72 J	15	5.3 J
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Butane	2.0	Not Detected	4.8	Not Detected
Isopentane	2.0	Not Detected	5.9	Not Detected
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	100	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	82	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1210008A-12A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100823**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/8/12 04:08 PM**	

Compound	%Recovery
Freon 12	108
Freon 114	100
Chloromethane	101
Vinyl Chloride	88
1,3-Butadiene	77
Bromomethane	89
Chloroethane	85
Freon 11	104
Ethanol	80
Freon 113	88
1,1-Dichloroethene	85
Acetone	84
2-Propanol	83
Carbon Disulfide	87
3-Chloropropene	84
Methylene Chloride	95
Methyl tert-butyl ether	89
trans-1,2-Dichloroethene	89
Hexane	78
1,1-Dichloroethane	95
2-Butanone (Methyl Ethyl Ketone)	98
cis-1,2-Dichloroethene	95
Tetrahydrofuran	90
Chloroform	105
1,1,1-Trichloroethane	99
Cyclohexane	100
Carbon Tetrachloride	109
2,2,4-Trimethylpentane	85
Benzene	113
1,2-Dichloroethane	117
Heptane	112
Trichloroethene	114
1,2-Dichloropropane	108
1,4-Dioxane	106
Bromodichloromethane	115
cis-1,3-Dichloropropene	111
4-Methyl-2-pentanone	86
Toluene	109
trans-1,3-Dichloropropene	117
1,1,2-Trichloroethane	126
Tetrachloroethene	109
2-Hexanone	101

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1210008A-12A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100823**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/8/12 04:08 PM**	

Compound	%Recovery
Dibromochloromethane	118
1,2-Dibromoethane (EDB)	119
Chlorobenzene	101
Ethyl Benzene	111
m,p-Xylene	106
o-Xylene	108
Styrene	100
Bromoform	106
Cumene	110
1,1,2,2-Tetrachloroethane	125
Propylbenzene	120
4-Ethyltoluene	106
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	100
1,3-Dichlorobenzene	102
1,4-Dichlorobenzene	102
alpha-Chlorotoluene	97
1,2-Dichlorobenzene	100
1,2,4-Trichlorobenzene	88
Hexachlorobutadiene	90
Butane	83
Isopentane	97
Ethyl Acetate	105
Propylene	102
Vinyl Acetate	90
Vinyl Bromide	90

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	82	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1210008A-12B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100902**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/9/12 03:39 PM**	

Compound	%Recovery
Freon 12	108
Freon 114	95
Chloromethane	97
Vinyl Chloride	84
1,3-Butadiene	76
Bromomethane	86
Chloroethane	88
Freon 11	104
Ethanol	81
Freon 113	87
1,1-Dichloroethene	77
Acetone	83
2-Propanol	86
Carbon Disulfide	86
3-Chloropropene	85
Methylene Chloride	94
Methyl tert-butyl ether	90
trans-1,2-Dichloroethene	90
Hexane	80
1,1-Dichloroethane	96
2-Butanone (Methyl Ethyl Ketone)	100
cis-1,2-Dichloroethene	93
Tetrahydrofuran	92
Chloroform	108
1,1,1-Trichloroethane	101
Cyclohexane	100
Carbon Tetrachloride	110
2,2,4-Trimethylpentane	87
Benzene	109
1,2-Dichloroethane	118
Heptane	109
Trichloroethene	113
1,2-Dichloropropane	107
1,4-Dioxane	108
Bromodichloromethane	116
cis-1,3-Dichloropropene	113
4-Methyl-2-pentanone	89
Toluene	108
trans-1,3-Dichloropropene	113
1,1,2-Trichloroethane	119
Tetrachloroethene	105
2-Hexanone	98

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 1210008A-12B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100902**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/9/12 03:39 PM**	

