

ILLINOIS EPA RCRA CORRECTIVE ACTION CERTIFICATION

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

1.0 FACILITY IDENTIFICATION

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

2.0 OWNER INFORMATION

Name: Not Applicable

Mailing Address: _____

Contact Name: _____

Contact Title: _____

Phone No.: _____

3.0 OPERATOR INFORMATION

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

17 Junction Drive, PMB #399

Glen Carbon, IL 62034

Kevin Dyer

Principal Program Manager

618-288-7237

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

- RFI Phase I Workplan/Report
 RFI Phase II Workplan/Report
 CMP Report; Phase _____

Other (describe):
4th Quarter 2010 Soil Vapor Sampling Report
Date of Submittal January 14, 2011

IEPA Permit Log No. _____

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

Log No. of Last IEPA
Letter on Project B-43-CA-16, BA-43-CA-18

Does this submittal include groundwater information: Yes No

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

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

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

Cover letter, RCRA Corrective Action Certification and 4th Quarter Soil Vapor Sampling Report, dated January 14, 2011

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

IEPA RCRA Corrective Action Certification

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

Date of Submission: _____

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

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

A person is a duly authorized representative only if:

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

Owner Signature: _____

(Date)

Title: _____

Operator Signature: Kevin Edgeman

1/12/11
(Date)

Title: Principal Program Manager

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

Professional's Signature: Robert B. Billman

1/13/11

Date:

Professional's Name: Robert B. Billman

Professional's Seal:

Professional's Address: URS Corporation

ROBERT B. BILLMAN

1001 Highlands Plaza Drive West

198-000646

St. Louis, MO 63110

ILLINOIS

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

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

Name of Laboratory Air Toxics Ltd.

Phua Penney 1-11-11
Signature of Laboratory Responsible Officer Date

Mailing Address of Laboratory

Phua Penney Lab Director
Name and Title of Laboratory Responsible Officer

180 Blue Ravine Road Ste B
Folsom CA 95630



January 14, 2011

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

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

Dear Mr. Nightingale:

On behalf of Shell Oil Products US, URS Corporation is submitting the enclosed report for your review. This sampling was required by Condition 3 of the Agency's letter dated August 5, 2010.

If you have any questions during your review, please contact Kevin Dyer, SOPUS project manager, at kevin.dyer@shell.com (618/288-7237), or me at bob_billman@urscorp.com (314/743-4108).

Sincerely,

Robert B. Billman
Senior Project Manager

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

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

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St. Louis, MO 63110
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R E P O R T

SOIL VAPOR SAMPLING –
4TH QUARTER 2010

Roxana, Illinois

Prepared for:

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

January 2011



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Shell Oil Products US (SOPUS) has been conducting a subsurface investigation in the Village of Roxana in the area generally bounded by Illinois Route 111 and the west property boundary (aka west fenceline) of the WRB Refining LLC Wood River Refinery (WRR) (**Figure 1**). The combined area is collectively referred to as the “Investigation Area” in this report. In addition, some limited investigation has been conducted inside the WRR; this work was conducted in cooperation with ConocoPhillips Company (ConocoPhillips).

SOPUS started investigating and delineating soil vapor in the above area with the installation, development, and sampling of 64 vapor monitoring ports (VMPs) at 16 vapor monitoring locations (VMP-1 through -16) as identified in a work plan dated January 21, 2009 and approved with conditions by Illinois Environmental Protection Agency (IEPA) on May 12, 2009. The results of the vapor investigation and delineation efforts were documented in the *Dissolved Phase Groundwater Investigation and P-60 Free Phase Product Delineation Report*, dated February 18, 2010. Based on recommendations contained in that report, an additional four vapor monitoring ports were installed, developed, and sampled at three new vapor monitoring locations (VMP-17 through -19) in the Spring/Summer 2010, and the results were documented in the *Addendum to February 2010 Report – Supplemental Investigation Activities*, dated September 20, 2010.

IEPA provided comments to the February 18, 2010 report in a letter to SOPUS dated August 5, 2010. In particular, Comment number 3 requires quarterly soil vapor sampling and reporting.

In addition, Comment number 2 describes the need to further delineate the extent of soil vapors beneath the area. URS proposed five additional vapor monitoring point locations in the report, *Soil Vapor Sampling - 3rd Quarter 2010*, dated November 30, 2010. These VMPs are currently being installed, after receiving verbal approval from the Agency. These VMPs will be added to the quarterly sampling beginning with the 1st Quarter 2011 event.

The fourth quarter 2010 soil vapor sampling was performed by URS in accordance with applicable URS site-specific Standard Operating Procedures (SOPs), that incorporate previous IEPA comments, conditions, and/or modifications. The fourth quarter vapor sampling event was conducted between November 15 and December 3, 2010. Air Toxics, Ltd. of Folsom, California supported URS with the soil vapor analytical services.

Health and Safety during the field activities was governed by the *Route 111/Rand Avenue Vicinity Investigation Health and Safety Plan (HASP)* dated August 2010 (and updates) as prepared by URS. In addition, for work performed on WRR property, health and safety procedures were supplemented by the *ConocoPhillips Environmental and Geotechnical Work 2010 HASP*, dated March 2010, as prepared by URS. More information on site health and safety procedures is presented in **Section 2.2**.

2.1 VAPOR MONITORING POINT SAMPLING

The investigation area includes three separate areas: a portion of a residential area in the Village of Roxana; the Public Works Yard for the Village; and the adjoining portion of the refinery (WRR). For the purposes of this report, the term “Village” is used to denote the residential area generally bounded by 1st Street (north), 8th Street (south), Chaffer Street (east) and Route 111 (Central Avenue) (west). The soil vapor sampling network consists of 19 vapor monitoring point (VMP) locations (see **Figure 2**).

At each of the VMP locations, ports are generally at four depths¹ throughout the subsurface as follows, which was based on IEPA direction:

- 5 feet below ground surface,
- 5 feet above the groundwater depth as observed during installation,
- Generally 1 foot below the shallow clay/sand interface (the upper bentonite seal was below the interface)², and
- The final port was screened approximately halfway between the port at the shallow clay/sand interface and the port located five feet above the water table with a bias toward intervals with elevated Photoionization Detector (PID) readings.

These different sample depths are designated by the bottom depth of the screened interval in the sample IDs used during this field investigation. The individual ports were color coded in the field, shallow to deep, using the color scheme of yellow (5 feet bgs), blue (second interval),

¹ With the exception of single shallow ports at VMP-17, 18, and 19 and five ports at VMP-3.

² Exceptions were made at 3 (VMP-3, VMP-4, and VMP-9) of the 16 original locations based on a review of either geological information and/or PID readings. A fifth shallow port was added at VMP-3 during the supplemental investigation.

green (third interval), and red (5 feet above water). Ports that were added after the initial sampling event in 2009 were color coded white.

Vapor Monitoring Port Sampling

VMP sampling activities were attempted at each vapor monitoring port. The sampling was performed in accordance with SOP No. 44R – Soil Vapor Purging and Sampling.

- Data pertaining to canister ID, start and finish time, initial and final vacuum readings, purge volumes, and leak checks were recorded on the Soil Vapor Sampling – Canister Sampling Data field sheets, included in **Appendix A**. Data recorded in the field using portable field analyzers such as a PID, flame ionization detector (FID), multi-gas meter, landfill gas meter, and a helium gas detector were recorded on the Soil Vapor Sampling – Tedlar Sampling Data field sheet. These data sheets are included following the canister sampling data in **Appendix A**. Field measurements from this event and previous events are presented on **Table A-1** in **Appendix A**, following the field sheets.
- Prior to mobilizing for sampling, an initial Summa™ canister vacuum check was performed. A designated pressure gauge provided by the laboratory was attached to the Summa canister inlet. The Summa canister valve was opened completely. The pressure gauge reading was recorded as “Initial Vacuum Reading” on the Summa™ canister tag and the field sheet. This ensured that the canister showed a vacuum of approximately 28 to 30 inches of mercury (Hg). If the canister displayed a vacuum of less than 25 inches of Hg, the canister was set aside and returned to the lab without a sample.

In addition, prior to mobilization, each flow controller was subjected to an isolated vacuum check to ensure that frequently used connectors did not leak. This was conducted by attaching a plug to one end of the 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 controller until a vacuum of at least 10 inches Hg was achieved. If the vacuum change over five minutes was equal or less than 0.5 in. Hg, the controller was considered acceptable for sampling use.

- The following steps were used to collect each sample.

- Upon arrival at a sampling location, the sampling crew would open the vapor point vault to check integrity of the surface components of each of the individual soil vapor monitoring port(s) (VMPs). This included checking that each port was closed with its Swagelok[®] stainless steel reducer and plug in place and properly labeled to identify the depth.
- The sample train was set up as shown in the photo below. Teflon[®] tubing was connected directly using compression ferrule connections. A flow controller, provided by the laboratory, was then connected to the Summa[™] 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 Summa[™] canister, one half-hour is a standard collection time (~28 ml/min). Once the sample train was assembled, a vacuum leak check was performed in accordance with SOP 44R.
- 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;
 - Tygon tubing to connect to the peristaltic pump for Valve #1 (out) and Valve #2 (in and out).



The enclosure has sufficient glove access to open or close all valves within. The enclosure was sealed to the ground at each location with hydrated bentonite.

- Helium gas was introduced into the enclosure until the atmosphere reached a concentration of approximately 30 to 50% Helium; the regulator on the helium tank was then manually controlled to maintain that range.
- Three volumes were purged from each monitoring port prior to sampling using a 15 mL hand pump³. If the pump pulled back or the gauge held a vacuum, these VMPs were assumed to be saturated with water and no sample was collected (see additional information below in the section on “Additional Notes on VMP Sampling”).
- Following purging, a Tedlar bag sample was collected using a peristaltic pump to obtain readings for helium with a Dielectric Technologies MGD-2002 field analyzer. This check was used to verify the vacuum check for the sample train and integrity of the sample port. If the helium readings were $\geq 10\%$ of the concentration of the helium in the enclosure, the Tedlar bag was additionally analyzed using a Landtec landfill gas detector to obtain a direct methane reading. The presence of methane can cause a false positive helium reading.

³ 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 Summa™ canister was opened to collect a sample for approximately 30 minutes or until a vacuum gauge reading of 5 inches Hg was observed. The vacuum gauge was always allowed to reach less than 10 inches Hg, but was never allowed to drop below 2 inches of Hg. Once the Summa™ canister was filled, the valve is closed (isolating it from the sample train) and soil vapor is bypassed to the second tedlar bag.
- A second Tedlar bag was filled following the completion of the summa canister sampling. Soil vapor readings were taken from the Tedlar bag for total volatile organics with a Multi-RAE PID and a Thermo Scientific TVA 1000 Vapor Analyzer FID; for hydrogen sulfide (H₂S), carbon monoxide (CO), oxygen (O₂), and lower explosive limit (LEL) with a Multi-RAE gas meter; and for carbon dioxide (CO₂), methane (CH₄), lower explosive limit (LEL), and oxygen (O₂) with a Landtec GEM 2000 landfill gas meter. Readings were also obtained and recorded for helium with helium detector. This check was used to verify the sample train integrity at the completion of sampling. If the helium readings were $\geq 10\%$ of the concentration of the helium in the enclosure, a 3rd Tedlar bag was collected as described below (see additional information below in the section on “Additional Notes on VMP Sampling”).
- At the completion of sampling, the Summa™ canister and flow controller were removed and separated from the sample train and final vacuum reading were taken with a separate gauge. The Summa™ canisters were then kept in a safe location, to minimize temperature change and protect the canister stem prior to shipping.
- At the completion of sampling, the port was closed with its plug to maintain port integrity.

The field sampling sheets for this event are provided in **Appendix A**. Field duplicates were collected to fulfill the QA/QC requirements. Field duplicates were collected by way of an additional T-connection in the sample train and attaching a second Summa™ canister with flow controller. Both the original and duplicate sample would be started at the same time. The results of the work are discussed in **Section 3.1**.

Additional Notes on VMP Sampling

Saturated VMP Screens – Prior to sampling, groundwater gauging was conducted to evaluate groundwater elevations in relation to VMP screens. The gauging data is presented on **Table 1**. The groundwater contours created using the gauging data indicated that each of the deep ports

was submerged beneath the water table, as shown on **Figure 3**. To confirm the submerged screens, purging was attempted at each of the deep ports with the 15 mL hand pump. Fourteen of the 16 deep ports held vacuum when purging was attempted with the hand pump indicating saturated screens.

Results of Helium Leak Check – The third Tedlar bag was filled directly from the vapor port via a peristaltic pump after the shroud was removed. This check was used to measure and evaluate both helium and methane to determine if helium readings measured by the detector were due to a leak (i.e., helium readings drop from the second Tedlar readings) or methane (still elevated readings on the helium detector). Methane has the potential to cause false positives during use of a helium detector.

Of the 52 vapor monitoring ports sampled during the 4th quarter 2010 vapor sampling, the concentration of helium in the second Tedlar bag was >10% of the concentration of helium in the enclosure at 13 vapor monitoring ports. Overall, the readings from the third Tedlar bag indicate that the concentrations measured by the helium detector were consistent with the second Tedlar concentration, indicating that the apparent helium leak was not from the surface sample train. This indicated that most of the elevated readings were false positives due to methane and the sample integrity was acceptable. This is in-line with helium leak test results from the prior events.

Sampling Issues – A sample was able to be obtained from VMP-15-25.5, however the second tedlar bag sample results were questionable due to elevated helium and oxygen readings. Therefore, the sample was not submitted for analysis because the tedlar bag results indicated that the sample was not representative of the depth sampled. This was based on similar field results for the 3rd quarter 2010 and high helium and oxygen in the sample from the laboratory analysis at the time indicating unrepresentative conditions. This did not occur during the 2009 sampling.⁴

2.2 HEALTH & SAFETY, DECONTAMINATION, AND INVESTIGATION DERIVED WASTE

Health & Safety

The soil vapor sampling was performed in general accordance with the site HASPs. URS field personnel primarily wore U.S. Environmental Protection Agency (USEPA) Level D personal protective equipment (PPE). In addition, work performed within the WRR was completed while wearing flame retardant clothing (FRCs).

A PID with a 10.6 electron volt (eV) probe and combustible gas indicator (CGI) were used during the field activities to monitor the air quality of the work zone for health and safety

⁴ This location was not resampled during this event since this port was proposed to be removed from the program.

purposes. Field instruments were calibrated prior to each day's use in accordance with the manufacturer's specifications. Health and safety related information was primarily recorded in field logbooks. For work conducted on the WRR, ConocoPhillips personnel inspected the work areas and monitored the ambient air, as necessary prior to the issuance of daily work permits (in areas where ConocoPhillips required).

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.

Decontamination

Field equipment underwent decontamination procedures to ensure the health and safety of those present, to maintain sample integrity, and to minimize cross contamination between sampling locations.

Non-disposable/reusable sampling equipment (e.g., compression fittings) were 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 air was pumped into the sampling apparatus to ensure that any dust particles or moisture inside the apparatus was removed.

Investigation Derived Waste (IDW)

IDW including PPE and expendable materials (e.g., gloves and tubing) having a low probability of impact were collected in trash bags and disposed with municipal waste.

2.3 SAMPLE HANDLING AND LABORATORY TESTING

Sample Handling

Summa™ canisters were labeled with a sample ID, site name, sampler initials, sample date and time, the parameters that were to be analyzed, and pre- and pos- 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 Summa canisters, the soil vapor samples were shipped as hazardous materials according to applicable International Civil Aviation Organization (ICAO) regulations.

Laboratory Testing

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

- VOCs via Modified USEPA TO-15 for soil vapor, 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 for soil vapor.

URS worked with the laboratory to attain reporting limits for compounds that have screening criteria so that, to the extent possible, they were less than the screening criteria. URS requested that Air Toxics report 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 RLs above screening levels. The screening values used were presented in IEPA's proposed amendments to Tiered Approach to Corrective Action Objectives (TACO) for soil vapor dated November 9, 2010 and are shown on **Table 2**. Note, not all TO-15 Method constituents have TACO screening criteria.

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 fell below the RLs but above the MDL were "J"-flagged as estimated concentrations by the laboratory.

2.4 DATA QUALITY REVIEW AND DATA MANAGEMENT

Data Quality Review

Laboratory data were provided in electronic form. Analytical data were reviewed for quality and completeness (Level III review). Data qualifiers were added, as appropriate, and are included on the data tables and the laboratory result pages. Specific criteria reviewed included sample receipt condition and holding times, method blanks, surrogate spike recoveries, laboratory control sample recoveries, results reported from dilutions, and field duplicate results. Laboratory data reports along with data reviews (Level III) are also included in **Appendix B**.

For vapor sampling, a total of 58 samples (52 investigative and 6 field duplicates) were prepared and analyzed for VOCs (TO-15 analytes) and natural gases.

Based on the above-mentioned criteria, soil vapor results reported for the analyses performed were accepted for their intended use. Acceptable levels of accuracy and precision, based on

laboratory control sample (LCS), surrogate and field duplicate data were achieved for these sample delivery groups (SDGs) to meet the project objectives.

Data Management

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 chain-of-custody records:

- Field logbooks and data;
- Field sample collection sheets;
- Safety documentation; and Correspondence.

3.1 SOIL VAPOR ANALYTICAL RESULTS

The following TO-15 analytes were detected at concentrations above the reporting limit in soil vapor during this quarterly sampling event:

Acetone	Methylene Chloride
Benzene	2-Propanol
2-Butanone	n-Propylbenzne
<i>Chloroethane</i>	<i>Styrene</i>
Cyclohexane	Toluene
Ethanol	1,2,4-Trimethylbenzne
Ethylbenzene	<i>1,3,5-Trimethylbenzene</i>
4-Ethyltoluene	2,2,4-Trimethylpentane
Heptane	m,p-Xylene
Hexane	<i>o-Xylene</i>

Additionally, Isopropylbenzene, Tetrachloroethene, and Trichloroethene were detected at concentrations estimated below the reporting limit. Chloroethane, Styrene, Tetrachloroethene, Trichloroethene, 1,3,5-Trimethylbenzene, and o-Xylene were detected above the reporting limit in the soil vapor samples collected during this sampling event, but were not detected above the reporting limit during the previous sampling events (italics in list above).

Analytical results were compared to the previously mentioned screening values. VMPs 1 through 9, 18, and 19 (located near residences in the Village) were compared against the residential screening criteria and samples from VMPs 10 through 17 (located at the Public Works Yard or WRR) were compared against the industrial/commercial screening criteria as presented on **Tables 3 and 4**, respectively.

Cumulative tabular summaries of the analytical results for the Village and for the Public Works Yard and WRR are presented in **Tables 3 and 4**, respectively. Constituents that do not have a screening value associated with them on **Table 2** are being tracked for changes in concentration. A cumulative tabular summary of the natural gas results is presented in **Table 5**. The analytical results for the soil vapor samples collected during this quarterly sampling event can be viewed in **Appendix B**.

Benzene was the only VOC which exceeded its relevant screening criterion of either 41 mg/m³ for residential areas or 300 mg/m³ for commercial/industrial areas. Therefore, benzene was selected as the key analyte to characterize soil vapor, in the paragraphs below organized by the

Village, the Public Works Yard, and WRR. In addition, the data presentation is further grouped by depth. While 0 to 10 feet bgs is commonly used to represent vapor intrusion into basements, the following paragraphs group data between 0 to 15 ft bgs and below 15 feet bgs. This was done in order to address a few VMPs in the 12 to 14 foot range.

Village

Benzene concentrations from locations within the Village ranged from non-detect ($< 0.0034 \text{ mg/m}^3$) (VMP-18-8.5) to 41 mg/m^3 (VMP-4-5) in the upper samples (< 15 feet bgs). Benzene concentrations from the deeper samples (> 15 ft bgs) range from an estimated 0.0014 mg/m^3 (VMP-1-23.5) to 510 mg/m^3 (VMP-4-23.5). The results of screening for samples collected in the Village against residential screening criterion indicate that one of the sample points in the upper 15 feet had a benzene concentration equal to the residential screening criterion (41 mg/m^3). This location, VMP-4 at 5 feet, was resampled on January 10, 2011, as this result was inconsistent with the results from prior events (i.e., $< 0.04 \text{ mg/m}^3$ in 4Q09 and 0.27 mg/m^3 in 3Q10). The result for the January 10th sample was 11 mg/m^3 , which is more in line with previous results. We are waiting for the laboratory's final deliverables and, when received, we will submit them under separate cover. Four of the sample points with the soil vapor ports below 15 feet exceeded the residential screening criterion during this sampling event. The cumulative results for benzene in soil vapor for samples collected in the Village are depicted in **Figure 4**.

Public Works Yard

Benzene concentrations from locations within the Public Works Yard ranged from an estimated 0.00089 mg/m^3 (VMP-11-5) to 0.28 mg/m^3 (VMP-14-11.5) in the upper samples (< 15 feet bgs). Benzene concentrations from the deeper samples (> 15 ft bgs) range from non-detect ($< 0.0078 \text{ mg/m}^3$) (VMP-10-20) to $47,000 \text{ mg/m}^3$ (VMP-14-20). The results of screening for samples collected in the Public Works Yard indicate that the vapor concentrations in the upper 15 feet were less than commercial/industrial screening criterion (300 mg/m^3) during this sampling event. Three of the sample points with the soil vapor ports below 15 feet exceeded the commercial/industrial screening criterion for benzene during this sampling event. The cumulative results for benzene in soil vapor for samples collected in the Public Works Yard are depicted in **Figure 5**.

WRR

Benzene concentrations from locations within the WRR ranged from 18 mg/m^3 (VMP-16-5) to $16,000 \text{ mg/m}^3$ (VMP-12-5) in the upper samples (< 15 feet bgs). Benzene concentrations from the deeper samples (> 15 ft bgs) range from 3.8 mg/m^3 (VMP-12-25) to 20 mg/m^3 (VMP-16-19).

The results of screening for samples collected in the WRR indicate that the benzene concentrations in the upper 15 feet exceed the commercial/industrial screening criterion (300 mg/m³) at two of four ports (VMP-12-5 ft & VMP-12-11.5 ft). Neither of the two sample locations with the soil vapor ports below 15 feet exceeded the commercial/industrial screening criterion during this sampling event. The cumulative results for benzene in soil vapor for samples collected in the WRR are depicted in **Figure 6**.

Natural Gas Data

A summary of the natural gas results is presented in **Table 5**. Natural gas data in general, indicate that the concentration of methane decreases as one goes from deeper to shallower depths which is opposite for oxygen concentrations that increase as one goes from deeper to shallower depths (methane and oxygen are generally inversely correlated in soil vapor). The higher oxygen levels (>5%) in the shallow depths with negligible methane indicate an environment capable of supporting aerobic biodegradation.

URS conducted 4th quarter 2010 soil vapor sampling effort on behalf of SOPUS in the Village of Roxana (both the Village and the Public Works Yard) and a limited portion of the WRR. The following conclusions are based on the data collected as part of this work, as integrated with the results from previous work.

- Soil vapor samples were collected from 19 locations and 53 ports during the 4th quarter soil vapor sampling. Some of these locations coincide with areas of the highest observed groundwater impact.
- The hydrocarbon vapors diffuse and biodegrade upwards through the soil, so as expected the highest concentrations are at depth and decrease closer to the surface.
- Within the Village, benzene concentrations range from ppb in the shallow samples to hundreds of ppm in deeper samples. One sampled, VMP-4 at 5 feet, had a concentration of 41 mg/m³. This location was resampled and the concentration was 11 mg/m³.
- Within both the Public Works Yard and the WRR, benzene concentrations range from ppb in the shallow samples to thousands of ppm in deeper samples. The commercial/industrial screening criterion exceeds or has been exceeded in three shallow samples (VMP-13 and VMP-14 at the Public Works Yard and VMP-12 at the WRR) where no occupied structures are located.

- Illinois Environmental Protection Agency (IEPA), 2010; (IEPA 2010); *Letter providing approval with comments the SOPUS 2010 Delineation Report*. Issued to Shell Oil Products US (SOPUS), dated August 5, 2010.
- Shell Oil Products US (SOPUS), 2008 (SOPUS, 2008); *Dissolved Phase Groundwater Investigation Work Plan – Roxana, Illinois*; Prepared by URS Corporation (URS); dated September 5, 2008.
- Shell Oil Products US (SOPUS), 2009 (SOPUS, 2009a); *Subsurface Investigation – Route 111/Rand Avenue Vicinity Investigation – Roxana, Illinois*; Prepared by URS Corporation (URS); dated January 21, 2009.
- Shell Oil Products US (SOPUS), 2009 (SOPUS, 2009b); *Dissolved Phase Groundwater Investigation and P-60 Free Phase Product Delineation Work Plan – Roxana, Illinois*; Prepared by URS Corporation (URS); dated January 21, 2009.
- Shell Oil Products US (SOPUS), 2010; (SOPUS, 2010a); *Dissolved Phase Groundwater Investigation and P-60 Free Phase Product Delineation Report - Roxana, Illinois*; Prepared by URS Corporation (URS); dated February 2010.
- Shell Oil Products US (SOPUS), 2010; (SOPUS, 2010b); *Addendum to February 2010 Report - Supplemental Investigation Activities - Roxana, Illinois*; Prepared by URS Corporation (URS); dated September 20, 2010.
- Shell Oil Products US (SOPUS), 2010; (SOPUS, 2010c); *Soil Vapor Sampling-3rd Quarter 2010 - Roxana, Illinois*; Prepared by URS Corporation (URS); dated November 2010.
- URS Corporation (URS), 2010 (URS, 2010a); *Route 111/Rand Avenue Vicinity Investigation Health and Safety Plan – Roxana, Illinois*; dated August 2010.
- URS Corporation (URS), 2010 (URS, 2010b); *ConocoPhillips Environmental and Geotechnical Work 2010 Health and Safety Plan – WRB Refining LLC Wood River Refinery*; dated March 2010.
- US Environmental Protection Agency (USEPA), 2008; *Contract Laboratory Program National Functional Guidelines for Organic Methods Data Review*

TABLE 1
4Q10 "SNAPSHOT" GROUNDWATER GAUGING RESULTS

WELL ID	TOP OF CASING (ft MSL)	DATE GAUGED	DEPTH TO PRODUCT (ft)	DEPTH TO WATER (Static)	WATER-PRODUCT INTERFACE (ft MSL)	PRODUCT ELEV. (ft MSL)	PRODUCT THICKNESS (ft)	CORRECTED W.L. ELEVATION (ft MSL)	SCREENED INTERVAL ELEVATION (ft MSL)	COMMENTS
MW-1	442.86	11/12/2010	NE	36.91	NA	NA	NA	405.95	399.45 - 384.45	*
MW-2	443.93	11/12/2010	NE	38.12	NA	NA	NA	405.81	396.74 - 381.74	*
MW-3	430.36	11/12/2010	NE	24.05	NA	NA	NA	406.31	399.38 - 384.38	*
MW-4	441.58	11/12/2010	NE	35.38	NA	NA	NA	406.20	398.95 - 383.95	*
MW-5	429.73	11/12/2010	NE	23.32	NA	NA	NA	406.41	398.60 - 383.60	*
MW-6A	432.42	11/12/2010	NE	25.62	NA	NA	NA	406.80	400.11 - 385.44	*
MW-6B	432.29	11/12/2010	NE	25.47	NA	NA	NA	406.82	368.74 - 363.74	*
MW-6C	432.11	11/12/2010	NE	25.25	NA	NA	NA	406.86	347.84 - 342.84	*
MW-6D	431.99	11/12/2010	NE	25.13	NA	NA	NA	406.86	327.82 - 322.82	*
MW-7	443.10	11/12/2010	NE	36.93	NA	NA	NA	406.17	400.18 - 390.18	*
MW-8	434.11	11/12/2010	NE	27.84	NA	NA	NA	406.27	400.51 - 390.51	*
MW-9	445.20	11/12/2010	NE	39.00	NA	NA	NA	406.2	399.17 - 389.17	*
MW-10	445.03	11/12/2010	NE	38.97	NA	NA	NA	406.06	401.14 - 391.14	*
MW-11	442.33	11/12/2010	NE	36.39	NA	NA	NA	405.94	401.08 - 391.08	*
MW-12	442.60	11/12/2010	NE	36.63	NA	NA	NA	405.97	401.91 - 391.91	*
P-54	442.18	11/12/2010	NE	36.43	NA	NA	NA	405.75	404.18 - 397.18	*
P-60	446.57	11/11/2010	41.40	41.44	405.13	405.17	0.04	405.16	398.61 - 378.61	*
P-60-11	446.18	11/11/2010	NE	40.91	NA	NA	NA	405.27	393.08 - 378.08	*
P-93A	446.58	11/11/2010	NE	40.75	NA	NA	NA	405.83	398.41 - 383.41	*
P-93B	446.46	11/11/2010	NE	40.73	NA	NA	NA	405.73	372.44 - 370.44	*
P-93C	446.51	11/11/2010	NE	40.69	NA	NA	NA	405.82	352.26 - 350.26	*
P-93D	446.36	11/11/2010	NE	40.59	NA	NA	NA	405.77	320.92 - 318.92	*
GP-9-PZ	442.41	11/11/2010	NE	37.38	NA	NA	NA	405.03	404.81 - 394.81	*
P-60-12S	443.33	11/11/2010	NE	23.36	NA	NA	NA	419.97	429.19 - 419.49	
P-60-12	443.31	11/11/2010	NE	38.19	NA	NA	NA	405.12	383.31 - 373.31	*
P-60-13S	442.39	11/11/2010	NE	13.36	NA	NA	NA	429.03	432.39 - 422.39	
P-60-13	442.43	11/11/2010	37.50	37.87	404.56	404.93	0.37	404.83	402.43 - 382.43	*
ROST-3-PZ	442.29	11/12/2010	NE	36.60	NA	NA	NA	405.69	404.18 - 379.18	*
ROST-4-PZ	442.27	11/12/2010	NE	36.48	NA	NA	NA	405.79	402.29 - 392.29	*
ROST-5-PZ	442.22	11/12/2010	NE	NE	NA	NA	NA	NA	422.6 - 412.6	
ROST-7-PZ	442.19	11/12/2010	NE	22.93	NA	NA	NA	419.26	422.19 - 412.19	
ROST-10-PZ	444.51	11/12/2010	NE	NE	NA	NA	NA	NA	422.32 - 410.32	
ROST-21-PZ	443.72	11/12/2010	NE	19.30	NA	NA	NA	424.42	424.06 - 423.06	*

NOTES:

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

TABLE 2
SOIL VAPOR SCREENING CRITERIA

Chemical	Residential (mg/m ³)	Industrial/ Commercial (mg/m ³)
TO-15 Analytes		
Acetone	750,000	750,000
Benzene	41	300
Bromodichloromethane	450,000	450,000
Bromoform	1,800	13,300
Bromomethane	830	5,100
1,3-Butadiene		
2-Butanone	380,000	380,000
Carbon disulfide	81,000	500,000
Carbon tetrachloride	24	180
Chlorobenzene	8,300	51,000
Chlorodibromomethane	57,000	57,000
Chloroethane		
Chloroform	12	87
Chloromethane		
Allyl chloride (3-Chloropropene)		
alpha-Chlorotoluene		
Cyclohexane		
1,2-Dibromo-3-chloropropane (DBCP)	0.17	1.3
1,2-Dibromoethane	1.6	12
1,2-Dichlorobenzene	11,000	11,000
1,3-Dichlorobenzene		
1,4-Dichlorobenzene	84,000	84,000
1,4-Dioxane	15	110
1,1-Dichloroethane	81,000	500,000
1,2-Dichloroethane	10	76
1,1-Dichloroethene	27,000	160,000
cis-1,2-Dichloroethene	1,100,000	1,100,000
trans-1,2-Dichloroethene	10,000	63,000
Dichloromethane (Methylene chloride)	590	4,400
1,2-Dichloropropane	7.2	53
cis-1,3-Dichloropropene	110	830
trans-1,3-Dichloropropene	110	830
Ethanol		
Ethylbenzene	59,000	59,000
4-Ethyltoluene		
Freon 11		
Freon 12		
Freon 113		
Freon 114		
Heptachlor	0.97	7.1
Heptane		
Hexachlorobutadiene		
Hexane		
2-Hexanone (Methyl N-Butyl Ketone)		
Isopropylbenzene (Cumene)	30,000	30,000
4-Methyl-2-pentanone (Methyl Isobutyl Ketone)		
Methyl tert-Butyl Ether (MTBE)	360,000	1,200,000
n-Propylbenzene		
2-Propanol		
Styrene	34,000	34,000
Tetrachloroethene	66	490
1,1,2,2-Tetrachloroethane		
Tetrahydrofuran		
Toluene	140,000	140,000
1,2,4-Trichlorobenzene	1,600	4,300
Trichloroethene	180	1,300
1,1,1-Trichloroethane (Methyl chloroform)	770,000	870,000
1,1,2-Trichloroethane	170,000	170,000
Trichlorofluoromethane	97,000	600,000
1,2,4-Trimethylbenzene		

**TABLE 2
SOIL VAPOR SCREENING CRITERIA**

Chemical	Residential (mg/m ³)	Industrial/ Commercial (mg/m ³)
TO-15 Analytes		
1,3,5-Trimethylbenzene		
2,2,4-Trimethylpentane		
Vinyl chloride	30	440
Xylenes (total)	16,000	49,000
m,p-Xylene	16,000	52,000
o-Xylenes	14,000	41,000

Note:

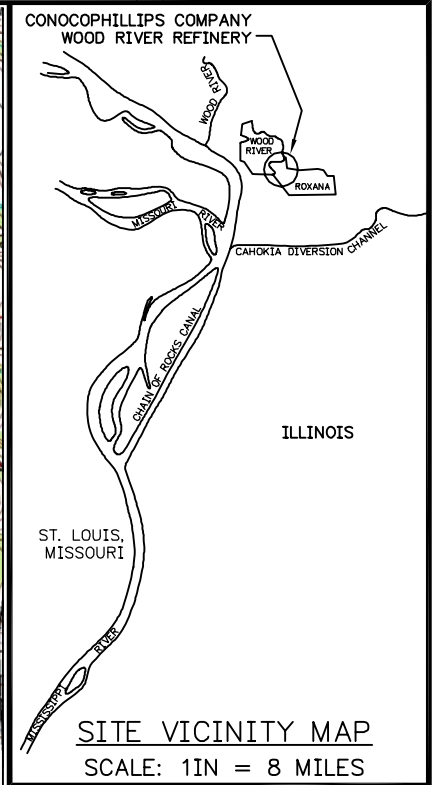
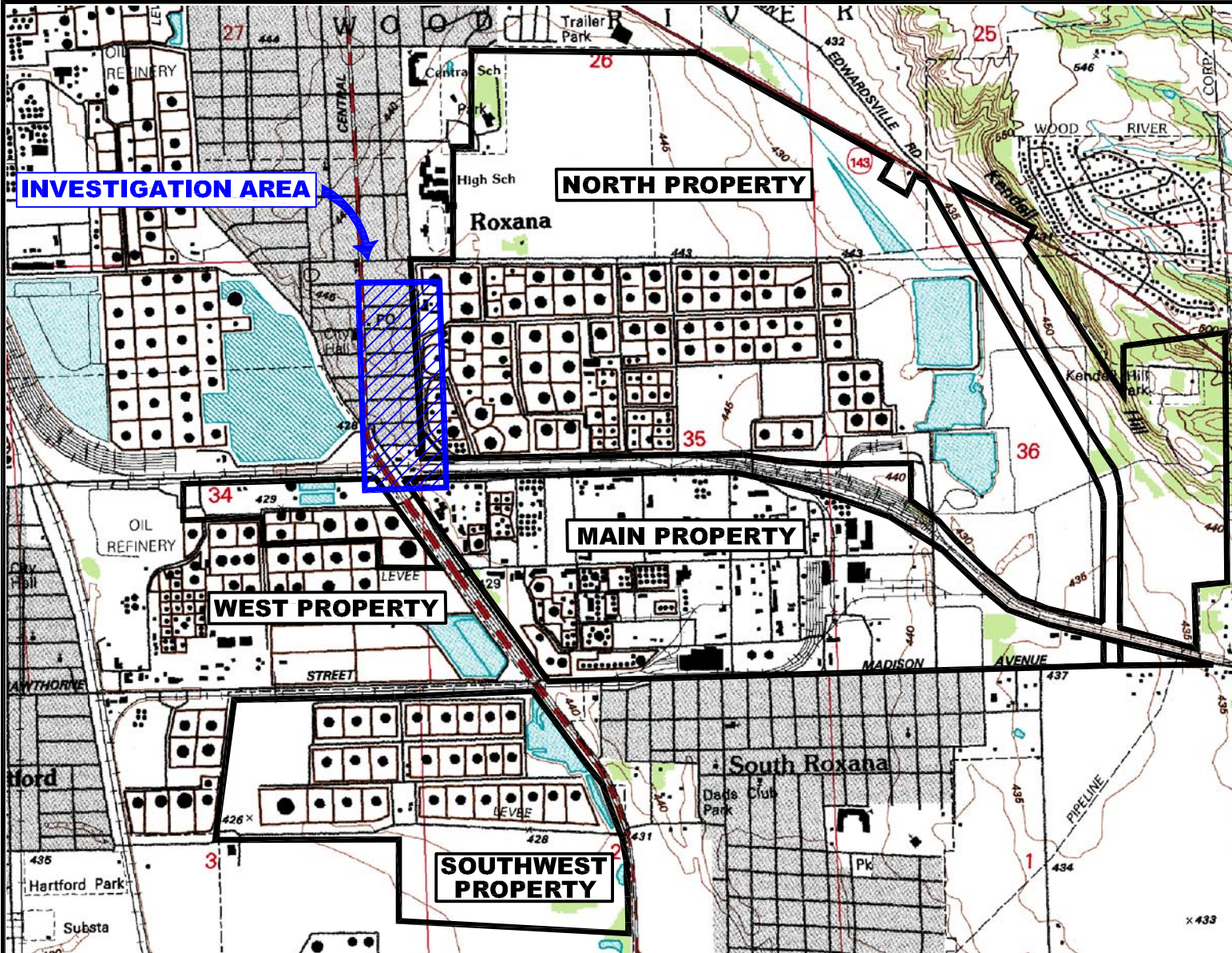
1. Screening criteria source: Illinois Pollution Control Board, Notice of Proposed Amendments - Tiered Approach to Corrective Action (TACO) Title 35 - Part 742. Table G: Tier 1 Indoor Inhalation Remediation Objectives for Residential and Industrial/Commercial Properties for the Indoor Inhalation Exposure Route, November 9, 2010.



TABLE 4
SUMMARY OF SOIL VAPOR ANALYTICAL DETECTIONS AND SCREEN OF RESULTS
PUBLIC WORKS YARD AND WRR - VOCS

Table with columns: Location, Depth, Sample ID, Sample Date, and multiple columns for chemical compounds (Chloroethane, Chloroform, Chloromethane, alpha-Chlorotoluene, Cyclohexane, 1,2-Dibromoethane, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene) with sub-columns for Result (mg/m³), Lab Qualifier, and URS Qualifier.

TABLE 4
 SUMMARY OF SOIL VAPOR ANALYTICAL DETECTIONS AND SCREEN OF RESULTS
 PUBLIC WORKS YARD AND WRR - VOCS

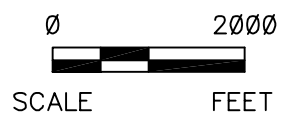
Location	Depth	Sample ID	Sample Date	1,1-Dichloroethane			1,2-Dichloroethane			cis-1,2-Dichloroethene			Dichlorodifluoromethane			Dichloromethane (Methylene chloride)			1,2-Dichloropropane			1,4-Dioxane			Ethanol			Ethylbenzene		
				Result (mg/m ³)	Lab Qualifier	URS Qualifier	Result (mg/m ³)	Lab Qualifier	URS Qualifier	Result (mg/m ³)	Lab Qualifier	URS Qualifier	Result (mg/m ³)	Lab Qualifier	URS Qualifier	Result (mg/m ³)	Lab Qualifier	URS Qualifier	Result (mg/m ³)	Lab Qualifier	URS Qualifier	Result (mg/m ³)	Lab Qualifier	URS Qualifier	Result (mg/m ³)	Lab Qualifier	URS Qualifier	Result (mg/m ³)	Lab Qualifier	URS Qualifier
				VMP-10	5 ft	VMP-10-5	11/17/2009	<0.004	U		<0.004	U		<0.004	U		<0.005	U		<0.003	U		<0.005	U		<0.016	U		0.18	



- LEGEND**
-  WOOD RIVER REFINERY PROPERTY BOUNDARY
 -  INVESTIGATION AREA

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

CONTOUR INTERVAL = 5 FT



SHELL OIL PRODUCTS US
ROXANA, ILLINOIS

PROJECT NO.
21562593

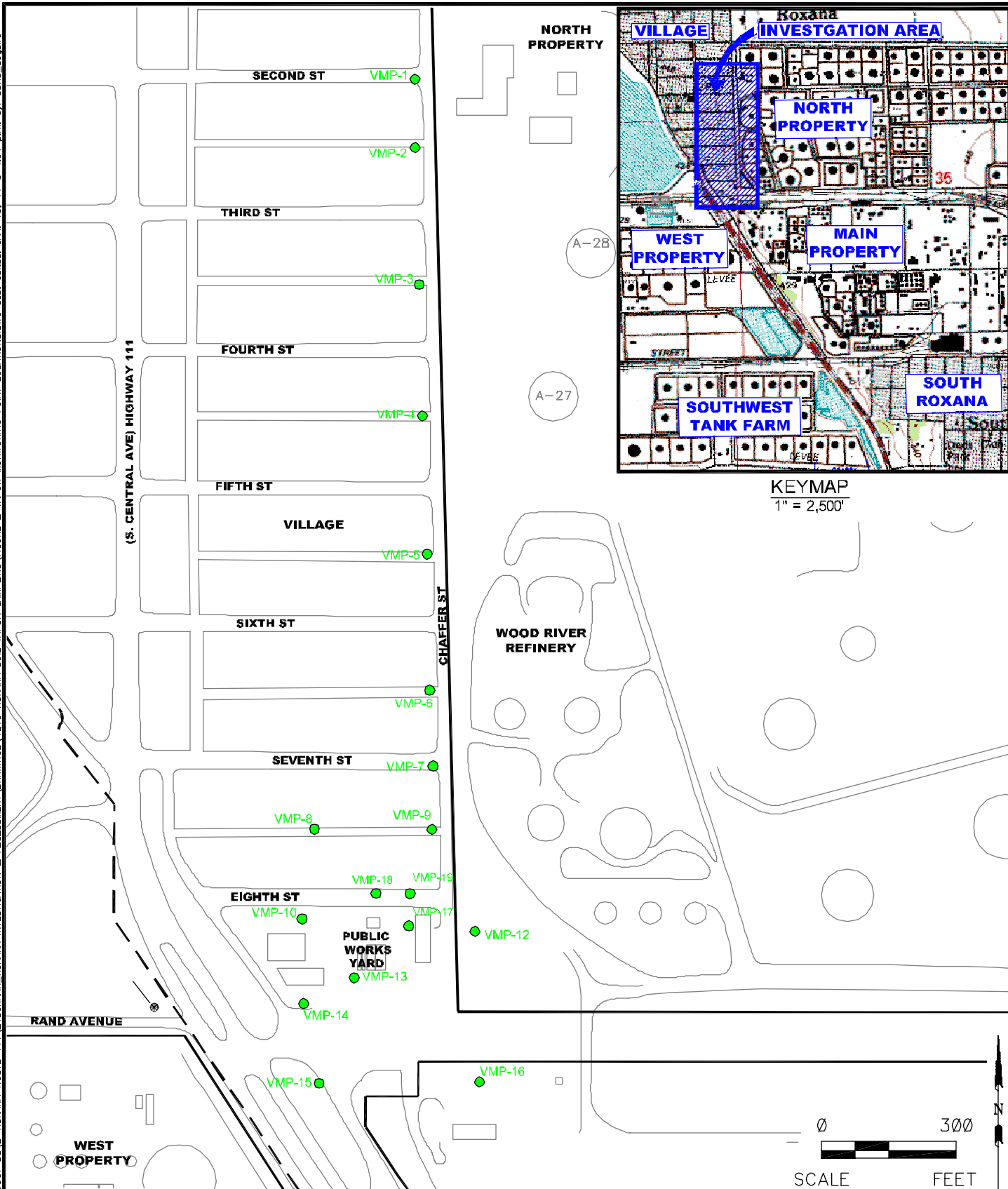


DRN. BY: djd (1/4/11)
DSGN. BY: djd
CHKD. BY: mpm

Investigation Area
Location Map

FIG. NO.
1

File: P:\ENVIRONMENTAL\SHELL_OIL_PRODUCT_US\B-ROXANA-ROUTE_111\2156XXXXX_ROXANA_INVESTIGATION & ASSESSMENT\DRAWINGS\4010_ROXANA_SOIL_VAPOR_SAMPLING\FIGURE_2_VAPOR_MONITORING_POINT_LOCATIONS.DWG Last edited: JAN. 13. 11 @ 4:01 p.m. by: david_dequire



LEGEND

- VAPOR MONITORING POINT LOCATION
- APPROXIMATE VILLAGE OF ROXANA BOUNDARY
- WRR PROPERTY BOUNDARY

SHELL OIL PRODUCTS US
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PROJECT NO.
21562593









DRN. BY:wmp (1/4/11)
DSGN. BY:djd
CHKD. BY:mpm

Vapor Monitoring Point Locations

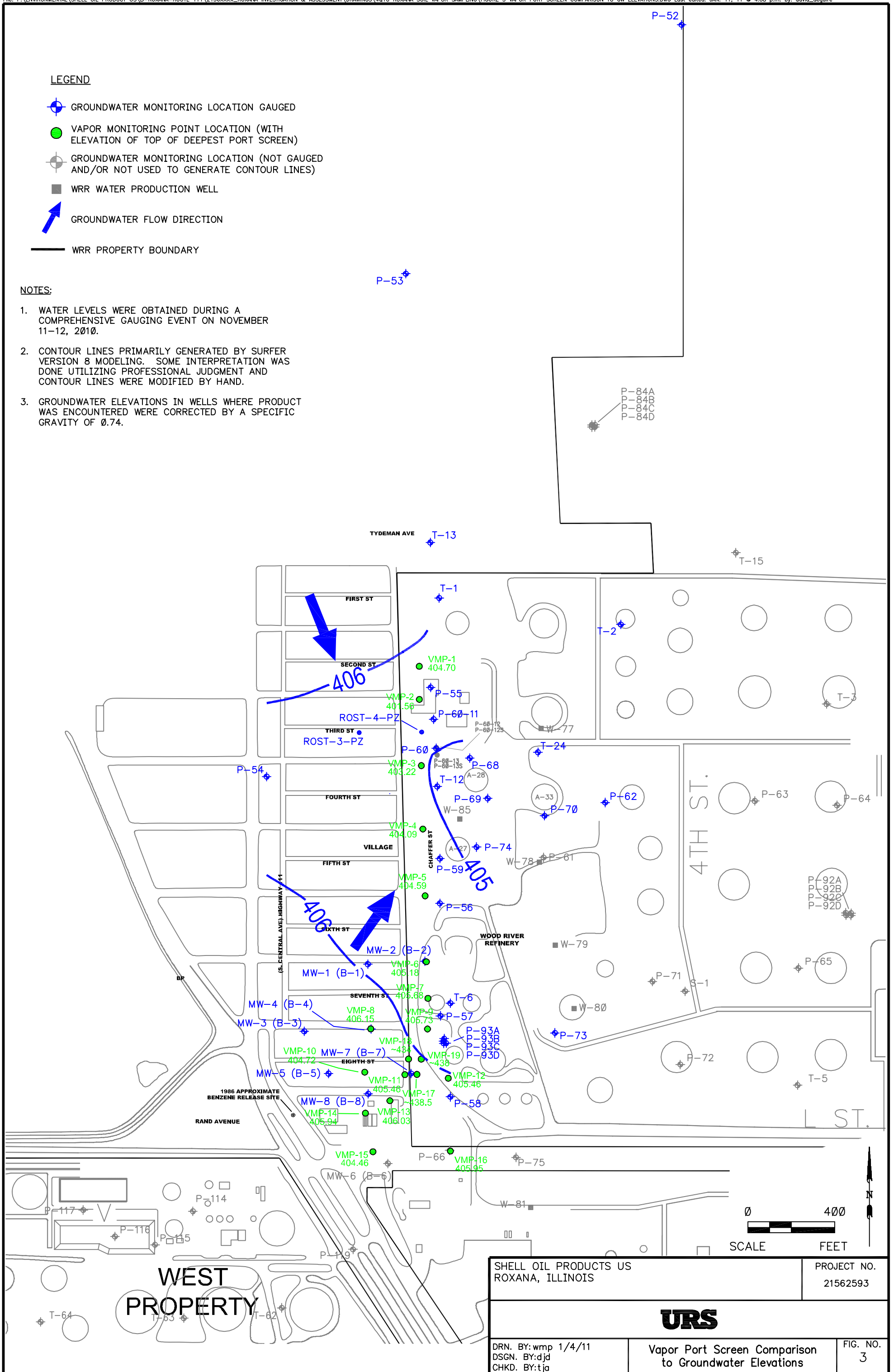
FIG. NO.
2

LEGEND

-  GROUNDWATER MONITORING LOCATION GAUGED
-  VAPOR MONITORING POINT LOCATION (WITH ELEVATION OF TOP OF DEEPEST PORT SCREEN)
-  GROUNDWATER MONITORING LOCATION (NOT GAUGED AND/OR NOT USED TO GENERATE CONTOUR LINES)
-  WRR WATER PRODUCTION WELL
-  GROUNDWATER FLOW DIRECTION
-  WRR PROPERTY BOUNDARY

NOTES:

1. WATER LEVELS WERE OBTAINED DURING A COMPREHENSIVE GAUGING EVENT ON NOVEMBER 11-12, 2010.
2. CONTOUR LINES PRIMARILY GENERATED BY SURFER VERSION 8 MODELING. SOME INTERPRETATION WAS DONE UTILIZING PROFESSIONAL JUDGMENT AND CONTOUR LINES WERE MODIFIED BY HAND.
3. GROUNDWATER ELEVATIONS IN WELLS WHERE PRODUCT WAS ENCOUNTERED WERE CORRECTED BY A SPECIFIC GRAVITY OF 0.74.