Compound	%Recovery
Dibromochloromethane	117
1,2-Dibromoethane (EDB)	114
Chlorobenzene	97
Ethyl Benzene	106
m,p-Xylene	105
o-Xylene	104
Styrene	95
Bromoform	104
Cumene	106
1,1,2,2-Tetrachloroethane	121
Propylbenzene	116
4-Ethyltoluene	103
1,3,5-Trimethylbenzene	101
1,2,4-Trimethylbenzene	96
1,3-Dichlorobenzene	99
1,4-Dichlorobenzene	99
alpha-Chlorotoluene	96
1,2-Dichlorobenzene	98
1,2,4-Trichlorobenzene	85
Hexachlorobutadiene	89
Butane	81
Isopentane	95
Ethyl Acetate	102
Propylene	97
Vinyl Acetate	89
Vinyl Bromide	91

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	86	70-130

Client Sample ID: LCS

Lab ID#: 1210008A-13A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100824**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/8/12 05:00 PM**	

Compound	%Recovery
Freon 12	112
Freon 114	99
Chloromethane	105
Vinyl Chloride	93
1,3-Butadiene	79
Bromomethane	90
Chloroethane	86
Freon 11	106
Ethanol	79
Freon 113	90
1,1-Dichloroethene	88
Acetone	85
2-Propanol	87
Carbon Disulfide	109
3-Chloropropene	95
Methylene Chloride	95
Methyl tert-butyl ether	90
trans-1,2-Dichloroethene	103
Hexane	82
1,1-Dichloroethane	99
2-Butanone (Methyl Ethyl Ketone)	102
cis-1,2-Dichloroethene	98
Tetrahydrofuran	92
Chloroform	111
1,1,1-Trichloroethane	104
Cyclohexane	103
Carbon Tetrachloride	113
2,2,4-Trimethylpentane	84
Benzene	113
1,2-Dichloroethane	116
Heptane	112
Trichloroethene	115
1,2-Dichloropropane	111
1,4-Dioxane	107
Bromodichloromethane	117
cis-1,3-Dichloropropene	114
4-Methyl-2-pentanone	86
Toluene	109
trans-1,3-Dichloropropene	117
1,1,2-Trichloroethane	125
Tetrachloroethene	108
2-Hexanone	99

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1210008A-13A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100824**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/8/12 05:00 PM**	

Compound	%Recovery
Dibromochloromethane	117
1,2-Dibromoethane (EDB)	120
Chlorobenzene	101
Ethyl Benzene	110
m,p-Xylene	109
o-Xylene	108
Styrene	97
Bromoform	102
Cumene	110
1,1,2,2-Tetrachloroethane	126
Propylbenzene	119
4-Ethyltoluene	102
1,3,5-Trimethylbenzene	104
1,2,4-Trimethylbenzene	94
1,3-Dichlorobenzene	102
1,4-Dichlorobenzene	100
alpha-Chlorotoluene	94
1,2-Dichlorobenzene	100
1,2,4-Trichlorobenzene	87
Hexachlorobutadiene	87
Butane	83
Isopentane	102
Ethyl Acetate	Not Spiked
Propylene	92
Vinyl Acetate	88
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	82	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1210008A-13AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100825**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/8/12 05:35 PM**	

Compound	%Recovery
Freon 12	112
Freon 114	100
Chloromethane	111
Vinyl Chloride	92
1,3-Butadiene	83
Bromomethane	93
Chloroethane	90
Freon 11	109
Ethanol	83
Freon 113	91
1,1-Dichloroethene	91
Acetone	88
2-Propanol	90
Carbon Disulfide	112
3-Chloropropene	99
Methylene Chloride	100
Methyl tert-butyl ether	95
trans-1,2-Dichloroethene	106
Hexane	88
1,1-Dichloroethane	102
2-Butanone (Methyl Ethyl Ketone)	105
cis-1,2-Dichloroethene	101
Tetrahydrofuran	95
Chloroform	112
1,1,1-Trichloroethane	105
Cyclohexane	104
Carbon Tetrachloride	117
2,2,4-Trimethylpentane	89
Benzene	112
1,2-Dichloroethane	115
Heptane	110
Trichloroethene	115
1,2-Dichloropropane	108
1,4-Dioxane	106
Bromodichloromethane	116
cis-1,3-Dichloropropene	111
4-Methyl-2-pentanone	88
Toluene	107
trans-1,3-Dichloropropene	119
1,1,2-Trichloroethane	128
Tetrachloroethene	110
2-Hexanone	102