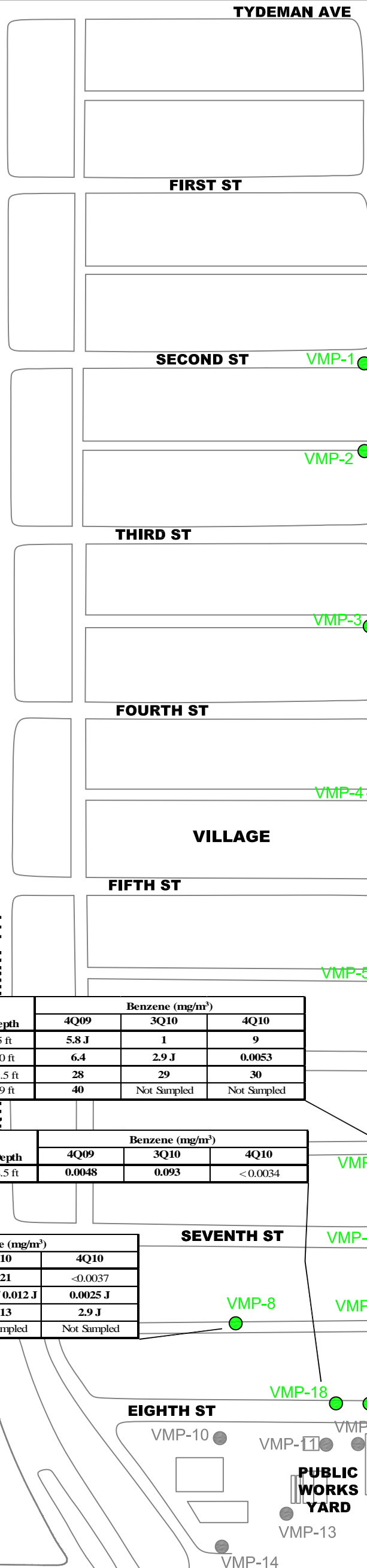
SHELL OIL PRODUCTS US ROXANA, ILLINOIS		PROJECT NO. 21562593
URS		
DRN. BY: wmp 1/4/11 DSGN. BY: djd CHKD. BY: tja	Vapor Port Screen Comparison to Groundwater Elevations	FIG. NO. 3

LEGEND

● VAPOR MONITORING POINT LOCATION

NOTES:

- SOIL VAPOR SAMPLES WERE ANALYZED FOR EPA METHOD TO-15 CONSTITUENTS AND NATURAL GASES VIA ASTM METHOD D-1946. ANALYTICAL RESULTS FOR BENZENE ONLY ARE SHOWN ON THIS FIGURE.
- HISTORICAL DATA ORIGINALLY COLLECTED FOURTH QUARTER, 2009, EXCEPT FOR VMP-3-10, VMP-17-5, VMP-18-8.5, AND VMP-19-5 WHICH WERE INSTALLED AND SAMPLED INITIALLY SECOND QUARTER, 2010.
- BOTTOM PORTS OF VMP-1 THROUGH VMP-15 WERE BELOW THE WATER TABLE FOURTH QUARTER, 2010. NO SAMPLES COLLECTED.
- BENZENE CONCENTRATIONS THAT EXCEED SCREENING CRITERION (41 mg/m³) IN THE UPPER 15 FEET BELOW GROUND SURFACE (BGS) ARE HIGHLIGHTED IN YELLOW (NO EXCEEDANCES).
- BENZENE CONCENTRATIONS THAT EXCEED SCREENING CRITERION (41 mg/m³) BELOW 15 FEET BGS ARE HIGHLIGHTED IN GREEN.
- QUALIFIER DEFINITION:
J = RESULT IS ESTIMATED.
- * LOCATION WAS RESAMPLED ON JANUARY 11, 2011. THE BENZENE CONCENTRATION IN THIS SAMPLE WAS 11 MG/m³.



Location	Depth	Benzene (mg/m ³)		
		4Q09	3Q10	4Q10
VMP-1	5 ft	<0.38	0.044	0.0069 J
	8.5 ft	<0.52	0.0079 J	0.0035 J / 0.0034 J
	23.5 ft	<1.3	1.4	0.0014 J
	38.5 ft	3.80	Not Sampled	Not Sampled

Location	Depth	Benzene (mg/m ³)		
		4Q09	3Q10	4Q10
VMP-2	5 ft	<0.46	0.89 J	<2.1
	8.5 ft	<0.16 / <0.17	1.4	<4.0
	22 ft	<0.89	1.7 J	<4.2
	42 ft	84.00	Not Sampled	Not Sampled

Location	Depth	Benzene (mg/m ³)		
		4Q09	3Q10	4Q10
VMP-3	5 ft	<0.017	7.8	2.8 J
	10 ft	8.6	14 / 9J	18 / 15
	22 ft	52	34	36
	31.5 ft	240	210	180
	39 ft	240	Not Sampled	Not Sampled

Location	Depth	Benzene (mg/m ³)		
		4Q09	3Q10	4Q10
VMP-4	5 ft	<0.04	0.27	41*
	12 ft	3.2	28	15
	23.5 ft	540	490 J	510
	39 ft	660	Not Sampled	Not Sampled

Location	Depth	Benzene (mg/m ³)		
		4Q09	3Q10	4Q10
VMP-5	5 ft	1.5	7.6 J	9.1
	12.5 ft	5.8 / 6	11	0.54
	31 ft	160	200	160
	40 ft	70	Not Sampled	Not Sampled

Location	Depth	Benzene (mg/m ³)		
		4Q09	3Q10	4Q10
VMP-7	5 ft	0.015	0.012	0.001 J
	13.5 ft	<0.028	0.15	1.3
	29.5 ft	120 J	86 J	62
	38 ft	54 J	Not Sampled	Not Sampled

WOOD RIVER REFINERY

Location	Depth	Benzene (mg/m ³)		
		4Q09	3Q10	4Q10
VMP-9	5 ft	<0.003	0.0088	<0.0038
	11.5 ft	<0.003	0.16	0.110 J
	25.5 ft	12 / 4.9	3.2 / 3.3	1.9
	38.5 ft	1,300	Not Sampled	Not Sampled

Location	Depth	Benzene (mg/m ³)		
		4Q09	3Q10	4Q10
VMP-19	5 ft	0.02	0.019	0.0092

Location	Depth	Benzene (mg/m ³)		
		4Q09	3Q10	4Q10
VMP-6	5 ft	5.8 J	1	9
	10 ft	6.4	2.9 J	0.0053
	31.5 ft	28	29	30
	39 ft	40	Not Sampled	Not Sampled

Location	Depth	Benzene (mg/m ³)		
		4Q09	3Q10	4Q10
VMP-18	8.5 ft	0.0048	0.093	<0.0034

Location	Depth	Benzene (mg/m ³)		
		4Q09	3Q10	4Q10
VMP-8	5 ft	<0.003	0.021	<0.0037
	8.5 ft	<0.003	0.015 J / 0.012 J	0.0025 J
	23.5 ft	<0.003	0.013	2.9 J
	35.5 ft	Not Sampled	Not Sampled	Not Sampled

BP

SHELL OIL PRODUCTS US
ROXANA, ILLINOIS

PROJECT NO.
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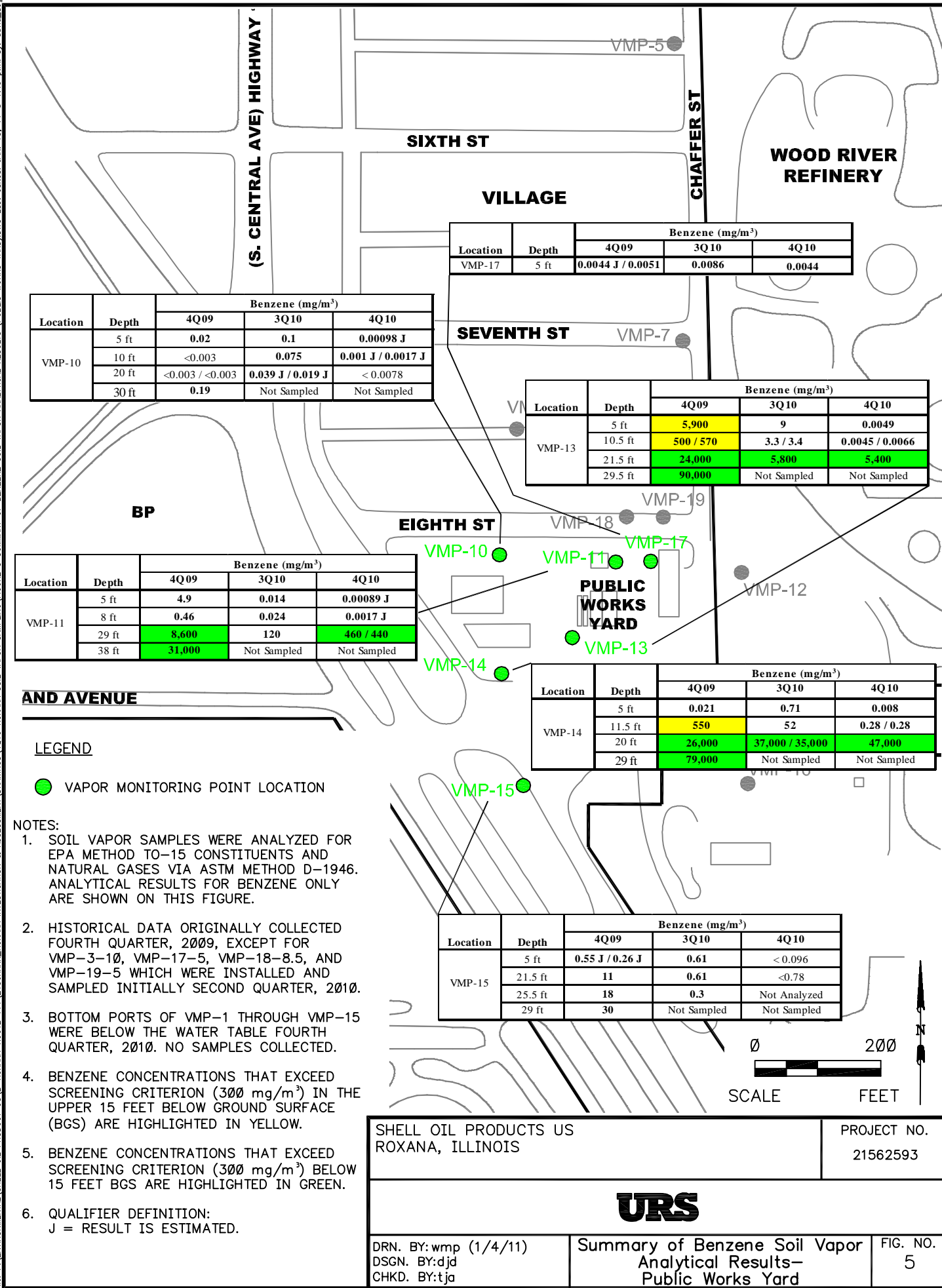


DRN. BY: wmp (1/4/11)
DSGN. BY: djd
CHKD. BY: tjg

Summary of Benzene Soil Vapor Analytical Results - Village

FIG. NO.
4





Location	Depth	Benzene (mg/m ³)		
		4Q09	3Q10	4Q10
VMP-10	5 ft	0.02	0.1	0.00098 J
	10 ft	<0.003	0.075	0.001 J / 0.0017 J
	20 ft	<0.003 / <0.003	0.039 J / 0.019 J	<0.0078
	30 ft	0.19	Not Sampled	Not Sampled

Location	Depth	Benzene (mg/m ³)		
		4Q09	3Q10	4Q10
VMP-17	5 ft	0.0044 J / 0.0051	0.0086	0.0044

Location	Depth	Benzene (mg/m ³)		
		4Q09	3Q10	4Q10
VMP-13	5 ft	5,900	9	0.0049
	10.5 ft	500 / 570	3.3 / 3.4	0.0045 / 0.0066
	21.5 ft	24,000	5,800	5,400
	29.5 ft	90,000	Not Sampled	Not Sampled

Location	Depth	Benzene (mg/m ³)		
		4Q09	3Q10	4Q10
VMP-11	5 ft	4.9	0.014	0.00089 J
	8 ft	0.46	0.024	0.0017 J
	29 ft	8,600	120	460 / 440
	38 ft	31,000	Not Sampled	Not Sampled

Location	Depth	Benzene (mg/m ³)		
		4Q09	3Q10	4Q10
VMP-14	5 ft	0.021	0.71	0.008
	11.5 ft	550	52	0.28 / 0.28
	20 ft	26,000	37,000 / 35,000	47,000
	29 ft	79,000	Not Sampled	Not Sampled

Location	Depth	Benzene (mg/m ³)		
		4Q09	3Q10	4Q10
VMP-15	5 ft	0.55 J / 0.26 J	0.61	<0.096
	21.5 ft	11	0.61	<0.78
	25.5 ft	18	0.3	Not Analyzed
	29 ft	30	Not Sampled	Not Sampled

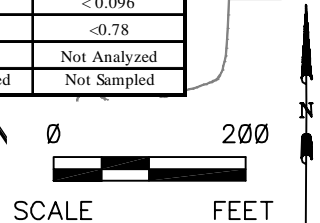
AND AVENUE

LEGEND

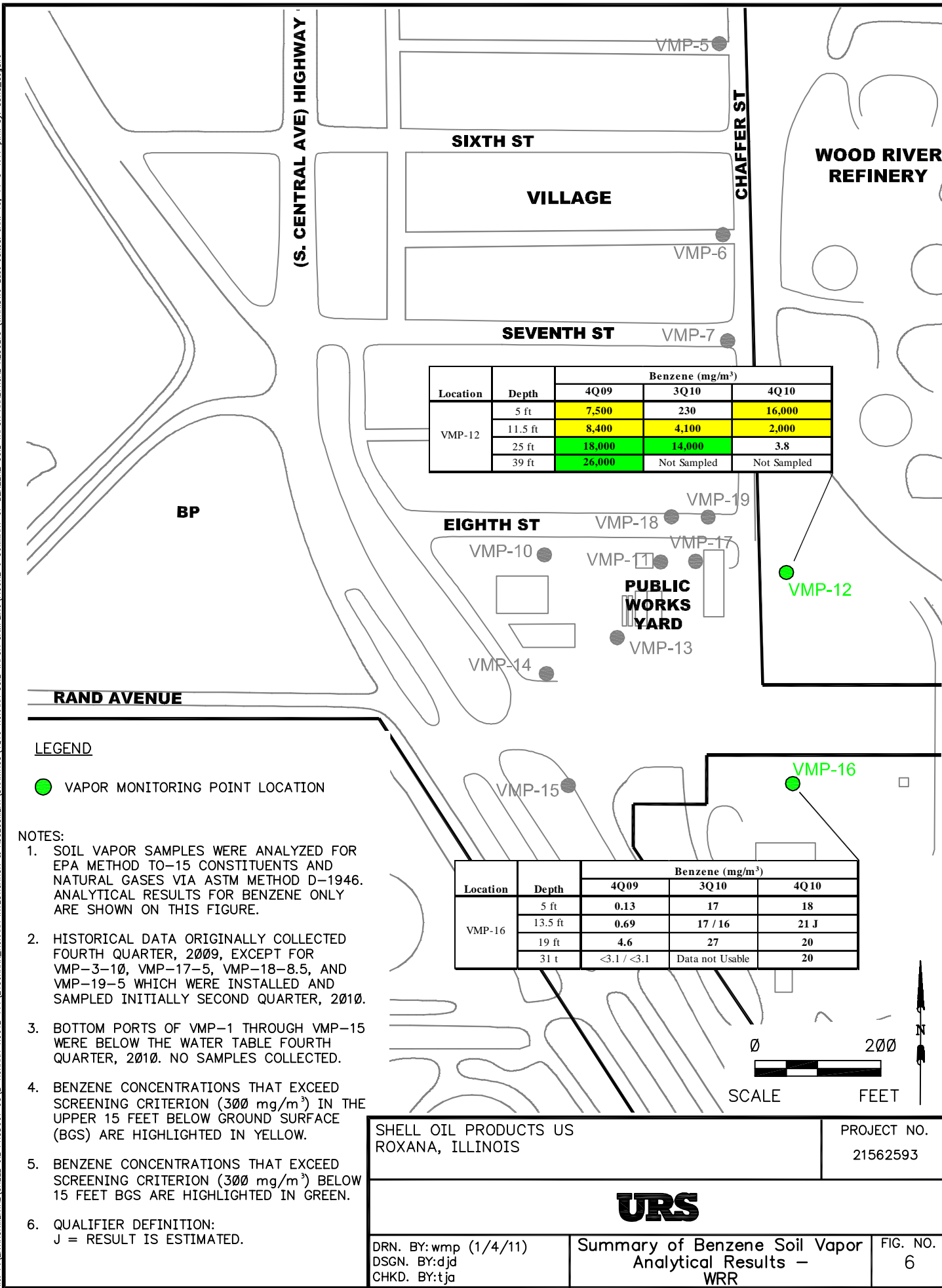
● VAPOR MONITORING POINT LOCATION

NOTES:

- SOIL VAPOR SAMPLES WERE ANALYZED FOR EPA METHOD TO-15 CONSTITUENTS AND NATURAL GASES VIA ASTM METHOD D-1946. ANALYTICAL RESULTS FOR BENZENE ONLY ARE SHOWN ON THIS FIGURE.
- HISTORICAL DATA ORIGINALLY COLLECTED FOURTH QUARTER, 2009, EXCEPT FOR VMP-3-10, VMP-17-5, VMP-18-8.5, AND VMP-19-5 WHICH WERE INSTALLED AND SAMPLED INITIALLY SECOND QUARTER, 2010.
- BOTTOM PORTS OF VMP-1 THROUGH VMP-15 WERE BELOW THE WATER TABLE FOURTH QUARTER, 2010. NO SAMPLES COLLECTED.
- BENZENE CONCENTRATIONS THAT EXCEED SCREENING CRITERION (300 mg/m³) IN THE UPPER 15 FEET BELOW GROUND SURFACE (BGS) ARE HIGHLIGHTED IN YELLOW.
- BENZENE CONCENTRATIONS THAT EXCEED SCREENING CRITERION (300 mg/m³) BELOW 15 FEET BGS ARE HIGHLIGHTED IN GREEN.
- QUALIFIER DEFINITION:
J = RESULT IS ESTIMATED.



SHELL OIL PRODUCTS US ROXANA, ILLINOIS		PROJECT NO. 21562593
URS		
DRN. BY:wmp (1/4/11) DSGN. BY:djd CHKD. BY:tja	Summary of Benzene Soil Vapor Analytical Results- Public Works Yard	FIG. NO. 5



SHELL OIL PRODUCTS US ROXANA, ILLINOIS	PROJECT NO. 21562593
URS	
DRN. BY:wmp (1/4/11) DSGN. BY:djd CHKD. BY:tja	Summary of Benzene Soil Vapor Analytical Results – WRR
	FIG. NO. 6

**TABLE A-1
SOIL VAPOR SAMPLING - TEDLAR SAMPLING DATA**

Reading Location		Tedlar										Shroud		Tedlar		
Instrument		FID	MultiRAE					Landtec			Dielectric		Dielectric		Dielectric	
Port ID	Date	FID (ppm)	PID (ppm)	CO (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)	Helium Before	Helium After	Helium in Shroud Before	Helium in Shroud After	Direct Port Reading After
VMP-1-5	11/02/09		98.2	4	0	35	11.1			OVR		0.95%	2.2%	63.0%	62.0%	N/A
	08/25/10	0.00	0.0	2	0	0	14.2	0.2	4	1.2	19.6	0.0%	2.1%	51.9%	67.0%	N/A
	11/17/10	0.24	0.6	5	0	0	19.4	0.1	2	1.3	20.1	2.3%	5.7%	52.8%	58.0%	N/A
VMP-1-8.5	11/02/09		87.5	4	0	25	1.2			OVR		0.0%	0.83%	68.0%	64.0%	N/A
	08/25/10	3561	2.6	0	0	2	0.0	0.3	6	7.0	9.0	3.3%	4.3%	50.1%	50.2%	N/A
	11/17/10	8.56	2.5	0	0	0	7.9	0.1	2	7.1	8.4	3.2%	1.3%	68.9%	77.4%	N/A
VMP-1-23.5	11/02/09		83.2	5	0	100	8.2			OVR		0.0%	0.83%	68.0%	64.0%	N/A
	08/30/10	1.99 ×10 ⁶	0.0	190	7	OVR	0.0	0.0	>>>	7.8	0.2	2.3%	3.1%	50.8%	47.3%	N/A
	11/18/10	38.72	0.5	0	0	0	16.4	0.2	4	2.9	17.1	0.08%	4.3%	59.2%	65.4%	N/A
VMP-1-38.5	11/02/09		63.0	4	0	31	1.3			OVR		0.8575%	0.89%	58.0%	48.0%	N/A
	08/30/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/17/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VMP-2-5	11/02/09		770	1	0	0	10.0			OVR		0.0%	3.2%	67.0%	58.0%	N/A
	08/31/10	42780	98.9	24	1	35	0.0	63.9	>>>	11.4	0.2	0.0%	0.4525%	50.3%	48.8%	N/A
	11/16/10	7729	231	10	0	OVR	0.3	>>>	>>>	12.1	1.0	0.0575%	0.0925%	53.4%	57.6%	N/A
VMP-2-8.5	11/03/09		12.0	0	0	100	16.1			2.43		0.0075%	2.9%	69.0%	40.0%	N/A
	08/31/10	1.44 ×10 ⁶	48.8	48	2	OVR	0.0	99.9	>>>	0.1	0.0	0.6675%	1.3325%	59.3%	46.7%	N/A
	11/16/10	11900	180.0	28	0	OVR	0.6	>>>	>>>	11.4	0.8	0.0%	0.2175%	63.2%	55.0%	N/A
VMP-2-22	11/03/09		118	0	0	21	3.4			OVR		0.0%	0.2425%	60.0%	49.0%	N/A
	08/31/10	1.16 ×10 ⁶	62.0	0	2	OVR	0.0	99.9	>>>	0.0	0.0	2.5%	2.5%	59.7%	53.9%	N/A
	11/16/10	13400	176	30	1	OVR	0.5	>>>	>>>	10.8	1.1	2.1%	1.895%	52.8%	51.0%	N/A
VMP-2-42	11/03/09		70.8	193	0	70	0.8			OVR		2.1%	0.955%	80.0%	58.0%	N/A
	08/31/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/16/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VMP-3-5	11/03/09		7.6	3	0	5	6.0			OVR		0.0%	0.27%	68.0%	50.0%	N/A
	09/09/10	2.28 ×10 ⁶	137.0	104	4	OVR	0.0	>>>	>>>	12.3	0.0	2.8%	5.6%	52.6%	51.7%	10.5%
	11/22/10	1.9	200	321	5	OVR	3.4	>>>	>>>	9.0	3.2	4.1%	7.1%	51.9%	62.9%	8.6%
VMP-3-10	06/21/10		109	237	0	OVR	0.9			OVR		0.0%	0.19%	48.1%	18.5%	N/A
	09/10/10	OVR	10.9	511	15	OVR	0.0	>>>	>>>	9.7	0.0	10.3%	9.2%	59.1%	58.0%	10.1%
	09/20/10	OVR	142	0	10	OVR	0.3	>>>	>>>	9.0	1.3	6.7%	2.5%	51.1%	44.3%	8.1%
	11/22/10	78600	160	425	3	OVR	0.6	>>>	>>>	8.6	0.9	8.1%	8.5%	57.0%	61.3%	8.1%
VMP-3-22	11/04/09		101	142	0	100	0.9			OVR		0.33%	4.2%	58.0%	51.0%	N/A
	09/20/10	OVR	51.2	0	39	OVR	0.7	>>>	>>>	8.8	6.7	4.6%	4.6%	51.2%	51.0%	5.1%
	11/22/10	129200	153	691	17	OVR	0.5	>>>	>>>	7.8	1.0	9.5%	10.1%	51.2%	59.6%	9.8%
VMP-3-31.5	11/04/09		631	3	0	100	0.9			OVR		10.0%	10.0%	62.0%	44.0%	11.0%
	09/09/10	OVR	14.9	1033	9	OVR	0.0	>>>	>>>	4.6	0.0	18.2%	17.0%	57.8%	37.6%	17.7%
	11/22/10	OVR	232	OVR	12	OVR	0.4	>>>	>>>	4.7	0.9	16.3%	16.0%	51.2%	62.4%	15.4%

**TABLE A-1
SOIL VAPOR SAMPLING - TEDLAR SAMPLING DATA**

Reading Location		Tedlar										Shroud		Tedlar		
Instrument		FID	MultiRAE					Landtec			Dielectric		Dielectric		Dielectric	
Port ID	Date	FID (ppm)	PID (ppm)	CO (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)	Helium Before	Helium After	Helium in Shroud Before	Helium in Shroud After	Direct Port Reading After
VMP-3-39	11/04/09		114	195	0	0	0.9			4.72		11.0%	11.0%	59.0%	40.0%	10.0%
	09/09/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VMP-4-5	11/05/09		24.0	0	0	0	6.0			0.76		1.7225%	30.0%	59.0%	39.0%	32.0%
	08/25/10	0	26.7	305	7	OVR	0.8	99.8	>>>	0.0	0.2	0.0%	2.3%	50.1%	46.6%	N/A
	11/22/10	27800	165	376	11	OVR	0.6	>>>	>>>	13.7	0.8	5.1%	5.2%	52.9%	50.5%	5.1%
VMP-4-12	11/05/09		150	12	0	14	1.4			OVR		0.125%	2.2%	60.0%	41.0%	N/A
	08/25/10	0	77.8	452	25	OVR	0.0	99.8	>>>	13.5	0.2	3.4%	4.6%	57.4%	54.0%	N/A
	11/23/10	16900	112	40	0	OVR	0.7	>>>	>>>	13.6	1.4	3.3%	3.0%	58.7%	52.4%	2.5%
VMP-4-23.5	11/05/09		340	134	6	86	6.0			0.0		9.0%	10.0%	62.0%	39.0%	10.6%
	08/31/10	OVR	2.3	1006	70	OVR	0.0	>>>	>>>	5.7	0.7	12.7%	14.3%	54.5%	37.8%	12.7%
	11/23/10	150300	124	800	0	OVR	0.5	>>>	>>>	7.0	0.9	17.3%	17.5%	59.9%	62.2%	17.0%
VMP-4-39	11/05/09		327	1154	2	74	0.9			5.0		9.0%	0.43%	59.0%	34.0%	10.0%
	08/31/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	01/23/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VMP-5-5	11/05/09		197	5	0	35	0.0			4.5		0.0%	0.45%	37.0%	28.0%	N/A
	09/09/10	79110	331	426	11	OVR	0.0	>>>	>>>	12.4	1.6	0.7675%	0.85%	63.6%	61.5%	N/A
	11/22/10	11600	149	199	0.00%	OVR	1.9	>>>	>>>	12.5	1.4	0.0%	1.6025%	55.8%	36.0%	N/A
VMP-5-12.5	11/06/09		41.5	153	0	100	2.0			OVR		0.1425%	0.305%	45.0%	39.0%	N/A
	09/09/10	1.59 x10 ⁶	276	244	14	OVR	0.0	>>>	>>>	14.3	0.0	0.93%	0.6375%	54.6%	53.1%	N/A
	11/23/10	205	79.9	4	0	55	4.4	1.5	32	13.2	3.6	0.0%	0.0%	53.3%	50.6%	N/A
VMP-5-31	11/06/09		31.5	947	7	100	1.8			OVR		1.9%	2.1%	46.0%	35.0%	N/A
	09/09/10	OVR	0.0	875	21	OVR	0.0	>>>	>>>	9.4	0.0	9.2%	10.2%	48.0%	46.2%	7.1%
	11/23/10	87100	148	1500	0	OVR	0.7	>>>	>>>	9.6	0.9	9.6%	9.0%	53.6%	50.0%	9.0%
VMP-5-40	11/06/09		28.6	913	0	100	0.4			OVR		4.1%	2.7%	51.0%	38.0%	N/A
	09/09/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/23/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VMP-6-5	11/06/09		161	27	3	85	0.9			OVR		0.0%	0.0%	55.0%	39.0%	N/A
	09/08/10	35760	327	76	3	27	0.0	12.8	>>>	15.3	0.0	0.0%	0.1125%	59.3%	56.4%	N/A
	11/16/10	4426	606	53	4	OVR	0.4	65.1	>>>	15.2	1.5	0.0%	0.78%	50.8%	58.0%	N/A
VMP-6-10	11/06/09		183	17	3	100	0.4			OVR		0.3523%	0.0775%	54.0%	29.0%	N/A
	09/08/10	79370	356	138	6	50	0.0	38.3	>>>	14.8	0.0	0.54%	0.725%	51.6%	37.9%	N/A
	11/17/10	6.33	0.2	0	0	0	7.2	0.4	9	11.3	6.4	0.0%	0.9125%	51.3%	60.9%	N/A
VMP-6-31.5	11/09/09		445	86	3	100	0.3			OVR		0.0%	0.0%	58.0%	47.0%	N/A
	09/08/10	3.21 x10 ⁶	380	711	41	OVR	0.0	>>>	>>>	12.9	0.0	2.7%	2.6%	56.6%	46.9%	2.3%
	11/17/10	1.16	462	753	10	OVR	2.1	>>>	>>>	13.3	2.3	1.54%	1.93%	66.5%	59.8%	N/A
VMP-6-39	11/09/09		55.0	8	5	100	0.2			OVR		1.61%	1.55%	60.0%	48.0%	N/A
	09/08/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/16/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

**TABLE A-1
SOIL VAPOR SAMPLING - TEDLAR SAMPLING DATA**

Reading Location		Tedlar											Shroud		Tedlar	
Instrument		FID	MultiRAE					Landtec				Dielectric		Dielectric		Dielectric
Port ID	Date	FID (ppm)	PID (ppm)	CO (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)	Helium Before	Helium After	Helium in Shroud Before	Helium in Shroud After	Direct Port Reading After
VMP-7-5	11/09/09		0.6	4	0	Neg	12.3			OVR		3.4%	2.5%	64.0%	50.0%	N/A
	08/26/10	28.7	0.0	0	1	0	0.8	0.0	0	4.5	13.4	1.7%	1.5%	56.6%	56.3%	N/A
	11/19/10	61.45	4.5	5	0	10	2.9	0.2	2	15.3	2.6	0.9225%	0.4925%	50.2%	66.7%	N/A
VMP-7-13.5	11/09/09		53.0	0	0	0	5.2			OVR		0.0%	0.45%	60.0%	46.0%	N/A
	08/26/10	5130	62.8	2	2	16	0.0	1.1	22	16.7	0.4	0.0%	0.0%	50.8%	56.2%	N/A
	11/19/10	2157	58.8	3	0	38	0.7	3.4	68	16.3	0.7	0.0%	0.0%	53.8%	51.0%	N/A
VMP-7-29.5	11/09/09		89.0	132	4	13	4.5			OVR		0.5375%	0.365%	62.0%	49.0%	N/A
	08/31/10	73090	234	187	10	0	0.0	57.1	>>>	15.0	0.3	0.92%	0.7925%	50.4%	48.3%	N/A
	11/19/10	4264	120	32	1	OVR	0.5	19.0	>>>	15.9	0.8	0.0%	0.0%	53.7%	69.3%	N/A
VMP-7-38	11/09/09		88.0	4	3	75	1.8			OVR		0.0%	0.5975%	52.0%	45.0%	N/A
	08/31/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/19/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VMP-8-5	11/10/09		0.0	1	0	0	15.5			OVR		0.15%	0.0%	63.0%	45.0%	N/A
	08/30/10	55.0	0.4	0	0	0	6.4	0.0	0	7.3	13.4	0.0%	0.1325%	52.0%	58.6%	N/A
	11/18/10	617	2.6	4	0	5	14.1	0.2	4	2.6	19.4	0.0%	0.0%	62.8%	65.5%	N/A
VMP-8-9.5	11/10/09		0.0	0	0	0	11.2			OVR		0.0%	0.0%	63.0%	45.0%	N/A
	08/30/10	66.2	0.2	0	0	0	0.0	0.0	0	9.2	10.1	0.0%	0.0%	56.2%	48.9%	N/A
	11/18/10	27.23	2.1	4	0	7	12.2	0.3	6	9.6	12.5	0.0%	0.1075%	63.7%	100+%	N/A
VMP-8-23.5	11/10/09		0.0	2	0	0	11.2			OVR		0.0%	0.0%	60.0%	46.0%	N/A
	08/30/10	34.2	0.0	1	0	3	0.0	0.0	0	9.3	9.9	0.0%	0.0%	55.2%	60.0%	N/A
	11/19/10	3.62	1.6	0	0	6	10.5	0.0	0	10.1	11.0	0.0%	0.0%	57.8%	59.8%	N/A
VMP-8-35.5	11/10/09		NS	NS	NS	NS	NS			NS		NS	NS	53.0%	NS	NS
	08/30/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/19/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VMP-9-5	11/11/09		0.0	2	0	0	15.0			3.45		10.4%	4.6%	55.0%	49.0%	4.5%
	08/26/10	36.7	0.0	2	0	3	0.4	0.4	8	11.6	4.7	0.0%	0.0%	50.2%	45.6%	N/A
	11/19/10	4.01	2.1	1	0	0	20.1	0.1	1	0.8	20.1	0.0%	0.0%	66.3%	65.7%	N/A
VMP-9-11.5	11/11/09		0.0	0	6	0	5.2			OVR		1.7%	0.85%	61.0%	39.0%	N/A
	08/26/10	19620	36.7	8	0	42	0.0	3.2	64	13.7	0.5	0.0%	0.28%	54.2%	34.7%	N/A
	11/19/10	1714	23.6	74	0	21	0.9	1.7	35	15.8	0.8	0.0%	0.04%	57.5%	57.8%	N/A
VMP-9-25.5	11/10/09		145	1	0	60	2.1			OVR		0.2375%	0.005%	56.0%	41.0%	N/A
	08/26/10	46560	153	32	12	Neg	0.0	19.4	388	13.8	0.0	0.4275%	0.98%	50.2%	47.6%	N/A
	11/19/10	3594	66.6	232	8	73	0.5	6.2	>>>	15.4	0.4	0.0%	0.175%	51.0%	55.8%	N/A
VMP-9-38.5	11/10/09		138	11	0	33	3.1			OVR		0.0%	0.2125%	60.0%	47.0%	N/A
	08/26/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	62.5%	NS	NS
	11/19/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VMP-10-5	11/11/09		0.0	0	0	0	13.5			OVR		0.0%	0.0%	65.0%	56.0%	N/A
	09/07/10	-7.7	0.1	0	0	0	0.0	0.0	0	6.4	14.0	0.0%	0.0%	60.2%	35.8%	N/A
	11/18/10	26.78	0.5	0	0	0	17.7	0.0	1	3.7	18.4	0.0%	0.035%	56.5%	52.4%	N/A

**TABLE A-1
SOIL VAPOR SAMPLING - TEDLAR SAMPLING DATA**

Reading Location		Tedlar											Shroud		Tedlar	
Instrument		FID	MultiRAE					Landtec				Dielectric		Dielectric		Dielectric
Port ID	Date	FID (ppm)	PID (ppm)	CO (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)	Helium Before	Helium After	Helium in Shroud Before	Helium in Shroud After	Direct Port Reading After
VMP-10-10	11/11/09		0.0	0	0	0	11.7			OVR		0.0%	0.0%	58.0%	44.0%	N/A
	09/07/10	-8.7	0.0	0	0	0	0.0	0.0	0	9.0	11.9	0.0%	0.0%	53.4%	25.5%	N/A
	11/18/10	41.21	0.7	4	0	0	15.4	0.0	1	6.1	15.9	0.0%	0.05%	54.4%	49.4%	N/A
VMP-10-20	11/11/09		0.0	2	0	0	20.9			0.047		0.0%	0.2475%	60.0%	38.0%	N/A
	09/07/10	-10.8	0.0	0	0	0	0.0	0.0	0	12.3	9.4	0.0%	0.0%	51.8%	32.9%	N/A
	11/18/10	85.73	0.7	4	0	0	13.2	0.0	0	9.1	13.2	0.0%	0.0%	58.1%	41.0%	N/A
VMP-10-30	11/13/09		0.0	0	0	0	6.7			OVR		0.0%	0.0%	60.0%	50.0%	N/A
	09/07/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/18/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VMP-11-5	11/17/09		5.0	6	0	24	7.0			OVR		0.0%	0.0%	50.0%	31.0%	N/A
	09/07/10	-2.9	0.1	2	0	0	0.0	0.0	0	9.9	10.3	0.0%	0.0%	57.9%	44.3%	N/A
	11/22/10	6.6	1.3	5	0	0	8.6	0.0	0	11.0	8.2	0.0%	0.0%	56.5%	75.0%	N/A
VMP-11-8	11/17/09		4.0	0	0	2	7.3			OVR		0.0%	0.0%	50.0%	37.0%	N/A
	09/08/10	10.5	0.0	0	0	0	0.0	0.0	0	9.5	11.0	0.0%	0.0%	52.3%	37.6%	N/A
	11/22/10	8	1.8	4	0	0	7.8	0.0	0	11.4	7.6	0.0%	0.025%	55.0%	57.5%	N/A
VMP-11-29	11/18/09		OVR	3	0	16	4.5			OVR		0.0%	0.0%	53.0%	45.0%	N/A
	09/08/10	1400	97.3	1	0	5	0.0	0.0	1	14.7	0.0	0.0%	0.0%	63.8%	40.0%	N/A
	11/22/10	785	58.7	3	0	3	0.8	0.2	5	14.7	0.8	0.0%	0.0%	57.5%	46.3%	N/A
VMP-11-38	11/18/09		OVR	2	0	28	4.6			OVR		0.0%	0.0%	50.0%	40.0%	N/A
	09/08/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VMP-12-5	11/13/09		857	120	2	100	1.8			OVR		6.0%	5.8%	56.0%	42.0%	7.0%
	09/03/10	OVR	22.5	145	23	OVR	0.0	>>>	>>>	14.5	0.7	10.4%	11.1%	48.7%	45.7%	10.1%
	12/03/10	4986	21.7	220	0	73	0.7	9.9	>>>	13.5	1.1	1.075%	1.1225%	55.3%	57.0%	N/A
VMP-12-11.5	11/13/09		97.0	68	2	0	4.2			OVR		0.0%	5.5%	55.0%	45.0%	0.0%
	09/03/10	OVR	44.1	293	15	Off	0.0	>>>	>>>	15.2	0.6	9.6%	10.1%	54.1%	33.4%	11.4%
	12/03/10	50100	48.7	78	7	OVR	0.6	>>>	>>>	12.7	0.9	5.8%	6.5%	67.1%	58.6%	6.9%
VMP-12-25	11/13/09		332	142	2	92	2.9			2.33		6.5%	6.4%	47.0%	36.0%	6.9%
	09/03/10	OVR	441	379	7	OVR	0.0	>>>	>>>	15.3	0.5	11.6%	10.6%	52.6%	34.9%	10.8%
	12/03/10	61100	64.7	134	2	OVR	0.6	>>>	>>>	13.9	0.6	8.8%	9.1%	54.4%	53.1%	9.5%
VMP-12-39	11/13/09		1805	93	1	7	4.3			0.27		6.5%	7.8%	56.0%	44.0%	7.2%
	09/03/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/03/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VMP-13-5	11/16/09		957	4	0	26	1.6			OVR		0.0%	0.0%	39.0%	22.0%	N/A
	09/13/10	35.3	0.0	0	0	0	0.0	0.0	0	6.8	9.0	0.0%	0.0%	56.7%	46.7%	N/A
	12/01/10	0.61	1.8	5	0	0	11.6	0.1	2	6.4	12.6	0.14%	0.0%	43.4%	51.5%	N/A
VMP-13-10.5	11/17/09		12.0	2	0	0	20.9			0.103		0.0%	0.04%	40.0%	29.0%	N/A
	09/13/10	1460	1.0	2	2	5	0.0	0.2	1	8.6	0.7	0.0%	0.0%	53.2%	30.3%	N/A
	12/01/10	0.62	2.2	2	0	0	5.1	0.0	1	10.4	5.0	0.0%	0.0%	41.2%	42.7%	N/A