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1210008A-13AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100825**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/8/12 05:35 PM**	

Compound	%Recovery
Dibromochloromethane	119
1,2-Dibromoethane (EDB)	122
Chlorobenzene	103
Ethyl Benzene	112
m,p-Xylene	110
o-Xylene	109
Styrene	100
Bromoform	104
Cumene	112
1,1,2,2-Tetrachloroethane	128
Propylbenzene	121
4-Ethyltoluene	103
1,3,5-Trimethylbenzene	107
1,2,4-Trimethylbenzene	99
1,3-Dichlorobenzene	103
1,4-Dichlorobenzene	102
alpha-Chlorotoluene	95
1,2-Dichlorobenzene	100
1,2,4-Trichlorobenzene	84
Hexachlorobutadiene	86
Butane	86
Isopentane	104
Ethyl Acetate	Not Spiked
Propylene	100
Vinyl Acetate	89
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	106	70-130
4-Bromofluorobenzene	84	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1210008A-13B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100903**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/9/12 04:22 PM**	

Compound	%Recovery
Freon 12	115
Freon 114	101
Chloromethane	111
Vinyl Chloride	92
1,3-Butadiene	82
Bromomethane	90
Chloroethane	90
Freon 11	109
Ethanol	82
Freon 113	91
1,1-Dichloroethene	92
Acetone	92
2-Propanol	91
Carbon Disulfide	111
3-Chloropropene	97
Methylene Chloride	100
Methyl tert-butyl ether	94
trans-1,2-Dichloroethene	104
Hexane	84
1,1-Dichloroethane	100
2-Butanone (Methyl Ethyl Ketone)	100
cis-1,2-Dichloroethene	95
Tetrahydrofuran	92
Chloroform	112
1,1,1-Trichloroethane	107
Cyclohexane	97
Carbon Tetrachloride	116
2,2,4-Trimethylpentane	86
Benzene	110
1,2-Dichloroethane	121
Heptane	112
Trichloroethene	118
1,2-Dichloropropane	108
1,4-Dioxane	106
Bromodichloromethane	120
cis-1,3-Dichloropropene	119
4-Methyl-2-pentanone	90
Toluene	110
trans-1,3-Dichloropropene	118
1,1,2-Trichloroethane	119
Tetrachloroethene	104
2-Hexanone	97

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1210008A-13B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100903**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/9/12 04:22 PM**	

Compound	%Recovery
Dibromochloromethane	117
1,2-Dibromoethane (EDB)	117
Chlorobenzene	99
Ethyl Benzene	109
m,p-Xylene	105
o-Xylene	106
Styrene	96
Bromoform	104
Cumene	109
1,1,2,2-Tetrachloroethane	120
Propylbenzene	115
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	99
1,2,4-Trimethylbenzene	91
1,3-Dichlorobenzene	97
1,4-Dichlorobenzene	94
alpha-Chlorotoluene	94
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	81
Hexachlorobutadiene	85
Butane	85
Isopentane	103
Ethyl Acetate	Not Spiked
Propylene	96
Vinyl Acetate	96
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	107	70-130
1,2-Dichloroethane-d4	110	70-130
4-Bromofluorobenzene	87	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1210008A-13BB