**TABLE A-1
SOIL VAPOR SAMPLING - TEDLAR SAMPLING DATA**

Reading Location		Tedlar										Shroud		Tedlar		
Instrument		FID	MultiRAE					Landtec			Dielectric		Dielectric		Dielectric	
Port ID	Date	FID (ppm)	PID (ppm)	CO (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)	Helium Before	Helium After	Helium in Shroud Before	Helium in Shroud After	Direct Port Reading After
VMP-13-21.5	11/17/09		OVR	27	0	38	4.2			OVR		0.0%	32.0%	43.0%	0.0%	N/A
	09/13/10	35600	1869	7	0	30	0.0	2.4	49	12.2	0.0	0.0525%	0.0%	56.7%	27.9%	N/A
	12/01/10	1928	255	2	0	26	0.6	2.1	43	13.4	0.6	0.1935%	0.31%	43.5%	46.7%	N/A
VMP-13-29.5	11/17/09		OVR	8	0	47	4.8			OVR		0.0%	0.0%	40.0%	32.0%	N/A
	09/13/10	NS	NS	0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/01/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VMP-14-5	11/16/09		NS	NS	NS	NS	NS			NS		0.0%	--	54.0%	42.0%	N/A
	09/10/10	2.32 x10 ⁶	1.6	0	0	OVR	0.0	17.9	>>>	20.1	0.0	3.8 %	4.0 %	53.6%	51.4%	3.2%
	12/01/10	3.03	1.6	2	0	0	12.7	0.1	2	2.7	13.5	0.4825%	0.68%	42.6%	33.5%	N/A
VMP-14-11.5	11/16/09		43.9	25	4	17	6.1			OVR		2.5%	2.3%	55.0%	22.0%	1.65%
	09/10/10	7.41 x10 ⁶	10.4	42	75	OVR	0.0	>>>	>>>	16.5	0.0	7.0%	7.3%	52.3%	47.2%	6.8%
	12/02/10	7494	1.1	251	10	5	0.6	18.3	>>>	4.6	0.5	0.0%	1.9625%	53.5%	50.7%	N/A
VMP-14-20	11/16/09		104	100	0	0	4.2			OVR		2.4%	1.9475%	32.0%	27.0%	1.96%
	09/10/10	OVR	56.8	186	0	OVR	0.0	>>>	>>>	17.2	0.0	7.8%	7.7%	63.8%	50.5%	6.6%
	12/02/10	25400	264	148	0	OVR	0.5	>>>	>>>	19.2	0.5	6.2%	6.6%	54.5%	45.6%	6.1%
VMP-14-29	11/16/09		286	37	0	100	3.7			OVR		1.6%	1.7%	36.0%	29.0%	N/A
	09/10/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/01/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VMP-15-5	11/18/09		5.6	0	0	3	7.5			OVR		0.0%	0.0%	46.0%	32.0%	N/A
	09/14/10	0	0.0	0	0	5	0.0	0.0	0	17.0	0.3	0.0%	0.0%	64.4%	49.9%	N/A
	11/30/10	1058	29.6	1	0	22	1.5	1.9	38	15.2	1.4	0.26%	0.53%	47.9%	41.5%	N/A
VMP-15-21.5	11/18/09		47.0	5	6	100	3.6			OVR		4.0%	4.2%	66.0%	60.0%	4.7%
	09/14/10	1.96 x10 ⁶	9.5	5	92	OVR	0.0	30.8	>>>	19.1	0.0	3.9%	3.6%	50.1%	28.1%	3.4%
	11/30/10	10700	26.1	0	8	OVR	0.5	17.8	>>>	19.2	0.5	2.2%	2.8%	42.2%	47.5%	NA
VMP-15-25.5	11/18/09		49.9	6	1	100	5.6			OVR		5.1%	4.8%	60.0%	51.0%	5.7%
	09/14/10	11780	29.9	1	0	15	0.0	1.6	32	7.7	11.1	6.3%	8.1%	50.3%	30.9%	4.1%
	12/02/10	20.03	1.9	1	0	0	14.3	0.1	2	4.1	14.8	0.6025%	9.2%	62.4%	62.2%	10.7%
VMP-15-29	11/19/09		116	26	32	100	1.0			OVR		4.2%	5.2%	56.0%	45.0%	5.9%
	09/14/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10.1%	NS	56.1%	NS	NS
	12/02/10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VMP-16-5	11/19/09		5.6	1	0	0	15.2			0.135		33.0%	23.0%	52.0%	34.0%	5.0%
	09/02/10	OVR	6.2	167	9	Off	0.0	>>>	>>>	19.4	0.6	15.1%	12.1%	61.2%	23.1%	14.0%
	11/29/10	86300	29.4	13	0	OVR	0.6	>>>	>>>	18.1	1.5	15.0%	12.7%	50.0%	47.8%	12.6%
VMP-16-13.5	11/19/09		74.0	0	0	48	14.6			1.39		17.0%	16.0%	52.0%	56.0%	16.0%
	09/02/10	OVR	32.6	170	10	OVR	0.0	>>>	>>>	19.4	0.1	13.6%	13.6%	51.2%	31.2%	16.2%
	11/29/10	128300	32.8	15	4	OVR	0.7	>>>	>>>	18.6	0.8	14.6%	16.0%	52.5%	42.1%	16.4%
VMP-16-19	11/19/09		36.0	17	0	100	11.6			1.33		18.0%	9.0%	55.0%	53.0%	13.0%
	09/02/10	OVR	0.0	162	12	Off	0.0	>>>	>>>	18.5	0.0	11.4%	16.8%	51.9%	20.7%	15.6%
	11/29/10	126100	36.1	12	2	OVR	0.9	>>>	>>>	18.5	0.8	14.3%	14.6%	56.3%	49.3%	15.0%

**TABLE A-1
SOIL VAPOR SAMPLING - TEDLAR SAMPLING DATA**

Reading Location		Tedlar										Shroud		Tedlar		
Instrument		FID	MultiRAE				Landtec				Dielectric		Dielectric		Dielectric	
Port ID	Date	FID (ppm)	PID (ppm)	CO (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)	Helium Before	Helium After	Helium in Shroud Before	Helium in Shroud After	Direct Port Reading After
VMP-16-31	11/19/09		38.0	18	0	100	14.5			OVR		10.0%	6.0%	57.0%	41.0%	9.5%
	09/03/10	131	1.3	2	0	36	2.4	0.0	0	0.3	15.5	15.1%	14.8%	50.2%	41.2%	14.6%
	11/29/10	83500	37.1	12	3	OVR	0.6	>>>	>>>	18.9	0.7	14.4%	14.4%	51.5%	35.2%	13.9%
VMP-17-5	06/21/10		0.0	4	0	0	11.9			OVR		0.0%	0.0%	48.8%	36.1%	N/A
	09/01/10	-16.4	0.0	2	0	0	0.0	0.6	12	8.1	11.0	0.0%	0.0%	64.5%	55.2%	N/A
	11/22/10	9.13	1.8	5	0	0	15.1	0.0	0	5.6	15.2	0.0%	0.0325%	60.0%	47.1%	N/A
VMP-18-8.5	06/18/10		0.3	4	0	6	12.6			OVR		0.0%	0.0075%	47.8%	34.8%	N/A
	09/07/10	-8.1	0.0	0	0	0	0.0	0.0	0	11.2	12.4	0.0%	0.055%	63.7%	63.7%	N/A
	11/19/10	4.33	3.1	4	0	9	10.4	0.3	6	9.9	10.6	0.0%	0.105%	55.2%	67.2%	N/A
VMP-19-5	06/18/10		0.3	10	0	0	12.6			OVR		0.0%	0.0%	46.8%	11.8%	N/A
	09/01/10	22.8	1.1	2	0	0	0.0	0.7	12	10.7	8.5	0.0%	1.1%	52.0%	58.6%	N/A
	11/15/10	-0.12	0.0	0	0	8	11.0	0.0	0	8.6	4.4	0.0%	0.03%	57.4%	63.4%	N/A

Notes:

1. November 2009 Sampling and the June 2010 Supplemental utilized a MultiRAE IR for CO2 readings. Any CO2 over 5% resulted in a "OVR" reading. No direct CH4 or secondary LEL and O2 readings were collected.
2. Flame ionization detection (FID) was not used during the November 2009 Sampling or the June 2010 Supplemental
3. OVR is used to indicate a reading over range for the FID or MultiRAE.
4. The Landtec landfill gas analyzer displays ">>>" for any results calculated higher than 99.9% for an individual reading.
5. N/A is used to indicate that a reading was not collected because it was unnecessary (i.e., a direct port for helium if the helium leak check was successful)
6. NS is used to indicate that a reading was not collected because the port could not be sampled.
7. 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 ration 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 in each sample.

SOIL VAPOR SAMPLING - TEDLAR SAMPLING DATA

Reading Location		Tedlar										Shroud		Tedlar		
Instrument		FID	MultiRAE				Landtec				Dielectric		Dielectric		Dielectric	
Date	Port ID	FID	PID (ppm)	CO (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)	Helium Before	Helium After	Helium in Shroud Before	Helium in Shroud After	Direct Port Reading After
11/17/10	VMP-1-5	0.24 ppm	0.6	5	0	0	19.4	0.1	2.0	1.3	20.1	2.3%	5.7%	52.8%	58.0%	0.2-18.5%
11/17/10	VMP-1-8.5	8.56 ppm	2.5	0	0	0	7.9	0.1	2.0	7.1	8.4	3.2%	12900 ppm	68.9%	77.4%	N/A
11/18/10	VMP-1-23.5	38.72 ppm	0.5	0	0	0	16.4	0.2	4	2.9	17.1	800 ppm	4.3%	59.2%	65.4%	N/A
11/18/10	VMP-1-38.5															
11/16/10	VMP-2-5	7729 ppm	231	10	0	OVR	0.3	>>>	>>>	12.1	1.0	575 ppm	925 ppm	53.4%	57.6%	N/A
11/16/10	VMP-2-8.5	1.19%	180	28	0	OVR	0.6	>>>	>>>	11.4	0.8	0 ppm	2175 ppm	63.2%	55.0%	N/A
11/16/10	VMP-2-22	1.34%	176	30	1	OVR	0.5	>>>	>>>	10.8	1.1	2.1%	18950 ppm	52.8%	51.0%	N/A
11/16/10	VMP-2-42	No pressure, but water in vapor port! Cannot sample														
11/22/10	VMP-3-5	1.90%	200	321	5	OVR	3.4	>>>	>>>	9.0	3.2	4.1%	7.8%	51.9%	62.9%	8.6% CH ₄ OVR
11/22/10	VMP-3-10	7.86%	160	425	3	OVR	0.6	>>>	>>>	8.6	0.9	8.1%	8.5%	57.0%	61.3%	8.1% CH ₄ OVR
11/22/10	VMP-3-22	12.92%	153	691	17	OVR	0.5	>>>	>>>	7.8	1.0	9.5%	10.1%	51.2%	59.6%	9.8% CH ₄ OVR
11/22/10	VMP-3-31.5	OVR	232	OVR	12	OVR	0.4	>>>	>>>	4.7	0.9	16.3%	16.0%	51.2%	62.4%	15.4% CH ₄ OVR
11/22/10	VMP-3-39	Pressure at 22.5" Hg: Cannot Sample														
11/22/10	VMP-4-5	2.78%	165	376	11	OVR	0.6	>>>	>>>	13.7	0.8	5.1%	5.2%	52.9%	50.5%	5.1% CH ₄ OVR
11/23/10	VMP-4-12	1.69%	112	40	0	OVR	0.7	>>>	>>>	13.6	1.4	3.3%	3.0%	58.7%	52.4%	2.5% He CH ₄ OVR
11/23/10	VMP-4-23.5	15.03%	124	800	0	OVR	0.5	>>>	>>>	7.0	0.9	17.3%	17.5%	59.9%	62.2%	17.0% CH ₄ OVR
11/23/10	VMP-4-39	Pressure at 19" Hg: Cannot Sample														

SOIL VAPOR SAMPLING - TEDLAR SAMPLING DATA

Reading Location		Tedlar										Shroud		Tedlar		
Instrument		FID	MultiRAE				Landtec				Dielectric		Dielectric		Dielectric	
Date	Port ID	FID	PID (ppm)	CO (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)	Helium Before	Helium After	Helium in Shroud Before	Helium in Shroud After	Direct Port Reading After
11/22/10	VMP-5-5	1.16%	149	199	0	OVR	1.9	777	777	12.5	1.4	0 ppm	1605 ppm	55.8%	36.0%	N/A
11/23/10	VMP-5-12.5	205 ppm	79.9	4.0	0	5	4.4	1.5	32	13.2	3.6	0 ppm	0 ppm	53.3%	50.6%	N/A
11/23/10	VMP-5-31	8.71%	148	1500	0	OVR	0.7	777	777	9.6	0.9	9.6%	9.0%	53.6%	50.0%	9.0% CH ₄ OVR
11/23/10	VMP-5-40	Pressure	at	18"	18"	Cannot Sample										
11/16/10	VMP-6-5	4426 ppm	606	55	4	OVR	0.4	65.1	777	15.2	1.5	0 ppm	7804 ppm	50.8%	58.0%	N/A
11/17/10	VMP-6-10	6.33 ppm	0.2	0	0	0	7.2	0.4	9.0	11.3	6.4	0 ppm	9125 ppm	51.3%	60.9%	N/A
11/17/10	VMP-6-31.5	1.16%	462	753	10	OVR	2.1	777	777	13.3	2.3	1540 ppm	19300 ppm	66.5%	59.8%	N/A
11/16/10	VMP-6-39	Pressure	at	27.5"	27.5"	Cannot Sample										
11/19/10	VMP-7-5	61.45 ppm	4.5	5	0	10	2.9	0.2	2	15.3	2.6	9225 ppm	4925 ppm	50.2%	66.7%	N/A
11/19/10	VMP-7-13.5	2157 ppm	58.8	3	0	38	0.7	3.4	68	16.3	0.7	0 ppm	0 ppm	53.8%	51.0%	N/A
11/19/10	VMP-7-29.5	4264 ppm	120	32	1	OVR	0.5	19.0	777	15.9	0.8	0 ppm	4800 ppm	53.7%	69.3%	N/A
	VMP-7-38	Pressure	at	"	"	Cannot Sample										
11/18/10	VMP-8-5	617 ppm	2.6	4	0	5	19.1	0.2	4	2.6%	19.4	0 ppm	0 ppm	62.8%	65.5%	N/A
11/18/10	VMP-8-9.5	2723 ppm	2.1	4	0	7	12.2	0.3	6	9.6%	12.5	0 ppm	1075 ppm	63.7%	100%	N/A
11/19/10	VMP-8-23.5	3.62 ppm	1.6	0	0	6	10.5	0	0	10.1	11.0	0 ppm	0 ppm	57.8%	58.3%	N/A
11/19/10	VMP-8-35.5	Pressure	at	20"	20"	Cannot Sample										

SOIL VAPOR SAMPLING - TEDLAR SAMPLING DATA

Reading Location		Tedlar										Shroud		Tedlar		
Instrument		FID		MultiRAE				Landtec				Dielectric		Dielectric		Dielectric
Date	Port ID	FID	PID (ppm)	CO (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)	Helium Before	Helium After	Helium in Shroud Before	Helium in Shroud After	Direct Port Reading After
11/19/10	VMP-9-5	4.01 ppm	2.1	1	0	0	20.1	0.1	1	0.8	20.1	0 ppm	2900 ppm	66.3%	68.7%	N/A
11/19/10	VMP-9-11.5	1714 ppm	236	74	0	21	0.9	1.7	35	15.8	0.8	0 ppm	400 ppm	57.5%	57.8%	N/A
11/19/10	VMP-9-25.5	3594 ppm	66.6	232	8	73	0.5	6.2	777	15.4	0.4	0 ppm	1750 ppm	51.0%	55.8%	N/A
11/19/10	VMP-9-38.5	Pressure	at	20" Hg	: Cannot Sample											
11/18/10	VMP-10-5	26.78 ppm	0.5	0	0	0	17.7	0.0	1	3.7	18.4	0 ppm	350 ppm	56.5%	52.4%	N/A
11/18/10	VMP-10-10	41.21 ppm	0.7	4	0	0	15.4	0.0	1	6.1	15.9	0 ppm	700 ppm	54.4%	49.4%	N/A
11/18/10	VMP-10-20	85.73 ppm	0.7	4	0	0	13.2	0.0	0	9.1	13.2	0 ppm	0 ppm	58.1%	41.0%	N/A
11/18/10	VMP-10-30	Pressure	at	20" Hg	: Cannot Sample											
11/22/10	VMP-11-5	6.6 ppm	1.3	5	0	0	8.6	0.0	0	11.0	8.2	0 ppm	0 ppm	56.5%	75.0%	N/A
11/22/10	VMP-11-8	8.0 ppm	1.8	4	0	0	7.8	0.0	0	11.4	7.6	0 ppm	250 ppm	55.0%	57.5%	N/A
11/22/10	VMP-11-29	78.5 ppm	58.7	3	0	3	0.8	0.2	5	14.7	0.8	0 ppm	0 ppm	59.5%	46.3%	N/A
11/22/10	VMP-11-38	Pressure	at	19" Hg	: Cannot Sample											
12/3/10	VMP-12-5	4484 ppm	21.7	220	0	73	0.7	9.9	>>>	13.5	1.1	10750 ppm	11225 ppm	55.3%	57.0%	N/A
12/3/10	VMP-12-11.5	5.01%	48.7	78	7	OVR	0.6	>>>	>>>	12.7	0.9	5.8%	6.5%	67.1%	58.6%	6.9% CH4 OVR
12/3/10	VMP-12-25	6.11%	64.7	134	2	OVR	0.6	>>>	>>>	13.9	0.6	8.8% OVR	9.1%	54.4%	53.1%	9.5% CH4 OVR
12/3/10	VMP-12-39	Pressure	at	18" Hg	: Cannot Sample											

SOIL VAPOR SAMPLING - TEDLAR SAMPLING DATA

Reading Location		Tedlar										Shroud		Tedlar		
Instrument		FID		MultiRAE				Landtec				Dielectric		Dielectric		Dielectric
Date	Port ID	FID	PID (ppm)	CO (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)	Helium Before	Helium After	Helium in Shroud Before	Helium in Shroud After	Direct Port Reading After
12/1/10	VMP-13-5	0.8 ppm	1.8	5	0	0	11.6	0.1	2%	6.4	12.4	1600ppm	0ppm	43.4%	51.5%	NA
12/1/10	VMP-13-10.5	0.6 ppm	2.2	2	0	0	5.1	0.0	1%	10.4	5.0	0ppm	0ppm	41.2%	42.7%	NA
12/1/10	VMP-13-21.5	1928 ppm	255	2	0	20	0.4	2.1	43	13.4	0.6	1925ppm	3100ppm	43.5%	46.7%	NA
12/1/10	VMP-13-29.5		Pressure held @ -16" Hg - CANNOT SAMPLE													
12/1/10	VMP-14-5	3.03 ppm	1.6	2	0	0	12.7	0.1	2.0	2.7	13.5	4325ppm	6000ppm	42.6%	33.5%	NA
12/2/10	VMP-14-11.5	7494 ppm	1.1	251	10	5	0.6	18.3	OVR	4.6	0.5	0ppm	19625 ppm	53.5%	50.7%	N/A
12/2/10	VMP-14-20	2.54%	204	48	0	OVR	0.5	OVR	OVR	19.2	0.5	6.2%	6.6%	54.5%	45.6%	6.1%
12/1/10	VMP-14-29		Pressure held at -14" Hg - CANNOT SAMPLE													
11/30/10	VMP-15-5	1058 ppm	29.4	1	0	22	1.5	1.9%	38%	15.2	1.4	2550ppm	5325ppm	47.9%	41.5%	NA
11/30/10	VMP-15-21.5	1.07%	26.1	0	8	OVR	0.5	17.8%	OVR	19.2	0.5	2.2%	2.8%	42.2%	47.5%	NA
12/2/10	VMP-15-25.5	20.06 ppm	1.9	1	0	0	14.3	0.1%	2%	4.1	14.8	4025	9.2%	62.4%	62.2%	NA
12/2/10	VMP-15-29															
11/29	VMP-16-5	8.63%	29.38	13	0	OVR	0.6	OVR	OVR	18.1	1.5	15.0%	12.7%	50.0%	47.8%	12.6% He OVR-CH4
11/29	VMP-16-13.5	12.83%	32.8	15	4	OVR	0.7	OVR	OVR	18.6	0.8	14.6%	16.0%	52.5%	42.1%	16.4% He OVR-CH4
11/29	VMP-16-19	12.61%	36.1	12	2	OVR	0.9	OVR	OVR	18.5	0.8	14.3%	14.6%	56.3%	49.3%	15.0-HE OVR-CH4
11/29	VMP-16-31	8.35%	37.1	12	3	OVR	0.4	OVR	OVR	18.9	0.7	14.4%	14.4%	51.5%	35.2%	13.9% He OVR-CH4

20.7%

SOIL VAPOR SAMPLING - I EDLAR SAMPLING DATA

Reading Location		Tedlar										Shroud		Tedlar		
Instrument		FID	MultiRAE				Landtec				Dielectric		Dielectric		Dielectric	
Date	Port ID	FID	PID (ppm)	CO (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CH4 (%)	LEL (%)	CO2 (%)	O2 (%)	Helium Before	Helium After	Helium in Shroud Before	Helium in Shroud After	Direct Port Reading After
11/22/10	VMP-17-5	9.13 ppm	1.8	5	0	0	15.1	0.0	0	5.6	15.2	0 ppm	325 ppm	60.0%	47.1%	N/A
11/19/10	VMP-18-8.5	4.33%	3.1	4	0	9	10.4	0.3	6	9.9	10.6	0 ppm	105 ppm	55.2%	67.2%	N/A
11/15/10	VMP-19-5	0.12 ppm	0.0	0	0	8	11.0	0.0	0	8.6	4.4	0 ppm	300 ppm	51.4%	63.4%	N/A
Dup 11/17/10	VMP-1-8.5 (Dup)	8.56 ppm	2.5	0	0	0	7.9	0.1	2	7.1	8.4	3.2%	1290 ppm	68.9%	77.4%	N/A
Dup 11/18/10	VMP-10-20 (Dup)	82.73%	0.7	4	0	0	13.2	0.0	0	9.1	13.2	0 ppm	0 ppm	58.1%	41.0%	N/A
Dup 11/22/10	VMP-3-10 (Dup)	7.86%	1.60	425	3	0VR	0.6	777	777	8.6	0.9	8.8%	8.5%	57.0%	61.3%	8.1% CH4 OVR
Dup 11/22/10	VMP-11-29 (Dup)	78.5 ppm	58.7	3	0	3	0.8	0.2	5	14.7	0.8	0 ppm	0 ppm	57.5%	46.3%	N/A
Dup 12/1/10	VMP-13-10.5 (Dup)	0.62 ppm	2.2	2	0	0	5.1	0.0	1%	10.4	5.0	0 ppm	0 ppm	41.2%	42.7%	N/A
GB 11/30/10	VMP-15-21.5	1.07%	26.1	0	8	0VR	0.5	17.8	777	19.7	0.5	0.2%	2.8%	40.2%	47.5%	N/A
GB 12/13/10	VMP-12-11.5 (GB)	5.01%	48.7	78	7	0VR	0.6	777	777	12.7	0.9	5.8%	6.5%	67.1%	58.6%	6.9% CH4 OVR

Note: 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 ration with the sample, which required the sample readings to be

Dup 12/2/10 VMP-14-11.5 (Dup?) 7494 ppm 1.1 251 10 5 0.6 18.3 777 4.6 0.5 0 ppm 17625 ppm 53.5% 50.7% N/A

SOIL VAPOR SAMPLING - CANISTER SAMPLING DATA

Date	Port ID	Required Purge (mL)	15 mL Hand Pumps	Number of Hand Pumps Achieved	Canister ID	Flow Controller ID	Vacuum Leak Check OK (Y/N)	Helium Leak Check Before OK (Y/N)	Helium Leak Check After OK (Y/N)	Initial Vacuum	Time Start	Final Vacuum	Time Finish	
11/17/10	VMP-1-5	83.18	6	6	3858	FC00724	Y	Y	Y	-30" Hg	1332	-8.5" Hg	1410	y
11/17/10	VMP-1-8.5	108.48	8	8	2184	6709	Y	Y	Y	-30" Hg	1510	-8.0" Hg	1600	b
11/18/10	VMP-1-23.5	216.93	15	15	2067	6844	Y	Y	Y	-30" Hg	0940	-8.0" Hg	1025	g
11/18/10	VMP-1-38.5	325.38	22	Pressure held at 15.5" Hg. Can't			Not Sample							r
11/16/10	VMP-2-5	83.18	6	6	3256	FC00345	Y	Y	Y	-30" Hg	0945	-8.5" Hg	1022	y
11/16/10	VMP-2-8.5	108.48	8	8	675	FC00130	Y	Y	Y	-30" Hg	1126	-7.5" Hg	1206	b
11/16/10	VMP-2-22	206.09	14	14	1454	FC00469	Y	Y	Y	-30" Hg	1258	-8.0" Hg	1334	g
11/16/10	VMP-2-42	350.69	24	No pressure. But water in vapor port										r
11/22/10	VMP-3-5	83.18	6	6	1462	FC00979	Y	Y	Y	-30" Hg	0853	-9.0" Hg	0935	y
11/22/10	VMP-3-10	119.33	8	8	2226	FC00913	Y	Y	Y	-30" Hg	1149	-8.0" Hg	1224	w
11/22/10	VMP-3-22	206.09	14	14	728	FC00984	Y	Y	Y	-30" Hg	1321	-4.5" Hg	1351	b
11/22/10	VMP-3-31.5	274.77	19	19	1004	FC00604	Y	Y	Y	-30" Hg	1032	-8.0" Hg	1103	g
11/22/10	VMP-3-39	329.00	22	Pressure held @ 22.5" Hg. Cannot sample.			No water purged after 10min							r
11/23/10	VMP-4-5	83.18	6	6	2709	FC00758	Y	Y	Y	-29.5" Hg	1451	-8.5" Hg	1526	y
11/23/10	VMP-4-12	133.79	9	9	3796	FC00360	Y	Y	Y	-30" Hg	1415	-7.5" Hg	1452	b
11/23/10	VMP-4-23.5	216.93	15	15	1347	FC00262	Y	Y	Y	-30" Hg	1540	-6.5" Hg	1605	g
11/23/10	VMP-4-39	329.00	22	Pressure @ 18" Hg. Can not sample										r

Helium Leak Check Before: Compare Tedlar Helium Before with Helium in Shroud Before. Y = Tedlar < 10% Shroud.

Helium Leak Check After: Compare Tedlar Helium After with Helium in Shroud After. Y = Tedlar < 10% Shroud.

SOIL VAPOR SAMPLING - CANISTER SAMPLING DATA

Date	Port ID	Required Purge (mL)	15 mL Hand Pumps	Number of Hand Pumps Achieved	Canister ID	Flow Controller ID	Vacuum Leak Check OK (Y/N)	Helium Leak Check Before OK (Y/N)	Helium Leak Check After OK (Y/N)	Initial Vacuum	Time Start	Final Vacuum	Time Finish	
11/22/10	VMP-5-5	83.18	6	6	1418	FC00940	Y	Y	Y	30" Hg	1537	6" Hg	1617	y
11/23/10	VMP-5-12.5	137.40	10	10	0562	06851	Y	Y	Y	30" Hg	0945	7.0" Hg	1020	b
11/23/10	VMP-5-31	271.16	19	19	3065	FC00145	Y	Y	Y	30" Hg	1135	6.0" Hg	1214	g
11/23/10	VMP-5-40	336.23	23	Pressure Held @ 18" Hg: Cannot sample										r
11/16/10	VMP-6-5	83.18	6	6	3073	FC00121	Y	Y	Y	30" Hg	1536	10" Hg	1511	y
11/17/10	VMP-6-10	119.33	8	8	2138	FC00846	Y	Y	Y	30" Hg	0915	8.5" Hg	0955	b
11/17/10	VMP-6-31.5	274.77	19	19	3502	FC00389	Y	Y	Y	30" Hg	1041	7.5" Hg	1118	g
11/16/10	VMP-6-39	329.00	22	Pressure held @ 27.5" Hg: Cannot sample										r
11/19/10	VMP-7-5	83.18	6	7	3451	FC00456	Y	Y	Y	30" Hg	1019	5.0" Hg	1046	y
11/19/10	VMP-7-13.5	144.63	10	10	814	FC00926	Y	Y	Y	29" Hg	1148	6.0" Hg	1214	b
11/19/10	VMP-7-29.5	260.31	18	20	3663	FC00409	Y	Y	Y	30" Hg	1312	7.5" Hg	1340	g
	VMP-7-38	321.77	22											r
11/18/10	VMP-8-5	83.18	6	7	3024	6751	Y	Y	Y	30" Hg	1017	4.0" Hg	1105	y
11/18/10	VMP-8-9.5	115.71	8	10	1033	FC00293	Y	Y	Y	29.5" Hg	1158	5.0" Hg	1240	b
11/19/10	VMP-8-23.5	216.93	15	16	2177	40806	Y	Y	Y	30" Hg	1455		1536	g
11/19/10	VMP-8-35.5	303.69	21	Pressure Held @ 20" Hg. No water purged after 5 min										r

Helium Leak Check Before: Compare Tedlar Helium Before with Helium in Shroud Before. Y = Tedlar < 10% Shroud.

Helium Leak Check After: Compare Tedlar Helium After with Helium in Shroud After. Y = Tedlar < 10% Shroud.

SOIL VAPOR SAMPLING - CANISTER SAMPLING DATA

Date	Port ID	Required Purge (mL)	15 mL Hand Pumps	Number of Hand Pumps Achieved	Canister ID	Flow Controller ID	Vacuum Leak Check OK (Y/N)	Helium Leak Check Before OK (Y/N)	Helium Leak Check After OK (Y/N)	Initial Vacuum	Time Start	Final Vacuum	Time Finish	
11/19/10	VMP-9-5	83.18	6	6	3040	FC00104	Y	Y	Y	-30" Hg	0931	5.5" Hg	1008	y
11/19/10	VMP-9-11.5	130.17	9	10	3872	FC00728	Y	Y	Y	-30" Hg	1053	7.5" Hg	1135	b
11/19/10	VMP-9-25.5	231.39	16	16	3039	FC00335	Y	Y	Y	-30" Hg	1218	8.0" Hg	1300	g
11/19/10	VMP-9-38.5	325.38	22	Pressure held @ 20" Hg: CAN NOT SAMPLE										r
11/18/10	VMP-10-5	83.18	6	6	3868	FC00226	Y	Y	Y	-30" Hg	1254	8.0" Hg	1335	y
11/18/10	VMP-10-10	119.33	8	8	1737	FC00324	Y	Y	Y	-30" Hg	1418	9.5" Hg	1456	b
11/18/10	VMP-10-20	191.63	13	13	2151	6519	Y	Y	Y	-30" Hg	1541	8.0" Hg	1613	g
11/18/10	VMP-10-30	263.93	18	Pressure held @ 20" Hg: CAN NOT SAMPLE										r
11/22/10	VMP-11-5	83.18	6	6	3042	FC00296	Y	Y	Y	-30" Hg	0857	6.0" Hg	0928	y
11/22/10	VMP-11-8	104.87	7	7	2753	FC00198	Y	Y	Y	-30" Hg	1035	6.0" Hg	1107	b
11/22/10	VMP-11-29	256.70	18	20	3953	FC00546	Y	Y	Y	-30" Hg	1154	7.5" Hg	1231	g
11/22/10	VMP-11-38	321.77	22	Pressure Held at 19" Hg: CAN NOT SAMPLE										r
12/3/10	VMP-12-5	83.18	6	6	836	FC00553	Y	Y	Y	-29.5" Hg	1029	4.0" Hg	1059	y
12/3/10	VMP-12-11.5	130.17	9	10	902	FC00777	Y	Y	Y	-29.5" Hg	1154	-3" Hg	1224	b
12/3/10	VMP-12-25	227.78	16	16	781	FC00754	Y	Y	Y	-29.5" Hg	1319	-3.5" Hg	1346	g
12/3/10	VMP-12-39	329.00	22	Pressure Held at 18" Hg: CANNOT SAMPLE										r

SOIL VAPOR SAMPLING - CANISTER SAMPLING DATA

Date	Port ID	Required Purge (mL)	15 mL Hand Pumps	Number of Hand Pumps Achieved	Canister ID	Flow Controller ID	Vacuum Leak Check OK (Y/N)	Helium Leak Check Before OK (Y/N)	Helium Leak Check After OK (Y/N)	Initial Vacuum	Time Start	Final Vacuum	Time Finish	
12/1/10	VMP-13-5	83.18	6	6	2563	FC00985	Y	Y	Y	-30"Hg	0927	-5.0"Hg	1003	y
12/1/10	VMP-13-10.5	122.94	9	9	5626	FC00410	Y	Y	Y	-29.5"Hg	1057	-7.0"Hg	1127	b
12/1/10	VMP-13-21.5	202.47	14	14	3776	FC00790	Y	Y	Y	-30"Hg	1255	-6.0"Hg	1325	g
12/1/10	VMP-13-29.5	260.31	18	Pressure held at -16" Hg. Cannot sample										r
12/1/10	VMP-14-5	83.18	6	6	3733	6716	Y	Y	Y	-29.5"Hg	1443	-5.5"Hg	1514	y
12/2/10	VMP-14-11.5	130.17	9	9	1455	6749	Y	Y	Y	-30"Hg	1314	-6.5"Hg	1349	b
12/2/10	VMP-14-20	191.63	13	13	2627	FC00739	Y	Y	Y	-30"Hg	1447	-5.0"Hg	1517	g
12/1/10	VMP-14-29	256.70	18	Pressure held @ -14" Hg. Cannot sample										r
11/30/10	VMP-15-5	83.18	6	6	5818	FC00867	Y	Y	Y	-30"Hg	1028	-6.0"Hg	1101	y
11/30/10	VMP-15-21.5	202.47	14	14	3999	FC00163	Y	Y	Y	-29.5"Hg	1210	-6.5"Hg	1250	b
12/2/10	VMP-15-25.5	231.39	16	16	2387	6675	Y	Y	N	-30"Hg	0928	-5.5"Hg	1003	g
12/2/10	VMP-15-29	256.70	18	18										r
11/29	VMP-16-5	83.18	6	6	570	FC00658	Y	Y	Y	-29"Hg	0936	-5.0"Hg	1006	y
11/29	VMP-16-13.5	144.63	10	10	2088	FC00971	Y	Y	Y	-29.5"Hg	1057	-5.0"Hg	1127	b
11/29	VMP-16-19	184.40	13	13	2721	FC00978	Y	Y	Y	-29"Hg	1222	-4.0"Hg	1252	g
11/29	VMP-16-31	271.16	19	19	1414	FC00769	Y	Y	Y	-29.5"Hg	1408	-2.5"Hg	1438	r

Helium Leak Check Before: Compare Tediar Helium Before with Helium in Shroud Before. Y = Tediar < 10% Shroud.

Helium Leak Check After: Compare Tediar Helium After with Helium in Shroud After. Y = Tediar < 10% Shroud.

SOIL VAPOR SAMPLING - CANISTER SAMPLING DATA

Date	Port ID	Required Purge (mL)	15 mL Hand Pumps	Number of Hand Pumps Achieved	Canister ID	Flow Controller ID	Vacuum Leak Check OK (Y/N)	Helium Leak Check Before OK (Y/N)	Helium Leak Check After OK (Y/N)	Initial Vacuum	Time Start	Final Vacuum	Time Finish
11/17/10	VMP-17-5	83.18	6	6	97	FC00425	Y	Y	Y	-30" Hg	1337	-7" Hg	1417
11/19/10	VMP-18-8.5	108.48	8	8	678	FC00580	Y	Y	Y	-28.7" Hg	1452	-5.5" Hg	1522
11/19/10	VMP-19-5	83.18	6	6	3051	FC00407	Y	Y	Y	-30" Hg	1551	-10" Hg	1628
Dup 11/17/10	VMP-1-8.5	108.48	8	8	2110	FC00417	Y	Y	Y	-30" Hg	1510	-8.0" Hg	1552
Dup 11/18/10	VMP-10-20	191.63	13	13	2054	FC00575	Y	Y	Y	-28.5" Hg	1541	-8.0" Hg	1622
Dup 11/22/10	VMP-11-29	256.70	18	18	3151	FC00219	Y	Y	Y	-30" Hg	1154	-8.5" Hg	1231
Dup 11/22/10	VMP-3-10	119.33	8	8	2134	FC00791	Y	Y	Y	-30" Hg	1149	-8.0" Hg	1224
Dup 12/1/10	VMP-13-10.5	122.94	9	9	3550	FC00589	Y	Y	Y	-29.5" Hg	1057	-8.0" Hg	1135
Dup 12/2/10	VMP-14-16.5	130.17	9	9	2170	6520	Y	Y	Y	-30" Hg	1314	-6.5" Hg	1344
GB 11/30/10	VMP-15-21.5	202.47	14	14	3742	NA	Y	Y	Y	-28.5" Hg	1210	-5.5" Hg	1212
GB 12/3/10	VMP-12-11.5	130.17	9	10	3904	NA	Y	Y	Y	-30" Hg	1154	-5" Hg	1156

Helium Leak Check Before: Compare Tedlar Helium Before with Helium in Shroud Before. Y = Tedlar < 10% Shroud.
 Helium Leak Check After: Compare Tedlar Helium After with Helium in Shroud After. Y = Tedlar < 10% Shroud.

Roxana Vapor Data Review

Laboratory SDG: 1011390A, B

Reviewer: Tony Sedlacek

Date Reviewed: 12/20/2010

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

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

Sample Identification	Sample Identification
VMP-19-5-111510	VMP-2-5-111610
VMP-2-8.5-111610	VMP-2-22-111610
VMP-6-5-111610	

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-2-5-111610 was analyzed at two different dilutions since the compound 2,2,4-trimethylpentane exceeded the calibration range of the instrument. In addition, several other samples were analyzed at a dilution due to high levels of non-target analytes. LCS 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.

The cooler receipt form indicated there was a sample ID discrepancy between the COC and Summa canister sample ID tag for sample VMP-19-111510. The sample ID recorded on the COC was used to log in and report sample data.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

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

Yes

Blank ID	Parameter	Analyte	Concentration/Amount
1011390A-06A	TO-15	Bromomethane	0.16 ppbv / 0.64 $\mu\text{g}/\text{m}^3$

Blank ID	Parameter	Analyte	Concentration/Amount
1011390A-06A	TO-15	Acetone	0.24 ppbv / 0.57 µg/m ³
1011390A-06A	TO-15	Ethylbenzene	0.057 ppbv / 0.25 µg/m ³
1011390A-06A	TO-15	<i>m,p</i> -Xylene	0.041 ppbv / 0.18 µg/m ³
1011390A-06B	TO-15	Toluene	2.4 ppbv / 9.2 µg/m ³
1011390A-06B	TO-15	Tetrachloroethene	2.6 ppbv / 17 µg/m ³
1011390B-06A	Natural gases	Oxygen	0.020%
1011390B-06A	Natural gases	Nitrogen	0.072%

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-19-5-111510	TO-15	Bromomethane	-	U
VMP-19-5-111510	TO-15	<i>m,p</i> -Xylene	-	U

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/RPD Criteria
1011390A-08B/1011390A-08BB	TO-15	1,2,4-Trichlorobenzene	136/141	3	70-130/25
1011390A-08B/1011390A-08BB	TO-15	Hexachlorobutadiene	136/140	2	70-130/25

The LCS recoveries outside evaluation criteria were associated with the dilution for sample VMP-2-5-111610. Only analyte 2,2,4-trimethylpentane was reported from the dilution of sample VMP-2-5-111610; therefore, no qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

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

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

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

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

12.0 Additional Qualifications

Were additional qualifications applied?

No

12/2/2010
Mr. Jeff Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Dissolved Phase
Project #:
Workorder #: 1011390A

Dear Mr. Jeff Adams

The following report includes the data for the above referenced project for sample(s) received on 11/17/2010 at Air Toxics Ltd.

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

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

Regards,



Jacquelyn Luta
Project Manager

Reviewed
on
12/17/2010

WORK ORDER #: 1011390A

Work Order Summary

CLIENT:	Mr. Jeff Adams 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:	314-429-0100	P.O. #	21562289.00011
FAX:		PROJECT #	Roxana Dissolved Phase
DATE RECEIVED:	11/17/2010	CONTACT:	Jacquelyn Luta
DATE COMPLETED:	12/02/2010		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	VMP-19-5-111510 ✓	Modified TO-15	8.0 "Hg	15 psi
02A	VMP-2-5-111610 ✓	Modified TO-15	7.0 "Hg	15 psi
02B	VMP-2-5-111610 ✓	Modified TO-15	7.0 "Hg	15 psi
03A	VMP-2-8.5-111610 ✓	Modified TO-15	6.0 "Hg	15 psi
04A	VMP-2-22-111610 ✓	Modified TO-15	7.0 "Hg	15 psi
05A	VMP-6-5-111610 ✓	Modified TO-15	8.0 "Hg	15 psi
06A	Lab Blank	Modified TO-15	NA	NA
06B	Lab Blank	Modified TO-15	NA	NA
07A	CCV	Modified TO-15	NA	NA
07B	CCV	Modified TO-15	NA	NA
08A	LCS	Modified TO-15	NA	NA
08AA	LCSD	Modified TO-15	NA	NA
08B	LCS	Modified TO-15	NA	NA
08BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: *Sandra D. Furrer*

DATE: 12/02/10

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
 NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
 Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
 Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11
 Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
EPA Method TO-15
URS Corporation
Workorder# 1011390A**

Five 1 Liter Summa Canister samples were received on November 17, 2010. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

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

Receiving Notes

The Chain of Custody (COC) information for sample VMP-19-111510 did not match the entry on the sample tag with regard to sample identification. The information on the COC was used to process and report the sample.

Analytical Notes

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

Due to high-level target compounds, sample VMP-2-5-111610 was analyzed twice. In the "A" fraction, the sample was diluted to bring 2,2,4-Trimethylpentane within the calibration range. The "B" fraction is also reported by client request at a lesser dilution without 2,2,4-Trimethylpentane.

Dilution was performed on samples VMP-2-5-111610, VMP-2-8.5-111610, VMP-2-22-111610 and VMP-6-5-111610 due to the presence of high level non-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

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

ri-File was requantified for the purpose of reissue



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

Client Sample ID: VMP-19-5-111510

Lab ID#: 1011390A-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
Bromomethane	1.4	0.0 ND 0.51 u"	5.4	0.0 ND 2.0 u"
Freon 11	1.4	0.19 J	7.8	1.1 J
Ethanol	5.5	12	10	24
Acetone	5.5	8.5	13	20
2-Propanol	5.5	1.4 J	14	3.4 J
Carbon Disulfide	1.4	0.43 J	4.3	1.3 J
Methylene Chloride	1.4	0.34 J	4.8	1.2 J
Methyl tert-butyl ether	1.4	0.19 J	5.0	0.70 J
Hexane	1.4	0.93 J	4.9	3.3 J
2-Butanone (Methyl Ethyl Ketone)	1.4	0.45 J	4.1	1.3 J
1,1,1-Trichloroethane	1.4	0.25 J	7.5	1.4 J
Cyclohexane	1.4	0.36 J	4.8	1.2 J
2,2,4-Trimethylpentane	1.4	1.2 J	6.4	5.4 J
Benzene	1.4	2.9	4.4	9.2
Trichloroethene	1.4	0.45 J	7.4	2.4 J
Toluene	1.4	0.38 J	5.2	1.4 J
Tetrachloroethene	1.4	0.20 J	9.4	1.3 J
Ethyl Benzene	1.4	0.70 J	6.0	3.0 J
m,p-Xylene	1.4	0.0 ND 0.19 u"	6.0	0.0 ND 0.81 u"
Styrene	1.4	1.5	5.9	6.5

Client Sample ID: VMP-2-5-111610

Lab ID#: 1011390A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2,2,4-Trimethylpentane	1300	430000	6200	2000000

Client Sample ID: VMP-2-5-111610

Lab ID#: 1011390A-02B

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

Client Sample ID: VMP-2-5-111610

Lab ID#: 1011390A-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	660	12000	2300	42000

Client Sample ID: VMP-2-8.5-111610

Lab ID#: 1011390A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1300	15000	4400	54000
2,2,4-Trimethylpentane	1300	430000	5900	2000000

Client Sample ID: VMP-2-22-111610

Lab ID#: 1011390A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1300	22000	4600	78000
2,2,4-Trimethylpentane	1300	480000	6200	2300000

Client Sample ID: VMP-6-5-111610

Lab ID#: 1011390A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1400	320000	4900	1100000
Cyclohexane	1400	180000	4800	600000
2,2,4-Trimethylpentane	1400	500000	6400	2300000
Benzene	1400	2800	4400	9000
Heptane	1400	140000	5600	600000
Ethyl Benzene	1400	1300 J	6000	5500 J
m,p-Xylene	1400	780 J	6000	3400 J
Cumene	1400	850 J	6800	4200 J
Propylbenzene	1400	1600	6800	7700

Client Sample ID: VMP-19-5-111510

Lab ID#: 1011390A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
File Name:	6112322		Date of Collection:	11/15/10 4:28:00 PM
Dil. Factor:	2.76		Date of Analysis:	11/23/10 09:57 PM
Freon 12	1.4	0.47 J	6.8	2.3 J
Freon 114	1.4	Not Detected	9.6	Not Detected
Chloromethane	5.5	Not Detected	11	Not Detected
Vinyl Chloride	1.4	Not Detected	3.5	Not Detected
1,3-Butadiene	1.4	Not Detected	3.0	Not Detected
Bromomethane	1.4	0.0 ND 0.51 J "	5.4	0.0 ND 2.0 J "
Chloroethane	1.4	Not Detected	3.6	Not Detected
Freon 11	1.4	0.19 J	7.8	1.1 J
Ethanol	5.5	12	10	24
Freon 113	1.4	Not Detected	10	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.5	Not Detected
Acetone	5.5	8.5	13	20
2-Propanol	5.5	1.4 J	14	3.4 J
Carbon Disulfide	1.4	0.43 J	4.3	1.3 J
3-Chloropropene	5.5	Not Detected	17	Not Detected
Methylene Chloride	1.4	0.34 J	4.8	1.2 J
Methyl tert-butyl ether	1.4	0.19 J	5.0	0.70 J
trans-1,2-Dichloroethene	1.4	Not Detected	5.5	Not Detected
Hexane	1.4	0.93 J	4.9	3.3 J
1,1-Dichloroethane	1.4	Not Detected	5.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.4	0.45 J	4.1	1.3 J
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	0.25 J	7.5	1.4 J
Cyclohexane	1.4	0.36 J	4.8	1.2 J
Carbon Tetrachloride	1.4	Not Detected	8.7	Not Detected
2,2,4-Trimethylpentane	1.4	1.2 J	6.4	5.4 J
Benzene	1.4	2.9	4.4	9.2
1,2-Dichloroethane	1.4	Not Detected	5.6	Not Detected
Heptane	1.4	Not Detected	5.6	Not Detected
Trichloroethene	1.4	0.45 J	7.4	2.4 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	Not Detected	5.6	Not Detected
Toluene	1.4	0.38 J	5.2	1.4 J
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	0.20 J	9.4	1.3 J



Client Sample ID: VMP-19-5-111510

Lab ID#: 1011390A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6112322	Date of Collection:	11/15/10 4:28:00 PM
Dil. Factor:	2.76	Date of Analysis:	11/23/10 09:57 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	5.5	Not Detected	23	Not Detected
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	Not Detected	6.4	Not Detected
Ethyl Benzene	1.4	0.70 J	6.0	3.0 J
m,p-Xylene	1.4	0.0 ND 0.19 u	6.0	0.0 ND 0.81 u
o-Xylene	1.4	Not Detected	6.0	Not Detected
Styrene	1.4	1.5	5.9	6.5
Bromoform	1.4	Not Detected	14	Not Detected
Cumene	1.4	Not Detected	6.8	Not Detected
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	Not Detected	6.8	Not Detected
1,3,5-Trimethylbenzene	1.4	Not Detected	6.8	Not Detected
1,2,4-Trimethylbenzene	1.4	Not Detected	6.8	Not Detected
1,3-Dichlorobenzene	1.4	Not Detected	8.3	Not Detected
1,4-Dichlorobenzene	1.4	Not Detected	8.3	Not Detected
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

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: VMP-2-5-111610

Lab ID#: 1011390A-02A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b112637	Date of Collection: 11/16/10 10:22:00 A
Dil. Factor:	264	Date of Analysis: 11/27/10 09:32 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2,2,4-Trimethylpentane	1300	430000	6200	2000000

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: VMP-2-5-111610

Lab ID#: 1011390A-02B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b112636	Date of Collection: 11/16/10 10:22:00 A
Dil. Factor:	132	Date of Analysis: 11/27/10 09:08 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	660	Not Detected	3300	Not Detected
Freon 114	660	Not Detected	4600	Not Detected
Chloromethane	2600	Not Detected	5400	Not Detected
Vinyl Chloride	660	Not Detected	1700	Not Detected
1,3-Butadiene	660	Not Detected	1500	Not Detected
Bromomethane	660	Not Detected	2600	Not Detected
Chloroethane	660	Not Detected	1700	Not Detected
Freon 11	660	Not Detected	3700	Not Detected
Ethanol	2600	Not Detected	5000	Not Detected
Freon 113	660	Not Detected	5000	Not Detected
1,1-Dichloroethene	660	Not Detected	2600	Not Detected
Acetone	2600	Not Detected	6300	Not Detected
2-Propanol	2600	Not Detected	6500	Not Detected
Carbon Disulfide	660	Not Detected	2000	Not Detected
3-Chloropropene	2600	Not Detected	8300	Not Detected
Methylene Chloride	660	Not Detected	2300	Not Detected
Methyl tert-butyl ether	660	Not Detected	2400	Not Detected
trans-1,2-Dichloroethene	660	Not Detected	2600	Not Detected
Hexane	660	12000	2300	42000
1,1-Dichloroethane	660	Not Detected	2700	Not Detected
2-Butanone (Methyl Ethyl Ketone)	660	Not Detected	1900	Not Detected
cis-1,2-Dichloroethene	660	Not Detected	2600	Not Detected
Tetrahydrofuran	660	Not Detected	1900	Not Detected
Chloroform	660	Not Detected	3200	Not Detected
1,1,1-Trichloroethane	660	Not Detected	3600	Not Detected
Cyclohexane	660	Not Detected	2300	Not Detected
Carbon Tetrachloride	660	Not Detected	4200	Not Detected
Benzene	660	Not Detected	2100	Not Detected
1,2-Dichloroethane	660	Not Detected	2700	Not Detected
Heptane	660	Not Detected	2700	Not Detected
Trichloroethene	660	Not Detected	3500	Not Detected
1,2-Dichloropropane	660	Not Detected	3000	Not Detected
1,4-Dioxane	2600	Not Detected	9500	Not Detected
Bromodichloromethane	660	Not Detected	4400	Not Detected
cis-1,3-Dichloropropene	660	Not Detected	3000	Not Detected
4-Methyl-2-pentanone	660	Not Detected	2700	Not Detected
Toluene	660	Not Detected	2500	Not Detected
trans-1,3-Dichloropropene	660	Not Detected	3000	Not Detected
1,1,2-Trichloroethane	660	Not Detected	3600	Not Detected
Tetrachloroethene	660	Not Detected	4500	Not Detected
2-Hexanone	2600	Not Detected	11000	Not Detected

Client Sample ID: VMP-2-5-111610

Lab ID#: 1011390A-02B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b112636	Date of Collection: 11/16/10 10:22:00 A
Dil. Factor:	132	Date of Analysis: 11/27/10 09:08 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	660	Not Detected	5600	Not Detected
1,2-Dibromoethane (EDB)	660	Not Detected	5100	Not Detected
Chlorobenzene	660	Not Detected	3000	Not Detected
Ethyl Benzene	660	Not Detected	2900	Not Detected
m,p-Xylene	660	Not Detected	2900	Not Detected
o-Xylene	660	Not Detected	2900	Not Detected
Styrene	660	Not Detected	2800	Not Detected
Bromoform	660	Not Detected	6800	Not Detected
Cumene	660	Not Detected	3200	Not Detected
1,1,2,2-Tetrachloroethane	660	Not Detected	4500	Not Detected
Propylbenzene	660	Not Detected	3200	Not Detected
4-Ethyltoluene	660	Not Detected	3200	Not Detected
1,3,5-Trimethylbenzene	660	Not Detected	3200	Not Detected
1,2,4-Trimethylbenzene	660	Not Detected	3200	Not Detected
1,3-Dichlorobenzene	660	Not Detected	4000	Not Detected
1,4-Dichlorobenzene	660	Not Detected	4000	Not Detected
alpha-Chlorotoluene	660	Not Detected	3400	Not Detected
1,2-Dichlorobenzene	660	Not Detected	4000	Not Detected
1,2,4-Trichlorobenzene	2600	Not Detected	20000	Not Detected
Hexachlorobutadiene	2600	Not Detected	28000	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: VMP-2-8.5-111610

Lab ID#: 1011390A-03A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b112638	Date of Collection:	11/16/10 12:06:00 P
Dil. Factor:	252	Date of Analysis:	11/27/10 09:59 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1300	Not Detected	6200	Not Detected
Freon 114	1300	Not Detected	8800	Not Detected
Chloromethane	5000	Not Detected	10000	Not Detected
Vinyl Chloride	1300	Not Detected	3200	Not Detected
1,3-Butadiene	1300	Not Detected	2800	Not Detected
Bromomethane	1300	Not Detected	4900	Not Detected
Chloroethane	1300	Not Detected	3300	Not Detected
Freon 11	1300	Not Detected	7100	Not Detected
Ethanol	5000	Not Detected	9500	Not Detected
Freon 113	1300	Not Detected	9600	Not Detected
1,1-Dichloroethene	1300	Not Detected	5000	Not Detected
Acetone	5000	Not Detected	12000	Not Detected
2-Propanol	5000	Not Detected	12000	Not Detected
Carbon Disulfide	1300	Not Detected	3900	Not Detected
3-Chloropropene	5000	Not Detected	16000	Not Detected
Methylene Chloride	1300	Not Detected	4400	Not Detected
Methyl tert-butyl ether	1300	Not Detected	4500	Not Detected
trans-1,2-Dichloroethene	1300	Not Detected	5000	Not Detected
Hexane	1300	15000	4400	54000
1,1-Dichloroethane	1300	Not Detected	5100	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1300	Not Detected	3700	Not Detected
cis-1,2-Dichloroethene	1300	Not Detected	5000	Not Detected
Tetrahydrofuran	1300	Not Detected	3700	Not Detected
Chloroform	1300	Not Detected	6200	Not Detected
1,1,1-Trichloroethane	1300	Not Detected	6900	Not Detected
Cyclohexane	1300	Not Detected	4300	Not Detected
Carbon Tetrachloride	1300	Not Detected	7900	Not Detected
2,2,4-Trimethylpentane	1300	430000	5900	2000000
Benzene	1300	Not Detected	4000	Not Detected
1,2-Dichloroethane	1300	Not Detected	5100	Not Detected
Heptane	1300	Not Detected	5200	Not Detected
Trichloroethene	1300	Not Detected	6800	Not Detected
1,2-Dichloropropane	1300	Not Detected	5800	Not Detected
1,4-Dioxane	5000	Not Detected	18000	Not Detected
Bromodichloromethane	1300	Not Detected	8400	Not Detected
cis-1,3-Dichloropropene	1300	Not Detected	5700	Not Detected
4-Methyl-2-pentanone	1300	Not Detected	5200	Not Detected
Toluene	1300	Not Detected	4700	Not Detected
trans-1,3-Dichloropropene	1300	Not Detected	5700	Not Detected
1,1,2-Trichloroethane	1300	Not Detected	6900	Not Detected
Tetrachloroethene	1300	Not Detected	8500	Not Detected



Client Sample ID: VMP-2-8.5-111610

Lab ID#: 1011390A-03A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b112638	Date of Collection:	11/16/10 12:06:00 P
Dil. Factor:	252	Date of Analysis:	11/27/10 09:59 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	5000	Not Detected	21000	Not Detected
Dibromochloromethane	1300	Not Detected	11000	Not Detected
1,2-Dibromoethane (EDB)	1300	Not Detected	9700	Not Detected
Chlorobenzene	1300	Not Detected	5800	Not Detected
Ethyl Benzene	1300	Not Detected	5500	Not Detected
m,p-Xylene	1300	Not Detected	5500	Not Detected
o-Xylene	1300	Not Detected	5500	Not Detected
Styrene	1300	Not Detected	5400	Not Detected
Bromoform	1300	Not Detected	13000	Not Detected
Cumene	1300	Not Detected	6200	Not Detected
1,1,2,2-Tetrachloroethane	1300	Not Detected	8600	Not Detected
Propylbenzene	1300	Not Detected	6200	Not Detected
4-Ethyltoluene	1300	Not Detected	6200	Not Detected
1,3,5-Trimethylbenzene	1300	Not Detected	6200	Not Detected
1,2,4-Trimethylbenzene	1300	Not Detected	6200	Not Detected
1,3-Dichlorobenzene	1300	Not Detected	7600	Not Detected
1,4-Dichlorobenzene	1300	Not Detected	7600	Not Detected
alpha-Chlorotoluene	1300	Not Detected	6500	Not Detected
1,2-Dichlorobenzene	1300	Not Detected	7600	Not Detected
1,2,4-Trichlorobenzene	5000	Not Detected	37000	Not Detected
Hexachlorobutadiene	5000	Not Detected	54000	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130



Client Sample ID: VMP-2-22-111610

Lab ID#: 1011390A-04A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b112640	Date of Collection:	11/16/10 1:34:00 PM
Dil. Factor:	264	Date of Analysis:	11/27/10 10:54 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1300	Not Detected	6500	Not Detected
Freon 114	1300	Not Detected	9200	Not Detected
Chloromethane	5300	Not Detected	11000	Not Detected
Vinyl Chloride	1300	Not Detected	3400	Not Detected
1,3-Butadiene	1300	Not Detected	2900	Not Detected
Bromomethane	1300	Not Detected	5100	Not Detected
Chloroethane	1300	Not Detected	3500	Not Detected
Freon 11	1300	Not Detected	7400	Not Detected
Ethanol	5300	Not Detected	9900	Not Detected
Freon 113	1300	Not Detected	10000	Not Detected
1,1-Dichloroethene	1300	Not Detected	5200	Not Detected
Acetone	5300	Not Detected	12000	Not Detected
2-Propanol	5300	Not Detected	13000	Not Detected
Carbon Disulfide	1300	Not Detected	4100	Not Detected
3-Chloropropene	5300	Not Detected	16000	Not Detected
Methylene Chloride	1300	Not Detected	4600	Not Detected
Methyl tert-butyl ether	1300	Not Detected	4800	Not Detected
trans-1,2-Dichloroethene	1300	Not Detected	5200	Not Detected
Hexane	1300	22000	4600	78000
1,1-Dichloroethane	1300	Not Detected	5300	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1300	Not Detected	3900	Not Detected
cis-1,2-Dichloroethene	1300	Not Detected	5200	Not Detected
Tetrahydrofuran	1300	Not Detected	3900	Not Detected
Chloroform	1300	Not Detected	6400	Not Detected
1,1,1-Trichloroethane	1300	Not Detected	7200	Not Detected
Cyclohexane	1300	Not Detected	4500	Not Detected
Carbon Tetrachloride	1300	Not Detected	8300	Not Detected
2,2,4-Trimethylpentane	1300	480000	6200	2300000
Benzene	1300	Not Detected	4200	Not Detected
1,2-Dichloroethane	1300	Not Detected	5300	Not Detected
Heptane	1300	Not Detected	5400	Not Detected
Trichloroethene	1300	Not Detected	7100	Not Detected
1,2-Dichloropropane	1300	Not Detected	6100	Not Detected
1,4-Dioxane	5300	Not Detected	19000	Not Detected
Bromodichloromethane	1300	Not Detected	8800	Not Detected
cis-1,3-Dichloropropene	1300	Not Detected	6000	Not Detected
4-Methyl-2-pentanone	1300	Not Detected	5400	Not Detected
Toluene	1300	Not Detected	5000	Not Detected
trans-1,3-Dichloropropene	1300	Not Detected	6000	Not Detected
1,1,2-Trichloroethane	1300	Not Detected	7200	Not Detected
Tetrachloroethene	1300	Not Detected	9000	Not Detected



Client Sample ID: VMP-2-22-111610

Lab ID#: 1011390A-04A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b112640	Date of Collection: 11/16/10 1:34:00 PM
Dil. Factor:	264	Date of Analysis: 11/27/10 10:54 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	5300	Not Detected	22000	Not Detected
Dibromochloromethane	1300	Not Detected	11000	Not Detected
1,2-Dibromoethane (EDB)	1300	Not Detected	10000	Not Detected
Chlorobenzene	1300	Not Detected	6100	Not Detected
Ethyl Benzene	1300	Not Detected	5700	Not Detected
m,p-Xylene	1300	Not Detected	5700	Not Detected
o-Xylene	1300	Not Detected	5700	Not Detected
Styrene	1300	Not Detected	5600	Not Detected
Bromoform	1300	Not Detected	14000	Not Detected
Cumene	1300	Not Detected	6500	Not Detected
1,1,2,2-Tetrachloroethane	1300	Not Detected	9100	Not Detected
Propylbenzene	1300	Not Detected	6500	Not Detected
4-Ethyltoluene	1300	Not Detected	6500	Not Detected
1,3,5-Trimethylbenzene	1300	Not Detected	6500	Not Detected
1,2,4-Trimethylbenzene	1300	Not Detected	6500	Not Detected
1,3-Dichlorobenzene	1300	Not Detected	7900	Not Detected
1,4-Dichlorobenzene	1300	Not Detected	7900	Not Detected
alpha-Chlorotoluene	1300	Not Detected	6800	Not Detected
1,2-Dichlorobenzene	1300	Not Detected	7900	Not Detected
1,2,4-Trichlorobenzene	5300	Not Detected	39000	Not Detected
Hexachlorobutadiene	5300	Not Detected	56000	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130



Client Sample ID: VMP-6-5-111610

Lab ID#: 1011390A-05A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b112641	Date of Collection: 11/16/10 4:11:00 PM
Dil. Factor:	276	Date of Analysis: 11/27/10 03:48 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1400	Not Detected	6800	Not Detected
Freon 114	1400	Not Detected	9600	Not Detected
Chloromethane	5500	Not Detected	11000	Not Detected
Vinyl Chloride	1400	Not Detected	3500	Not Detected
1,3-Butadiene	1400	Not Detected	3000	Not Detected
Bromomethane	1400	Not Detected	5400	Not Detected
Chloroethane	1400	Not Detected	3600	Not Detected
Freon 11	1400	Not Detected	7800	Not Detected
Ethanol	5500	Not Detected	10000	Not Detected
Freon 113	1400	Not Detected	10000	Not Detected
1,1-Dichloroethene	1400	Not Detected	5500	Not Detected
Acetone	5500	Not Detected	13000	Not Detected
2-Propanol	5500	Not Detected	14000	Not Detected
Carbon Disulfide	1400	Not Detected	4300	Not Detected
3-Chloropropene	5500	Not Detected	17000	Not Detected
Methylene Chloride	1400	Not Detected	4800	Not Detected
Methyl tert-butyl ether	1400	Not Detected	5000	Not Detected
trans-1,2-Dichloroethene	1400	Not Detected	5500	Not Detected
Hexane	1400	320000	4900	1100000
1,1-Dichloroethane	1400	Not Detected	5600	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1400	Not Detected	4100	Not Detected
cis-1,2-Dichloroethene	1400	Not Detected	5500	Not Detected
Tetrahydrofuran	1400	Not Detected	4100	Not Detected
Chloroform	1400	Not Detected	6700	Not Detected
1,1,1-Trichloroethane	1400	Not Detected	7500	Not Detected
Cyclohexane	1400	180000	4800	600000
Carbon Tetrachloride	1400	Not Detected	8700	Not Detected
2,2,4-Trimethylpentane	1400	500000	6400	2300000
Benzene	1400	2800	4400	9000
1,2-Dichloroethane	1400	Not Detected	5600	Not Detected
Heptane	1400	140000	5600	600000
Trichloroethene	1400	Not Detected	7400	Not Detected
1,2-Dichloropropane	1400	Not Detected	6400	Not Detected
1,4-Dioxane	5500	Not Detected	20000	Not Detected
Bromodichloromethane	1400	Not Detected	9200	Not Detected
cis-1,3-Dichloropropene	1400	Not Detected	6300	Not Detected
4-Methyl-2-pentanone	1400	Not Detected	5600	Not Detected
Toluene	1400	Not Detected	5200	Not Detected
trans-1,3-Dichloropropene	1400	Not Detected	6300	Not Detected
1,1,2-Trichloroethane	1400	Not Detected	7500	Not Detected
Tetrachloroethene	1400	Not Detected	9400	Not Detected



Client Sample ID: VMP-6-5-111610

Lab ID#: 1011390A-05A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b112641	Date of Collection: 11/16/10 4:11:00 PM
Dil. Factor:	276	Date of Analysis: 11/27/10 03:48 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	5500	Not Detected	23000	Not Detected
Dibromochloromethane	1400	Not Detected	12000	Not Detected
1,2-Dibromoethane (EDB)	1400	Not Detected	11000	Not Detected
Chlorobenzene	1400	Not Detected	6400	Not Detected
Ethyl Benzene	1400	1300 J	6000	5500 J
m,p-Xylene	1400	780 J	6000	3400 J
o-Xylene	1400	Not Detected	6000	Not Detected
Styrene	1400	Not Detected	5900	Not Detected
Bromoform	1400	Not Detected	14000	Not Detected
Cumene	1400	850 J	6800	4200 J
1,1,2,2-Tetrachloroethane	1400	Not Detected	9500	Not Detected
Propylbenzene	1400	1600	6800	7700
4-Ethyltoluene	1400	Not Detected	6800	Not Detected
1,3,5-Trimethylbenzene	1400	Not Detected	6800	Not Detected
1,2,4-Trimethylbenzene	1400	Not Detected	6800	Not Detected
1,3-Dichlorobenzene	1400	Not Detected	8300	Not Detected
1,4-Dichlorobenzene	1400	Not Detected	8300	Not Detected
alpha-Chlorotoluene	1400	Not Detected	7100	Not Detected
1,2-Dichlorobenzene	1400	Not Detected	8300	Not Detected
1,2,4-Trichlorobenzene	5500	Not Detected	41000	Not Detected
Hexachlorobutadiene	5500	Not Detected	59000	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: Lab Blank

Lab ID#: 1011390A-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6112319e	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/23/10 07:29 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	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	0.16 J	1.9	0.64 J
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	0.24 J	4.8	0.57 J
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	0.50	Not Detected	1.7	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	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	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

Client Sample ID: Lab Blank

Lab ID#: 1011390A-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6112319e	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/23/10 07:29 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	2.0	Not Detected	8.2	Not Detected
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	0.057 J	2.2	0.25 J
m,p-Xylene	0.50	0.041 J	2.2	0.18 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	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

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	95	70-130

Client Sample ID: Lab Blank

Lab ID#: 1011390A-06B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b112634a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/27/10 02:53 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5.0	Not Detected	25	Not Detected
Freon 114	5.0	Not Detected	35	Not Detected
Chloromethane	20	Not Detected	41	Not Detected
Vinyl Chloride	5.0	Not Detected	13	Not Detected
1,3-Butadiene	5.0	Not Detected	11	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	5.0	Not Detected	13	Not Detected
Freon 11	5.0	Not Detected	28	Not Detected
Ethanol	20	Not Detected	38	Not Detected
Freon 113	5.0	Not Detected	38	Not Detected
1,1-Dichloroethene	5.0	Not Detected	20	Not Detected
Acetone	20	Not Detected	48	Not Detected
2-Propanol	20	Not Detected	49	Not Detected
Carbon Disulfide	5.0	Not Detected	16	Not Detected
3-Chloropropene	20	Not Detected	63	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	5.0	Not Detected	18	Not Detected
trans-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Hexane	5.0	Not Detected	18	Not Detected
1,1-Dichloroethane	5.0	Not Detected	20	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Tetrahydrofuran	5.0	Not Detected	15	Not Detected
Chloroform	5.0	Not Detected	24	Not Detected
1,1,1-Trichloroethane	5.0	Not Detected	27	Not Detected
Cyclohexane	5.0	Not Detected	17	Not Detected
Carbon Tetrachloride	5.0	Not Detected	31	Not Detected
2,2,4-Trimethylpentane	5.0	Not Detected	23	Not Detected
Benzene	5.0	Not Detected	16	Not Detected
1,2-Dichloroethane	5.0	Not Detected	20	Not Detected
Heptane	5.0	Not Detected	20	Not Detected
Trichloroethene	5.0	Not Detected	27	Not Detected
1,2-Dichloropropane	5.0	Not Detected	23	Not Detected
1,4-Dioxane	20	Not Detected	72	Not Detected
Bromodichloromethane	5.0	Not Detected	34	Not Detected
cis-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
4-Methyl-2-pentanone	5.0	Not Detected	20	Not Detected
Toluene	5.0	2.4 J	19	9.2 J
trans-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
1,1,2-Trichloroethane	5.0	Not Detected	27	Not Detected
Tetrachloroethene	5.0	2.6 J	34	17 J

Client Sample ID: Lab Blank

Lab ID#: 1011390A-06B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b112634a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/27/10 02:53 AM

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

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: CCV

Lab ID#: 1011390A-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6112302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/23/10 07:36 AM

Compound	%Recovery
Freon 12	96
Freon 114	98
Chloromethane	96
Vinyl Chloride	99
1,3-Butadiene	99
Bromomethane	102
Chloroethane	101
Freon 11	96
Ethanol	100
Freon 113	100
1,1-Dichloroethene	110
Acetone	106
2-Propanol	103
Carbon Disulfide	106
3-Chloropropene	103
Methylene Chloride	98
Methyl tert-butyl ether	113
trans-1,2-Dichloroethene	111
Hexane	117
1,1-Dichloroethane	103
2-Butanone (Methyl Ethyl Ketone)	114
cis-1,2-Dichloroethene	110
Tetrahydrofuran	112
Chloroform	99
1,1,1-Trichloroethane	98
Cyclohexane	113
Carbon Tetrachloride	98
2,2,4-Trimethylpentane	112
Benzene	106
1,2-Dichloroethane	99
Heptane	123
Trichloroethene	98
1,2-Dichloropropane	99
1,4-Dioxane	116
Bromodichloromethane	100
cis-1,3-Dichloropropene	109
4-Methyl-2-pentanone	120
Toluene	108
trans-1,3-Dichloropropene	101
1,1,2-Trichloroethane	102
Tetrachloroethene	101



Client Sample ID: CCV

Lab ID#: 1011390A-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6112302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/23/10 07:36 AM

Compound	%Recovery
2-Hexanone	113
Dibromochloromethane	100
1,2-Dibromoethane (EDB)	102
Chlorobenzene	104
Ethyl Benzene	108
m,p-Xylene	113
o-Xylene	115
Styrene	118
Bromoform	101
Cumene	116
1,1,2,2-Tetrachloroethane	99
Propylbenzene	113
4-Ethyltoluene	114
1,3,5-Trimethylbenzene	119
1,2,4-Trimethylbenzene	127
1,3-Dichlorobenzene	105
1,4-Dichlorobenzene	105
alpha-Chlorotoluene	108
1,2-Dichlorobenzene	104
1,2,4-Trichlorobenzene	103
Hexachlorobutadiene	99

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: CCV

Lab ID#: 1011390A-07B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b112626	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/26/10 08:51 PM

Compound	%Recovery
Freon 12	102
Freon 114	100
Chloromethane	79
Vinyl Chloride	102
1,3-Butadiene	96
Bromomethane	101
Chloroethane	102
Freon 11	103
Ethanol	85
Freon 113	100
1,1-Dichloroethene	102
Acetone	97
2-Propanol	88
Carbon Disulfide	105
3-Chloropropene	98
Methylene Chloride	97
Methyl tert-butyl ether	98
trans-1,2-Dichloroethene	100
Hexane	110
1,1-Dichloroethane	101
2-Butanone (Methyl Ethyl Ketone)	100
cis-1,2-Dichloroethene	102
Tetrahydrofuran	95
Chloroform	101
1,1,1-Trichloroethane	100
Cyclohexane	102
Carbon Tetrachloride	101
2,2,4-Trimethylpentane	99
Benzene	99
1,2-Dichloroethane	104
Heptane	100
Trichloroethene	108
1,2-Dichloropropane	101
1,4-Dioxane	103
Bromodichloromethane	103
cis-1,3-Dichloropropene	101
4-Methyl-2-pentanone	102
Toluene	112
trans-1,3-Dichloropropene	101
1,1,2-Trichloroethane	102
Tetrachloroethene	104

Client Sample ID: CCV

Lab ID#: 1011390A-07B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b112626	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/26/10 08:51 PM

Compound	%Recovery
2-Hexanone	100
Dibromochloromethane	105
1,2-Dibromoethane (EDB)	102
Chlorobenzene	102
Ethyl Benzene	103
m,p-Xylene	102
o-Xylene	101
Styrene	108
Bromoform	107
Cumene	105
1,1,2,2-Tetrachloroethane	104
Propylbenzene	105
4-Ethyltoluene	104
1,3,5-Trimethylbenzene	108
1,2,4-Trimethylbenzene	105
1,3-Dichlorobenzene	103
1,4-Dichlorobenzene	104
alpha-Chlorotoluene	113
1,2-Dichlorobenzene	105
1,2,4-Trichlorobenzene	109
Hexachlorobutadiene	116

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: LCS

Lab ID#: 1011390A-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6112303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/23/10 08:16 AM

Compound	%Recovery
Freon 12	92
Freon 114	97
Chloromethane	97
Vinyl Chloride	98
1,3-Butadiene	97
Bromomethane	94
Chloroethane	97
Freon 11	90
Ethanol	79
Freon 113	84
1,1-Dichloroethene	86
Acetone	98
2-Propanol	91
Carbon Disulfide	97
3-Chloropropene	112
Methylene Chloride	84
Methyl tert-butyl ether	104
trans-1,2-Dichloroethene	105
Hexane	108
1,1-Dichloroethane	91
2-Butanone (Methyl Ethyl Ketone)	111
cis-1,2-Dichloroethene	101
Tetrahydrofuran	102
Chloroform	88
1,1,1-Trichloroethane	89
Cyclohexane	103
Carbon Tetrachloride	90
2,2,4-Trimethylpentane	104
Benzene	94
1,2-Dichloroethane	84
Heptane	103
Trichloroethene	90
1,2-Dichloropropane	88
1,4-Dioxane	102
Bromodichloromethane	88
cis-1,3-Dichloropropene	99
4-Methyl-2-pentanone	102
Toluene	88
trans-1,3-Dichloropropene	97
1,1,2-Trichloroethane	94
Tetrachloroethene	90

Client Sample ID: LCS

Lab ID#: 1011390A-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6112303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/23/10 08:16 AM

Compound	%Recovery
2-Hexanone	103
Dibromochloromethane	90
1,2-Dibromoethane (EDB)	97
Chlorobenzene	92
Ethyl Benzene	100
m,p-Xylene	105
o-Xylene	106
Styrene	109
Bromoform	94
Cumene	104
1,1,2,2-Tetrachloroethane	94
Propylbenzene	102
4-Ethyltoluene	105
1,3,5-Trimethylbenzene	108
1,2,4-Trimethylbenzene	119
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	104
alpha-Chlorotoluene	102
1,2-Dichlorobenzene	102
1,2,4-Trichlorobenzene	97
Hexachlorobutadiene	95

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	91	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: LCSD

Lab ID#: 1011390A-08AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6112304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/23/10 08:36 AM

Compound	%Recovery
Freon 12	87
Freon 114	90
Chloromethane	90
Vinyl Chloride	94
1,3-Butadiene	92
Bromomethane	86
Chloroethane	90
Freon 11	86
Ethanol	83
Freon 113	81
1,1-Dichloroethene	84
Acetone	89
2-Propanol	83
Carbon Disulfide	91
3-Chloropropene	100
Methylene Chloride	77
Methyl tert-butyl ether	99
trans-1,2-Dichloroethene	92
Hexane	101
1,1-Dichloroethane	87
2-Butanone (Methyl Ethyl Ketone)	102
cis-1,2-Dichloroethene	93
Tetrahydrofuran	96
Chloroform	84
1,1,1-Trichloroethane	86
Cyclohexane	98
Carbon Tetrachloride	86
2,2,4-Trimethylpentane	99
Benzene	90
1,2-Dichloroethane	83
Heptane	100
Trichloroethene	87
1,2-Dichloropropane	85
1,4-Dioxane	98
Bromodichloromethane	83
cis-1,3-Dichloropropene	96
4-Methyl-2-pentanone	101
Toluene	86
trans-1,3-Dichloropropene	94
1,1,2-Trichloroethane	89
Tetrachloroethene	88

Client Sample ID: LCSD

Lab ID#: 1011390A-08AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6112304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/23/10 08:36 AM

Compound	%Recovery
2-Hexanone	98
Dibromochloromethane	88
1,2-Dibromoethane (EDB)	94
Chlorobenzene	92
Ethyl Benzene	98
m,p-Xylene	104
o-Xylene	104
Styrene	106
Bromoform	92
Cumene	103
1,1,2,2-Tetrachloroethane	92
Propylbenzene	101
4-Ethyltoluene	112
1,3,5-Trimethylbenzene	103
1,2,4-Trimethylbenzene	117
1,3-Dichlorobenzene	99
1,4-Dichlorobenzene	100
alpha-Chlorotoluene	98
1,2-Dichlorobenzene	99
1,2,4-Trichlorobenzene	104
Hexachlorobutadiene	104

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: LCS

Lab ID#: 1011390A-08B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b112627	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/26/10 09:54 PM

Compound	%Recovery
Freon 12	103
Freon 114	104
Chloromethane	93
Vinyl Chloride	107
1,3-Butadiene	105
Bromomethane	106
Chloroethane	103
Freon 11	107
Ethanol	99
Freon 113	102
1,1-Dichloroethene	110
Acetone	104
2-Propanol	102
Carbon Disulfide	109
3-Chloropropene	108
Methylene Chloride	100
Methyl tert-butyl ether	105
trans-1,2-Dichloroethene	102
Hexane	104
1,1-Dichloroethane	102
2-Butanone (Methyl Ethyl Ketone)	106
cis-1,2-Dichloroethene	106
Tetrahydrofuran	98
Chloroform	105
1,1,1-Trichloroethane	104
Cyclohexane	106
Carbon Tetrachloride	106
2,2,4-Trimethylpentane	103
Benzene	104
1,2-Dichloroethane	106
Heptane	106
Trichloroethene	107
1,2-Dichloropropane	104
1,4-Dioxane	108
Bromodichloromethane	109
cis-1,3-Dichloropropene	106
4-Methyl-2-pentanone	108
Toluene	110
trans-1,3-Dichloropropene	105
1,1,2-Trichloroethane	105
Tetrachloroethene	102

Client Sample ID: LCS

Lab ID#: 1011390A-08B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b112627	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/26/10 09:54 PM

Compound	%Recovery
2-Hexanone	105
Dibromochloromethane	109
1,2-Dibromoethane (EDB)	104
Chlorobenzene	103
Ethyl Benzene	105
m,p-Xylene	104
o-Xylene	106
Styrene	111
Bromoform	112
Cumene	108
1,1,2,2-Tetrachloroethane	108
Propylbenzene	114
4-Ethyltoluene	108
1,3,5-Trimethylbenzene	115
1,2,4-Trimethylbenzene	117
1,3-Dichlorobenzene	112
1,4-Dichlorobenzene	112
alpha-Chlorotoluene	129
1,2-Dichlorobenzene	117
1,2,4-Trichlorobenzene	136 Q
Hexachlorobutadiene	136 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: LCSD

Lab ID#: 1011390A-08BB

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b112628	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/26/10 10:22 PM

Compound	%Recovery
Freon 12	97
Freon 114	101
Chloromethane	90
Vinyl Chloride	103
1,3-Butadiene	102
Bromomethane	102
Chloroethane	104
Freon 11	106
Ethanol	94
Freon 113	100
1,1-Dichloroethene	106
Acetone	102
2-Propanol	104
Carbon Disulfide	106
3-Chloropropene	105
Methylene Chloride	98
Methyl tert-butyl ether	104
trans-1,2-Dichloroethene	102
Hexane	101
1,1-Dichloroethane	100
2-Butanone (Methyl Ethyl Ketone)	106
cis-1,2-Dichloroethene	103
Tetrahydrofuran	98
Chloroform	103
1,1,1-Trichloroethane	102
Cyclohexane	104
Carbon Tetrachloride	105
2,2,4-Trimethylpentane	102
Benzene	100
1,2-Dichloroethane	103
Heptane	105
Trichloroethene	105
1,2-Dichloropropane	101
1,4-Dioxane	106
Bromodichloromethane	107
cis-1,3-Dichloropropene	104
4-Methyl-2-pentanone	108
Toluene	107
trans-1,3-Dichloropropene	104
1,1,2-Trichloroethane	101
Tetrachloroethene	97

Client Sample ID: LCSD

Lab ID#: 1011390A-08BB

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b112628	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/26/10 10:22 PM

Compound	%Recovery
2-Hexanone	104
Dibromochloromethane	106
1,2-Dibromoethane (EDB)	102
Chlorobenzene	99
Ethyl Benzene	102
m,p-Xylene	101
o-Xylene	102
Styrene	106
Bromoform	109
Cumene	104
1,1,2,2-Tetrachloroethane	105
Propylbenzene	108
4-Ethyltoluene	104
1,3,5-Trimethylbenzene	109
1,2,4-Trimethylbenzene	109
1,3-Dichlorobenzene	107
1,4-Dichlorobenzene	106
alpha-Chlorotoluene	125
1,2-Dichlorobenzene	113
1,2,4-Trichlorobenzene	141 Q
Hexachlorobutadiene	140 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

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

1011390

URS

Shell Oil Products Chain Of Custody Record

Air Toxics LTD.
Project Name: Roxana Dissolved Phase
Project #
Lab Vendor #

Print Bill To Contact Name: Thomas Adams
 PO # SAP # DATE: 1/19/2010
 PAGE: 1 of 1

INCIDENT # (ENV SERVICES) 0 7 2 1 6 8 4 0
 CHECK IF NO INCIDENT # APPLIES

Lab Vendor # 314-742-0100
 URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
 ADDRESS: 800 SOUTH CENTRAL AVE - ROXANA
 CONSULTANT PROJECT NUMBER: Roxana Dissolved Phase
 CONSULTANT PROJECT NAME: Roxana Dissolved Phase

Lab Vendor # 314-742-0100
 URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
 ADDRESS: 800 SOUTH CENTRAL AVE - ROXANA
 CONSULTANT PROJECT NUMBER: Roxana Dissolved Phase
 CONSULTANT PROJECT NAME: Roxana Dissolved Phase

Lab Vendor # 314-742-0100
 URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
 ADDRESS: 800 SOUTH CENTRAL AVE - ROXANA
 CONSULTANT PROJECT NUMBER: Roxana Dissolved Phase
 CONSULTANT PROJECT NAME: Roxana Dissolved Phase

Requested Analysis

Turn Around Time:
 Normal
 Rush
 Specify

Lab Use Only
 Pressurized by: _____
 Date: _____
 Pressurization Gas: N₂ / H₂

Additional Notes:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVF

Lab Sample ID	Field Sample Identification		SAMPLING		Container Number	Container Pressure/Vacuum		ASTM D-1945 + Helium	ASTM D-1945	Modified TO-15
	DATE	STOP TIME	START TIME	TIME		Initial (inHg)	Final (inHg)			
0101	VMP-19-111510	✓	11/15/10	1651	1828	3051	-30	-10	X	X
0201	VMP-2-5-111610	✓	11/16/10	0945	1022	3256	-30	-8	X	X
0301	VMP-2-8.5-111610	✓	11/16/10	1126	1206	675	-30	-7.5	X	X
0401	VMP-2-22-111610	✓	11/16/10	1258	1334	1454	-30	-8.5	X	X
0501	VMP-6-5-111610	✓	11/16/10	1536	1611	3073	-30	-10	X	X

Received by (Signature): *[Signature]* Date: 11/16/10 Time: 1800

Received by (Signature): *[Signature]* Date: 11/17/10 Time: 9:15

Received by (Signature): *[Signature]* Date: _____ Time: _____

CUSTODY SEAL INTACT?
 Y N NONE/TEMP N/A
 FedEx

12/1/2010
Mr. Jeff Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Dissolved Phase
Project #:
Workorder #: 1011390B

Dear Mr. Jeff Adams

The following report includes the data for the above referenced project for sample(s) received on 11/17/2010 at Air Toxics Ltd.

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

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

Regards,



Jacquelyn Luta
Project Manager

Reviewed
on
12/17/2010

WORK ORDER #: 1011390B

Work Order Summary

CLIENT:	Mr. Jeff Adams 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:	314-429-0100	P.O. #	21562289.00011
FAX:		PROJECT #	Roxana Dissolved Phase
DATE RECEIVED:	11/17/2010	CONTACT:	Jacquelyn Luta
DATE COMPLETED:	12/01/2010		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	VMP-19-5-111510 /	Modified ASTM D-1946	8.0 "Hg	15 psi
02A	VMP-2-5-111610 /	Modified ASTM D-1946	7.0 "Hg	15 psi
03A	VMP-2-8.5-111610 /	Modified ASTM D-1946	6.0 "Hg	15 psi
04A	VMP-2-22-111610 /	Modified ASTM D-1946	7.0 "Hg	15 psi
05A	VMP-6-5-111610 /	Modified ASTM D-1946	8.0 "Hg	15 psi
06A	Lab Blank	Modified ASTM D-1946	NA	NA
06B	Lab Blank	Modified ASTM D-1946	NA	NA
07A	LCS	Modified ASTM D-1946	NA	NA
07AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: *Sinda A. Freeman*

DATE: 12/01/10

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
 NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
 Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
 Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11
 Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1011390B**

Five 1 Liter Summa Canister samples were received on November 17, 2010. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

Receiving Notes

The Chain of Custody (COC) information for sample VMP-19-111510 did not match the entry on the sample tag with regard to sample identification. The information on the COC was used to process and report the sample.