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/9/12 04:40 PM**	

Compound	%Recovery
Freon 12	108
Freon 114	94
Chloromethane	107
Vinyl Chloride	90
1,3-Butadiene	79
Bromomethane	90
Chloroethane	86
Freon 11	106
Ethanol	78
Freon 113	90
1,1-Dichloroethene	89
Acetone	87
2-Propanol	89
Carbon Disulfide	107
3-Chloropropene	94
Methylene Chloride	98
Methyl tert-butyl ether	92
trans-1,2-Dichloroethene	97
Hexane	83
1,1-Dichloroethane	99
2-Butanone (Methyl Ethyl Ketone)	101
cis-1,2-Dichloroethene	97
Tetrahydrofuran	91
Chloroform	110
1,1,1-Trichloroethane	106
Cyclohexane	101
Carbon Tetrachloride	116
2,2,4-Trimethylpentane	88
Benzene	109
1,2-Dichloroethane	116
Heptane	106
Trichloroethene	114
1,2-Dichloropropane	105
1,4-Dioxane	106
Bromodichloromethane	116
cis-1,3-Dichloropropene	111
4-Methyl-2-pentanone	86
Toluene	105
trans-1,3-Dichloropropene	117
1,1,2-Trichloroethane	122
Tetrachloroethene	106
2-Hexanone	98

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1210008A-13BB

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**j100904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/9/12 04:40 PM**	

Compound	%Recovery
Dibromochloromethane	117
1,2-Dibromoethane (EDB)	119
Chlorobenzene	100
Ethyl Benzene	110
m,p-Xylene	106
o-Xylene	107
Styrene	96
Bromoform	105
Cumene	110
1,1,2,2-Tetrachloroethane	126
Propylbenzene	120
4-Ethyltoluene	103
1,3,5-Trimethylbenzene	104
1,2,4-Trimethylbenzene	98
1,3-Dichlorobenzene	102
1,4-Dichlorobenzene	101
alpha-Chlorotoluene	97
1,2-Dichlorobenzene	101
1,2,4-Trichlorobenzene	88
Hexachlorobutadiene	90
Butane	78
Isopentane	97
Ethyl Acetate	Not Spiked
Propylene	93
Vinyl Acetate	86
Vinyl Bromide	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	109	70-130
4-Bromofluorobenzene	87	70-130

1210008

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

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

Print Bill To Contact Name: Robert Mooshegian

INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0 ☐ CHECK IF NO INCIDENT # APPLIES

PO #:

SAP #: 3 4 3 0 6 1

DATE: 09/28/12

PAGE: 1 of 1

SAMPLING COMPANY: URS CORPORATION

LOG CODE:

SITE ADDRESS: Street and City: 900 SOUTH CENTRAL AVE – ROXANA

State: IL

GLOBAL ID NO:

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

LOP DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel, URS, St. Louis

PHONE NO.: 314-743-4179

E-MAIL: Elizabeth_Kunkel@URSCorp.com

CONSULTANT PROJECT NAME: Roxana Vapor Additional

SECONDARY ADDRESS: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719

J.C Williams, M. Currier

TELEPHONE:

FAX: 314-429-0462

Bill To Contact E-MAIL: Robert.Mooshegian@urs.com

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

REQUESTED ANALYSIS

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY

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

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

Turn Around Time: ☑ Normal ☐ Rush ____ Specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	Canister Number	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946				
01A	VMP-21-5-092712	09/27/12	1115-1145	12378	-30	-9			X	X					
02A	VMP-42-10-092712	09/27/12	1212-1247	30811	-30	-8			X	X					
03A	VMP-42-10-092712-Dup	09/27/12	1212-1247	3037	-30	-7.5			X	X					
04A	VMP-16-5-092712	09/27/12	0908-0939	12374	-30	-9			X	X					
05A	VMP-4-5-092712	09/27/12	1303-1333	9443	-30	-7			X	X					
06A	VMP-11-5-092812	09/28/12	1000-1030	2093	-30	-10			X	X					
07A	VMP-11-5-092812-Dup	09/28/12	1000-1030	37370	-30	-9			X	X					
08A	VMP-13-5-092812	09/28/12	1055-1125	2058	-30	-8.5			X	X					
09A	VMP-10-5-092812	09/28/12	1140-1210	2110	-30	-10.5			X	X					
10A	VMP-10-5-092812-Dup	09/28/12	1140-1210	25281	-30	-10			X	X					

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by (Signature)	Received by (Signature)	Date	Time
	FEDEX	9/28/12	1600
Relinquished by (Signature)	Received by (Signature)	Date	Time
	10/1/12 0955		
Relinquished by (Signature)	Received by (Signature)	Date	Time

05/2006 Revision

Fedex
Custody Seal Intact?
(Y) N None Temp N/A

eurofins | Air Toxics

10/23/2012
Ms. Elizabeth Kunkel
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Vapor Additional
Project #: 21562735.10100
Workorder #: 1210008BR1

Dear Ms. Elizabeth Kunkel

The following report includes the data for the above referenced project for sample(s) received on 10/1/2012 at Air Toxics Ltd.

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

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

Regards,

Kelly Buettner

Project Manager

Reviewed
KB
10/23/12

eurofins | Air Toxics

WORK ORDER #: 1210008BR1

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. #**	
FAX:		**PROJECT #**	21562735.10100 Roxana Vapor Additional
DATE RECEIVED:	10/01/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	10/12/2012		
DATE REISSUED:	10/23/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VMP-21-5-092712	Modified ASTM D-1946	8.0 "Hg	15 psi
02A	VMP-42-10-092712	Modified ASTM D-1946	7.5 "Hg	15 psi
03A	VMP-42-10-092712-Dup	Modified ASTM D-1946	6.5 "Hg	15 psi
04A	VMP-16-5-092712	Modified ASTM D-1946	7.5 "Hg	15 psi
05A	VMP-4-5-092712	Modified ASTM D-1946	6.0 "Hg	15 psi
06A	VMP-11-5-092812	Modified ASTM D-1946	9.5 "Hg	15 psi
07A	VMP-11-5-092812-Dup	Modified ASTM D-1946	9.0 "Hg	15 psi
08A	VMP-13-5-092812	Modified ASTM D-1946	8.5 "Hg	15 psi
09A	VMP-10-5-092812	Modified ASTM D-1946	10.5 "Hg	15 psi
10A	VMP-10-5-092812-Dup	Modified ASTM D-1946	10.0 "Hg	15 psi
11A	Lab Blank	Modified ASTM D-1946	NA	NA
11B	Lab Blank	Modified ASTM D-1946	NA	NA
11C	Lab Blank	Modified ASTM D-1946	NA	NA
11D	Lab Blank	Modified ASTM D-1946	NA	NA
12A	LCS	Modified ASTM D-1946	NA	NA
12AA	LCSD	Modified ASTM D-1946	NA	NA
12B	LCS	Modified ASTM D-1946	NA	NA
12BB	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 10/23/12

Technical Director

Certfication 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)
Acereditation number: CA300005, Effeetive 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

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

LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1210008BR1

Ten 1 Liter Summa Canister samples were received on October 01, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

SAMPLE VMP-21-5-092712 WAS REANALYZED ON OCTOBER 19, 2012 DUE TO A LABORATORY ERROR THAT OCCURRED DURING THE ORIGINAL ANALYSIS OF THIS SAMPLE (WORKORDER# 1210008B). THE WORK ORDER WAS REISSUED ON OCTOBER 23, 2012 TO REPORT THE CORRECT RESULTS FROM THE REANALYSIS OF SAMPLE VMP-21-5-092712.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

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

Client Sample ID: VMP-21-5-092712

Lab ID#: 1210008BR1-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.33	16
Nitrogen	0.33	80
Methane	0.00033	0.000064 J
Carbon Dioxide	0.033	3.6
Helium	0.17	0.027 J

Client Sample ID: VMP-42-10-092712

Lab ID#: 1210008BR1-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	20
Nitrogen	0.27	79
Carbon Dioxide	0.027	1.3

Client Sample ID: VMP-42-10-092712-Dup

Lab ID#: 1210008BR1-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	17
Nitrogen	0.26	82
Carbon Dioxide	0.026	1.1