Analytical Notes

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

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



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

Client Sample ID: VMP-19-5-111510

Lab ID#: 1011390B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	12
Nitrogen	0.28	80
Carbon Dioxide	0.028	8.5

Client Sample ID: VMP-2-5-111610

Lab ID#: 1011390B-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	4.6
Nitrogen	0.26	80
Methane	0.00026	3.6
Carbon Dioxide	0.026	11
Ethane	0.0026	0.0021 J
Helium	0.13	0.32

Client Sample ID: VMP-2-8.5-111610

Lab ID#: 1011390B-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	1.6
Nitrogen	0.25	80
Methane	0.00025	6.3
Carbon Dioxide	0.025	11
Ethane	0.0025	0.0032
Helium	0.13	0.011 J

Client Sample ID: VMP-2-22-111610

Lab ID#: 1011390B-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	1.5

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

Client Sample ID: VMP-2-22-111610

Lab ID#: 1011390B-04A

Nitrogen	0.26	78
Methane	0.00026	8.2
Carbon Dioxide	0.026	11
Ethane	0.0026	0.0038

Client Sample ID: VMP-6-5-111610

Lab ID#: 1011390B-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	1.5
Nitrogen	0.28	81
Methane	0.00028	2.7
Carbon Dioxide	0.028	14
Ethane	0.0028	0.0012 J
Helium	0.14	0.074 J



Client Sample ID: VMP-19-5-111510

Lab ID#: 1011390B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9112220	Date of Collection:	11/15/10 4:28:00 PM
Dil. Factor:	2.76	Date of Analysis:	11/22/10 06:38 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	12
Nitrogen	0.28	80
Carbon Monoxide	0.028	Not Detected
Methane	0.00028	Not Detected
Carbon Dioxide	0.028	8.5
Ethane	0.0028	Not Detected
Ethene	0.0028	Not Detected
Helium	0.14	Not Detected

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-2-5-111610

Lab ID#: 1011390B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9112221	Date of Collection: 11/16/10 10:22:00 A
Dil. Factor:	2.64	Date of Analysis: 11/22/10 07:01 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	4.6
Nitrogen	0.26	80
Carbon Monoxide	0.026	Not Detected
Methane	0.00026	3.6
Carbon Dioxide	0.026	11
Ethane	0.0026	0.0021 J
Ethene	0.0026	Not Detected
Helium	0.13	0.32

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-2-8.5-111610

Lab ID#: 1011390B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9112222	Date of Collection: 11/16/10 12:06:00 P
Dil. Factor:	2.52	Date of Analysis: 11/22/10 07:24 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	1.6
Nitrogen	0.25	80
Carbon Monoxide	0.025	Not Detected
Methane	0.00025	6.3
Carbon Dioxide	0.025	11
Ethane	0.0025	0.0032
Ethene	0.0025	Not Detected
Helium	0.13	0.011 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-2-22-111610

Lab ID#: 1011390B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9112223	Date of Collection: 11/16/10 1:34:00 PM
Dil. Factor:	2.64	Date of Analysis: 11/22/10 08:02 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	1.5
Nitrogen	0.26	78
Carbon Monoxide	0.026	Not Detected
Methane	0.00026	8.2
Carbon Dioxide	0.026	11
Ethane	0.0026	0.0038
Ethene	0.0026	Not Detected
Helium	0.13	Not Detected

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-6-5-111610

Lab ID#: 1011390B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9112224	Date of Collection: 11/16/10 4:11:00 PM
Dil. Factor:	2.76	Date of Analysis: 11/22/10 08:32 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	1.5
Nitrogen	0.28	81
Carbon Monoxide	0.028	Not Detected
Methane	0.00028	2.7
Carbon Dioxide	0.028	14
Ethane	0.0028	0.0012 J
Ethene	0.0028	Not Detected
Helium	0.14	0.074 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: Lab Blank

Lab ID#: 1011390B-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9112206a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/22/10 10:31 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.020 J
Nitrogen	0.10	0.072 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Client Sample ID: Lab Blank

Lab ID#: 1011390B-06B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9112204b	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/22/10 09:18 AM

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

Container Type: NA - Not Applicable



Client Sample ID: LCS

Lab ID#: 1011390B-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9112202	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/22/10 08:10 AM

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	99
Methane	87
Carbon Dioxide	99
Ethane	90
Ethene	90
Helium	96

Container Type: NA - Not Applicable

Client Sample ID: LCS D

Lab ID#: 1011390B-07AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9112225	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/22/10 09:06 PM

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	100
Methane	86
Carbon Dioxide	98
Ethane	89
Ethene	89
Helium	99

Container Type: NA - Not Applicable

1011390

URS

Shell Oil Products Chain Of Custody Record

Air Toxics LTD.
Project Name: Roxana Dissolved Phase
Project #
Lab Vendor #

Print Bill To Contact Name: Thomas Adams
 PO #
 DATE: 11/18/2010
 PAGE: 1 of 1

INCIDENT # (ENV SERVICES): 9 7 2 1 6 6 4 0
 SAP #
 DATE: 11/18/2010
 PAGE: 1 of 1

CONTRACT PRODUCT NUMBER: Roxana Dissolved Phase
 CONTRACTOR: Elizabeth Kunkel, URS, St. Louis
 PHONE NO: 314-753-4179
 FAX: 314-753-4179
 EMAIL: ELIZABETH.KUNKEL@URS.COM

CLIENT ADDRESS: 800 SOUTH CENTRAL AVE -- ROXANA
 ST. LOUIS, MO 63105
 CLIENT PHONE: 314-753-4179
 CLIENT FAX: 314-753-4179
 CLIENT EMAIL: ELIZABETH.KUNKEL@URS.COM

LAB ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
 PHONE: 314-7428-0100
 FAX: 314-7428-0482
 EMAIL: TADAMS@URS.COM

LAB PHONE: 314-7428-0100
 LAB FAX: 314-7428-0482
 LAB EMAIL: TADAMS@URS.COM

TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (14 DAYS) 5 DAYS 3 DAYS 2 DAYS RESULTS NEEDED ON WEEKEND

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

LAB SERVICES: SW. SERVICES MOTIVA RETAIL SHELL RETAIL
 MOTIVA SUDRY CONSULTANT LUBES
 SHELL PIPELINE OTHER

REQUESTED ANALYSIS

Lab Use Only	Field Sample Identification	DATE	START TIME	STOP TIME	Container Number	Initial (Psi)	Final (Psi)	Receipt	Final (Psi)	Modified TO-15	ASTM D-1946 + Helium	ASTM D-1946	Turn Around Time:	Additional Notes
	VMP-19-111510	11/16/10	1551	1628	3051	-30	-10			X	X		Normal	Lab Use Only Pressurized by: Data Pressurization Gas: N2 He
	VMP-2-5-111610	11/18/10	0945	1022	3256	-30	-8			X	X		Rush	
	VMP-2-8-5-111610	11/18/10	1128	1206	675	-30	-7.5			X	X		Specify	
	VMP-2-22-111610	11/16/10	1258	1334	1454	-30	-8.5			X	X			
	VMP-6-5-111610	11/18/10	1536	1611	3073	-30	-10			X	X			

Additional Notes:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVP

Received by: (Signature) *[Signature]* Date: 11/16/10 Time: 1800

Received by: (Signature) *[Signature]* Date: 11/17/10 Time: 9:15

Received by: (Signature) *[Signature]* Date: 11/17/10 Time: 9:15

CUSTODY SEAL INTACT?
 Y N NA TEMP NA

FedEx

Roxana Vapor Data Review

Laboratory SDG: 1011480A, B

Reviewer: Tony Sedlacek

Date Reviewed: 12/20/2010

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

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

Sample Identification	Sample Identification
VMP-6-10-111710	VMP-6-31.5-111710
VMP-1-5-111710	VMP-1-8.5-111710
VMP-1-8.5-111710-Dup	VMP-1-23.5-111810
VMP-8-5-111810	VMP-9.5-111810
VMP-10-5-111810	VMP-10-10-111810
VMP-10-20-111810	VMP-10-20-111810-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?

Yes, the laboratory case narrative indicated that some samples were analyzed at a dilution due to high levels of target analytes. LCS recoveries were outside evaluation criteria. Although not indicated in the laboratory case narrative, analytes were detected in the method blank and analytes were qualified due to a greater than two times (2X) the reporting limit difference between parent and field duplicate results. These issues are addressed further in the appropriate sections below.

The cooler receipt form did not indicate any problems; however, COC designated sample IDs VMP-1-22-111810 and VMP-8-8.5-111810 were typed in error. Data was reported using the correct sample IDs, VMP-1-23.5-111810 and VMP-9.5-111810, respectively.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

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

Yes

Blank ID	Parameter	Analyte	Concentration/Amount
1011480A-13A	TO-15	Bromomethane	0.18 ppbv / 0.70 µg/m ³
1011480A-13A	TO-15	Trichloroethene	0.12 ppbv / 0.66 µg/m ³
1011480A-13A	TO-15	Tetrachloroethene	0.069 ppbv / 0.47 µg/m ³
1011480A-13A	TO-15	1,2-Dibromoethane	0.068 ppbv / 0.52 µg/m ³
1011480A-13A	TO-15	Chlorobenzene	0.088 ppbv / 0.40 µg/m ³
1011480A-13A	TO-15	Ethylbenzene	0.058 ppbv / 0.25 µg/m ³
1011480A-13A	TO-15	<i>m,p</i> -Xylene	0.041 ppbv / 0.18 µg/m ³
1011480A-13A	TO-15	1,1,2,2-Tetrachloroethane	0.071 ppbv / 0.49 µg/m ³
1011480A-13A	TO-15	Propylbenzene	0.076 ppbv / 0.37 µg/m ³
1011480A-13A	TO-15	4-Ethyltoluene	0.092 ppbv / 0.45 µg/m ³
1011480A-13A	TO-15	1,2,4-Trimethylbenzene	0.078 ppbv / 0.38 µg/m ³
1011480A-13A	TO-15	1,3-Dichlorobenzene	0.17 ppbv / 1.0 µg/m ³
1011480A-13A	TO-15	1,4-Dichlorobenzene	0.20 ppbv / 1.2 µg/m ³
1011480A-13A	TO-15	alpha-Chlorotoluene	0.099 ppbv / 0.51 µg/m ³
1011480A-13A	TO-15	1,2-Dichlorobenzene	0.17 ppbv / 1.0 µg/m ³
1011480A-13A	TO-15	1,2,4-Trichlorobenzene	0.58 ppbv / 4.3 µg/m ³
1011480A-13A	TO-15	Hexachlorobutadiene	0.37 ppbv / 4.0 µg/m ³
1011480A-13B	TO-15	Ethanol	5.6 ppbv / 11 µg/m ³
1011480A-13B	TO-15	Methylene chloride	2.4 ppbv / 8.4 µg/m ³
1011480-13A	Natural gas	Oxygen	0.014%
1011480-13A	Natural gas	Nitrogen	0.076%

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-6-10-111710	TO-15	Bromomethane	-	U
VMP-6-10-111710	TO-15	Trichloroethene	-	U
VMP-6-10-111710	TO-15	<i>m,p</i> -Xylene	-	U
VMP-1-8.5-111710	TO-15	Trichloroethene	-	U
VMP-1-8.5-111710-Dup	TO-15	Trichloroethene	-	U
VMP-1-22-111810	TO-15	Trichloroethene	-	U
VMP-1-22-111810	TO-15	Tetrachloroethene	-	U
VMP-1-22-111810	TO-15	<i>m,p</i> -Xylene	-	U
VMP-8-5-111810	TO-15	Trichloroethene	-	U
VMP-8-5-111810	TO-15	Ethylbenzene	-	U
VMP-8-5-111810	TO-15	<i>m,p</i> -Xylene	-	U
VMP-8-5-111810	TO-15	1,2,4-Trimethylbenzene	-	U
VMP-8-8.5-111810	TO-15	Trichloroethene	-	U
VMP-8-8.5-111810	TO-15	Ethylbenzene	-	U
VMP-10-5-111810	TO-15	Trichloroethene	-	U
VMP-10-5-111810	TO-15	Tetrachloroethene	-	U
VMP-10-5-111810	TO-15	<i>m,p</i> -Xylene	-	U
VMP-10-10-111810	TO-15	Trichloroethene	-	U
VMP-10-10-111810	TO-15	<i>m,p</i> -Xylene	-	U
VMP-10-20-111810	TO-15	Tetrachloroethene	-	U

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
VMP-10-20-111810-Dup	TO-15	Tetrachloroethene	-	U
VMP-10-20-111810-Dup	TO-15	<i>m,p</i> -Xylene	-	U

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/RPD Criteria
1011480A-15B/1011480A-15BB	TO-15	1,2,4-Trichlorobenzene	140/140	0	70-130/25
1011480A-15B/1011480A-15BB	TO-15	Hexachlorobutadiene	140/147	5	70-130/25

Analytical data which were reported as nondetect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. No qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

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

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
VMP-1-8.5-111710	VMP-1-8.5-111710-Dup
VMP-10-20-111810	VMP-10-20-111810-Dup

Were field duplicates within evaluation criteria?

No

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
VMP-10-20-111810	VMP-10-20-111810-Dup	TO-15	Acetone	>2X RL	J
VMP-10-20-111810	VMP-10-20-111810-Dup	TO-15	2,2,4-Trimethylpentane	>2X RL	J

11.0 Sample Dilutions

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

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

12.0 Additional Qualifications

Were additional qualifications applied?

No

12/6/2010
Mr. Jeff Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Dissolved Phase
Project #:
Workorder #: 1011480A

Dear Mr. Jeff Adams

The following report includes the data for the above referenced project for sample(s) received on 11/19/2010 at Air Toxics Ltd.

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

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

Regards,



Jacquelyn Luta
Project Manager

Reviewed
sn
12/17/2010

WORK ORDER #: 1011480A

Work Order Summary

CLIENT:	Mr. Jeff Adams 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:	314-429-0100	P.O. #	21562291.00005
FAX:		PROJECT #	Roxana Dissolved Phase
DATE RECEIVED:	11/19/2010	CONTACT:	Jacquelyn Luta
DATE COMPLETED:	12/06/2010		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	VMP-6-10-111710 ✓	Modified TO-15	6.5 "Hg	15 psi
02A	VMP-6-31.5-111710 ✓	Modified TO-15	6.0 "Hg	15 psi
03A	VMP-1-5-111710 ✓	Modified TO-15	6.5 "Hg	15 psi
04A	VMP-1-8.5-111710 ✓	Modified TO-15	5.5 "Hg	15 psi
05A	VMP-1-8.5-111710-Dup ✓	Modified TO-15	5.5 "Hg	15 psi
06A	VMP-1-22-111810 ✓ <i>vmp-1-23.5-111810</i>	Modified TO-15	5.5 "Hg	15 psi
07A	VMP-8-5-111810 ✓	Modified TO-15	4.0 "Hg	15 psi
08A	VMP-8-8.5-111810 ✓ <i>vmp-9.5-111810</i>	Modified TO-15	5.0 "Hg	15 psi
09A	VMP-10-5-111810 ✓	Modified TO-15	5.0 "Hg	15 psi
10A	VMP-10-10-111810 ✓	Modified TO-15	6.5 "Hg	15 psi
11A	VMP-10-20-111810 ✓	Modified TO-15	5.0 "Hg	15 psi
12A	VMP-10-20-111810-Dup ✓	Modified TO-15	5.5 "Hg	15 psi
13A	Lab Blank	Modified TO-15	NA	NA
13B	Lab Blank	Modified TO-15	NA	NA
14A	CCV	Modified TO-15	NA	NA
14B	CCV	Modified TO-15	NA	NA
15A	LCS	Modified TO-15	NA	NA

Continued on next page

WORK ORDER #: 1011480A

Work Order Summary

CLIENT:	Mr. Jeff Adams 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:	314-429-0100	P.O. #	21562291.00005
FAX:		PROJECT #	Roxana Dissolved Phase
DATE RECEIVED:	11/19/2010	CONTACT:	Jacquelyn Luta
DATE COMPLETED:	12/06/2010		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
15AA	LCSD	Modified TO-15	NA	NA
15B	LCS	Modified TO-15	NA	NA
15BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY:

Sandra D. Freeman

Laboratory Director

DATE: 12/06/10

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

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11

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

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

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
EPA Method TO-15
URS Corporation
Workorder# 1011480A**

Twelve 1 Liter Summa Canister samples were received on November 19, 2010. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Dilution was performed on samples VMP-6-31.5-111710, VMP-1-5-111710, VMP-1-8.5-111710, and VMP-1-8.5-111710-Dup due to the presence of high level target species.

All Quality Control Limit exceedences 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.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: VMP-6-10-111710

Lab ID#: 1011480A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.41 J	6.4	2.0 J
Bromomethane	1.3	0.0 ND 0.37 μ" "	5.0	0.0 ND 1.4 μ" "
Freon 11	1.3	0.14 J	7.2	0.81 J
Ethanol	5.2	2.0 J	9.7	3.7 J
Acetone	5.2	5.0 J	12	12 J
2-Propanol	5.2	3.0 J	13	7.3 J
Methyl tert-butyl ether	1.3	0.16 J	4.6	0.56 J
Hexane	1.3	3.6	4.5	13
2-Butanone (Methyl Ethyl Ketone)	1.3	0.75 J	3.8	2.2 J
1,1,1-Trichloroethane	1.3	0.26 J	7.0	1.4 J
Cyclohexane	1.3	1.3	4.4	4.6
Carbon Tetrachloride	1.3	0.18 J	8.1	1.1 J
2,2,4-Trimethylpentane	1.3	8.3	6.0	39
Benzene	1.3	1.6	4.1	5.3
Heptane	1.3	1.0 J	5.3	4.3 J
Trichloroethene	1.3	0.0 ND 0.60 μ" "	6.9	0.0 ND 3.2 μ" "
Bromodichloromethane	1.3	0.38 J	8.6	2.5 J
Toluene	1.3	0.28 J	4.9	1.0 J
Tetrachloroethene	1.3	1.2 J	8.8	8.1 J
Ethyl Benzene	1.3	0.32 J	5.6	1.4 J
m,p-Xylene	1.3	0.0 ND 0.12 μ" "	5.6	0.0 ND 0.53 μ" "
Styrene	1.3	0.51 J	5.5	2.2 J

Client Sample ID: VMP-6-31.5-111710

Lab ID#: 1011480A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	2500	970000	8900	3400000
Cyclohexane	2500	430000	8700	1500000
2,2,4-Trimethylpentane	2500	780000	12000	3600000
Benzene	2500	9400	8000	30000

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

Client Sample ID: VMP-6-31.5-111710

Lab ID#: 1011480A-02A

Heptane	2500	530000	10000	2200000
Ethyl Benzene	2500	34000	11000	150000
m,p-Xylene	2500	10000	11000	45000
Cumene	2500	3800	12000	19000
Propylbenzene	2500	8700	12000	43000
4-Ethyltoluene	2500	2700	12000	13000
1,3,5-Trimethylbenzene	2500	620 J	12000	3100 J
1,2,4-Trimethylbenzene	2500	3100	12000	15000

Client Sample ID: VMP-1-5-111710

Lab ID#: 1011480A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	21	4.6 J	39	8.7 J
Acetone	21	8.1 J	49	19 J
Hexane	5.2	110	18	400
Cyclohexane	5.2	40	18	140
2,2,4-Trimethylpentane	5.2	1100	24	5300
Benzene	5.2	2.2 J	16	6.9 J
Heptane	5.2	40	21	160
Ethyl Benzene	5.2	1.2 J	22	5.2 J
m,p-Xylene	5.2	0.99 J	22	4.3 J
Styrene	5.2	1.4 J	22	5.9 J

Client Sample ID: VMP-1-8.5-111710

Lab ID#: 1011480A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	2.5	0.47 J	12	2.3 J
Ethanol	9.9	6.0 J	19	11 J
Acetone	9.9	10	23	24
Hexane	2.5	25	8.7	88
2-Butanone (Methyl Ethyl Ketone)	2.5	1.6 J	7.3	4.8 J

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

Client Sample ID: VMP-1-8.5-111710

Lab ID#: 1011480A-04A

Cyclohexane	2.5	12	8.5	43
2,2,4-Trimethylpentane	2.5	660	12	3100
Benzene	2.5	1.1 J	7.9	3.5 J
Heptane	2.5	18	10	75
Trichloroethene	2.5	0.0 ND 0.40 u"	13	0.0 ND 2.2 u"
Ethyl Benzene	2.5	1.1 J	11	4.8 J
m,p-Xylene	2.5	0.46 J	11	2.0 J
Styrene	2.5	0.80 J	10	3.4 J
Propylbenzene	2.5	0.44 J	12	2.2 J

Client Sample ID: VMP-1-8.5-111710-Dup

Lab ID#: 1011480A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	2.5	0.49 J	12	2.4 J
Ethanol	9.9	4.8 J	19	9.0 J
Acetone	9.9	6.9 J	23	16 J
2-Propanol	9.9	5.9 J	24	15 J
Methyl tert-butyl ether	2.5	0.26 J	8.9	0.94 J
Hexane	2.5	21	8.7	76
2-Butanone (Methyl Ethyl Ketone)	2.5	1.2 J	7.3	3.7 J
Cyclohexane	2.5	9.9	8.5	34
2,2,4-Trimethylpentane	2.5	600	12	2800
Benzene	2.5	1.0 J	7.9	3.4 J
Heptane	2.5	15	10	60
Trichloroethene	2.5	0.0 ND 0.46 u"	13	0.0 ND 2.5 u"
Toluene	2.5	0.53 J	9.3	2.0 J
Ethyl Benzene	2.5	0.72 J	11	3.1 J
m,p-Xylene	2.5	0.32 J	11	1.4 J
Styrene	2.5	0.51 J	10	2.2 J
Propylbenzene	2.5	0.44 J	12	2.1 J

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

Client Sample ID: ~~VMP-1-22-111810~~ VMP-1-23.5-111810

Lab ID#: 1011480A-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.47 J	6.1	2.3 J
Freon 11	1.2	0.26 J	6.9	1.4 J
Ethanol	4.9	4.6 J	9.3	8.7 J
Acetone	4.9	4.5 J	12	11 J
2-Propanol	4.9	2.1 J	12	5.2 J
Methylene Chloride	1.2	0.21 J	4.3	0.74 J
Methyl tert-butyl ether	1.2	0.14 J	4.4	0.52 J
Hexane	1.2	4.7	4.4	16
2-Butanone (Methyl Ethyl Ketone)	1.2	0.41 J	3.6	1.2 J
Chloroform	1.2	0.14 J	6.0	0.66 J
Cyclohexane	1.2	2.4	4.2	8.2
Carbon Tetrachloride	1.2	0.21 J	7.8	1.3 J
2,2,4-Trimethylpentane	1.2	13	5.8	60
Benzene	1.2	0.45 J	3.9	1.4 J
Heptane	1.2	3.6	5.1	15
Trichloroethene	1.2	0.0 ND 0.38 μ" "	6.6	0.0 ND 2.7 μ" "
1,2-Dichloropropane	1.2	0.30 J	5.7	1.4 J
Toluene	1.2	0.28 J	4.6	1.0 J
Tetrachloroethene	1.2	0.0 ND 0.092 μ" "	8.4	0.0 ND 0.62 μ" "
Ethyl Benzene	1.2	0.34 J	5.4	1.5 J
m,p-Xylene	1.2	0.0 ND 0.11 μ" "	5.4	0.0 ND 0.50 μ" "
Styrene	1.2	0.71 J	5.3	3.0 J

Client Sample ID: VMP-8-5-111810

Lab ID#: 1011480A-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.55 J	5.8	2.7 J
Freon 11	1.2	0.24 J	6.5	1.3 J
Ethanol	4.7	3.9 J	8.8	7.3 J
Freon 113	1.2	0.22 J	8.9	1.7 J

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

Client Sample ID: VMP-8-5-111810

Lab ID#: 1011480A-07A

Acetone	4.7	5.1	11	12
2-Propanol	4.7	1.1 J	11	2.6 J
Carbon Disulfide	1.2	0.35 J	3.6	1.1 J
Methylene Chloride	1.2	0.20 J	4.0	0.71 J
Methyl tert-butyl ether	1.2	0.15 J	4.2	0.55 J
Hexane	1.2	0.54 J	4.1	1.9 J
2-Butanone (Methyl Ethyl Ketone)	1.2	0.57 J	3.4	1.7 J
Chloroform	1.2	0.21 J	5.7	1.0 J
1,1,1-Trichloroethane	1.2	0.16 J	6.4	0.90 J
Carbon Tetrachloride	1.2	0.23 J	7.3	1.4 J
2,2,4-Trimethylpentane	1.2	0.069 J	5.4	0.32 J
Heptane	1.2	0.62 J	4.8	2.5 J
Trichloroethene	1.2	0.0ND 0.49 μ" "	6.3	0.0ND 2.6 μ" "
Bromodichloromethane	1.2	0.18 J	7.8	1.2 J
Toluene	1.2	0.26 J	4.4	0.96 J
Tetrachloroethene	1.2	0.39 J	7.9	2.6 J
Ethyl Benzene	1.2	0.0ND 0.24 μ" "	5.0	0.0ND 1.0 μ" "
m,p-Xylene	1.2	0.0ND 0.49 μ" "	5.0	0.0ND 0.81 μ" "
Styrene	1.2	0.56 J	5.0	2.4 J
1,2,4-Trimethylbenzene	1.2	0.0ND 0.49 μ" "	5.7	0.0ND 0.95 μ" "

Client Sample ID: ~~VMP-8-5-111810~~ VMP-9.5-111810

Lab ID#: 1011480A-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.49 J	6.0	2.4 J
Freon 11	1.2	0.20 J	6.8	1.1 J
Ethanol	4.8	5.4	9.1	10
Freon 113	1.2	0.24 J	9.3	1.8 J
Acetone	4.8	4.0 J	11	9.5 J
2-Propanol	4.8	3.0 J	12	7.3 J
Methyl tert-butyl ether	1.2	0.15 J	4.4	0.54 J
Hexane	1.2	0.49 J	4.3	1.7 J

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

Client Sample ID: ~~VMP-8-8-5-111810~~ VMP-9.5-111810

Lab ID#: 1011480A-08A

2-Butanone (Methyl Ethyl Ketone)	1.2	0.45 J	3.6	1.3 J
1,1,1-Trichloroethane	1.2	0.28 J	6.6	1.5 J
Cyclohexane	1.2	0.32 J	4.2	1.1 J
Carbon Tetrachloride	1.2	0.22 J	7.6	1.4 J
2,2,4-Trimethylpentane	1.2	0.73 J	5.6	3.4 J
Benzene	1.2	0.79 J	3.9	2.5 J
Trichloroethene	1.2	0.0ND, 0.52 μ" ^{μ"}	6.5	0.0ND 2.8 μ" ^{μ"}
1,4-Dioxane	4.8	0.59 J	17	2.1 J
Bromodichloromethane	1.2	0.25 J	8.1	1.7 J
Toluene	1.2	0.28 J	4.6	1.0 J
Tetrachloroethene	1.2	1.4	8.2	9.8
Ethyl Benzene	1.2	0.0ND 0.21 μ" ^{μ"}	5.2	0.0ND 0.89 μ" ^{μ"}
Styrene	1.2	0.42 J	5.2	1.8 J

Client Sample ID: VMP-10-5-111810

Lab ID#: 1011480A-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.34 J	6.0	1.7 J
Freon 11	1.2	0.14 J	6.8	0.82 J
Ethanol	4.8	2.1 J	9.1	4.0 J
Acetone	4.8	3.1 J	11	7.4 J
Methyl tert-butyl ether	1.2	0.10 J	4.4	0.36 J
Hexane	1.2	2.0	4.3	7.2
2-Butanone (Methyl Ethyl Ketone)	1.2	0.67 J	3.6	2.0 J
1,1,1-Trichloroethane	1.2	0.16 J	6.6	0.85 J
Cyclohexane	1.2	1.4	4.2	4.8
Carbon Tetrachloride	1.2	0.17 J	7.6	1.0 J
2,2,4-Trimethylpentane	1.2	5.4	5.6	25
Benzene	1.2	0.30 J	3.9	0.98 J
Heptane	1.2	3.0	5.0	12
Trichloroethene	1.2	0.0ND 0.52 μ" ^{μ"}	6.5	0.0ND 2.8 μ" ^{μ"}
Bromodichloromethane	1.2	0.22 J	8.1	1.5 J

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

Client Sample ID: VMP-10-5-111810

Lab ID#: 1011480A-09A

Tetrachloroethene	1.2	0.0 ND 0.26 μ "	8.2	0.0 ND 1.8 μ "
Ethyl Benzene	1.2	0.33 J	5.2	1.4 J
m,p-Xylene	1.2	0.0 ND 0.11 μ "	5.2	0.0 ND 0.46 μ "
Styrene	1.2	0.56 J	5.2	2.4 J

Client Sample ID: VMP-10-10-111810

Lab ID#: 1011480A-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.45 J	6.4	2.2 J
Freon 11	1.3	0.18 J	7.2	0.98 J
Ethanol	5.2	5.1 J	9.7	9.6 J
Acetone	5.2	4.3 J	12	10 J
2-Propanol	5.2	7.5	13	18
Methylene Chloride	1.3	0.29 J	4.5	1.0 J
Methyl tert-butyl ether	1.3	0.13 J	4.6	0.46 J
Hexane	1.3	2.7	4.5	9.6
2-Butanone (Methyl Ethyl Ketone)	1.3	0.61 J	3.8	1.8 J
Tetrahydrofuran	1.3	0.77 J	3.8	2.3 J
1,1,1-Trichloroethane	1.3	0.23 J	7.0	1.3 J
Cyclohexane	1.3	1.6	4.4	5.3
Carbon Tetrachloride	1.3	0.19 J	8.1	1.2 J
2,2,4-Trimethylpentane	1.3	5.5	6.0	26
Benzene	1.3	0.33 J	4.1	1.0 J
Heptane	1.3	2.5	5.3	10
Trichloroethene	1.3	0.0 ND 0.45 μ "	6.9	0.0 ND 2.3 μ "
1,4-Dioxane	5.2	1.2 J	18	4.2 J
Bromodichloromethane	1.3	0.34 J	8.6	2.3 J
Toluene	1.3	0.51 J	4.9	1.9 J
Tetrachloroethene	1.3	0.38 J	8.8	2.6 J
Ethyl Benzene	1.3	0.33 J	5.6	1.4 J
m,p-Xylene	1.3	0.0 ND 0.14 μ "	5.6	0.0 ND 0.63 μ "
Styrene	1.3	0.51 J	5.5	2.2 J

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

Client Sample ID: VMP-10-20-111810

Lab ID#: 1011480A-11A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	2.4	0.58 J	12	2.8 J
Ethanol	9.8	5.2 J	18	9.7 J
Acetone	9.8	3.9 J	23	9.3 J
Methyl tert-butyl ether	2.4	0.34 J	8.8	1.2 J
Hexane	2.4	1.4 J	8.6	4.9 J
Chloroform	2.4	0.35 J	12	1.7 J
1,1,1-Trichloroethane	2.4	0.45 J	13	2.4 J
Cyclohexane	2.4	0.72 J	8.4	2.5 J
2,2,4-Trimethylpentane	2.4	2.2 J	11	10 J
Heptane	2.4	1.2 J	10	4.8 J
Trichloroethene	2.4	0.78 J	13	4.2 J
Bromodichloromethane	2.4	0.63 J	16	4.2 J
Tetrachloroethene	2.4	0.0 ND 0.25 J	16	0.0 ND 2.2 J

Client Sample ID: VMP-10-20-111810-Dup

Lab ID#: 1011480A-12A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.39 J	6.1	1.9 J
Freon 11	1.2	0.15 J	6.9	0.85 J
Ethanol	4.9	9.0	9.3	17
Acetone	4.9	60 J	12	140 J
2-Propanol	4.9	15	12	37
Methylene Chloride	1.2	0.75 J	4.3	2.6 J
Methyl tert-butyl ether	1.2	0.13 J	4.4	0.47 J
Hexane	1.2	2.7	4.4	9.7
2-Butanone (Methyl Ethyl Ketone)	1.2	0.46 J	3.6	1.4 J
Chloroform	1.2	0.28 J	6.0	1.4 J
1,1,1-Trichloroethane	1.2	0.21 J	6.7	1.1 J
Cyclohexane	1.2	1.6	4.2	5.6
2,2,4-Trimethylpentane	1.2	6.5 J	5.8	30 J

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

Client Sample ID: VMP-10-20-111810-Dup

Lab ID#: 1011480A-12A

Benzene	1.2	0.54 J	3.9	1.7 J
Heptane	1.2	3.2	5.1	13
Trichloroethene	1.2	0.38 J	6.6	2.0 J
Bromodichloromethane	1.2	0.26 J	8.3	1.7 J
Toluene	1.2	0.31 J	4.6	1.2 J
Tetrachloroethene	1.2	0.0 ND 0.27 μ "	8.4	0.0 ND 1.8 μ "
Ethyl Benzene	1.2	0.34 J	5.4	1.5 J
m,p-Xylene	1.2	0.0 ND 0.43 μ "	5.4	0.0 ND 0.56 μ "
Styrene	1.2	0.58 J	5.3	2.5 J

Client Sample ID: VMP-6-10-111710

Lab ID#: 1011480A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
File Name:	6113022		Date of Collection: 11/17/10 9:55:00 AM	
Dil. Factor:	2.58		Date of Analysis: 11/30/10 08:06 PM	
Freon 12	1.3	0.41 J	6.4	2.0 J
Freon 114	1.3	Not Detected	9.0	Not Detected
Chloromethane	5.2	Not Detected	11	Not Detected
Vinyl Chloride	1.3	Not Detected	3.3	Not Detected
1,3-Butadiene	1.3	Not Detected	2.8	Not Detected
Bromomethane	1.3	0.0 ND 0.37 U "	5.0	0.0 ND 1.4 U "
Chloroethane	1.3	Not Detected	3.4	Not Detected
Freon 11	1.3	0.14 J	7.2	0.81 J
Ethanol	5.2	2.0 J	9.7	3.7 J
Freon 113	1.3	Not Detected	9.9	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Acetone	5.2	5.0 J	12	12 J
2-Propanol	5.2	3.0 J	13	7.3 J
Carbon Disulfide	1.3	Not Detected	4.0	Not Detected
3-Chloropropene	5.2	Not Detected	16	Not Detected
Methylene Chloride	1.3	Not Detected	4.5	Not Detected
Methyl tert-butyl ether	1.3	0.16 J	4.6	0.56 J
trans-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Hexane	1.3	3.6	4.5	13
1,1-Dichloroethane	1.3	Not Detected	5.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.3	0.75 J	3.8	2.2 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	Not Detected	6.3	Not Detected
1,1,1-Trichloroethane	1.3	0.26 J	7.0	1.4 J
Cyclohexane	1.3	1.3	4.4	4.6
Carbon Tetrachloride	1.3	0.18 J	8.1	1.1 J
2,2,4-Trimethylpentane	1.3	8.3	6.0	39
Benzene	1.3	1.6	4.1	5.3
1,2-Dichloroethane	1.3	Not Detected	5.2	Not Detected
Heptane	1.3	1.0 J	5.3	4.3 J
Trichloroethene	1.3	0.0 ND 0.55 U "	6.9	0.0 ND 2.2 U "
1,2-Dichloropropane	1.3	Not Detected	6.0	Not Detected
1,4-Dioxane	5.2	Not Detected	18	Not Detected
Bromodichloromethane	1.3	0.38 J	8.6	2.5 J
cis-1,3-Dichloropropene	1.3	Not Detected	5.8	Not Detected
4-Methyl-2-pentanone	1.3	Not Detected	5.3	Not Detected
Toluene	1.3	0.28 J	4.9	1.0 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	1.2 J	8.8	8.1 J

Client Sample ID: VMP-6-10-111710

Lab ID#: 1011480A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113022	Date of Collection:	11/17/10 9:55:00 AM
Dil. Factor:	2.58	Date of Analysis:	11/30/10 08:06 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	5.2	Not Detected	21	Not Detected
Dibromochloromethane	1.3	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.3	Not Detected	9.9	Not Detected
Chlorobenzene	1.3	Not Detected	5.9	Not Detected
Ethyl Benzene	1.3	0.32 J	5.6	1.4 J
m,p-Xylene	1.3	0.0ND 0.12J	5.6	0.0ND 0.53J
o-Xylene	1.3	Not Detected	5.6	Not Detected
Styrene	1.3	0.51 J	5.5	2.2 J
Bromoform	1.3	Not Detected	13	Not Detected
Cumene	1.3	Not Detected	6.3	Not Detected
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	Not Detected	6.3	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
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

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	87	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: VMP-6-31.5-111710

Lab ID#: 1011480A-02A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120115	Date of Collection:	11/17/10 11:18:00 A	
Dil. Factor:	504	Date of Analysis:	12/1/10 09:54 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	2500	Not Detected	12000	Not Detected
Freon 114	2500	Not Detected	18000	Not Detected
Chloromethane	10000	Not Detected	21000	Not Detected
Vinyl Chloride	2500	Not Detected	6400	Not Detected
1,3-Butadiene	2500	Not Detected	5600	Not Detected
Bromomethane	2500	Not Detected	9800	Not Detected
Chloroethane	2500	Not Detected	6600	Not Detected
Freon 11	2500	Not Detected	14000	Not Detected
Ethanol	10000	Not Detected	19000	Not Detected
Freon 113	2500	Not Detected	19000	Not Detected
1,1-Dichloroethene	2500	Not Detected	10000	Not Detected
Acetone	10000	Not Detected	24000	Not Detected
2-Propanol	10000	Not Detected	25000	Not Detected
Carbon Disulfide	2500	Not Detected	7800	Not Detected
3-Chloropropene	10000	Not Detected	32000	Not Detected
Methylene Chloride	2500	Not Detected	8800	Not Detected
Methyl tert-butyl ether	2500	Not Detected	9100	Not Detected
trans-1,2-Dichloroethene	2500	Not Detected	10000	Not Detected
Hexane	2500	970000	8900	3400000
1,1-Dichloroethane	2500	Not Detected	10000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2500	Not Detected	7400	Not Detected
cis-1,2-Dichloroethene	2500	Not Detected	10000	Not Detected
Tetrahydrofuran	2500	Not Detected	7400	Not Detected
Chloroform	2500	Not Detected	12000	Not Detected
1,1,1-Trichloroethane	2500	Not Detected	14000	Not Detected
Cyclohexane	2500	430000	8700	1500000
Carbon Tetrachloride	2500	Not Detected	16000	Not Detected
2,2,4-Trimethylpentane	2500	780000	12000	3600000
Benzene	2500	9400	8000	30000
1,2-Dichloroethane	2500	Not Detected	10000	Not Detected
Heptane	2500	530000	10000	2200000
Trichloroethene	2500	Not Detected	14000	Not Detected
1,2-Dichloropropane	2500	Not Detected	12000	Not Detected
1,4-Dioxane	10000	Not Detected	36000	Not Detected
Bromodichloromethane	2500	Not Detected	17000	Not Detected
cis-1,3-Dichloropropene	2500	Not Detected	11000	Not Detected
4-Methyl-2-pentanone	2500	Not Detected	10000	Not Detected
Toluene	2500	Not Detected	9500	Not Detected
trans-1,3-Dichloropropene	2500	Not Detected	11000	Not Detected
1,1,2-Trichloroethane	2500	Not Detected	14000	Not Detected
Tetrachloroethene	2500	Not Detected	17000	Not Detected

Client Sample ID: VMP-6-31.5-111710

Lab ID#: 1011480A-02A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120115	Date of Collection:	11/17/10 11:18:00 A
Dil. Factor:	504	Date of Analysis:	12/1/10 09:54 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	10000	Not Detected	41000	Not Detected
Dibromochloromethane	2500	Not Detected	21000	Not Detected
1,2-Dibromoethane (EDB)	2500	Not Detected	19000	Not Detected
Chlorobenzene	2500	Not Detected	12000	Not Detected
Ethyl Benzene	2500	34000	11000	150000
m,p-Xylene	2500	10000	11000	45000
o-Xylene	2500	Not Detected	11000	Not Detected
Styrene	2500	Not Detected	11000	Not Detected
Bromoform	2500	Not Detected	26000	Not Detected
Cumene	2500	3800	12000	19000
1,1,2,2-Tetrachloroethane	2500	Not Detected	17000	Not Detected
Propylbenzene	2500	8700	12000	43000
4-Ethyltoluene	2500	2700	12000	13000
1,3,5-Trimethylbenzene	2500	620 J	12000	3100 J
1,2,4-Trimethylbenzene	2500	3100	12000	15000
1,3-Dichlorobenzene	2500	Not Detected	15000	Not Detected
1,4-Dichlorobenzene	2500	Not Detected	15000	Not Detected
alpha-Chlorotoluene	2500	Not Detected	13000	Not Detected
1,2-Dichlorobenzene	2500	Not Detected	15000	Not Detected
1,2,4-Trichlorobenzene	10000	Not Detected	75000	Not Detected
Hexachlorobutadiene	10000	Not Detected	110000	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: VMP-1-5-111710

Lab ID#: 1011480A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113012	Date of Collection:	11/17/10 2:10:00 PM		
Dil. Factor:	10.3	Date of Analysis:	11/30/10 02:06 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
Freon 12	5.2	Not Detected	25	Not Detected	
Freon 114	5.2	Not Detected	36	Not Detected	
Chloromethane	21	Not Detected	42	Not Detected	
Vinyl Chloride	5.2	Not Detected	13	Not Detected	
1,3-Butadiene	5.2	Not Detected	11	Not Detected	
Bromomethane	5.2	Not Detected	20	Not Detected	
Chloroethane	5.2	Not Detected	14	Not Detected	
Freon 11	5.2	Not Detected	29	Not Detected	
Ethanol	21	4.6 J	39	8.7 J	
Freon 113	5.2	Not Detected	39	Not Detected	
1,1-Dichloroethene	5.2	Not Detected	20	Not Detected	
Acetone	21	8.1 J	49	19 J	
2-Propanol	21	Not Detected	51	Not Detected	
Carbon Disulfide	5.2	Not Detected	16	Not Detected	
3-Chloropropene	21	Not Detected	64	Not Detected	
Methylene Chloride	5.2	Not Detected	18	Not Detected	
Methyl tert-butyl ether	5.2	Not Detected	18	Not Detected	
trans-1,2-Dichloroethene	5.2	Not Detected	20	Not Detected	
Hexane	5.2	110	18	400	
1,1-Dichloroethane	5.2	Not Detected	21	Not Detected	
2-Butanone (Methyl Ethyl Ketone)	5.2	Not Detected	15	Not Detected	
cis-1,2-Dichloroethene	5.2	Not Detected	20	Not Detected	
Tetrahydrofuran	5.2	Not Detected	15	Not Detected	
Chloroform	5.2	Not Detected	25	Not Detected	
1,1,1-Trichloroethane	5.2	Not Detected	28	Not Detected	
Cyclohexane	5.2	40	18	140	
Carbon Tetrachloride	5.2	Not Detected	32	Not Detected	
2,2,4-Trimethylpentane	5.2	1100	24	5300	
Benzene	5.2	2.2 J	16	6.9 J	
1,2-Dichloroethane	5.2	Not Detected	21	Not Detected	
Heptane	5.2	40	21	160	
Trichloroethene	5.2	Not Detected	28	Not Detected	
1,2-Dichloropropane	5.2	Not Detected	24	Not Detected	
1,4-Dioxane	21	Not Detected	74	Not Detected	
Bromodichloromethane	5.2	Not Detected	34	Not Detected	
cis-1,3-Dichloropropene	5.2	Not Detected	23	Not Detected	
4-Methyl-2-pentanone	5.2	Not Detected	21	Not Detected	
Toluene	5.2	Not Detected	19	Not Detected	
trans-1,3-Dichloropropene	5.2	Not Detected	23	Not Detected	
1,1,2-Trichloroethane	5.2	Not Detected	28	Not Detected	
Tetrachloroethene	5.2	Not Detected	35	Not Detected	

Client Sample ID: VMP-1-5-111710

Lab ID#: 1011480A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113012	Date of Collection:	11/17/10 2:10:00 PM
Dil. Factor:	10.3	Date of Analysis:	11/30/10 02:06 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	21	Not Detected	84	Not Detected
Dibromochloromethane	5.2	Not Detected	44	Not Detected
1,2-Dibromoethane (EDB)	5.2	Not Detected	40	Not Detected
Chlorobenzene	5.2	Not Detected	24	Not Detected
Ethyl Benzene	5.2	1.2 J	22	5.2 J
m,p-Xylene	5.2	0.99 J	22	4.3 J
o-Xylene	5.2	Not Detected	22	Not Detected
Styrene	5.2	1.4 J	22	5.9 J
Bromoform	5.2	Not Detected	53	Not Detected
Cumene	5.2	Not Detected	25	Not Detected
1,1,2,2-Tetrachloroethane	5.2	Not Detected	35	Not Detected
Propylbenzene	5.2	Not Detected	25	Not Detected
4-Ethyltoluene	5.2	Not Detected	25	Not Detected
1,3,5-Trimethylbenzene	5.2	Not Detected	25	Not Detected
1,2,4-Trimethylbenzene	5.2	Not Detected	25	Not Detected
1,3-Dichlorobenzene	5.2	Not Detected	31	Not Detected
1,4-Dichlorobenzene	5.2	Not Detected	31	Not Detected
alpha-Chlorotoluene	5.2	Not Detected	27	Not Detected
1,2-Dichlorobenzene	5.2	Not Detected	31	Not Detected
1,2,4-Trichlorobenzene	21	Not Detected	150	Not Detected
Hexachlorobutadiene	21	Not Detected	220	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	75	70-130



Client Sample ID: VMP-1-8.5-111710

Lab ID#: 1011480A-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113013	Date of Collection:	11/17/10 4:00:00 PM
Dil. Factor:	4.94	Date of Analysis:	11/30/10 02:40 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	2.5	0.47 J	12	2.3 J
Freon 114	2.5	Not Detected	17	Not Detected
Chloromethane	9.9	Not Detected	20	Not Detected
Vinyl Chloride	2.5	Not Detected	6.3	Not Detected
1,3-Butadiene	2.5	Not Detected	5.5	Not Detected
Bromomethane	2.5	Not Detected	9.6	Not Detected
Chloroethane	2.5	Not Detected	6.5	Not Detected
Freon 11	2.5	Not Detected	14	Not Detected
Ethanol	9.9	6.0 J	19	11 J
Freon 113	2.5	Not Detected	19	Not Detected
1,1-Dichloroethene	2.5	Not Detected	9.8	Not Detected
Acetone	9.9	10	23	24
2-Propanol	9.9	Not Detected	24	Not Detected
Carbon Disulfide	2.5	Not Detected	7.7	Not Detected
3-Chloropropene	9.9	Not Detected	31	Not Detected
Methylene Chloride	2.5	Not Detected	8.6	Not Detected
Methyl tert-butyl ether	2.5	Not Detected	8.9	Not Detected
trans-1,2-Dichloroethene	2.5	Not Detected	9.8	Not Detected
Hexane	2.5	25	8.7	88
1,1-Dichloroethane	2.5	Not Detected	10	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.5	1.6 J	7.3	4.8 J
cis-1,2-Dichloroethene	2.5	Not Detected	9.8	Not Detected
Tetrahydrofuran	2.5	Not Detected	7.3	Not Detected
Chloroform	2.5	Not Detected	12	Not Detected
1,1,1-Trichloroethane	2.5	Not Detected	13	Not Detected
Cyclohexane	2.5	12	8.5	43
Carbon Tetrachloride	2.5	Not Detected	16	Not Detected
2,2,4-Trimethylpentane	2.5	660	12	3100
Benzene	2.5	1.1 J	7.9	3.5 J
1,2-Dichloroethane	2.5	Not Detected	10	Not Detected
Heptane	2.5	18	10	75
Trichloroethene	2.5	0.0 ND 0.40 u"	13	0.0 ND 2.2 u"
1,2-Dichloropropane	2.5	Not Detected	11	Not Detected
1,4-Dioxane	9.9	Not Detected	36	Not Detected
Bromodichloromethane	2.5	Not Detected	16	Not Detected
cis-1,3-Dichloropropene	2.5	Not Detected	11	Not Detected
4-Methyl-2-pentanone	2.5	Not Detected	10	Not Detected
Toluene	2.5	Not Detected	9.3	Not Detected
trans-1,3-Dichloropropene	2.5	Not Detected	11	Not Detected
1,1,2-Trichloroethane	2.5	Not Detected	13	Not Detected
Tetrachloroethene	2.5	Not Detected	17	Not Detected