Client Sample ID: VMP-16-5-092712

Lab ID#: 1210008BR1-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	13
Nitrogen	0.27	81
Methane	0.00027	0.000036 J
Carbon Dioxide	0.027	6.3
Helium	0.13	0.012 J

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

Client Sample ID: VMP-4-5-092712

Lab ID#: 1210008BR1-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	19
Nitrogen	0.25	79
Methane	0.00025	0.00013 J
Carbon Dioxide	0.025	0.82
Helium	0.13	0.93

Client Sample ID: VMP-11-5-092812

Lab ID#: 1210008BR1-06A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	19
Nitrogen	0.30	79
Methane	0.00030	0.000055 J
Carbon Dioxide	0.030	1.6
Helium	0.15	0.031 J

Client Sample ID: VMP-11-5-092812-Dup

Lab ID#: 1210008BR1-07A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.39	19
Nitrogen	0.39	79
Methane	0.00039	0.000057 J
Carbon Dioxide	0.039	1.8
Helium	0.19	0.022 J

Client Sample ID: VMP-13-5-092812

Lab ID#: 1210008BR1-08A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	17
Nitrogen	0.28	81

eurofins | Air Toxics

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

Client Sample ID: VMP-13-5-092812

Lab ID#: 1210008BR1-08A

Methane	0.00028	0.000073 J
Carbon Dioxide	0.028	2.4
Helium	0.14	0.050 J

Client Sample ID: VMP-10-5-092812

Lab ID#: 1210008BR1-09A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.31	18
Nitrogen	0.31	80
Carbon Dioxide	0.031	1.7
Helium	0.16	0.24

Client Sample ID: VMP-10-5-092812-Dup

Lab ID#: 1210008BR1-10A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	80
Carbon Dioxide	0.030	1.6
Helium	0.15	0.026 J

eurofins | Air Toxics

Client Sample ID: VMP-21-5-092712

Lab ID#: 1210008BR1-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9101907**	**Date of Collection:**	**9/27/12 11:45:00 AM**
Dil. Factor:	**3.34**	**Date of Analysis:**	**10/19/12 03:43 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.33	16
Nitrogen	0.33	80
Carbon Monoxide	0.033	Not Detected
Methane	0.00033	0.000064 J
Carbon Dioxide	0.033	3.6
Ethane	0.0033	Not Detected
Ethene	0.0033	Not Detected
Helium	0.17	0.027 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-42-10-092712

Lab ID#: 1210008BR1-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100934**	**Date of Collection:**	**9/27/12 12:47:00 PM**
Dil. Factor:	**2.69**	**Date of Analysis:**	**10/9/12 03:30 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	20
Nitrogen	0.27	79
Carbon Monoxide	0.027	Not Detected
Methane	0.00027	Not Detected
Carbon Dioxide	0.027	1.3
Ethane	0.0027	Not Detected
Ethene	0.0027	Not Detected
Helium	0.13	Not Detected

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-42-10-092712-Dup

Lab ID#: 1210008BR1-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100935**	**Date of Collection:**	**9/27/12 12:47:00 PM**
Dil. Factor:	**2.58**	**Date of Analysis:**	**10/9/12 03:52 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	17
Nitrogen	0.26	82
Carbon Monoxide	0.026	Not Detected
Methane	0.00026	Not Detected
Carbon Dioxide	0.026	1.1
Ethane	0.0026	Not Detected
Ethene	0.0026	Not Detected
Helium	0.13	Not Detected

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-16-5-092712

Lab ID#: 1210008BR1-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100936**	**Date of Collection:**	**9/27/12 9:38:00 AM**
Dil. Factor:	**2.69**	**Date of Analysis:**	**10/9/12 04:15 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	13
Nitrogen	0.27	81
Carbon Monoxide	0.027	Not Detected
Methane	0.00027	0.000036 J
Carbon Dioxide	0.027	6.3
Ethane	0.0027	Not Detected
Ethene	0.0027	Not Detected
Helium	0.13	0.012 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-4-5-092712

Lab ID#: 1210008BR1-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100937**	**Date of Collection:**	**9/27/12 1:33:00 PM**
Dil. Factor:	**2.52**	**Date of Analysis:**	**10/9/12 04:46 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	19
Nitrogen	0.25	79
Carbon Monoxide	0.025	Not Detected
Methane	0.00025	0.00013 J
Carbon Dioxide	0.025	0.82
Ethane	0.0025	Not Detected
Ethene	0.0025	Not Detected
Helium	0.13	0.93

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-11-5-092812

Lab ID#: 1210008BR1-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100938**	**Date of Collection:**	**9/28/12 10:30:00 AM**
Dil. Factor:	**2.96**	**Date of Analysis:**	**10/9/12 05:20 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	19
Nitrogen	0.30	79
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	0.000055 J
Carbon Dioxide	0.030	1.6
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	0.031 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-11-5-092812-Dup

Lab ID#: 1210008BR1-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100939**	**Date of Collection:**	**9/28/12 10:30:00 AM**
Dil. Factor:	**3.87**	**Date of Analysis:**	**10/9/12 05:48 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.39	19
Nitrogen	0.39	79
Carbon Monoxide	0.039	Not Detected
Methane	0.00039	0.000057 J
Carbon Dioxide	0.039	1.8
Ethane	0.0039	Not Detected
Ethene	0.0039	Not Detected
Helium	0.19	0.022 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-13-5-092812

Lab ID#: 1210008BR1-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100940**	**Date of Collection:**	**9/28/12 11:25:00 AM**
Dil. Factor:	**2.82**	**Date of Analysis:**	**10/9/12 06:13 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	17
Nitrogen	0.28	81
Carbon Monoxide	0.028	Not Detected
Methane	0.00028	0.000073 J
Carbon Dioxide	0.028	2.4
Ethane	0.0028	Not Detected
Ethene	0.0028	Not Detected
Helium	0.14	0.050 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-10-5-092812

Lab ID#: 1210008BR1-09A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100941**	**Date of Collection:**	**9/28/12 12:16:00 PM**
Dil. Factor:	**3.11**	**Date of Analysis:**	**10/9/12 06:39 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.31	18
Nitrogen	0.31	80
Carbon Monoxide	0.031	Not Detected
Methane	0.00031	Not Detected
Carbon Dioxide	0.031	1.7
Ethane	0.0031	Not Detected
Ethene	0.0031	Not Detected
Helium	0.16	0.24

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: VMP-10-5-092812-Dup

Lab ID#: 1210008BR1-10A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100942**	**Date of Collection:**	**9/28/12 12:16:00 PM**
Dil. Factor:	**3.03**	**Date of Analysis:**	**10/9/12 07:05 PM**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.30	18
Nitrogen	0.30	80
Carbon Monoxide	0.030	Not Detected
Methane	0.00030	Not Detected
Carbon Dioxide	0.030	1.6
Ethane	0.0030	Not Detected
Ethene	0.0030	Not Detected
Helium	0.15	0.026 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1210008BR1-11A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100928a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/9/12 11:10 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.018 J
Nitrogen	0.10	0.090 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1210008BR1-11B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100927b**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/9/12 10:47 AM**	

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

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1210008BR1-11C

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9101906a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/19/12 03:07 PM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.014 J
Nitrogen	0.10	0.076 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1210008BR1-11D

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9101905b	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 10/19/12 02:42 PM	

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

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1210008BR1-12A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100926**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/9/12 10:21 AM**	

Compound	%Recovery
Oxygen	100
Nitrogen	100
Carbon Monoxide	99
Methane	98
Carbon Dioxide	100
Ethane	99
Ethene	96
Helium	100

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1210008BR1-12AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9100946**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/9/12 08:49 PM**	

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	95
Methane	98
Carbon Dioxide	103
Ethane	99
Ethene	96
Helium	100