Client Sample ID: VMP-1-8.5-111710

Lab ID#: 1011480A-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113013	Date of Collection:	11/17/10 4:00:00 PM
Dil. Factor:	4.94	Date of Analysis:	11/30/10 02:40 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	9.9	Not Detected	40	Not Detected
Dibromochloromethane	2.5	Not Detected	21	Not Detected
1,2-Dibromoethane (EDB)	2.5	Not Detected	19	Not Detected
Chlorobenzene	2.5	Not Detected	11	Not Detected
Ethyl Benzene	2.5	1.1 J	11	4.8 J
m,p-Xylene	2.5	0.46 J	11	2.0 J
o-Xylene	2.5	Not Detected	11	Not Detected
Styrene	2.5	0.80 J	10	3.4 J
Bromoform	2.5	Not Detected	26	Not Detected
Cumene	2.5	Not Detected	12	Not Detected
1,1,2,2-Tetrachloroethane	2.5	Not Detected	17	Not Detected
Propylbenzene	2.5	0.44 J	12	2.2 J
4-Ethyltoluene	2.5	Not Detected	12	Not Detected
1,3,5-Trimethylbenzene	2.5	Not Detected	12	Not Detected
1,2,4-Trimethylbenzene	2.5	Not Detected	12	Not Detected
1,3-Dichlorobenzene	2.5	Not Detected	15	Not Detected
1,4-Dichlorobenzene	2.5	Not Detected	15	Not Detected
alpha-Chlorotoluene	2.5	Not Detected	13	Not Detected
1,2-Dichlorobenzene	2.5	Not Detected	15	Not Detected
1,2,4-Trichlorobenzene	9.9	Not Detected	73	Not Detected
Hexachlorobutadiene	9.9	Not Detected	100	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	90	70-130



Client Sample ID: VMP-1-8.5-111710-Dup

Lab ID#: 1011480A-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113014	Date of Collection:	11/17/10 3:52:00 PM
Dil. Factor:	4.94	Date of Analysis:	11/30/10 03:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	2.5	0.49 J	12	2.4 J
Freon 114	2.5	Not Detected	17	Not Detected
Chloromethane	9.9	Not Detected	20	Not Detected
Vinyl Chloride	2.5	Not Detected	6.3	Not Detected
1,3-Butadiene	2.5	Not Detected	5.5	Not Detected
Bromomethane	2.5	Not Detected	9.6	Not Detected
Chloroethane	2.5	Not Detected	6.5	Not Detected
Freon 11	2.5	Not Detected	14	Not Detected
Ethanol	9.9	4.8 J	19	9.0 J
Freon 113	2.5	Not Detected	19	Not Detected
1,1-Dichloroethene	2.5	Not Detected	9.8	Not Detected
Acetone	9.9	6.9 J	23	16 J
2-Propanol	9.9	5.9 J	24	15 J
Carbon Disulfide	2.5	Not Detected	7.7	Not Detected
3-Chloropropene	9.9	Not Detected	31	Not Detected
Methylene Chloride	2.5	Not Detected	8.6	Not Detected
Methyl tert-butyl ether	2.5	0.26 J	8.9	0.94 J
trans-1,2-Dichloroethene	2.5	Not Detected	9.8	Not Detected
Hexane	2.5	21	8.7	76
1,1-Dichloroethane	2.5	Not Detected	10	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.5	1.2 J	7.3	3.7 J
cis-1,2-Dichloroethene	2.5	Not Detected	9.8	Not Detected
Tetrahydrofuran	2.5	Not Detected	7.3	Not Detected
Chloroform	2.5	Not Detected	12	Not Detected
1,1,1-Trichloroethane	2.5	Not Detected	13	Not Detected
Cyclohexane	2.5	9.9	8.5	34
Carbon Tetrachloride	2.5	Not Detected	16	Not Detected
2,2,4-Trimethylpentane	2.5	600	12	2800
Benzene	2.5	1.0 J	7.9	3.4 J
1,2-Dichloroethane	2.5	Not Detected	10	Not Detected
Heptane	2.5	15	10	60
Trichloroethene	2.5	0.0 ND 0.48 J "	13	0.0 ND 25 J "
1,2-Dichloropropane	2.5	Not Detected	11	Not Detected
1,4-Dioxane	9.9	Not Detected	36	Not Detected
Bromodichloromethane	2.5	Not Detected	16	Not Detected
cis-1,3-Dichloropropene	2.5	Not Detected	11	Not Detected
4-Methyl-2-pentanone	2.5	Not Detected	10	Not Detected
Toluene	2.5	0.53 J	9.3	2.0 J
trans-1,3-Dichloropropene	2.5	Not Detected	11	Not Detected
1,1,2-Trichloroethane	2.5	Not Detected	13	Not Detected
Tetrachloroethene	2.5	Not Detected	17	Not Detected

Client Sample ID: VMP-1-8.5-111710-Dup

Lab ID#: 1011480A-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113014	Date of Collection:	11/17/10 3:52:00 PM
Dil. Factor:	4.94	Date of Analysis:	11/30/10 03:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	9.9	Not Detected	40	Not Detected
Dibromochloromethane	2.5	Not Detected	21	Not Detected
1,2-Dibromoethane (EDB)	2.5	Not Detected	19	Not Detected
Chlorobenzene	2.5	Not Detected	11	Not Detected
Ethyl Benzene	2.5	0.72 J	11	3.1 J
m,p-Xylene	2.5	0.32 J	11	1.4 J
o-Xylene	2.5	Not Detected	11	Not Detected
Styrene	2.5	0.51 J	10	2.2 J
Bromoform	2.5	Not Detected	26	Not Detected
Cumene	2.5	Not Detected	12	Not Detected
1,1,2,2-Tetrachloroethane	2.5	Not Detected	17	Not Detected
Propylbenzene	2.5	0.44 J	12	2.1 J
4-Ethyltoluene	2.5	Not Detected	12	Not Detected
1,3,5-Trimethylbenzene	2.5	Not Detected	12	Not Detected
1,2,4-Trimethylbenzene	2.5	Not Detected	12	Not Detected
1,3-Dichlorobenzene	2.5	Not Detected	15	Not Detected
1,4-Dichlorobenzene	2.5	Not Detected	15	Not Detected
alpha-Chlorotoluene	2.5	Not Detected	13	Not Detected
1,2-Dichlorobenzene	2.5	Not Detected	15	Not Detected
1,2,4-Trichlorobenzene	9.9	Not Detected	73	Not Detected
Hexachlorobutadiene	9.9	Not Detected	100	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

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

Client Sample ID: ~~VMP-1-22-111810~~ VMP-1-23.5-111810

Lab ID#: 1011480A-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113015	Date of Collection:	11/17/10 10:25:00 A	
Dil. Factor:	2.47	Date of Analysis:	11/30/10 04:06 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.47 J	6.1	2.3 J
Freon 114	1.2	Not Detected	8.6	Not Detected
Chloromethane	4.9	Not Detected	10	Not Detected
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,3-Butadiene	1.2	Not Detected	2.7	Not Detected
Bromomethane	1.2	Not Detected	4.8	Not Detected
Chloroethane	1.2	Not Detected	3.2	Not Detected
Freon 11	1.2	0.26 J	6.9	1.4 J
Ethanol	4.9	4.6 J	9.3	8.7 J
Freon 113	1.2	Not Detected	9.5	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Acetone	4.9	4.5 J	12	11 J
2-Propanol	4.9	2.1 J	12	5.2 J
Carbon Disulfide	1.2	Not Detected	3.8	Not Detected
3-Chloropropene	4.9	Not Detected	15	Not Detected
Methylene Chloride	1.2	0.21 J	4.3	0.74 J
Methyl tert-butyl ether	1.2	0.14 J	4.4	0.52 J
trans-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Hexane	1.2	4.7	4.4	16
1,1-Dichloroethane	1.2	Not Detected	5.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.2	0.41 J	3.6	1.2 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	0.14 J	6.0	0.66 J
1,1,1-Trichloroethane	1.2	Not Detected	6.7	Not Detected
Cyclohexane	1.2	2.4	4.2	8.2
Carbon Tetrachloride	1.2	0.21 J	7.8	1.3 J
2,2,4-Trimethylpentane	1.2	13	5.8	60
Benzene	1.2	0.45 J	3.9	1.4 J
1,2-Dichloroethane	1.2	Not Detected	5.0	Not Detected
Heptane	1.2	3.6	5.1	15
Trichloroethene	1.2	0.0 ND 0.38 u"	6.6	0.0 ND 2.7 u"
1,2-Dichloropropane	1.2	0.30 J	5.7	1.4 J
1,4-Dioxane	4.9	Not Detected	18	Not Detected
Bromodichloromethane	1.2	Not Detected	8.3	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	0.28 J	4.6	1.0 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	0.0 ND 0.62 u"	8.4	0.0 ND 0.62 u"

Client Sample ID: ~~VMP-1-22-111810~~ VMP-1-23.5-111810

Lab ID#: 1011480A-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113015	Date of Collection:	11/17/10 10:25:00 A
Dil. Factor:	2.47	Date of Analysis:	11/30/10 04:06 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	4.9	Not Detected	20	Not Detected
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.5	Not Detected
Chlorobenzene	1.2	Not Detected	5.7	Not Detected
Ethyl Benzene	1.2	0.34 J	5.4	1.5 J
m,p-Xylene	1.2	0.0ND 0.11 u"	5.4	0.0ND 0.00 u"
o-Xylene	1.2	Not Detected	5.4	Not Detected
Styrene	1.2	0.71 J	5.3	3.0 J
Bromoform	1.2	Not Detected	13	Not Detected
Cumene	1.2	Not Detected	6.1	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.5	Not Detected
Propylbenzene	1.2	Not Detected	6.1	Not Detected
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	Not Detected	6.1	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.4	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.4	Not Detected
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	37	Not Detected
Hexachlorobutadiene	4.9	Not Detected	53	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: VMP-8-5-111810

Lab ID#: 1011480A-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113016	Date of Collection: 11/17/10 11:05:00 A		
Dil. Factor:	2.33	Date of Analysis: 11/30/10 04:28 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.55 J	5.8	2.7 J
Freon 114	1.2	Not Detected	8.1	Not Detected
Chloromethane	4.7	Not Detected	9.6	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,3-Butadiene	1.2	Not Detected	2.6	Not Detected
Bromomethane	1.2	Not Detected	4.5	Not Detected
Chloroethane	1.2	Not Detected	3.1	Not Detected
Freon 11	1.2	0.24 J	6.5	1.3 J
Ethanol	4.7	3.9 J	8.8	7.3 J
Freon 113	1.2	0.22 J	8.9	1.7 J
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Acetone	4.7	5.1	11	12
2-Propanol	4.7	1.1 J	11	2.6 J
Carbon Disulfide	1.2	0.35 J	3.6	1.1 J
3-Chloropropene	4.7	Not Detected	14	Not Detected
Methylene Chloride	1.2	0.20 J	4.0	0.71 J
Methyl tert-butyl ether	1.2	0.15 J	4.2	0.55 J
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Hexane	1.2	0.54 J	4.1	1.9 J
1,1-Dichloroethane	1.2	Not Detected	4.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.2	0.57 J	3.4	1.7 J
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.4	Not Detected
Chloroform	1.2	0.21 J	5.7	1.0 J
1,1,1-Trichloroethane	1.2	0.16 J	6.4	0.90 J
Cyclohexane	1.2	Not Detected	4.0	Not Detected
Carbon Tetrachloride	1.2	0.23 J	7.3	1.4 J
2,2,4-Trimethylpentane	1.2	0.069 J	5.4	0.32 J
Benzene	1.2	Not Detected	3.7	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.7	Not Detected
Heptane	1.2	0.62 J	4.8	2.5 J
Trichloroethene	1.2	0.0ND 0.49 J "	6.3	0.0ND 2.6 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	0.18 J	7.8	1.2 J
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	0.26 J	4.4	0.96 J
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	0.39 J	7.9	2.6 J

Client Sample ID: VMP-8-5-111810

Lab ID#: 1011480A-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113016	Date of Collection:	11/17/10 11:05:00 A
Dil. Factor:	2.33	Date of Analysis:	11/30/10 04:28 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	4.7	Not Detected	19	Not Detected
Dibromochloromethane	1.2	Not Detected	9.9	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.0	Not Detected
Chlorobenzene	1.2	Not Detected	5.4	Not Detected
Ethyl Benzene	1.2	0.0ND 0.24 U"	5.0	0.0ND 10 U"
m,p-Xylene	1.2	0.0ND 0.19 U"	5.0	0.0ND 0.81 U"
o-Xylene	1.2	Not Detected	5.0	Not Detected
Styrene	1.2	0.56 J	5.0	2.4 J
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.7	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.0	Not Detected
Propylbenzene	1.2	Not Detected	5.7	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.7	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.7	Not Detected
1,2,4-Trimethylbenzene	1.2	0.0ND 0.19 U"	5.7	0.0ND 0.95 U"
1,3-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.0	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,2,4-Trichlorobenzene	4.7	Not Detected	34	Not Detected
Hexachlorobutadiene	4.7	Not Detected	50	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	122	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: ~~VMP-8.5-111810~~ VMP-9.5-111810

Lab ID#: 1011480A-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113017	Date of Collection:	11/17/10 12:40:00 P
Dil. Factor:	2.42	Date of Analysis:	11/30/10 04:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.49 J	6.0	2.4 J
Freon 114	1.2	Not Detected	8.4	Not Detected
Chloromethane	4.8	Not Detected	10	Not Detected
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,3-Butadiene	1.2	Not Detected	2.7	Not Detected
Bromomethane	1.2	Not Detected	4.7	Not Detected
Chloroethane	1.2	Not Detected	3.2	Not Detected
Freon 11	1.2	0.20 J	6.8	1.1 J
Ethanol	4.8	5.4	9.1	10
Freon 113	1.2	0.24 J	9.3	1.8 J
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Acetone	4.8	4.0 J	11	9.5 J
2-Propanol	4.8	3.0 J	12	7.3 J
Carbon Disulfide	1.2	Not Detected	3.8	Not Detected
3-Chloropropene	4.8	Not Detected	15	Not Detected
Methylene Chloride	1.2	Not Detected	4.2	Not Detected
Methyl tert-butyl ether	1.2	0.15 J	4.4	0.54 J
trans-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Hexane	1.2	0.49 J	4.3	1.7 J
1,1-Dichloroethane	1.2	Not Detected	4.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.2	0.45 J	3.6	1.3 J
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.6	Not Detected
Chloroform	1.2	Not Detected	5.9	Not Detected
1,1,1-Trichloroethane	1.2	0.28 J	6.6	1.5 J
Cyclohexane	1.2	0.32 J	4.2	1.1 J
Carbon Tetrachloride	1.2	0.22 J	7.6	1.4 J
2,2,4-Trimethylpentane	1.2	0.73 J	5.6	3.4 J
Benzene	1.2	0.79 J	3.9	2.5 J
1,2-Dichloroethane	1.2	Not Detected	4.9	Not Detected
Heptane	1.2	Not Detected	5.0	Not Detected
Trichloroethene	1.2	0.6 ND 0.52 u"	6.5	0.0 ND 2.8 u"
1,2-Dichloropropane	1.2	Not Detected	5.6	Not Detected
1,4-Dioxane	4.8	0.59 J	17	2.1 J
Bromodichloromethane	1.2	0.25 J	8.1	1.7 J
cis-1,3-Dichloropropene	1.2	Not Detected	5.5	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	5.0	Not Detected
Toluene	1.2	0.28 J	4.6	1.0 J
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	1.4	8.2	9.8



Client Sample ID: ~~VMP-8-8.5-111810~~ VMP-9.5-111810
 Lab ID#: 1011480A-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113017	Date of Collection:	11/17/10 12:40:00 P
Dil. Factor:	2.42	Date of Analysis:	11/30/10 04:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	4.8	Not Detected	20	Not Detected
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.3	Not Detected
Chlorobenzene	1.2	Not Detected	5.6	Not Detected
Ethyl Benzene	1.2	0.0ND 0.27 U"	5.2	0.0ND 0.89 U"
m,p-Xylene	1.2	Not Detected	5.2	Not Detected
o-Xylene	1.2	Not Detected	5.2	Not Detected
Styrene	1.2	0.42 J	5.2	1.8 J
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.9	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.3	Not Detected
Propylbenzene	1.2	Not Detected	5.9	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.9	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.9	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	5.9	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.3	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.3	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.3	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.3	Not Detected
1,2,4-Trichlorobenzene	4.8	Not Detected	36	Not Detected
Hexachlorobutadiene	4.8	Not Detected	52	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: VMP-10-5-111810

Lab ID#: 1011480A-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113018	Date of Collection:	11/17/10 1:35:00 PM	
Dil. Factor:	2.42	Date of Analysis:	11/30/10 05:24 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.34 J	6.0	1.7 J
Freon 114	1.2	Not Detected	8.4	Not Detected
Chloromethane	4.8	Not Detected	10	Not Detected
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,3-Butadiene	1.2	Not Detected	2.7	Not Detected
Bromomethane	1.2	Not Detected	4.7	Not Detected
Chloroethane	1.2	Not Detected	3.2	Not Detected
Freon 11	1.2	0.14 J	6.8	0.82 J
Ethanol	4.8	2.1 J	9.1	4.0 J
Freon 113	1.2	Not Detected	9.3	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Acetone	4.8	3.1 J	11	7.4 J
2-Propanol	4.8	Not Detected	12	Not Detected
Carbon Disulfide	1.2	Not Detected	3.8	Not Detected
3-Chloropropene	4.8	Not Detected	15	Not Detected
Methylene Chloride	1.2	Not Detected	4.2	Not Detected
Methyl tert-butyl ether	1.2	0.10 J	4.4	0.36 J
trans-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Hexane	1.2	2.0	4.3	7.2
1,1-Dichloroethane	1.2	Not Detected	4.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.2	0.67 J	3.6	2.0 J
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.6	Not Detected
Chloroform	1.2	Not Detected	5.9	Not Detected
1,1,1-Trichloroethane	1.2	0.16 J	6.6	0.85 J
Cyclohexane	1.2	1.4	4.2	4.8
Carbon Tetrachloride	1.2	0.17 J	7.6	1.0 J
2,2,4-Trimethylpentane	1.2	5.4	5.6	25
Benzene	1.2	0.30 J	3.9	0.98 J
1,2-Dichloroethane	1.2	Not Detected	4.9	Not Detected
Heptane	1.2	3.0	5.0	12
Trichloroethene	1.2	0.0 ND 0.52 u "	6.5	0.0 ND 2.8 u "
1,2-Dichloropropane	1.2	Not Detected	5.6	Not Detected
1,4-Dioxane	4.8	Not Detected	17	Not Detected
Bromodichloromethane	1.2	0.22 J	8.1	1.5 J
cis-1,3-Dichloropropene	1.2	Not Detected	5.5	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	5.0	Not Detected
Toluene	1.2	Not Detected	4.6	Not Detected
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	0.0 ND 0.26 u "	8.2	0.0 ND 1.8 u "



Client Sample ID: VMP-10-5-111810

Lab ID#: 1011480A-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113018	Date of Collection:	11/17/10 1:35:00 PM
Dil. Factor:	2.42	Date of Analysis:	11/30/10 05:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	4.8	Not Detected	20	Not Detected
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.3	Not Detected
Chlorobenzene	1.2	Not Detected	5.6	Not Detected
Ethyl Benzene	1.2	0.33 J	5.2	1.4 J
m,p-Xylene	1.2	0.0ND 0.46 J	5.2	0.0ND 0.46 J
o-Xylene	1.2	Not Detected	5.2	Not Detected
Styrene	1.2	0.56 J	5.2	2.4 J
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.9	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.3	Not Detected
Propylbenzene	1.2	Not Detected	5.9	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.9	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.9	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	5.9	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.3	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.3	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.3	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.3	Not Detected
1,2,4-Trichlorobenzene	4.8	Not Detected	36	Not Detected
Hexachlorobutadiene	4.8	Not Detected	52	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	72	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: VMP-10-10-111810

Lab ID#: 1011480A-10A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113019	Date of Collection:	11/17/10 2:56:00 PM
Dil. Factor:	2.58	Date of Analysis:	11/30/10 05:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.45 J	6.4	2.2 J
Freon 114	1.3	Not Detected	9.0	Not Detected
Chloromethane	5.2	Not Detected	11	Not Detected
Vinyl Chloride	1.3	Not Detected	3.3	Not Detected
1,3-Butadiene	1.3	Not Detected	2.8	Not Detected
Bromomethane	1.3	Not Detected	5.0	Not Detected
Chloroethane	1.3	Not Detected	3.4	Not Detected
Freon 11	1.3	0.18 J	7.2	0.98 J
Ethanol	5.2	5.1 J	9.7	9.6 J
Freon 113	1.3	Not Detected	9.9	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Acetone	5.2	4.3 J	12	10 J
2-Propanol	5.2	7.5	13	18
Carbon Disulfide	1.3	Not Detected	4.0	Not Detected
3-Chloropropene	5.2	Not Detected	16	Not Detected
Methylene Chloride	1.3	0.29 J	4.5	1.0 J
Methyl tert-butyl ether	1.3	0.13 J	4.6	0.46 J
trans-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Hexane	1.3	2.7	4.5	9.6
1,1-Dichloroethane	1.3	Not Detected	5.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.3	0.61 J	3.8	1.8 J
cis-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Tetrahydrofuran	1.3	0.77 J	3.8	2.3 J
Chloroform	1.3	Not Detected	6.3	Not Detected
1,1,1-Trichloroethane	1.3	0.23 J	7.0	1.3 J
Cyclohexane	1.3	1.6	4.4	5.3
Carbon Tetrachloride	1.3	0.19 J	8.1	1.2 J
2,2,4-Trimethylpentane	1.3	5.5	6.0	26
Benzene	1.3	0.33 J	4.1	1.0 J
1,2-Dichloroethane	1.3	Not Detected	5.2	Not Detected
Heptane	1.3	2.5	5.3	10
Trichloroethene	1.3	0.0 ND 0.45 J "	6.9	0.0 ND 2.3 J "
1,2-Dichloropropane	1.3	Not Detected	6.0	Not Detected
1,4-Dioxane	5.2	1.2 J	18	4.2 J
Bromodichloromethane	1.3	0.34 J	8.6	2.3 J
cis-1,3-Dichloropropene	1.3	Not Detected	5.8	Not Detected
4-Methyl-2-pentanone	1.3	Not Detected	5.3	Not Detected
Toluene	1.3	0.51 J	4.9	1.9 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	0.38 J	8.8	2.6 J



Client Sample ID: VMP-10-10-111810

Lab ID#: 1011480A-10A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113019	Date of Collection:	11/17/10 2:56:00 PM
Dil. Factor:	2.58	Date of Analysis:	11/30/10 05:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	5.2	Not Detected	21	Not Detected
Dibromochloromethane	1.3	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.3	Not Detected	9.9	Not Detected
Chlorobenzene	1.3	Not Detected	5.9	Not Detected
Ethyl Benzene	1.3	0.33 J	5.6	1.4 J
m,p-Xylene	1.3	0.0 ND 0.14 J	5.6	0.0 ND 0.03 J
o-Xylene	1.3	Not Detected	5.6	Not Detected
Styrene	1.3	0.51 J	5.5	2.2 J
Bromoform	1.3	Not Detected	13	Not Detected
Cumene	1.3	Not Detected	6.3	Not Detected
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	Not Detected	6.3	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
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

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	113	70-130
4-Bromofluorobenzene	88	70-130



Client Sample ID: VMP-10-20-111810

Lab ID#: 1011480A-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113020	Date of Collection:	11/17/10 4:13:00 PM
Dil. Factor:	4.89	Date of Analysis:	11/30/10 07:16 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	2.4	0.58 J	12	2.8 J
Freon 114	2.4	Not Detected	17	Not Detected
Chloromethane	9.8	Not Detected	20	Not Detected
Vinyl Chloride	2.4	Not Detected	6.2	Not Detected
1,3-Butadiene	2.4	Not Detected	5.4	Not Detected
Bromomethane	2.4	Not Detected	9.5	Not Detected
Chloroethane	2.4	Not Detected	6.4	Not Detected
Freon 11	2.4	Not Detected	14	Not Detected
Ethanol	9.8	5.2 J	18	9.7 J
Freon 113	2.4	Not Detected	19	Not Detected
1,1-Dichloroethene	2.4	Not Detected	9.7	Not Detected
Acetone	9.8	3.9 J	23	9.3 J
2-Propanol	9.8	Not Detected	24	Not Detected
Carbon Disulfide	2.4	Not Detected	7.6	Not Detected
3-Chloropropene	9.8	Not Detected	31	Not Detected
Methylene Chloride	2.4	Not Detected	8.5	Not Detected
Methyl tert-butyl ether	2.4	0.34 J	8.8	1.2 J
trans-1,2-Dichloroethene	2.4	Not Detected	9.7	Not Detected
Hexane	2.4	1.4 J	8.6	4.9 J
1,1-Dichloroethane	2.4	Not Detected	9.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.4	Not Detected	7.2	Not Detected
cis-1,2-Dichloroethene	2.4	Not Detected	9.7	Not Detected
Tetrahydrofuran	2.4	Not Detected	7.2	Not Detected
Chloroform	2.4	0.35 J	12	1.7 J
1,1,1-Trichloroethane	2.4	0.45 J	13	2.4 J
Cyclohexane	2.4	0.72 J	8.4	2.5 J
Carbon Tetrachloride	2.4	Not Detected	15	Not Detected
2,2,4-Trimethylpentane	2.4	2.2 J	11	10 J
Benzene	2.4	Not Detected	7.8	Not Detected
1,2-Dichloroethane	2.4	Not Detected	9.9	Not Detected
Heptane	2.4	1.2 J	10	4.8 J
Trichloroethene	2.4	0.78 J	13	4.2 J
1,2-Dichloropropane	2.4	Not Detected	11	Not Detected
1,4-Dioxane	9.8	Not Detected	35	Not Detected
Bromodichloromethane	2.4	0.63 J	16	4.2 J
cis-1,3-Dichloropropene	2.4	Not Detected	11	Not Detected
4-Methyl-2-pentanone	2.4	Not Detected	10	Not Detected
Toluene	2.4	Not Detected	9.2	Not Detected
trans-1,3-Dichloropropene	2.4	Not Detected	11	Not Detected
1,1,2-Trichloroethane	2.4	Not Detected	13	Not Detected
Tetrachloroethene	2.4	0.0ND 0.33 U	16	0.0ND 2.2 U



Client Sample ID: VMP-10-20-111810

Lab ID#: 1011480A-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113020	Date of Collection:	11/17/10 4:13:00 PM
Dil. Factor:	4.89	Date of Analysis:	11/30/10 07:16 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	9.8	Not Detected	40	Not Detected
Dibromochloromethane	2.4	Not Detected	21	Not Detected
1,2-Dibromoethane (EDB)	2.4	Not Detected	19	Not Detected
Chlorobenzene	2.4	Not Detected	11	Not Detected
Ethyl Benzene	2.4	Not Detected	11	Not Detected
m,p-Xylene	2.4	Not Detected	11	Not Detected
o-Xylene	2.4	Not Detected	11	Not Detected
Styrene	2.4	Not Detected	10	Not Detected
Bromoform	2.4	Not Detected	25	Not Detected
Cumene	2.4	Not Detected	12	Not Detected
1,1,2,2-Tetrachloroethane	2.4	Not Detected	17	Not Detected
Propylbenzene	2.4	Not Detected	12	Not Detected
4-Ethyltoluene	2.4	Not Detected	12	Not Detected
1,3,5-Trimethylbenzene	2.4	Not Detected	12	Not Detected
1,2,4-Trimethylbenzene	2.4	Not Detected	12	Not Detected
1,3-Dichlorobenzene	2.4	Not Detected	15	Not Detected
1,4-Dichlorobenzene	2.4	Not Detected	15	Not Detected
alpha-Chlorotoluene	2.4	Not Detected	13	Not Detected
1,2-Dichlorobenzene	2.4	Not Detected	15	Not Detected
1,2,4-Trichlorobenzene	9.8	Not Detected	72	Not Detected
Hexachlorobutadiene	9.8	Not Detected	100	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	112	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	99	70-130



Client Sample ID: VMP-10-20-111810-Dup

Lab ID#: 1011480A-12A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113021	Date of Collection:	11/17/10 4:33:00 PM
Dil. Factor:	2.47	Date of Analysis:	11/30/10 07:39 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.39 J	6.1	1.9 J
Freon 114	1.2	Not Detected	8.6	Not Detected
Chloromethane	4.9	Not Detected	10	Not Detected
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,3-Butadiene	1.2	Not Detected	2.7	Not Detected
Bromomethane	1.2	Not Detected	4.8	Not Detected
Chloroethane	1.2	Not Detected	3.2	Not Detected
Freon 11	1.2	0.15 J	6.9	0.85 J
Ethanol	4.9	9.0	9.3	17
Freon 113	1.2	Not Detected	9.5	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Acetone	4.9	60 J	12	140 J
2-Propanol	4.9	15	12	37
Carbon Disulfide	1.2	Not Detected	3.8	Not Detected
3-Chloropropene	4.9	Not Detected	15	Not Detected
Methylene Chloride	1.2	0.75 J	4.3	2.6 J
Methyl tert-butyl ether	1.2	0.13 J	4.4	0.47 J
trans-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Hexane	1.2	2.7	4.4	9.7
1,1-Dichloroethane	1.2	Not Detected	5.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.2	0.46 J	3.6	1.4 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	0.28 J	6.0	1.4 J
1,1,1-Trichloroethane	1.2	0.21 J	6.7	1.1 J
Cyclohexane	1.2	1.6	4.2	5.6
Carbon Tetrachloride	1.2	Not Detected	7.8	Not Detected
2,2,4-Trimethylpentane	1.2	6.5 J	5.8	30 J
Benzene	1.2	0.54 J	3.9	1.7 J
1,2-Dichloroethane	1.2	Not Detected	5.0	Not Detected
Heptane	1.2	3.2	5.1	13
Trichloroethene	1.2	0.38 J	6.6	2.0 J
1,2-Dichloropropane	1.2	Not Detected	5.7	Not Detected
1,4-Dioxane	4.9	Not Detected	18	Not Detected
Bromodichloromethane	1.2	0.26 J	8.3	1.7 J
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	0.31 J	4.6	1.2 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	0.0ND 0.27 J	8.4	0.0ND 1.8 J



Client Sample ID: VMP-10-20-111810-Dup

Lab ID#: 1011480A-12A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113021	Date of Collection:	11/17/10 4:33:00 PM
Dil. Factor:	2.47	Date of Analysis:	11/30/10 07:39 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	4.9	Not Detected	20	Not Detected
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.5	Not Detected
Chlorobenzene	1.2	Not Detected	5.7	Not Detected
Ethyl Benzene	1.2	0.34 J	5.4	1.5 J
m,p-Xylene	1.2	0.0ND 0.15 u	5.4	0.0ND 0.56 u
o-Xylene	1.2	Not Detected	5.4	Not Detected
Styrene	1.2	0.58 J	5.3	2.5 J
Bromoform	1.2	Not Detected	13	Not Detected
Cumene	1.2	Not Detected	6.1	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.5	Not Detected
Propylbenzene	1.2	Not Detected	6.1	Not Detected
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	Not Detected	6.1	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.4	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.4	Not Detected
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	37	Not Detected
Hexachlorobutadiene	4.9	Not Detected	53	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	94	70-130

Client Sample ID: Lab Blank

Lab ID#: 1011480A-13A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113007a	Date of Collection:	NA	
Dil. Factor:	1.00	Date of Analysis:	11/30/10 11:13 AM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	0.18 J	1.9	0.70 J
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	0.50	Not Detected	1.7	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	0.12 J	2.7	0.66 J
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	0.069 J	3.4	0.47 J

Client Sample ID: Lab Blank

Lab ID#: 1011480A-13A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113007a	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/30/10 11:13 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	2.0	Not Detected	8.2	Not Detected
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	0.068 J	3.8	0.52 J
Chlorobenzene	0.50	0.088 J	2.3	0.40 J
Ethyl Benzene	0.50	0.058 J	2.2	0.25 J
m,p-Xylene	0.50	0.041 J	2.2	0.18 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	0.071 J	3.4	0.49 J
Propylbenzene	0.50	0.076 J	2.4	0.37 J
4-Ethyltoluene	0.50	0.092 J	2.4	0.45 J
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	0.078 J	2.4	0.38 J
1,3-Dichlorobenzene	0.50	0.17 J	3.0	1.0 J
1,4-Dichlorobenzene	0.50	0.20 J	3.0	1.2 J
alpha-Chlorotoluene	0.50	0.099 J	2.6	0.51 J
1,2-Dichlorobenzene	0.50	0.17 J	3.0	1.0 J
1,2,4-Trichlorobenzene	2.0	0.58 J	15	4.3 J
Hexachlorobutadiene	2.0	0.37 J	21	4.0 J

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	88	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	95	70-130

Client Sample ID: Lab Blank

Lab ID#: 1011480A-13B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120110a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/1/10 06:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5.0	Not Detected	25	Not Detected
Freon 114	5.0	Not Detected	35	Not Detected
Chloromethane	20	Not Detected	41	Not Detected
Vinyl Chloride	5.0	Not Detected	13	Not Detected
1,3-Butadiene	5.0	Not Detected	11	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	5.0	Not Detected	13	Not Detected
Freon 11	5.0	Not Detected	28	Not Detected
Ethanol	20	5.6 J	38	11 J
Freon 113	5.0	Not Detected	38	Not Detected
1,1-Dichloroethene	5.0	Not Detected	20	Not Detected
Acetone	20	Not Detected	48	Not Detected
2-Propanol	20	Not Detected	49	Not Detected
Carbon Disulfide	5.0	Not Detected	16	Not Detected
3-Chloropropene	20	Not Detected	63	Not Detected
Methylene Chloride	5.0	2.4 J	17	8.4 J
Methyl tert-butyl ether	5.0	Not Detected	18	Not Detected
trans-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Hexane	5.0	Not Detected	18	Not Detected
1,1-Dichloroethane	5.0	Not Detected	20	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Tetrahydrofuran	5.0	Not Detected	15	Not Detected
Chloroform	5.0	Not Detected	24	Not Detected
1,1,1-Trichloroethane	5.0	Not Detected	27	Not Detected
Cyclohexane	5.0	Not Detected	17	Not Detected
Carbon Tetrachloride	5.0	Not Detected	31	Not Detected
2,2,4-Trimethylpentane	5.0	Not Detected	23	Not Detected
Benzene	5.0	Not Detected	16	Not Detected
1,2-Dichloroethane	5.0	Not Detected	20	Not Detected
Heptane	5.0	Not Detected	20	Not Detected
Trichloroethene	5.0	Not Detected	27	Not Detected
1,2-Dichloropropane	5.0	Not Detected	23	Not Detected
1,4-Dioxane	20	Not Detected	72	Not Detected
Bromodichloromethane	5.0	Not Detected	34	Not Detected
cis-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
4-Methyl-2-pentanone	5.0	Not Detected	20	Not Detected
Toluene	5.0	Not Detected	19	Not Detected
trans-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
1,1,2-Trichloroethane	5.0	Not Detected	27	Not Detected
Tetrachloroethene	5.0	Not Detected	34	Not Detected

Client Sample ID: Lab Blank
Lab ID#: 1011480A-13B
MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120110a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/1/10 06:02 PM

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

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: CCV

Lab ID#: 1011480A-14A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/30/10 09:03 AM

Compound	%Recovery
Freon 12	96
Freon 114	95
Chloromethane	102
Vinyl Chloride	102
1,3-Butadiene	95
Bromomethane	97
Chloroethane	98
Freon 11	97
Ethanol	91
Freon 113	96
1,1-Dichloroethene	97
Acetone	98
2-Propanol	94
Carbon Disulfide	100
3-Chloropropene	104
Methylene Chloride	97
Methyl tert-butyl ether	99
trans-1,2-Dichloroethene	98
Hexane	115
1,1-Dichloroethane	97
2-Butanone (Methyl Ethyl Ketone)	104
cis-1,2-Dichloroethene	95
Tetrahydrofuran	110
Chloroform	98
1,1,1-Trichloroethane	94
Cyclohexane	104
Carbon Tetrachloride	98
2,2,4-Trimethylpentane	107
Benzene	99
1,2-Dichloroethane	97
Heptane	106
Trichloroethene	95
1,2-Dichloropropane	92
1,4-Dioxane	109
Bromodichloromethane	94
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	117
Toluene	101
trans-1,3-Dichloropropene	100
1,1,2-Trichloroethane	100
Tetrachloroethene	97

Client Sample ID: CCV

Lab ID#: 1011480A-14A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/30/10 09:03 AM

Compound	%Recovery
2-Hexanone	111
Dibromochloromethane	95
1,2-Dibromoethane (EDB)	100
Chlorobenzene	98
Ethyl Benzene	100
m,p-Xylene	108
o-Xylene	109
Styrene	108
Bromoform	95
Cumene	108
1,1,2,2-Tetrachloroethane	91
Propylbenzene	104
4-Ethyltoluene	107
1,3,5-Trimethylbenzene	101
1,2,4-Trimethylbenzene	115
1,3-Dichlorobenzene	96
1,4-Dichlorobenzene	97
alpha-Chlorotoluene	95
1,2-Dichlorobenzene	97
1,2,4-Trichlorobenzene	99
Hexachlorobutadiene	93

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: CCV

Lab ID#: 1011480A-14B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120103	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/1/10 10:53 AM

Compound	%Recovery
Freon 12	111
Freon 114	110
Chloromethane	82
Vinyl Chloride	113
1,3-Butadiene	112
Bromomethane	111
Chloroethane	114
Freon 11	115
Ethanol	101
Freon 113	108
1,1-Dichloroethene	116
Acetone	111
2-Propanol	104
Carbon Disulfide	117
3-Chloropropene	114
Methylene Chloride	108
Methyl tert-butyl ether	110
trans-1,2-Dichloroethene	110
Hexane	110
1,1-Dichloroethane	112
2-Butanone (Methyl Ethyl Ketone)	111
cis-1,2-Dichloroethene	113
Tetrahydrofuran	105
Chloroform	112
1,1,1-Trichloroethane	111
Cyclohexane	112
Carbon Tetrachloride	113
2,2,4-Trimethylpentane	109
Benzene	109
1,2-Dichloroethane	114
Heptane	115
Trichloroethene	111
1,2-Dichloropropane	110
1,4-Dioxane	113
Bromodichloromethane	114
cis-1,3-Dichloropropene	115
4-Methyl-2-pentanone	116
Toluene	109
trans-1,3-Dichloropropene	114
1,1,2-Trichloroethane	106
Tetrachloroethene	100



Client Sample ID: CCV

Lab ID#: 1011480A-14B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120103	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/1/10 10:53 AM

Compound	%Recovery
2-Hexanone	111
Dibromochloromethane	111
1,2-Dibromoethane (EDB)	108
Chlorobenzene	104
Ethyl Benzene	108
m,p-Xylene	108
o-Xylene	106
Styrene	111
Bromoform	111
Cumene	108
1,1,2,2-Tetrachloroethane	108
Propylbenzene	109
4-Ethyltoluene	108
1,3,5-Trimethylbenzene	113
1,2,4-Trimethylbenzene	110
1,3-Dichlorobenzene	105
1,4-Dichlorobenzene	105
alpha-Chlorotoluene	117
1,2-Dichlorobenzene	104
1,2,4-Trichlorobenzene	119
Hexachlorobutadiene	135 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: LCS

Lab ID#: 1011480A-15A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113004	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/30/10 09:34 AM

Compound	%Recovery
Freon 12	80
Freon 114	81
Chloromethane	81
Vinyl Chloride	81
1,3-Butadiene	82
Bromomethane	84
Chloroethane	80
Freon 11	81
Ethanol	90
Freon 113	82
1,1-Dichloroethene	88
Acetone	86
2-Propanol	90
Carbon Disulfide	85
3-Chloropropene	92
Methylene Chloride	86
Methyl tert-butyl ether	92
trans-1,2-Dichloroethene	92
Hexane	96
1,1-Dichloroethane	83
2-Butanone (Methyl Ethyl Ketone)	104
cis-1,2-Dichloroethene	97
Tetrahydrofuran	104
Chloroform	94
1,1,1-Trichloroethane	85
Cyclohexane	95
Carbon Tetrachloride	86
2,2,4-Trimethylpentane	94
Benzene	97
1,2-Dichloroethane	93
Heptane	107
Trichloroethene	95
1,2-Dichloropropane	87
1,4-Dioxane	103
Bromodichloromethane	96
cis-1,3-Dichloropropene	101
4-Methyl-2-pentanone	116
Toluene	94
trans-1,3-Dichloropropene	92
1,1,2-Trichloroethane	88
Tetrachloroethene	83

Client Sample ID: LCS

Lab ID#: 1011480A-15A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113004	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/30/10 09:34 AM

Compound	%Recovery
2-Hexanone	108
Dibromochloromethane	96
1,2-Dibromoethane (EDB)	99
Chlorobenzene	94
Ethyl Benzene	98
m,p-Xylene	99
o-Xylene	98
Styrene	102
Bromoform	87
Cumene	100
1,1,2,2-Tetrachloroethane	83
Propylbenzene	96
4-Ethyltoluene	99
1,3,5-Trimethylbenzene	94
1,2,4-Trimethylbenzene	103
1,3-Dichlorobenzene	87
1,4-Dichlorobenzene	87
alpha-Chlorotoluene	91
1,2-Dichlorobenzene	90
1,2,4-Trichlorobenzene	101
Hexachlorobutadiene	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	91	70-130

Client Sample ID: LCSD

Lab ID#: 1011480A-15AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113005	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/30/10 10:01 AM

Compound	%Recovery
Freon 12	81
Freon 114	83
Chloromethane	90
Vinyl Chloride	82
1,3-Butadiene	83
Bromomethane	86
Chloroethane	82
Freon 11	80
Ethanol	85
Freon 113	80
1,1-Dichloroethene	85
Acetone	83
2-Propanol	87
Carbon Disulfide	84
3-Chloropropene	94
Methylene Chloride	81
Methyl tert-butyl ether	90
trans-1,2-Dichloroethene	93
Hexane	93
1,1-Dichloroethane	96
2-Butanone (Methyl Ethyl Ketone)	112
cis-1,2-Dichloroethene	100
Tetrahydrofuran	114
Chloroform	96
1,1,1-Trichloroethane	93
Cyclohexane	109
Carbon Tetrachloride	95
2,2,4-Trimethylpentane	111
Benzene	111
1,2-Dichloroethane	104
Heptane	108
Trichloroethene	92
1,2-Dichloropropane	88
1,4-Dioxane	105
Bromodichloromethane	92
cis-1,3-Dichloropropene	98
4-Methyl-2-pentanone	106
Toluene	97
trans-1,3-Dichloropropene	99
1,1,2-Trichloroethane	95
Tetrachloroethene	89



Client Sample ID: LCSD

Lab ID#: 1011480A-15AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6113005	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/30/10 10:01 AM

Compound	%Recovery
2-Hexanone	103
Dibromochloromethane	94
1,2-Dibromoethane (EDB)	97
Chlorobenzene	95
Ethyl Benzene	101
m,p-Xylene	105
o-Xylene	108
Styrene	111
Bromoform	97
Cumene	111
1,1,2,2-Tetrachloroethane	93
Propylbenzene	109
4-Ethyltoluene	111
1,3,5-Trimethylbenzene	105
1,2,4-Trimethylbenzene	116
1,3-Dichlorobenzene	99
1,4-Dichlorobenzene	99
alpha-Chlorotoluene	105
1,2-Dichlorobenzene	102
1,2,4-Trichlorobenzene	115
Hexachlorobutadiene	114

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: LCS

Lab ID#: 1011480A-15B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120104	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/1/10 11:38 AM

Compound	%Recovery
Freon 12	110
Freon 114	106
Chloromethane	86
Vinyl Chloride	111
1,3-Butadiene	110
Bromomethane	107
Chloroethane	108
Freon 11	112
Ethanol	101
Freon 113	102
1,1-Dichloroethene	112
Acetone	108
2-Propanol	102
Carbon Disulfide	112
3-Chloropropene	112
Methylene Chloride	104
Methyl tert-butyl ether	106
trans-1,2-Dichloroethene	104
Hexane	103
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	109
cis-1,2-Dichloroethene	107
Tetrahydrofuran	99
Chloroform	107
1,1,1-Trichloroethane	106
Cyclohexane	109
Carbon Tetrachloride	111
2,2,4-Trimethylpentane	107
Benzene	105
1,2-Dichloroethane	109
Heptane	111
Trichloroethene	106
1,2-Dichloropropane	106
1,4-Dioxane	112
Bromodichloromethane	113
cis-1,3-Dichloropropene	111
4-Methyl-2-pentanone	114
Toluene	108
trans-1,3-Dichloropropene	111
1,1,2-Trichloroethane	107
Tetrachloroethene	97