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1210008BR1-12B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9101902**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/19/12 12:49 PM**	

Compound	%Recovery
Oxygen	98
Nitrogen	100
Carbon Monoxide	99
Methane	98
Carbon Dioxide	100
Ethane	100
Ethene	97
Helium	100

Container Type: NA - Not Applicable

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1210008BR1-12BB

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9101916**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/19/12 09:49 PM**	

Compound	%Recovery
Oxygen	98
Nitrogen	100
Carbon Monoxide	101
Methane	99
Carbon Dioxide	100
Ethane	101
Ethene	98
Helium	110

Container Type: NA - Not Applicable

1210008

Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Vapor Additional
Project # 21562735.10100
Lab Vendor #

Please Check Appropriate Box:
☑ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SOSCH ☐ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER _____

Print Bill To Contact Name: Robert Mooshegian
PO #:
INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0
☐ CHECK IF NO INCIDENT # APPLIES
SAP #: 3 4 3 0 6 1
DATE: 09/28/12
PAGE 1 of 1

SAMPLING COMPANY: URS CORPORATION
LOG CODE:
SITE ADDRESS, Street and City: 900 SOUTH CENTRAL AVE -- ROXANA
State: IL
GLOBAL ID NO.:

ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST LOUIS, MO 63110
EDF DELIVERABLE TO (Name, Company, Office Location): Elizabeth Kunkel, URS, St. Louis
PHONE NO.: 314-743-4179
E-MAIL: Elizabeth_Kunkel@URSCorp.com
CONSULTANT PROJECT NAME: Roxana Vapor Additional

LABORATORY ADDRESS: Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
J.C Williams, M. Currier

TELEPHONE:
FAX: 314-429-0462
BILL To Contact E-MAIL: Robert.Mooshegian@urs.com

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND

REQUESTED ANALYSIS

☐ LA - RWQCB REPORT FORMAT ☑ UST AGENCY:

DELIVERABLES: ☐ LEVEL 1 ☐ LEVEL 2 ☐ LEVEL 3 ☑ LEVEL 4 ☐ OTHER (SPECIFY) _____

☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☑ RECEIPT VERIFICATION REQUESTED

Turn Around Time: ☑ Normal ☐ Rush ☐ Specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab Use Only	Field Sample Identification	Sampling Date	Sampling Time	Canister Number	Canister Pressure/Vacuum Initial	Canister Pressure/Vacuum Final	Receipt	Final (psi)	Modified TO-15 - Roxana Vapor Additional	ASTM D-1946 + Helium	ASTM D-1946				
01A	VMP-21-5-092712	09/27/12	1115-1143	12378	-30	-9			X	X					
02A	VMP-42-10-092712	09/27/12	1212-1247	30811	-30	-8			X	X					
03A	VMP-42-10-092712-Dup	09/27/12	1212-1247	3037	-30	-7.5			X	X					
04A	VMP-16-5-092712	09/27/12	0908-0939	12374	-30	-9			X	X					
05A	VMP-4-5-092712	09/27/12	1303-1335	9443	-30	-7			X	X					
06A	VMP-11-5-092812	09/28/12	1009-1030	2093	-30	-10			X	X					
07A	VMP-11-5-092812-Dup	09/28/12	1009-1030	37370	-30	-9			X	X					
08A	VMP-13-5-092812	09/28/12	1055-1125	2056	-30	-8.5			X	X					
09A	VMP-10-5-092812	09/28/12	1146-1215	2110	-30	-10.5			X	X					
10A	VMP-10-5-092812-Dup	09/28/12	1146-1215	25281	-30	-10			X	X					

ADDITIONAL NOTES:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVP
- ROXANA VAPOR ADDITIONAL samples

Relinquished by (Signature)	Received by (Signature)	Date	Time
	FEDEX	9/28/12	1600
	AIR TOXICS FIL 10/1/12 0955		

05/2/08 Revision

Fedex
Custody Seal Intact?
Y N None Temp N/A