Client Sample ID: LCS

Lab ID#: 1011480A-15B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120104	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/1/10 11:38 AM

Compound	%Recovery
2-Hexanone	110
Dibromochloromethane	111
1,2-Dibromoethane (EDB)	107
Chlorobenzene	104
Ethyl Benzene	107
m,p-Xylene	108
o-Xylene	109
Styrene	111
Bromoform	111
Cumene	108
1,1,2,2-Tetrachloroethane	109
Propylbenzene	112
4-Ethyltoluene	108
1,3,5-Trimethylbenzene	113
1,2,4-Trimethylbenzene	115
1,3-Dichlorobenzene	107
1,4-Dichlorobenzene	105
alpha-Chlorotoluene	123
1,2-Dichlorobenzene	110
1,2,4-Trichlorobenzene	140 Q
Hexachlorobutadiene	140 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

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

Client Sample ID: LCSD

Lab ID#: 1011480A-15BB

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120105	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/1/10 12:14 PM

Compound	%Recovery
Freon 12	114
Freon 114	106
Chloromethane	86
Vinyl Chloride	111
1,3-Butadiene	108
Bromomethane	107
Chloroethane	108
Freon 11	112
Ethanol	97
Freon 113	104
1,1-Dichloroethene	113
Acetone	108
2-Propanol	102
Carbon Disulfide	114
3-Chloropropene	112
Methylene Chloride	106
Methyl tert-butyl ether	106
trans-1,2-Dichloroethene	107
Hexane	103
1,1-Dichloroethane	106
2-Butanone (Methyl Ethyl Ketone)	109
cis-1,2-Dichloroethene	109
Tetrahydrofuran	100
Chloroform	109
1,1,1-Trichloroethane	108
Cyclohexane	108
Carbon Tetrachloride	114
2,2,4-Trimethylpentane	107
Benzene	106
1,2-Dichloroethane	110
Heptane	111
Trichloroethene	107
1,2-Dichloropropane	106
1,4-Dioxane	111
Bromodichloromethane	112
cis-1,3-Dichloropropene	111
4-Methyl-2-pentanone	113
Toluene	107
trans-1,3-Dichloropropene	112
1,1,2-Trichloroethane	106
Tetrachloroethene	96

Client Sample ID: LCSD

Lab ID#: 1011480A-15BB

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120105	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/1/10 12:14 PM

Compound	%Recovery
2-Hexanone	109
Dibromochloromethane	111
1,2-Dibromoethane (EDB)	106
Chlorobenzene	103
Ethyl Benzene	105
m,p-Xylene	105
o-Xylene	107
Styrene	110
Bromoform	112
Cumene	109
1,1,2,2-Tetrachloroethane	109
Propylbenzene	112
4-Ethyltoluene	108
1,3,5-Trimethylbenzene	114
1,2,4-Trimethylbenzene	113
1,3-Dichlorobenzene	107
1,4-Dichlorobenzene	108
alpha-Chlorotoluene	123
1,2-Dichlorobenzene	113
1,2,4-Trichlorobenzene	140 Q
Hexachlorobutadiene	147 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130

1011480

URS

Shell Oil Products Chain of Custody Record

Air Toxics LTD.
Project Name: Roxana Dissolved Phase
Project #
 Lab Vendor # _____
 URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
 180 Blue Ravine Road, Solls B, Folsom, CA 05930-4719
 314-7429-0100
 FAX 314-423-0462
 URS CORP.
 900 SOUTH CENTRAL AVE - ROXANA
 ELIZABETH, KANSAS, URS, ST. LOUIS
 314-743-4179
 900 SOUTH CENTRAL AVE - ROXANA
 ELIZABETH, KANSAS, URS, ST. LOUIS
 314-743-4179

Incident # (ENV SERVICES) _____
DATE: 11/18/2010
PAGE: 1 of 2
Print Bill To Contact Name: Thomas Adams
PO # _____
SAP # _____
Requested Analysis:
 24 HOURS RESULTS NEEDED ON WEEKEND
 LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4
 STANDARD (14 DAY) 3 DAYS 7 DAYS 14 DAYS
 UST AGENCY
 UST AGENCY
 SHELL CONTRACT NAME APPLIES
 STATE REIMBURSEMENT RATE APPLIES
 EOD NOT NEEDED
 RECEIPT VERIFICATION REQUESTED

LAB USE ONLY	Field Sample Identification	DAMPING		Container Pressure/Vacuum	Container Number	Final	
		START TIME	STOP TIME			(Hg)	(Psi)
Q1A	VMP-6-10-111710	11/17/10 0915	0955	-30	2136	-8.5	
Q2A	VMP-6-31.5-111710	11/17/10 1041	1118	-30	3502	-7.5	
Q3A	VMP-1-5-1117-10	11/17/10 1332	1410	-30	3858	-8.5	
Q4A	VMP-1-8.5-111710	11/17/10 1510	1600	-30	2184	-8	
Q5A	VMP-1-8.5-111710-Dup	11/17/10 1510	1552	-30	2110	-8	
Q6A	VMP-1-22-111810	11/18/10 0940	1025	-30	2067	-8	
Q7A	VMP-8-5-111810	11/18/10 1017	1105	-30	3024	-4	
Q8A	VMP-8-5-111810	11/18/10 1158	1240	-29.5	1033	-5	
Q9A	VMP-10-5-111810	11/18/10 1254	1335	-30	3868	-8	
Q10A	VMP-10-10-111810	11/18/10 1418	1456	-30	1737	-9.5	

Turn Around Time: _____
Proasuritized by: _____
Date: _____
Pressurization Gas: N₂ He
Additional Notes:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVP
Requested by (Signature): _____
Requested by (Name): R. McKinnon
Date: 11/18/10
Time: 1800
Requested by (Signature): _____
Requested by (Name): _____
Date: 11/19/10
Time: 9:15

CUSTOMER
CUSTOMER SEAL INTACT?
Y/N
DATE
INITIALS

1011480



Shell Oil Products Chain Of Custody Record

Air Toxics LTD.
Project Name: Roxana Dissolved Phase
Project #
Lab Vendor #
Lab Vendor
URS CORPORATION
1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 200, ST. LOUIS, MO 63110
180 Blue Ravinia Road, Suite B, Folsom, CA 95630-4719
314-429-0100
314-429-0482
314-743-4179
Thomas Adams
PO #
DATE: 11/18/2010
PAGE: 2 of 2

INCIDENT # (ENV SERVICES) **Check for Incident #** **APRUS**
Print Bill To Contact Name: Thomas Adams
Site Address: 800 SOUTH CENTRAL AVE - ROXANA, ILL. 62451
Phone/Fax: 314-743-4179
Site Address: 8242 and City
Phone/Fax:
Site Address: 8242 and City
Phone/Fax:
Site Address: 8242 and City
Phone/Fax:

PLEASE CHECK APPROPRIATE BOX:
 ENV. SERVICES
 POTENTIAL RETAIL
 CONSULTANT
 OTHER
 HOTVA SOLAR
 SHELL PIPELIDE
 SHELL RETAIL
 LUBES

TURNAROUND TIME (CALENDAR DAYS)
 STANDARD (14 DAY)
 5 DAYS
 3 DAYS
 2 DAYS
 1 HOUR
 RESULTS NEEDED ON WED/THU

REQUESTED ANALYSIS
Lab Use Only
Pressurized by:
 Normal
 Rush
Date:
Pressurization Gas: N₂ He
Turn Around Time:
Specify:
ADDITIONAL NOTES:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVP

LAB USE ONLY	FIELD SAMPLE IDENTIFICATION	SAMPLING		COMBUSTIBLE PRESSURE/VACUUM		RECEIVED BY (SIGNATURE)	DATE/TIME
		DATE	STOP TIME	INITIAL (PSI)	RECEIPT		
	VMP-10-20-111810	11/18/10	1541	1613	-30	-8	
	VMP-10-20-111810-Dup	11/18/10	1541	1633	-30	-8	

RECEIVED BY (SIGNATURE)
[Signature]
RECEIVED BY (SIGNATURE)
[Signature]
RECEIVED BY (SIGNATURE)
[Signature]
DATE/TIME
 11/18/10 1:50
 11/18/10 1:15
 11/18/10 1:15



12/3/2010
Mr. Jeff Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Dissolved Phase
Project #:
Workorder #: 1011480B


Dear Mr. Jeff Adams

The following report includes the data for the above referenced project for sample(s) received on 11/19/2010 at Air Toxics Ltd.

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

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

Regards,



Jacquelyn Luta
Project Manager

Reviewed
on
12/17/2010

WORK ORDER #: 1011480B

Work Order Summary

CLIENT:	Mr. Jeff Adams 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:	314-429-0100	P.O. #	21562291.00005
FAX:		PROJECT #	Roxana Dissolved Phase
DATE RECEIVED:	11/19/2010	CONTACT:	Jacquelyn Luta
DATE COMPLETED:	12/03/2010		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	VMP-6-10-111710 ✓	Modified ASTM D-1946	6.5 "Hg	15 psi
02A	VMP-6-31.5-111710 ✓	Modified ASTM D-1946	6.0 "Hg	15 psi
03A	VMP-1-5-111710 ✓	Modified ASTM D-1946	6.5 "Hg	15 psi
04A	VMP-1-8.5-111710 ✓	Modified ASTM D-1946	5.5 "Hg	15 psi
05A	VMP-1-8.5-111710-Dup ✓	Modified ASTM D-1946	5.5 "Hg	15 psi
06A	VMP-1-22-111810 ✓ vmp-1-23.5-111810	Modified ASTM D-1946	5.5 "Hg	15 psi
07A	VMP-8-5-111810 ✓	Modified ASTM D-1946	4.0 "Hg	15 psi
08A	VMP-8-8.5-111810 ✓ vmp-9.5-111810	Modified ASTM D-1946	5.0 "Hg	15 psi
09A	VMP-10-5-111810 ✓	Modified ASTM D-1946	5.0 "Hg	15 psi
10A	VMP-10-10-111810 ✓	Modified ASTM D-1946	6.5 "Hg	15 psi
11A	VMP-10-20-111810 ✓	Modified ASTM D-1946	5.0 "Hg	15 psi
12A	VMP-10-20-111810-Dup ✓	Modified ASTM D-1946	5.5 "Hg	15 psi
13A	Lab Blank	Modified ASTM D-1946	NA	NA
13B	Lab Blank	Modified ASTM D-1946	NA	NA
14A	LCS	Modified ASTM D-1946	NA	NA
14AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: *Sandra J. Freeman*
Laboratory Director

DATE: 12/03/10

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards
This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1011480B**

Twelve 1 Liter Summa Canister samples were received on November 19, 2010. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: VMP-6-10-111710

Lab ID#: 1011480B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	8.5
Nitrogen	0.26	82
Carbon Dioxide	0.026	9.8
Helium	0.13	0.092 J

Client Sample ID: VMP-6-31.5-111710

Lab ID#: 1011480B-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	1.4
Nitrogen	0.25	76
Methane	0.00025	7.5
Carbon Dioxide	0.025	13
Ethane	0.0025	0.0030
Helium	0.13	0.012 J

Client Sample ID: VMP-1-5-111710

Lab ID#: 1011480B-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	20
Nitrogen	0.26	76
Methane	0.00026	0.0013
Carbon Dioxide	0.026	1.0
Helium	0.13	3.3

Client Sample ID: VMP-1-8.5-111710

Lab ID#: 1011480B-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	12

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

Client Sample ID: VMP-1-8.5-111710

Lab ID#: 1011480B-04A

Nitrogen	0.25	81
Methane	0.00025	0.0012
Carbon Dioxide	0.025	4.8
Helium	0.12	1.9

Client Sample ID: VMP-1-8.5-111710-Dup

Lab ID#: 1011480B-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	13
Nitrogen	0.25	80
Methane	0.00025	0.00088
Carbon Dioxide	0.025	4.6
Helium	0.12	1.9

Client Sample ID: ~~VMP-1-22-111810~~ VMP-1-23.5-111810

Lab ID#: 1011480B-06A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	19
Nitrogen	0.25	78
Methane	0.00025	0.00052 J
Carbon Dioxide	0.025	1.6
Helium	0.12	0.86

Client Sample ID: VMP-8-5-111810

Lab ID#: 1011480B-07A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	20
Nitrogen	0.23	78
Methane	0.00023	0.00020 J
Carbon Dioxide	0.023	2.0

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

Client Sample ID: VMP-8-5-111810

Lab ID#: 1011480B-07A

Helium	0.12	0.14
--------	------	------

Client Sample ID: ~~VMP-8-5-111810~~ VMP-9-5-111810

Lab ID#: 1011480B-08A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	13
Nitrogen	0.24	78
Methane	0.00024	0.000053 J
Carbon Dioxide	0.024	8.5
Helium	0.12	0.026 J

Client Sample ID: VMP-10-5-111810

Lab ID#: 1011480B-09A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	18
Nitrogen	0.24	79
Carbon Dioxide	0.024	3.2
Helium	0.12	0.024 J

Client Sample ID: VMP-10-10-111810

Lab ID#: 1011480B-10A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	16
Nitrogen	0.26	79
Carbon Dioxide	0.026	5.3
Helium	0.13	0.0082 J

Client Sample ID: VMP-10-20-111810

Lab ID#: 1011480B-11A

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

Client Sample ID: VMP-10-20-111810

Lab ID#: 1011480B-11A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.49	13
Nitrogen	0.49	79
Carbon Dioxide	0.049	8.3
Helium	0.24	0.0098 J

Client Sample ID: VMP-10-20-111810-Dup

Lab ID#: 1011480B-12A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	14
Nitrogen	0.25	78
Methane	0.00025	0.000045 J
Carbon Dioxide	0.025	7.4
Helium	0.12	0.0043 J

Client Sample ID: VMP-6-10-111710

Lab ID#: 1011480B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113006	Date of Collection: 11/17/10 9:55:00 AM
Dil. Factor:	2.58	Date of Analysis: 11/30/10 09:45 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	8.5
Nitrogen	0.26	82
Carbon Monoxide	0.026	Not Detected
Methane	0.00026	Not Detected
Carbon Dioxide	0.026	9.8
Ethane	0.0026	Not Detected
Ethene	0.0026	Not Detected
Helium	0.13	0.092 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-6-31.5-111710

Lab ID#: 1011480B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113018	Date of Collection: 11/17/10 11:18:00 A
Dil. Factor:	2.52	Date of Analysis: 11/30/10 03:51 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	1.4
Nitrogen	0.25	76
Carbon Monoxide	0.025	Not Detected
Methane	0.00025	7.5
Carbon Dioxide	0.025	13
Ethane	0.0025	0.0030
Ethene	0.0025	Not Detected
Helium	0.13	0.012 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-1-5-111710

Lab ID#: 1011480B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113007	Date of Collection:	11/17/10 2:10:00 PM
Dil. Factor:	2.58	Date of Analysis:	11/30/10 10:21 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	20
Nitrogen	0.26	76
Carbon Monoxide	0.026	Not Detected
Methane	0.00026	0.0013
Carbon Dioxide	0.026	1.0
Ethane	0.0026	Not Detected
Ethene	0.0026	Not Detected
Helium	0.13	3.3

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-1-8.5-111710

Lab ID#: 1011480B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113008	Date of Collection:	11/17/10 4:00:00 PM
Dil. Factor:	2.47	Date of Analysis:	11/30/10 10:48 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	12
Nitrogen	0.25	81
Carbon Monoxide	0.025	Not Detected
Methane	0.00025	0.0012
Carbon Dioxide	0.025	4.8
Ethane	0.0025	Not Detected
Ethene	0.0025	Not Detected
Helium	0.12	1.9

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-1-8.5-111710-Dup

Lab ID#: 1011480B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113009	Date of Collection: 11/17/10 3:52:00 PM
Dil. Factor:	2.47	Date of Analysis: 11/30/10 11:15 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	13
Nitrogen	0.25	80
Carbon Monoxide	0.025	Not Detected
Methane	0.00025	0.00088
Carbon Dioxide	0.025	4.6
Ethane	0.0025	Not Detected
Ethene	0.0025	Not Detected
Helium	0.12	1.9

Container Type: 1 Liter Summa Canister



Client Sample ID: ~~VMP-1-22-111810~~ VMP-1-23.5-111810

Lab ID#: 1011480B-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113010	Date of Collection: 11/17/10 10:25:00 A
Dil. Factor:	2.47	Date of Analysis: 11/30/10 11:37 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	19
Nitrogen	0.25	78
Carbon Monoxide	0.025	Not Detected
Methane	0.00025	0.000052 J
Carbon Dioxide	0.025	1.6
Ethane	0.0025	Not Detected
Ethene	0.0025	Not Detected
Helium	0.12	0.86

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-8-5-111810

Lab ID#: 1011480B-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113011	Date of Collection:	11/17/10 11:05:00 A
Dil. Factor:	2.33	Date of Analysis:	11/30/10 12:06 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	20
Nitrogen	0.23	78
Carbon Monoxide	0.023	Not Detected
Methane	0.00023	0.00020 J
Carbon Dioxide	0.023	2.0
Ethane	0.0023	Not Detected
Ethene	0.0023	Not Detected
Helium	0.12	0.14

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: ~~VMP-8-5-111810~~ VMP-9.5-111810

Lab ID#: 1011480B-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113012	Date of Collection: 11/17/10 12:40:00 P
Dil. Factor:	2.42	Date of Analysis: 11/30/10 01:03 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	13
Nitrogen	0.24	78
Carbon Monoxide	0.024	Not Detected
Methane	0.00024	0.000053 J
Carbon Dioxide	0.024	8.5
Ethane	0.0024	Not Detected
Ethene	0.0024	Not Detected
Helium	0.12	0.026 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-10-5-111810

Lab ID#: 1011480B-09A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113013	Date of Collection: 11/17/10 1:35:00 PM
Dil. Factor:	2.42	Date of Analysis: 11/30/10 01:28 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	18
Nitrogen	0.24	79
Carbon Monoxide	0.024	Not Detected
Methane	0.00024	Not Detected
Carbon Dioxide	0.024	3.2
Ethane	0.0024	Not Detected
Ethene	0.0024	Not Detected
Helium	0.12	0.024 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-10-10-111810

Lab ID#: 1011480B-10A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113014	Date of Collection: 11/17/10 2:56:00 PM
Dil. Factor:	2.58	Date of Analysis: 11/30/10 01:54 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	16
Nitrogen	0.26	79
Carbon Monoxide	0.026	Not Detected
Methane	0.00026	Not Detected
Carbon Dioxide	0.026	5.3
Ethane	0.0026	Not Detected
Ethene	0.0026	Not Detected
Helium	0.13	0.0082 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-10-20-111810

Lab ID#: 1011480B-11A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113017	Date of Collection: 11/17/10 4:13:00 PM
Dil. Factor:	4.89	Date of Analysis: 11/30/10 03:16 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.49	13
Nitrogen	0.49	79
Carbon Monoxide	0.049	Not Detected
Methane	0.00049	Not Detected
Carbon Dioxide	0.049	8.3
Ethane	0.0049	Not Detected
Ethene	0.0049	Not Detected
Helium	0.24	0.0098 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-10-20-111810-Dup

Lab ID#: 1011480B-12A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113016	Date of Collection: 11/17/10 4:33:00 PM
Dil. Factor:	2.47	Date of Analysis: 11/30/10 02:49 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	14
Nitrogen	0.25	78
Carbon Monoxide	0.025	Not Detected
Methane	0.00025	0.000045 J
Carbon Dioxide	0.025	7.4
Ethane	0.0025	Not Detected
Ethene	0.0025	Not Detected
Helium	0.12	0.0043 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: Lab Blank

Lab ID#: 1011480B-13A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113005a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/30/10 09:11 AM

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



Client Sample ID: Lab Blank

Lab ID#: 1011480B-13B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113004b	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/30/10 08:44 AM

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

Container Type: NA - Not Applicable

Client Sample ID: LCS

Lab ID#: 1011480B-14A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/30/10 07:55 AM

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

Container Type: NA - Not Applicable



Client Sample ID: LCSD

Lab ID#: 1011480B-14AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9113028	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/30/10 08:20 PM

Compound	%Recovery
Oxygen	98
Nitrogen	100
Carbon Monoxide	100
Methane	93
Carbon Dioxide	98
Ethane	95
Ethene	94
Helium	101

Container Type: NA - Not Applicable

1011480



Shell Oil Products Chain Of Custody Record



Air Toxics LTD.
Project Name: Roxana Dissolved Phase
Project #

Lab Vendor #
 URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
 1001 HIGHLANDS PLAZA DRIVE WEST, Suite B, Folsom, CA 95680-4719
 AIR TOXICS, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95680-4719
 TEL: 916-429-0100 FAX: 916-429-0482
 E-mail: URS@airtoxics.com

Print Bill To Contact Name: Thomas Adams
PO #

INCIDENT # (ENV SERVICES) 9 7 2 1 9 6 4 0
 CHECK IF NO INCIDENT # APPLIES
DATE: 11/18/2010
PAGE: 1 of 2

LAB USE ONLY
 ENV. SERVICES
 MOTIVA RETAIL
 MOTIVA SOLEM
 SHELL PIPELINE
 SHELL RETAIL
 LUBES
 CONSULTANT
 OTHER

LAB ADDRESS: SHELL EAST CITY
 900 SOUTH CENTRAL AVE - ROXANA
 ROXANA, ILLINOIS 62451
PHONE: 314-743-4179
FAX:

REGULATORY PROJECT NUMBER: Roxana Dissolved Phase

TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (5 DAY)
 3 DAYS
 5 DAYS

RESULTS NEEDED ON WEEK/D:
 24 HOURS
 RESULTS NEEDED ON WEEK/D

DETERMINABLES:
 LEVEL 1
 LEVEL 2
 LEVEL 3
 LEVEL 4
 OTHER (SPECIFY)

OTHER CONTRACT RATE APPLIES
 STATE REMEDIATION RATE APPLIES
 EOD NOT NEEDED
 ACCEPT VERIFICATION REQUESTED

LAB USE ONLY	Field Sample Identification	SAMPLES		Container Pressure/Vacuum	Initial		Final		ASTM D-1946 + Helium	ASTM D-1946	Modified TO-15	ADDITIONAL NOTES:
		DATE	START TIME		STOP TIME	Initial (Psi)	Final (Psi)	Receipt				
	01A VMP-6-10-111710	11/17/10	0916	0955	-30	-8.5			X	X		- 14 day hold time - Report results between MDL and RL - Level IV ECVP
	02A VMP-6-31.5-111710	11/17/10	1041	1118	-30	-7.5			X	X		
	03A VMP-1-5-1117-10	11/17/10	1332	1410	-30	-8.5			X	X		
	04A VMP-1-8.5-111710	11/17/10	1510	1600	-30	-8			X	X		
	05A VMP-1-8.5-111710-Dup	11/17/10	1510	1552	-30	-8			X	X		
	06A VMP-1-2-111810	11/18/10	0940	1025	-30	-8			X	X		
	07A VMP-6-5-111810	11/18/10	1017	1105	-30	-4			X	X		
	08A VMP-8-5-111810	11/18/10	1158	1240	-29.5	-5			X	X		
	09A VMP-10-5-111810	11/18/10	1254	1335	-30	-8			X	X		
	10A VMP-10-10-111810	11/18/10	1418	1456	-30	-9.5			X	X		

REQUESTED ANALYSIS:
 Turn Around Time:
 Normal
 Rush
 Specify: _____
 Date: _____
 Pressurization Gas: N₂ He

RECEIVED BY (Signature): *[Signature]*
RECEIVED BY (Print Name): K. McKinnon
DATE: 11/18/10
TIME: 9:15

RECEIVED BY (Signature): *[Signature]*
RECEIVED BY (Print Name): *[Signature]*
DATE: 11/18/10
TIME: 1800

FILED
 CUSTOMER SEAL INTACT?
 YES NO
 NA

1011480



Shell Oil Products Chain Of Custody Record

Air Toxics LTD.
Project Name: Roxana Dissolved Phase
Project #
Lab Vendor #
URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
 Air Toxics, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
 314-7428-0100
 314-420-0462
 314-743-4179

Print Bill To Contact Name: Thomas Adams
PO #
Site Address: 800 SOUTH CENTRAL AVE - ROXANA
City/State/Zip: ST. LOUIS, MO 63105
Phone/Fax: 314-743-4179

INCIDENT # (ENV SERVICES): 9 7 2 1 8 6 4 0
DATE: 11/19/2010
PAGE: 2 of 2

LAB USE ONLY
 ENV. SERVICES
 MOTIVA RETAIL
 MOTIVA SOLEM
 CONSULTANT
 SHELL PIPELINE
 SHELL RETAIL
 LUBES
 OTHER

TURNAROUND TIME (CALENDAR DAYS)
 STANDARD (14 DAY)
 3 DAYS
 5 DAYS
 7 DAYS
 24 HOURS

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY) _____

REQUESTED ANALYSIS:
 Lab Use Only
 Pressurized by: _____
 Date: _____
 Pressurization Gas: N₂ He

RESULTS NEEDED ON WEBSITE: YES NO

FIELD SAMPLE IDENTIFICATION

LAB USE ONLY	Field Sample Identification	SAMPLING		Collector Number	Container Pressure/Vacuum	
		DATE	STOP TIME		Initial (Psi)	Final (Psi)
11A	VMP-10-20-111810	11/18/10	1541	2151	-30	-8
12A	VMP-10-20-111810-Dup	11/18/10	1541	2054	-30	-8

ADDITIONAL NOTES:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVF

RECEIVED BY: (Signature)
DATE: 11/18/10
TIME: 1:50

RECEIVED BY: (Signature)
DATE: 11/19/10
TIME: 9:15

Sealed
 CUSTOMER SEAL INTACT?
 YES NO
 Y N

Roxana Vapor Data Review

Laboratory SDG: 1011598A, B, C, D

Reviewer: Tony Sedlacek

Date Reviewed: 12/20/2010

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

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

Sample Identification	Sample Identification
VMP-8-23.5-111910	VMP-9-5-111910
VMP-9-11.5-111910	VMP-9-25.5-111910
VMP-7-5-111910	VMP-7-13.5-111910
VMP-7-29.5-111910	VMP-18-8.5-111910
VMP-3-5-112210	VMP-3-22-112210
VMP-3-10-112210	VMP-3-10-112210-Dup
VMP-3-31.5-112210	VMP-4-5-112210
VMP-11-5-112210	VMP-11-8-112210
VMP-11-29-112210	VMP-11-29-112210-Dup
VMP-17-5-112210	VMP5-5-112210
VMP-4-12-112310	VMP-4-23.5-112310
VMP-5-12.5-112310	VMP-5-31-112310

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 several samples were analyzed at a dilution since the compounds hexane and 2,2,4-trimethylpentane exceeded the calibration range of the instrument. In addition, several other samples were analyzed at a dilution due to high levels of target and non-target analytes. LCS and surrogate 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.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

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

Yes

Blank ID	Parameter	Analyte	Concentration/Amount
1011598A-11A	TO-15	Methylene chloride	0.082 ppbv / 0.28 µg/m ³
1011598A-11A	TO-15	trans-1,3-Dichloropropene	0.13 ppbv / 0.60 µg/m ³
1011598A-11A	TO-15	1,2-Dibromoethane	0.096 ppbv / 0.74 µg/m ³
1011598A-11A	TO-15	Chlorobenzene	0.067 ppbv / 0.31 µg/m ³
1011598A-11A	TO-15	1,4-Dichlorobenzene	0.11 ppbv / 0.64 µg/m ³
1011598A-11A	TO-15	alpha-Chlorotoluene	0.094 ppbv / 0.49 µg/m ³
1011598A-11A	TO-15	1,2-Dichlorobenzene	0.090 ppbv / 0.54 µg/m ³
1011598A-11B	TO-15	Acetone	4.2 ppbv / 10 µg/m ³
1011598A-11B	TO-15	Methylene chloride	3.9 ppbv / 14 µg/m ³
1011598A-11B	TO-15	2,2,4-Trimethylpentane	1.1 ppbv / 5.3 µg/m ³
1011598A-11B	TO-15	Toluene	2.8 ppbv / 11 µg/m ³
1011598A-11B	TO-15	<i>m,p</i> -Xylene	3.3 ppbv / 14 µg/m ³
1011598A-11B	TO-15	<i>o</i> -Xylene	1.5 ppbv / 6.6 µg/m ³
1011598A-11B	TO-15	4-Ethyltoluene	1.6 ppbv / 8.1 µg/m ³
1011598A-11B	TO-15	1,2,4-Trimethylbenzene	2.0 ppbv / 10 µg/m ³
1011598A-11C	TO-15	Methylene chloride	2.6 ppbv / 9.0 µg/m ³
1011598B-25A	TO-15	Bromomethane	0.33 ppbv / 1.3 µg/m ³
1011598B-25A	TO-15	Acetone	0.30 ppbv / 0.72 µg/m ³
1011598B-25A	TO-15	Carbon Disulfide	0.30 ppbv / 0.95 µg/m ³
1011598B-25A	TO-15	Toluene	0.074 ppbv / 0.28 µg/m ³
1011598B-25A	TO-15	Tetrachloroethene	0.096 ppbv / 0.65 µg/m ³
1011598B-25A	TO-15	Chlorobenzene	0.11 ppbv / 0.49 µg/m ³
1011598B-25A	TO-15	<i>m,p</i> -Xylene	0.13 ppbv / 0.57 µg/m ³
1011598B-25A	TO-15	<i>o</i> -Xylene	0.10 ppbv / 0.45 µg/m ³
1011598B-25A	TO-15	Styrene	0.079 ppbv / 0.34 µg/m ³
1011598B-25A	TO-15	Cumene	0.10 ppbv / 0.52 µg/m ³
1011598B-25A	TO-15	Propylbenzene	0.10 ppbv / 0.51 µg/m ³
1011598B-25A	TO-15	1,3,5-Trimethylbenzene	0.14 ppbv / 0.67 µg/m ³
1011598B-25A	TO-15	1,2,4-Trimethylbenzene	0.15 ppbv / 0.72 µg/m ³
1011598B-25A	TO-15	1,3-Dichlorobenzene	0.20 ppbv / 1.2 µg/m ³
1011598B-25A	TO-15	1,4-Dichlorobenzene	0.23 ppbv / 1.4 µg/m ³
1011598B-25A	TO-15	1,2-Dichlorobenzene	0.18 ppbv / 1.0 µg/m ³
1011598B-25A	TO-15	1,2,4-Trichlorobenzene	0.58 ppbv / 4.3 µg/m ³
1011598B-25A	TO-15	Hexachlorobutadiene	0.24 ppbv / 2.5 µg/m ³
1011598C-11A	Natural gas	Oxygen	0.017%
1011598C-11A	Natural gas	Nitrogen	0.084%
1011598D-25A	Natural gas	Oxygen	0.015%
1011598D-25A	Natural gas	Nitrogen	0.082%

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-9-5-111910	TO-15	Methylene chloride	-	U

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
VMP-11-5-112210	TO-15	Carbon Disulfide	-	U
VMP-11-5-112210	TO-15	<i>m,p</i> -Xylene	-	U
VMP-11-8-112210	TO-15	Carbon Disulfide	-	U
VMP-11-8-112210	TO-15	Toluene	-	U
VMP-11-8-112210	TO-15	<i>m,p</i> -Xylene	-	U
VMP-17-5-112210	TO-15	Carbon Disulfide	-	U
VMP-17-5-112210	TO-15	Toluene	-	U
VMP-17-5-112210	TO-15	Tetrachloroethene	-	U
VMP-17-5-112210	TO-15	<i>m,p</i> -Xylene	-	U

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/RPD Criteria
1011598A-13B/1011598A-13BB	TO-15	1,2,4-Trichlorobenzene	139/147	6	70-130/25
1011598A-13B/1011598A-13BB	TO-15	Hexachlorobutadiene	144/147	2	70-130/25
1011598A-13C/1011598A-13CC	TO-15	1,2,4-Trichlorobenzene	131/136	4	70-130/25
1011598A-13C/1011598A-13CC	TO-15	Hexachlorobutadiene	135/142	5	70-130/25
1011598B-27B/1011598B-27BB	TO-15	1,2,4-Trichlorobenzene	136/133	2	70-130/25
1011598B-27B/1011598B-27BB	TO-15	Hexachlorobutadiene	140/138	1	70-130/25

Analytical data which were reported as nondetect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. No qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Field ID	Parameter	Surrogate	Recovery	Criteria
VMP-7-13.5-111910	TO-15	1,2-Dichloroethane-d ₄	139	70-130
VMP-7-29.5-111910	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. Analytical data which were reported as nondetect and associated with surrogate recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Field ID	Parameter	Analyte	Qualification
VMP-7-13.5-111910	TO-15	Methylene chloride	J
VMP-7-13.5-111910	TO-15	Hexane	J
VMP-7-13.5-111910	TO-15	Cyclohexane	J
VMP-7-13.5-111910	TO-15	Benzene	J
VMP-7-13.5-111910	TO-15	Heptane	J
VMP-7-13.5-111910	TO-15	Trichloroethene	J
VMP-7-29.5-111910	TO-15	Heptane	J
VMP-7-29.5-111910	TO-15	Cyclohexane	J
VMP-7-29.5-111910	TO-15	2,2,4-Trimethylpentane	J
VMP-7-29.5-111910	TO-15	Benzene	J
VMP-7-29.5-111910	TO-15	Heptane	J
VMP-7-29.5-111910	TO-15	<i>m,p</i> -Xylene	J
VMP-7-29.5-111910	TO-15	Cumene	J
VMP-7-29.5-111910	TO-15	Propylbenzene	J

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

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

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
VMP-3-10-112210	VMP-3-10-112210-Dup
VMP-11-29-112210	VMP-11-29-112210-Dup

Were field duplicates within evaluation criteria?

Yes

11.0 Sample Dilutions

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

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

12.0 Additional Qualifications

Were additional qualifications applied?

No

12/8/2010
Mr. Jeff Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Dissolved Phase
Project #:
Workorder #: 1011598A

Dear Mr. Jeff Adams

The following report includes the data for the above referenced project for sample(s) received on 11/24/2010 at Air Toxics Ltd.

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

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

Regards,



Jacquelyn Luta
Project Manager

Reviewed
on
12/17/2010

WORK ORDER #: 1011598A

Work Order Summary

CLIENT:	Mr. Jeff Adams 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:	314-429-0100	P.O. #	21562291.00005
FAX:		PROJECT #	Roxana Dissolved Phase
DATE RECEIVED:	11/24/2010	CONTACT:	Jacquelyn Luta
DATE COMPLETED:	12/08/2010		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	VMP-8-23.5-111910 ✓	Modified TO-15	6.0 "Hg	15 psi
02A	VMP-9-5-111910 ✓	Modified TO-15	4.5 "Hg	15 psi
03A	VMP-9-11.5-111910 ✓	Modified TO-15	7.5 "Hg	15 psi
04A	VMP-9-25.5-111910 ✓	Modified TO-15	8.0 "Hg	15 psi
05A	VMP-7-5-111910 ✓	Modified TO-15	4.5 "Hg	15 psi
06A	VMP-7-13.5-111910 ✓	Modified TO-15	5.0 "Hg	15 psi
06B	VMP-7-13.5-111910 ✓	Modified TO-15	5.0 "Hg	15 psi
07A	VMP-7-29.5-111910 ✓	Modified TO-15	5.5 "Hg	15 psi
08A	VMP-18-8.5-111910 ✓	Modified TO-15	2.0 "Hg	15 psi
09A	VMP-3-5-112210 ✓	Modified TO-15	7.5 "Hg	15 psi
10A	VMP-3-22-112210 ✓	Modified TO-15	4.0 "Hg	15 psi
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
11C	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
12B	CCV	Modified TO-15	NA	NA
12C	CCV	Modified TO-15	NA	NA

Continued on next page

WORK ORDER #: 1011598A

Work Order Summary

CLIENT:	Mr. Jeff Adams 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:	314-429-0100	P.O. #	21562291.00005
FAX:		PROJECT #	Roxana Dissolved Phase
DATE RECEIVED:	11/24/2010	CONTACT:	Jacquelyn Luta
DATE COMPLETED:	12/08/2010		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
13A	LCS	Modified TO-15	NA	NA
13AA	LCSD	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA
13BB	LCSD	Modified TO-15	NA	NA
13C	LCS	Modified TO-15	NA	NA
13CC	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: *Sandra D. Freeman*

DATE: 12/08/10

Laboratory Director

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

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11

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

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
EPA Method TO-15
URS Corporation
Workorder# 1011598A**

Ten 1 Liter Summa Canister samples were received on November 24, 2010. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Due to high-level target compounds, sample VMP-7-13.5-111910 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.

Dilution was performed on samples VMP-9-11.5-111910, VMP-9-25.5-111910, VMP-7-13.5-111910, and VMP-7-29.5-111910 due to the presence of high level target species.

Dilution was performed on samples VMP-3-5-112210 and VMP-3-22-112210 due to the presence of high level non-target species.

The recovery of surrogate 1,2-Dichloroethane-d4 in samples VMP-7-13.5-111910 "B" fraction and VMP-7-29.5-111910 was outside control limits due to high level hydrocarbon matrix interference. Data is reported as qualified.

All Quality Control Limit exceedences 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.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

- E - Exceeds instrument calibration range.
- S - Saturated peak.
- Q - Exceeds quality control limits.
- U - Compound analyzed for but not detected above the reporting limit.
- UJ- Non-detected compound associated with low bias in the CCV
- N - The identification is based on presumptive evidence.

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

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue

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

Client Sample ID: VMP-8-23.5-111910

Lab ID#: 1011598A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	5.0	4.0 J	9.5	7.6 J
Acetone	5.0	14	12	33
2-Propanol	5.0	2.6 J	12	6.3 J
Hexane	1.3	0.52 J	4.4	1.8 J
2-Butanone (Methyl Ethyl Ketone)	1.3	2.3	3.7	6.8
Cyclohexane	1.3	0.53 J	4.3	1.8 J
2,2,4-Trimethylpentane	1.3	1.3	5.9	6.1
Benzene	1.3	0.90 J	4.0	2.9 J
Heptane	1.3	0.38 J	5.2	1.5 J
Trichloroethene	1.3	1.2 J	6.8	6.4 J
Toluene	1.3	0.34 J	4.7	1.3 J
Tetrachloroethene	1.3	0.60 J	8.5	4.1 J
Ethyl Benzene	1.3	0.34 J	5.5	1.5 J
m,p-Xylene	1.3	0.24 J	5.5	1.0 J
Styrene	1.3	0.57 J	5.4	2.4 J

Client Sample ID: VMP-9-5-111910

Lab ID#: 1011598A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	4.8	3.8 J	9.0	7.1 J
Acetone	4.8	5.8	11	14
2-Propanol	4.8	11	12	28
Methylene Chloride	1.2	0.0 ND 0.21 u"	4.1	0.0 ND 0.72 u"
Hexane	1.2	0.39 J	4.2	1.4 J
2,2,4-Trimethylpentane	1.2	1.6	5.6	7.5
Heptane	1.2	0.39 J	4.9	1.6 J
Trichloroethene	1.2	0.69 J	6.4	3.7 J
Toluene	1.2	0.17 J	4.5	0.64 J
Tetrachloroethene	1.2	2.4	8.1	16
Ethyl Benzene	1.2	0.24 J	5.2	1.0 J

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

Client Sample ID: VMP-9-5-111910

Lab ID#: 1011598A-02A

Styrene	1.2	0.40 J	5.1	1.7 J
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Client Sample ID: VMP-9-11.5-111910

Lab ID#: 1011598A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methylene Chloride	74	93	260	320
2,2,4-Trimethylpentane	74	32000	350	150000
Benzene	74	35 J	240	110 J
Trichloroethene	74	68 J	400	370 J

Client Sample ID: VMP-9-25.5-111910

Lab ID#: 1011598A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methylene Chloride	230	120 J	800	440 J
Hexane	230	510	810	1800
Cyclohexane	230	5800	790	20000
2,2,4-Trimethylpentane	230	120000	1100	550000
Benzene	230	600	730	1900

Client Sample ID: VMP-7-5-111910

Lab ID#: 1011598A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	4.8	1.7 J	9.0	3.1 J
Acetone	4.8	5.9	11	14
2-Propanol	4.8	2.2 J	12	5.3 J
Hexane	1.2	1.3	4.2	4.7
2-Butanone (Methyl Ethyl Ketone)	1.2	0.75 J	3.5	2.2 J
Cyclohexane	1.2	1.6	4.1	5.4
2,2,4-Trimethylpentane	1.2	30	5.6	140
Benzene	1.2	0.32 J	3.8	1.0 J

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

Client Sample ID: VMP-7-5-111910

Lab ID#: 1011598A-05A

Heptane	1.2	0.96 J	4.9	3.9 J
Trichloroethene	1.2	0.66 J	6.4	3.6 J
1,4-Dioxane	4.8	2.6 J	17	9.3 J
Ethyl Benzene	1.2	0.18 J	5.2	0.77 J

Client Sample ID: VMP-7-13.5-111910 * "Use these results only. All other data was reported from the 40.3X dilution analysis."
Lab ID#: 1011598A-06A DF = 60.5

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methylene Chloride	300	210 J	1000	730 J
Hexane	300	2500	1100	8900
Cyclohexane	300	7000	1000	24000
* 2,2,4-Trimethylpentane	300	96000	1400	450000
Benzene	300	440	970	1400

Client Sample ID: VMP-7-13.5-111910 * "Do not use this data. Use all other data."
Lab ID#: 1011598A-06B DF = 40.3

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methylene Chloride	200	260 "J"	700	910 "J"
Hexane	200	2500 "J"	710	8900 "J"
Cyclohexane	200	7600 "J"	690	26000 "J"
** 2,2,4-Trimethylpentane	200	110000 E	940	500000 E
Benzene	200	410 "J"	640	1300 "J"
Heptane	200	1200 "J"	820	4900 "J"
Trichloroethene	200	350 "J"	1100	1900 "J"

Client Sample ID: VMP-7-29.5-111910

Lab ID#: 1011598A-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	620	77000 "J"	2200	270000 "J"
Cyclohexane	620	120000 "J"	2100	410000 "J"

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

Client Sample ID: VMP-7-29.5-111910

Lab ID#: 1011598A-07A

2,2,4-Trimethylpentane	620	240000 "J"	2900	1100000 "J"
Benzene	620	19000 "J"	2000	62000 "J"
Heptane	620	73000 "J"	2500	300000 "J"
m,p-Xylene	620	210 "J"	2700	910 "J"
Cumene	620	970 "J"	3000	4800 "J"
Propylbenzene	620	800 "J"	3000	3900 "J"

Client Sample ID: VMP-18-8.5-111910

Lab ID#: 1011598A-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	4.3	0.88 J	8.1	1.7 J
Acetone	4.3	3.2 J	10	7.7 J
2-Propanol	4.3	1.4 J	11	3.6 J
Hexane	1.1	0.89 J	3.8	3.1 J
2-Butanone (Methyl Ethyl Ketone)	1.1	0.44 J	3.2	1.3 J
Cyclohexane	1.1	1.2	3.7	4.1
2,2,4-Trimethylpentane	1.1	20	5.0	93
Heptane	1.1	0.64 J	4.4	2.6 J
Trichloroethene	1.1	0.42 J	5.8	2.2 J
1,4-Dioxane	4.3	1.5 J	16	5.4 J

Client Sample ID: VMP-3-5-112210

Lab ID#: 1011598A-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	5400	1300 J	13000	3100 J
2-Propanol	5400	860 J	13000	2100 J
Methylene Chloride	1300	4000	4700	14000
Hexane	1300	43000	4700	150000
Cyclohexane	1300	98000	4600	340000
Carbon Tetrachloride	1300	590 J	8500	3700 J
2,2,4-Trimethylpentane	1300	230000	6300	1100000

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

Client Sample ID: VMP-3-5-112210

Lab ID#: 1011598A-09A

Benzene	1300	880 J	4300	2800 J
Trichloroethene	1300	1600	7200	8900
Toluene	1300	850 J	5100	3200 J
Tetrachloroethene	1300	660 J	9100	4500 J
m,p-Xylene	1300	530 J	5800	2300 J

Client Sample ID: VMP-3-22-112210

Lab ID#: 1011598A-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methylene Chloride	4700	5500	16000	19000
Hexane	4700	570000	16000	2000000
Cyclohexane	4700	390000	16000	1300000
2,2,4-Trimethylpentane	4700	880000	22000	4100000
Benzene	4700	11000	15000	36000
Heptane	4700	35000	19000	140000
m,p-Xylene	4700	2000 J	20000	8800 J
Cumene	4700	4000 J	23000	20000 J
Propylbenzene	4700	8100	23000	40000

Client Sample ID: VMP-8-23.5-111910

Lab ID#: 1011598A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.2	Not Detected
Freon 114	1.3	Not Detected	8.8	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	1.3	Not Detected	3.2	Not Detected
1,3-Butadiene	1.3	Not Detected	2.8	Not Detected
Bromomethane	1.3	Not Detected	4.9	Not Detected
Chloroethane	1.3	Not Detected	3.3	Not Detected
Freon 11	1.3	Not Detected	7.1	Not Detected
Ethanol	5.0	4.0 J	9.5	7.6 J
Freon 113	1.3	Not Detected	9.6	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.0	Not Detected
Acetone	5.0	14	12	33
2-Propanol	5.0	2.6 J	12	6.3 J
Carbon Disulfide	1.3	Not Detected	3.9	Not Detected
3-Chloropropene	5.0	Not Detected	16	Not Detected
Methylene Chloride	1.3	Not Detected	4.4	Not Detected
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	0.52 J	4.4	1.8 J
1,1-Dichloroethane	1.3	Not Detected	5.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.3	2.3	3.7	6.8
cis-1,2-Dichloroethene	1.3	Not Detected	5.0	Not Detected
Tetrahydrofuran	1.3	Not Detected	3.7	Not Detected
Chloroform	1.3	Not Detected	6.2	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	6.9	Not Detected
Cyclohexane	1.3	0.53 J	4.3	1.8 J
Carbon Tetrachloride	1.3	Not Detected	7.9	Not Detected
2,2,4-Trimethylpentane	1.3	1.3	5.9	6.1
Benzene	1.3	0.90 J	4.0	2.9 J
1,2-Dichloroethane	1.3	Not Detected	5.1	Not Detected
Heptane	1.3	0.38 J	5.2	1.5 J
Trichloroethene	1.3	1.2 J	6.8	6.4 J
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	Not Detected	5.2	Not Detected
Toluene	1.3	0.34 J	4.7	1.3 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	0.60 J	8.5	4.1 J

Client Sample ID: VMP-8-23.5-111910

Lab ID#: 1011598A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x120120	Date of Collection:	11/19/10 3:36:00 PM
Dil. Factor:	2.52	Date of Analysis:	12/2/10 11:47 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	5.0	Not Detected	21	Not Detected
Dibromochloromethane	1.3	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.3	Not Detected	9.7	Not Detected
Chlorobenzene	1.3	Not Detected	5.8	Not Detected
Ethyl Benzene	1.3	0.34 J	5.5	1.5 J
m,p-Xylene	1.3	0.24 J	5.5	1.0 J
o-Xylene	1.3	Not Detected	5.5	Not Detected
Styrene	1.3	0.57 J	5.4	2.4 J
Bromoform	1.3	Not Detected	13	Not Detected
Cumene	1.3	Not Detected	6.2	Not Detected
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	Not Detected	6.2	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.6	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.6	Not Detected
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

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	89	70-130



Client Sample ID: VMP-9-5-111910

Lab ID#: 1011598A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
File Name:	x120121		Date of Collection:	11/19/10 10:08:00 A
Dil. Factor:	2.38		Date of Analysis:	12/2/10 12:30 PM
Freon 12	1.2	Not Detected	5.9	Not Detected
Freon 114	1.2	Not Detected	8.3	Not Detected
Chloromethane	4.8	Not Detected	9.8	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,3-Butadiene	1.2	Not Detected	2.6	Not Detected
Bromomethane	1.2	Not Detected	4.6	Not Detected
Chloroethane	1.2	Not Detected	3.1	Not Detected
Freon 11	1.2	Not Detected	6.7	Not Detected
Ethanol	4.8	3.8 J	9.0	7.1 J
Freon 113	1.2	Not Detected	9.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Acetone	4.8	5.8	11	14
2-Propanol	4.8	11	12	28
Carbon Disulfide	1.2	Not Detected	3.7	Not Detected
3-Chloropropene	4.8	Not Detected	15	Not Detected
Methylene Chloride	1.2	0.6 ND 0.27 U"	4.1	0.0 ND 0.72 U"
Methyl tert-butyl ether	1.2	Not Detected	4.3	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Hexane	1.2	0.39 J	4.2	1.4 J
1,1-Dichloroethane	1.2	Not Detected	4.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.2	Not Detected	3.5	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	Not Detected	5.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Cyclohexane	1.2	Not Detected	4.1	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.5	Not Detected
2,2,4-Trimethylpentane	1.2	1.6	5.6	7.5
Benzene	1.2	Not Detected	3.8	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.8	Not Detected
Heptane	1.2	0.39 J	4.9	1.6 J
Trichloroethene	1.2	0.69 J	6.4	3.7 J
1,2-Dichloropropane	1.2	Not Detected	5.5	Not Detected
1,4-Dioxane	4.8	Not Detected	17	Not Detected
Bromodichloromethane	1.2	Not Detected	8.0	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.4	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.9	Not Detected
Toluene	1.2	0.17 J	4.5	0.64 J
trans-1,3-Dichloropropene	1.2	Not Detected	5.4	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Tetrachloroethene	1.2	2.4	8.1	16

Client Sample ID: VMP-9-5-111910

Lab ID#: 1011598A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x120121	Date of Collection:	11/19/10 10:08:00 A
Dil. Factor:	2.38	Date of Analysis:	12/2/10 12:30 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	4.8	Not Detected	19	Not Detected
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.1	Not Detected
Chlorobenzene	1.2	Not Detected	5.5	Not Detected
Ethyl Benzene	1.2	0.24 J	5.2	1.0 J
m,p-Xylene	1.2	Not Detected	5.2	Not Detected
o-Xylene	1.2	Not Detected	5.2	Not Detected
Styrene	1.2	0.40 J	5.1	1.7 J
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.8	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.2	Not Detected
Propylbenzene	1.2	Not Detected	5.8	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.8	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.8	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	5.8	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.2	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
1,2,4-Trichlorobenzene	4.8	Not Detected	35	Not Detected
Hexachlorobutadiene	4.8	Not Detected	51	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	85	70-130



Client Sample ID: VMP-9-11.5-111910

Lab ID#: 1011598A-03A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120219	Date of Collection:	11/19/10 11:35:00 A
Dil. Factor:	14.9	Date of Analysis:	12/2/10 09:07 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	74	Not Detected	370	Not Detected
Freon 114	74	Not Detected	520	Not Detected
Chloromethane	300	Not Detected	620	Not Detected
Vinyl Chloride	74	Not Detected	190	Not Detected
1,3-Butadiene	74	Not Detected	160	Not Detected
Bromomethane	74	Not Detected	290	Not Detected
Chloroethane	74	Not Detected	200	Not Detected
Freon 11	74	Not Detected	420	Not Detected
Ethanol	300	Not Detected	560	Not Detected
Freon 113	74	Not Detected	570	Not Detected
1,1-Dichloroethene	74	Not Detected	300	Not Detected
Acetone	300	Not Detected	710	Not Detected
2-Propanol	300	Not Detected	730	Not Detected
Carbon Disulfide	74	Not Detected	230	Not Detected
3-Chloropropene	300	Not Detected	930	Not Detected
Methylene Chloride	74	93	260	320
Methyl tert-butyl ether	74	Not Detected	270	Not Detected
trans-1,2-Dichloroethene	74	Not Detected	300	Not Detected
Hexane	74	Not Detected	260	Not Detected
1,1-Dichloroethane	74	Not Detected	300	Not Detected
2-Butanone (Methyl Ethyl Ketone)	74	Not Detected	220	Not Detected
cis-1,2-Dichloroethene	74	Not Detected	300	Not Detected
Tetrahydrofuran	74	Not Detected	220	Not Detected
Chloroform	74	Not Detected	360	Not Detected
1,1,1-Trichloroethane	74	Not Detected	410	Not Detected
Cyclohexane	74	Not Detected	260	Not Detected
Carbon Tetrachloride	74	Not Detected	470	Not Detected
2,2,4-Trimethylpentane	74	32000	350	150000
Benzene	74	35 J	240	110 J
1,2-Dichloroethane	74	Not Detected	300	Not Detected
Heptane	74	Not Detected	300	Not Detected
Trichloroethene	74	68 J	400	370 J
1,2-Dichloropropane	74	Not Detected	340	Not Detected
1,4-Dioxane	300	Not Detected	1100	Not Detected
Bromodichloromethane	74	Not Detected	500	Not Detected
cis-1,3-Dichloropropene	74	Not Detected	340	Not Detected
4-Methyl-2-pentanone	74	Not Detected	300	Not Detected
Toluene	74	Not Detected	280	Not Detected
trans-1,3-Dichloropropene	74	Not Detected	340	Not Detected
1,1,2-Trichloroethane	74	Not Detected	410	Not Detected
Tetrachloroethene	74	Not Detected	500	Not Detected



Client Sample ID: VMP-9-11.5-111910

Lab ID#: 1011598A-03A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120219	Date of Collection:	11/19/10 11:35:00 A
Dil. Factor:	14.9	Date of Analysis:	12/2/10 09:07 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	300	Not Detected	1200	Not Detected
Dibromochloromethane	74	Not Detected	630	Not Detected
1,2-Dibromoethane (EDB)	74	Not Detected	570	Not Detected
Chlorobenzene	74	Not Detected	340	Not Detected
Ethyl Benzene	74	Not Detected	320	Not Detected
m,p-Xylene	74	Not Detected	320	Not Detected
o-Xylene	74	Not Detected	320	Not Detected
Styrene	74	Not Detected	320	Not Detected
Bromoform	74	Not Detected	770	Not Detected
Cumene	74	Not Detected	370	Not Detected
1,1,2,2-Tetrachloroethane	74	Not Detected	510	Not Detected
Propylbenzene	74	Not Detected	370	Not Detected
4-Ethyltoluene	74	Not Detected	370	Not Detected
1,3,5-Trimethylbenzene	74	Not Detected	370	Not Detected
1,2,4-Trimethylbenzene	74	Not Detected	370	Not Detected
1,3-Dichlorobenzene	74	Not Detected	450	Not Detected
1,4-Dichlorobenzene	74	Not Detected	450	Not Detected
alpha-Chlorotoluene	74	Not Detected	380	Not Detected
1,2-Dichlorobenzene	74	Not Detected	450	Not Detected
1,2,4-Trichlorobenzene	300	Not Detected	2200	Not Detected
Hexachlorobutadiene	300	Not Detected	3200	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	124	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: VMP-9-25.5-111910

Lab ID#: 1011598A-04A

MODIFIED EPA METHOD TO-15 GC/MS

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
File Name:	b120218		Date of Collection:	11/19/10 1:00:00 PM
Dil. Factor:	46.0		Date of Analysis:	12/2/10 08:43 PM
Freon 12	230	Not Detected	1100	Not Detected
Freon 114	230	Not Detected	1600	Not Detected
Chloromethane	920	Not Detected	1900	Not Detected
Vinyl Chloride	230	Not Detected	590	Not Detected
1,3-Butadiene	230	Not Detected	510	Not Detected
Bromomethane	230	Not Detected	890	Not Detected
Chloroethane	230	Not Detected	610	Not Detected
Freon 11	230	Not Detected	1300	Not Detected
Ethanol	920	Not Detected	1700	Not Detected
Freon 113	230	Not Detected	1800	Not Detected
1,1-Dichloroethene	230	Not Detected	910	Not Detected
Acetone	920	Not Detected	2200	Not Detected
2-Propanol	920	Not Detected	2300	Not Detected
Carbon Disulfide	230	Not Detected	720	Not Detected
3-Chloropropene	920	Not Detected	2900	Not Detected
Methylene Chloride	230	120 J	800	440 J
Methyl tert-butyl ether	230	Not Detected	830	Not Detected
trans-1,2-Dichloroethene	230	Not Detected	910	Not Detected
Hexane	230	510	810	1800
1,1-Dichloroethane	230	Not Detected	930	Not Detected
2-Butanone (Methyl Ethyl Ketone)	230	Not Detected	680	Not Detected
cis-1,2-Dichloroethene	230	Not Detected	910	Not Detected
Tetrahydrofuran	230	Not Detected	680	Not Detected
Chloroform	230	Not Detected	1100	Not Detected
1,1,1-Trichloroethane	230	Not Detected	1200	Not Detected
Cyclohexane	230	5800	790	20000
Carbon Tetrachloride	230	Not Detected	1400	Not Detected
2,2,4-Trimethylpentane	230	120000	1100	550000
Benzene	230	600	730	1900
1,2-Dichloroethane	230	Not Detected	930	Not Detected
Heptane	230	Not Detected	940	Not Detected
Trichloroethene	230	Not Detected	1200	Not Detected
1,2-Dichloropropane	230	Not Detected	1100	Not Detected
1,4-Dioxane	920	Not Detected	3300	Not Detected
Bromodichloromethane	230	Not Detected	1500	Not Detected
cis-1,3-Dichloropropene	230	Not Detected	1000	Not Detected
4-Methyl-2-pentanone	230	Not Detected	940	Not Detected
Toluene	230	Not Detected	870	Not Detected
trans-1,3-Dichloropropene	230	Not Detected	1000	Not Detected
1,1,2-Trichloroethane	230	Not Detected	1200	Not Detected
Tetrachloroethene	230	Not Detected	1600	Not Detected

Client Sample ID: VMP-9-25.5-111910

Lab ID#: 1011598A-04A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120218	Date of Collection:	11/19/10 1:00:00 PM
Dil. Factor:	46.0	Date of Analysis:	12/2/10 08:43 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	920	Not Detected	3800	Not Detected
Dibromochloromethane	230	Not Detected	2000	Not Detected
1,2-Dibromoethane (EDB)	230	Not Detected	1800	Not Detected
Chlorobenzene	230	Not Detected	1000	Not Detected
Ethyl Benzene	230	Not Detected	1000	Not Detected
m,p-Xylene	230	Not Detected	1000	Not Detected
o-Xylene	230	Not Detected	1000	Not Detected
Styrene	230	Not Detected	980	Not Detected
Bromoform	230	Not Detected	2400	Not Detected
Cumene	230	Not Detected	1100	Not Detected
1,1,2,2-Tetrachloroethane	230	Not Detected	1600	Not Detected
Propylbenzene	230	Not Detected	1100	Not Detected
4-Ethyltoluene	230	Not Detected	1100	Not Detected
1,3,5-Trimethylbenzene	230	Not Detected	1100	Not Detected
1,2,4-Trimethylbenzene	230	Not Detected	1100	Not Detected
1,3-Dichlorobenzene	230	Not Detected	1400	Not Detected
1,4-Dichlorobenzene	230	Not Detected	1400	Not Detected
alpha-Chlorotoluene	230	Not Detected	1200	Not Detected
1,2-Dichlorobenzene	230	Not Detected	1400	Not Detected
1,2,4-Trichlorobenzene	920	Not Detected	6800	Not Detected
Hexachlorobutadiene	920	Not Detected	9800	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	127	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	97	70-130



Client Sample ID: VMP-7-5-111910

Lab ID#: 1011598A-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x120122	Date of Collection:	11/19/10 10:46:00 A
Dil. Factor:	2.38	Date of Analysis:	12/2/10 01:32 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.9	Not Detected
Freon 114	1.2	Not Detected	8.3	Not Detected
Chloromethane	4.8	Not Detected	9.8	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,3-Butadiene	1.2	Not Detected	2.6	Not Detected
Bromomethane	1.2	Not Detected	4.6	Not Detected
Chloroethane	1.2	Not Detected	3.1	Not Detected
Freon 11	1.2	Not Detected	6.7	Not Detected
Ethanol	4.8	1.7 J	9.0	3.1 J
Freon 113	1.2	Not Detected	9.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Acetone	4.8	5.9	11	14
2-Propanol	4.8	2.2 J	12	5.3 J
Carbon Disulfide	1.2	Not Detected	3.7	Not Detected
3-Chloropropene	4.8	Not Detected	15	Not Detected
Methylene Chloride	1.2	Not Detected	4.1	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.3	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Hexane	1.2	1.3	4.2	4.7
1,1-Dichloroethane	1.2	Not Detected	4.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.2	0.75 J	3.5	2.2 J
cis-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.5	Not Detected
Chloroform	1.2	Not Detected	5.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Cyclohexane	1.2	1.6	4.1	5.4
Carbon Tetrachloride	1.2	Not Detected	7.5	Not Detected
2,2,4-Trimethylpentane	1.2	30	5.6	140
Benzene	1.2	0.32 J	3.8	1.0 J
1,2-Dichloroethane	1.2	Not Detected	4.8	Not Detected
Heptane	1.2	0.96 J	4.9	3.9 J
Trichloroethene	1.2	0.66 J	6.4	3.6 J
1,2-Dichloropropane	1.2	Not Detected	5.5	Not Detected
1,4-Dioxane	4.8	2.6 J	17	9.3 J
Bromodichloromethane	1.2	Not Detected	8.0	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.4	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.9	Not Detected
Toluene	1.2	Not Detected	4.5	Not Detected
trans-1,3-Dichloropropene	1.2	Not Detected	5.4	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Tetrachloroethene	1.2	Not Detected	8.1	Not Detected

Client Sample ID: VMP-7-5-111910

Lab ID#: 1011598A-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x120122	Date of Collection: 11/19/10 10:46:00 A
Dil. Factor:	2.38	Date of Analysis: 12/2/10 01:32 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	4.8	Not Detected	19	Not Detected
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.1	Not Detected
Chlorobenzene	1.2	Not Detected	5.5	Not Detected
Ethyl Benzene	1.2	0.18 J	5.2	0.77 J
m,p-Xylene	1.2	Not Detected	5.2	Not Detected
o-Xylene	1.2	Not Detected	5.2	Not Detected
Styrene	1.2	Not Detected	5.1	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	Not Detected	8.2	Not Detected
Propylbenzene	1.2	Not Detected	5.8	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.8	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.8	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	5.8	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.2	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
1,2,4-Trichlorobenzene	4.8	Not Detected	35	Not Detected
Hexachlorobutadiene	4.8	Not Detected	51	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	87	70-130

* Use these results only. All other data was reported from the 40.3 X dilution analysis.



Client Sample ID: VMP-7-13.5-111910

Lab ID#: 1011598A-06A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120220	Date of Collection:	11/19/10 12:16:00 P
Dil. Factor:	60.5	Date of Analysis:	12/2/10 09:48 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	300	Not Detected	1500	Not Detected
Freon 114	300	Not Detected	2100	Not Detected
Chloromethane	1200	Not Detected	2500	Not Detected
Vinyl Chloride	300	Not Detected	770	Not Detected
1,3-Butadiene	300	Not Detected	670	Not Detected
Bromomethane	300	Not Detected	1200	Not Detected
Chloroethane	300	Not Detected	800	Not Detected
Freon 11	300	Not Detected	1700	Not Detected
Ethanol	1200	Not Detected	2300	Not Detected
Freon 113	300	Not Detected	2300	Not Detected
1,1-Dichloroethene	300	Not Detected	1200	Not Detected
Acetone	1200	Not Detected	2900	Not Detected
2-Propanol	1200	Not Detected	3000	Not Detected
Carbon Disulfide	300	Not Detected	940	Not Detected
3-Chloropropene	1200	Not Detected	3800	Not Detected
Methylene Chloride	300	210 J	1000	730 J
Methyl tert-butyl ether	300	Not Detected	1100	Not Detected
trans-1,2-Dichloroethene	300	Not Detected	1200	Not Detected
Hexane	300	2600	1100	8900
1,1-Dichloroethane	300	Not Detected	1200	Not Detected
2-Butanone (Methyl Ethyl Ketone)	300	Not Detected	890	Not Detected
cis-1,2-Dichloroethene	300	Not Detected	1200	Not Detected
Tetrahydrofuran	300	Not Detected	890	Not Detected
Chloroform	300	Not Detected	1500	Not Detected
1,1,1-Trichloroethane	300	Not Detected	1600	Not Detected
Cyclohexane	300	7000	1000	24000
Carbon Tetrachloride	300	Not Detected	1900	Not Detected
* 2,2,4-Trimethylpentane	300	96000	1400	450000
Benzene	300	440	970	1400
1,2-Dichloroethane	300	Not Detected	1200	Not Detected
Heptane	300	Not Detected	1200	Not Detected
Trichloroethene	300	Not Detected	1600	Not Detected
1,2-Dichloropropane	300	Not Detected	1400	Not Detected
1,4-Dioxane	1200	Not Detected	4400	Not Detected
Bromodichloromethane	300	Not Detected	2000	Not Detected
cis-1,3-Dichloropropene	300	Not Detected	1400	Not Detected
4-Methyl-2-pentanone	300	Not Detected	1200	Not Detected
Toluene	300	Not Detected	1100	Not Detected
trans-1,3-Dichloropropene	300	Not Detected	1400	Not Detected
1,1,2-Trichloroethane	300	Not Detected	1600	Not Detected
Tetrachloroethene	300	Not Detected	2000	Not Detected

Client Sample ID: VMP-7-13.5-111910

Lab ID#: 1011598A-06A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120220	Date of Collection: 11/19/10 12:16:00 P
Dil. Factor:	60.5	Date of Analysis: 12/2/10 09:48 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	1200	Not Detected	5000	Not Detected
Dibromochloromethane	300	Not Detected	2600	Not Detected
1,2-Dibromoethane (EDB)	300	Not Detected	2300	Not Detected
Chlorobenzene	300	Not Detected	1400	Not Detected
Ethyl Benzene	300	Not Detected	1300	Not Detected
m,p-Xylene	300	Not Detected	1300	Not Detected
o-Xylene	300	Not Detected	1300	Not Detected
Styrene	300	Not Detected	1300	Not Detected
Bromoform	300	Not Detected	3100	Not Detected
Cumene	300	Not Detected	1500	Not Detected
1,1,2,2-Tetrachloroethane	300	Not Detected	2100	Not Detected
Propylbenzene	300	Not Detected	1500	Not Detected
4-Ethyltoluene	300	Not Detected	1500	Not Detected
1,3,5-Trimethylbenzene	300	Not Detected	1500	Not Detected
1,2,4-Trimethylbenzene	300	Not Detected	1500	Not Detected
1,3-Dichlorobenzene	300	Not Detected	1800	Not Detected
1,4-Dichlorobenzene	300	Not Detected	1800	Not Detected
alpha-Chlorotoluene	300	Not Detected	1600	Not Detected
1,2-Dichlorobenzene	300	Not Detected	1800	Not Detected
1,2,4-Trichlorobenzene	1200	Not Detected	9000	Not Detected
Hexachlorobutadiene	1200	Not Detected	13000	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	123	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	95	70-130

✘ "Do not use this data. Use all other data."



Client Sample ID: VMP-7-13.5-111910

Lab ID#: 1011598A-06B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120217	Date of Collection:	11/19/10 12:16:00 P
Dil. Factor:	40.3	Date of Analysis:	12/2/10 08:23 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	200	Not Detected	1000	Not Detected
Freon 114	200	Not Detected	1400	Not Detected
Chloromethane	810	Not Detected	1700	Not Detected
Vinyl Chloride	200	Not Detected	520	Not Detected
1,3-Butadiene	200	Not Detected	440	Not Detected
Bromomethane	200	Not Detected	780	Not Detected
Chloroethane	200	Not Detected	530	Not Detected
Freon 11	200	Not Detected	1100	Not Detected
Ethanol	810	Not Detected	1500	Not Detected
Freon 113	200	Not Detected	1500	Not Detected
1,1-Dichloroethene	200	Not Detected	800	Not Detected
Acetone	810	Not Detected	1900	Not Detected
2-Propanol	810	Not Detected	2000	Not Detected
Carbon Disulfide	200	Not Detected	630	Not Detected
3-Chloropropene	810	Not Detected	2500	Not Detected
Methylene Chloride	200	260 "J"	700	910 "J"
Methyl tert-butyl ether	200	Not Detected	730	Not Detected
trans-1,2-Dichloroethene	200	Not Detected	800	Not Detected
Hexane	200	2500 "J"	710	8900 "J"
1,1-Dichloroethane	200	Not Detected	820	Not Detected
2-Butanone (Methyl Ethyl Ketone)	200	Not Detected	590	Not Detected
cis-1,2-Dichloroethene	200	Not Detected	800	Not Detected
Tetrahydrofuran	200	Not Detected	590	Not Detected
Chloroform	200	Not Detected	980	Not Detected
1,1,1-Trichloroethane	200	Not Detected	1100	Not Detected
Cyclohexane	200	7600 "J"	690	26000 "J"
Carbon Tetrachloride	200	Not Detected	1300	Not Detected
2,2,4 Trimethylpentane	200	110000 E	940	500000 E
Benzene	200	410 "J"	640	1300 "J"
1,2-Dichloroethane	200	Not Detected	820	Not Detected
Heptane	200	1200 "J"	820	4900 "J"
Trichloroethene	200	350 "J"	1100	1900 "J"
1,2-Dichloropropane	200	Not Detected	930	Not Detected
1,4-Dioxane	810	Not Detected	2900	Not Detected
Bromodichloromethane	200	Not Detected	1400	Not Detected
cis-1,3-Dichloropropene	200	Not Detected	910	Not Detected
4-Methyl-2-pentanone	200	Not Detected	820	Not Detected
Toluene	200	Not Detected	760	Not Detected
trans-1,3-Dichloropropene	200	Not Detected	910	Not Detected
1,1,2-Trichloroethane	200	Not Detected	1100	Not Detected
Tetrachloroethene	200	Not Detected	1400	Not Detected

Client Sample ID: VMP-7-13.5-111910

Lab ID#: 1011598A-06B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120217	Date of Collection: 11/19/10 12:16:00 P
Dil. Factor:	40.3	Date of Analysis: 12/2/10 08:23 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	810	Not Detected	3300	Not Detected
Dibromochloromethane	200	Not Detected	1700	Not Detected
1,2-Dibromoethane (EDB)	200	Not Detected	1500	Not Detected
Chlorobenzene	200	Not Detected	930	Not Detected
Ethyl Benzene	200	Not Detected	870	Not Detected
m,p-Xylene	200	Not Detected	870	Not Detected
o-Xylene	200	Not Detected	870	Not Detected
Styrene	200	Not Detected	860	Not Detected
Bromoform	200	Not Detected	2100	Not Detected
Cumene	200	Not Detected	990	Not Detected
1,1,2,2-Tetrachloroethane	200	Not Detected	1400	Not Detected
Propylbenzene	200	Not Detected	990	Not Detected
4-Ethyltoluene	200	Not Detected	990	Not Detected
1,3,5-Trimethylbenzene	200	Not Detected	990	Not Detected
1,2,4-Trimethylbenzene	200	Not Detected	990	Not Detected
1,3-Dichlorobenzene	200	Not Detected	1200	Not Detected
1,4-Dichlorobenzene	200	Not Detected	1200	Not Detected
alpha-Chlorotoluene	200	Not Detected	1000	Not Detected
1,2-Dichlorobenzene	200	Not Detected	1200	Not Detected
1,2,4-Trichlorobenzene	810	Not Detected	6000	Not Detected
Hexachlorobutadiene	810	Not Detected	8600	Not Detected

E = Exceeds instrument calibration range.

Q = Exceeds Quality Control limits of 70% to 130%, due to matrix effects.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	139 Q	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	96	70-130



Client Sample ID: VMP-7-29.5-111910

Lab ID#: 1011598A-07A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120221	Date of Collection:	11/19/10 1:40:00 PM
Dil. Factor:	124	Date of Analysis:	12/2/10 10:19 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	620	Not Detected	3100	Not Detected
Freon 114	620	Not Detected	4300	Not Detected
Chloromethane	2500	Not Detected	5100	Not Detected
Vinyl Chloride	620	Not Detected	1600	Not Detected
1,3-Butadiene	620	Not Detected	1400	Not Detected
Bromomethane	620	Not Detected	2400	Not Detected
Chloroethane	620	Not Detected	1600	Not Detected
Freon 11	620	Not Detected	3500	Not Detected
Ethanol	2500	Not Detected	4700	Not Detected
Freon 113	620	Not Detected	4800	Not Detected
1,1-Dichloroethene	620	Not Detected	2400	Not Detected
Acetone	2500	Not Detected	5900	Not Detected
2-Propanol	2500	Not Detected	6100	Not Detected
Carbon Disulfide	620	Not Detected	1900	Not Detected
3-Chloropropene	2500	Not Detected	7800	Not Detected
Methylene Chloride	620	Not Detected	2200	Not Detected
Methyl tert-butyl ether	620	Not Detected	2200	Not Detected
trans-1,2-Dichloroethene	620	Not Detected	2400	Not Detected
Hexane	620	77000 "J"	2200	270000 "J"
1,1-Dichloroethane	620	Not Detected	2500	Not Detected
2-Butanone (Methyl Ethyl Ketone)	620	Not Detected	1800	Not Detected
cis-1,2-Dichloroethene	620	Not Detected	2400	Not Detected
Tetrahydrofuran	620	Not Detected	1800	Not Detected
Chloroform	620	Not Detected	3000	Not Detected
1,1,1-Trichloroethane	620	Not Detected	3400	Not Detected
Cyclohexane	620	120000 "J"	2100	410000 "J"
Carbon Tetrachloride	620	Not Detected	3900	Not Detected
2,2,4-Trimethylpentane	620	240000 "J"	2900	1100000 "J"
Benzene	620	19000 "J"	2000	62000 "J"
1,2-Dichloroethane	620	Not Detected	2500	Not Detected
Heptane	620	73000 "J"	2500	300000 "J"
Trichloroethene	620	Not Detected	3300	Not Detected
1,2-Dichloropropane	620	Not Detected	2900	Not Detected
1,4-Dioxane	2500	Not Detected	8900	Not Detected
Bromodichloromethane	620	Not Detected	4200	Not Detected
cis-1,3-Dichloropropene	620	Not Detected	2800	Not Detected
4-Methyl-2-pentanone	620	Not Detected	2500	Not Detected
Toluene	620	Not Detected	2300	Not Detected
trans-1,3-Dichloropropene	620	Not Detected	2800	Not Detected
1,1,2-Trichloroethane	620	Not Detected	3400	Not Detected
Tetrachloroethene	620	Not Detected	4200	Not Detected

Client Sample ID: VMP-7-29.5-111910

Lab ID#: 1011598A-07A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120221	Date of Collection:	11/19/10 1:40:00 PM
Dil. Factor:	124	Date of Analysis:	12/2/10 10:19 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	2500	Not Detected	10000	Not Detected
Dibromochloromethane	620	Not Detected	5300	Not Detected
1,2-Dibromoethane (EDB)	620	Not Detected	4800	Not Detected
Chlorobenzene	620	Not Detected	2800	Not Detected
Ethyl Benzene	620	Not Detected	2700	Not Detected
m,p-Xylene	620	210 "J"	2700	910 "J"
o-Xylene	620	Not Detected	2700	Not Detected
Styrene	620	Not Detected	2600	Not Detected
Bromoform	620	Not Detected	6400	Not Detected
Cumene	620	970 "J"	3000	4800 "J"
1,1,2,2-Tetrachloroethane	620	Not Detected	4200	Not Detected
Propylbenzene	620	800 "J"	3000	3900 "J"
4-Ethyltoluene	620	Not Detected	3000	Not Detected
1,3,5-Trimethylbenzene	620	Not Detected	3000	Not Detected
1,2,4-Trimethylbenzene	620	Not Detected	3000	Not Detected
1,3-Dichlorobenzene	620	Not Detected	3700	Not Detected
1,4-Dichlorobenzene	620	Not Detected	3700	Not Detected
alpha-Chlorotoluene	620	Not Detected	3200	Not Detected
1,2-Dichlorobenzene	620	Not Detected	3700	Not Detected
1,2,4-Trichlorobenzene	2500	Not Detected	18000	Not Detected
Hexachlorobutadiene	2500	Not Detected	26000	Not Detected

J = 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
1,2-Dichloroethane-d4	133 Q	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	100	70-130



Client Sample ID: VMP-18-8.5-111910

Lab ID#: 1011598A-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.1	Not Detected	5.3	Not Detected
Freon 114	1.1	Not Detected	7.6	Not Detected
Chloromethane	4.3	Not Detected	8.9	Not Detected
Vinyl Chloride	1.1	Not Detected	2.8	Not Detected
1,3-Butadiene	1.1	Not Detected	2.4	Not Detected
Bromomethane	1.1	Not Detected	4.2	Not Detected
Chloroethane	1.1	Not Detected	2.8	Not Detected
Freon 11	1.1	Not Detected	6.1	Not Detected
Ethanol	4.3	0.88 J	8.1	1.7 J
Freon 113	1.1	Not Detected	8.3	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Acetone	4.3	3.2 J	10	7.7 J
2-Propanol	4.3	1.4 J	11	3.6 J
Carbon Disulfide	1.1	Not Detected	3.4	Not Detected
3-Chloropropene	4.3	Not Detected	14	Not Detected
Methylene Chloride	1.1	Not Detected	3.8	Not Detected
Methyl tert-butyl ether	1.1	Not Detected	3.9	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Hexane	1.1	0.89 J	3.8	3.1 J
1,1-Dichloroethane	1.1	Not Detected	4.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.1	0.44 J	3.2	1.3 J
cis-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Tetrahydrofuran	1.1	Not Detected	3.2	Not Detected
Chloroform	1.1	Not Detected	5.3	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	5.9	Not Detected
Cyclohexane	1.1	1.2	3.7	4.1
Carbon Tetrachloride	1.1	Not Detected	6.8	Not Detected
2,2,4-Trimethylpentane	1.1	20	5.0	93
Benzene	1.1	Not Detected	3.4	Not Detected
1,2-Dichloroethane	1.1	Not Detected	4.4	Not Detected
Heptane	1.1	0.64 J	4.4	2.6 J
Trichloroethene	1.1	0.42 J	5.8	2.2 J
1,2-Dichloropropane	1.1	Not Detected	5.0	Not Detected
1,4-Dioxane	4.3	1.5 J	16	5.4 J
Bromodichloromethane	1.1	Not Detected	7.2	Not Detected
cis-1,3-Dichloropropene	1.1	Not Detected	4.9	Not Detected
4-Methyl-2-pentanone	1.1	Not Detected	4.4	Not Detected
Toluene	1.1	Not Detected	4.1	Not Detected
trans-1,3-Dichloropropene	1.1	Not Detected	4.9	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	5.9	Not Detected
Tetrachloroethene	1.1	Not Detected	7.3	Not Detected



Client Sample ID: VMP-18-8.5-111910

Lab ID#: 1011598A-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x120123	Date of Collection:	11/19/10 3:22:00 PM
Dil. Factor:	2.16	Date of Analysis:	12/2/10 02:07 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	4.3	Not Detected	18	Not Detected
Dibromochloromethane	1.1	Not Detected	9.2	Not Detected
1,2-Dibromoethane (EDB)	1.1	Not Detected	8.3	Not Detected
Chlorobenzene	1.1	Not Detected	5.0	Not Detected
Ethyl Benzene	1.1	Not Detected	4.7	Not Detected
m,p-Xylene	1.1	Not Detected	4.7	Not Detected
o-Xylene	1.1	Not Detected	4.7	Not Detected
Styrene	1.1	Not Detected	4.6	Not Detected
Bromoform	1.1	Not Detected	11	Not Detected
Cumene	1.1	Not Detected	5.3	Not Detected
1,1,2,2-Tetrachloroethane	1.1	Not Detected	7.4	Not Detected
Propylbenzene	1.1	Not Detected	5.3	Not Detected
4-Ethyltoluene	1.1	Not Detected	5.3	Not Detected
1,3,5-Trimethylbenzene	1.1	Not Detected	5.3	Not Detected
1,2,4-Trimethylbenzene	1.1	Not Detected	5.3	Not Detected
1,3-Dichlorobenzene	1.1	Not Detected	6.5	Not Detected
1,4-Dichlorobenzene	1.1	Not Detected	6.5	Not Detected
alpha-Chlorotoluene	1.1	Not Detected	5.6	Not Detected
1,2-Dichlorobenzene	1.1	Not Detected	6.5	Not Detected
1,2,4-Trichlorobenzene	4.3	Not Detected	32	Not Detected
Hexachlorobutadiene	4.3	Not Detected	46	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	89	70-130

Client Sample ID: VMP-3-5-112210

Lab ID#: 1011598A-09A

MODIFIED EPA METHOD TO-15 GC/MS

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
File Name:	b120308	Date of Collection: 11/22/10 9:35:00 AM		
Dil. Factor:	269	Date of Analysis: 12/3/10 01:03 PM		
Freon 12	1300	Not Detected	6600	Not Detected
Freon 114	1300	Not Detected	9400	Not Detected
Chloromethane	5400	Not Detected	11000	Not Detected
Vinyl Chloride	1300	Not Detected	3400	Not Detected
1,3-Butadiene	1300	Not Detected	3000	Not Detected
Bromomethane	1300	Not Detected	5200	Not Detected
Chloroethane	1300	Not Detected	3500	Not Detected
Freon 11	1300	Not Detected	7600	Not Detected
Ethanol	5400	Not Detected	10000	Not Detected
Freon 113	1300	Not Detected	10000	Not Detected
1,1-Dichloroethene	1300	Not Detected	5300	Not Detected
Acetone	5400	1300 J	13000	3100 J
2-Propanol	5400	860 J	13000	2100 J
Carbon Disulfide	1300	Not Detected	4200	Not Detected
3-Chloropropene	5400	Not Detected	17000	Not Detected
Methylene Chloride	1300	4000	4700	14000
Methyl tert-butyl ether	1300	Not Detected	4800	Not Detected
trans-1,2-Dichloroethene	1300	Not Detected	5300	Not Detected
Hexane	1300	43000	4700	150000
1,1-Dichloroethane	1300	Not Detected	5400	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1300	Not Detected	4000	Not Detected
cis-1,2-Dichloroethene	1300	Not Detected	5300	Not Detected
Tetrahydrofuran	1300	Not Detected	4000	Not Detected
Chloroform	1300	Not Detected	6600	Not Detected
1,1,1-Trichloroethane	1300	Not Detected	7300	Not Detected
Cyclohexane	1300	98000	4600	340000
Carbon Tetrachloride	1300	590 J	8500	3700 J
2,2,4-Trimethylpentane	1300	230000	6300	1100000
Benzene	1300	880 J	4300	2800 J
1,2-Dichloroethane	1300	Not Detected	5400	Not Detected
Heptane	1300	Not Detected	5500	Not Detected
Trichloroethene	1300	1600	7200	8900
1,2-Dichloropropane	1300	Not Detected	6200	Not Detected
1,4-Dioxane	5400	Not Detected	19000	Not Detected
Bromodichloromethane	1300	Not Detected	9000	Not Detected
cis-1,3-Dichloropropene	1300	Not Detected	6100	Not Detected
4-Methyl-2-pentanone	1300	Not Detected	5500	Not Detected
Toluene	1300	850 J	5100	3200 J
trans-1,3-Dichloropropene	1300	Not Detected	6100	Not Detected
1,1,2-Trichloroethane	1300	Not Detected	7300	Not Detected
Tetrachloroethene	1300	660 J	9100	4500 J

Client Sample ID: VMP-3-5-112210

Lab ID#: 1011598A-09A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120308	Date of Collection:	11/22/10 9:35:00 AM
Dil. Factor:	269	Date of Analysis:	12/3/10 01:03 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	5400	Not Detected	22000	Not Detected
Dibromochloromethane	1300	Not Detected	11000	Not Detected
1,2-Dibromoethane (EDB)	1300	Not Detected	10000	Not Detected
Chlorobenzene	1300	Not Detected	6200	Not Detected
Ethyl Benzene	1300	Not Detected	5800	Not Detected
m,p-Xylene	1300	530 J	5800	2300 J
o-Xylene	1300	Not Detected	5800	Not Detected
Styrene	1300	Not Detected	5700	Not Detected
Bromoform	1300	Not Detected	14000	Not Detected
Cumene	1300	Not Detected	6600	Not Detected
1,1,2,2-Tetrachloroethane	1300	Not Detected	9200	Not Detected
Propylbenzene	1300	Not Detected	6600	Not Detected
4-Ethyltoluene	1300	Not Detected	6600	Not Detected
1,3,5-Trimethylbenzene	1300	Not Detected	6600	Not Detected
1,2,4-Trimethylbenzene	1300	Not Detected	6600	Not Detected
1,3-Dichlorobenzene	1300	Not Detected	8100	Not Detected
1,4-Dichlorobenzene	1300	Not Detected	8100	Not Detected
alpha-Chlorotoluene	1300	Not Detected	7000	Not Detected
1,2-Dichlorobenzene	1300	Not Detected	8100	Not Detected
1,2,4-Trichlorobenzene	5400	Not Detected	40000	Not Detected
Hexachlorobutadiene	5400	Not Detected	57000	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

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

Client Sample ID: VMP-3-22-112210

Lab ID#: 1011598A-10A

MODIFIED EPA METHOD TO-15 GC/MS

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	4700	Not Detected	23000	Not Detected
Freon 114	4700	Not Detected	32000	Not Detected
Chloromethane	19000	Not Detected	38000	Not Detected
Vinyl Chloride	4700	Not Detected	12000	Not Detected
1,3-Butadiene	4700	Not Detected	10000	Not Detected
Bromomethane	4700	Not Detected	18000	Not Detected
Chloroethane	4700	Not Detected	12000	Not Detected
Freon 11	4700	Not Detected	26000	Not Detected
Ethanol	19000	Not Detected	35000	Not Detected
Freon 113	4700	Not Detected	36000	Not Detected
1,1-Dichloroethene	4700	Not Detected	18000	Not Detected
Acetone	19000	Not Detected	44000	Not Detected
2-Propanol	19000	Not Detected	46000	Not Detected
Carbon Disulfide	4700	Not Detected	14000	Not Detected
3-Chloropropene	19000	Not Detected	58000	Not Detected
Methylene Chloride	4700	5500	16000	19000
Methyl tert-butyl ether	4700	Not Detected	17000	Not Detected
trans-1,2-Dichloroethene	4700	Not Detected	18000	Not Detected
Hexane	4700	570000	16000	2000000
1,1-Dichloroethane	4700	Not Detected	19000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4700	Not Detected	14000	Not Detected
cis-1,2-Dichloroethene	4700	Not Detected	18000	Not Detected
Tetrahydrofuran	4700	Not Detected	14000	Not Detected
Chloroform	4700	Not Detected	23000	Not Detected
1,1,1-Trichloroethane	4700	Not Detected	25000	Not Detected
Cyclohexane	4700	390000	16000	1300000
Carbon Tetrachloride	4700	Not Detected	29000	Not Detected
2,2,4-Trimethylpentane	4700	880000	22000	4100000
Benzene	4700	11000	15000	36000
1,2-Dichloroethane	4700	Not Detected	19000	Not Detected
Heptane	4700	35000	19000	140000
Trichloroethene	4700	Not Detected	25000	Not Detected
1,2-Dichloropropane	4700	Not Detected	22000	Not Detected
1,4-Dioxane	19000	Not Detected	67000	Not Detected
Bromodichloromethane	4700	Not Detected	31000	Not Detected
cis-1,3-Dichloropropene	4700	Not Detected	21000	Not Detected
4-Methyl-2-pentanone	4700	Not Detected	19000	Not Detected
Toluene	4700	Not Detected	18000	Not Detected
trans-1,3-Dichloropropene	4700	Not Detected	21000	Not Detected
1,1,2-Trichloroethane	4700	Not Detected	25000	Not Detected
Tetrachloroethene	4700	Not Detected	32000	Not Detected

Client Sample ID: VMP-3-22-112210

Lab ID#: 1011598A-10A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120310	Date of Collection:	11/22/10 1:51:00 PM
Dil. Factor:	932	Date of Analysis:	12/3/10 02:16 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	19000	Not Detected	76000	Not Detected
Dibromochloromethane	4700	Not Detected	40000	Not Detected
1,2-Dibromoethane (EDB)	4700	Not Detected	36000	Not Detected
Chlorobenzene	4700	Not Detected	21000	Not Detected
Ethyl Benzene	4700	Not Detected	20000	Not Detected
m,p-Xylene	4700	2000 J	20000	8800 J
o-Xylene	4700	Not Detected	20000	Not Detected
Styrene	4700	Not Detected	20000	Not Detected
Bromoform	4700	Not Detected	48000	Not Detected
Cumene	4700	4000 J	23000	20000 J
1,1,2,2-Tetrachloroethane	4700	Not Detected	32000	Not Detected
Propylbenzene	4700	8100	23000	40000
4-Ethyltoluene	4700	Not Detected	23000	Not Detected
1,3,5-Trimethylbenzene	4700	Not Detected	23000	Not Detected
1,2,4-Trimethylbenzene	4700	Not Detected	23000	Not Detected
1,3-Dichlorobenzene	4700	Not Detected	28000	Not Detected
1,4-Dichlorobenzene	4700	Not Detected	28000	Not Detected
alpha-Chlorotoluene	4700	Not Detected	24000	Not Detected
1,2-Dichlorobenzene	4700	Not Detected	28000	Not Detected
1,2,4-Trichlorobenzene	19000	Not Detected	140000	Not Detected
Hexachlorobutadiene	19000	Not Detected	200000	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: Lab Blank

Lab ID#: 1011598A-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	0.50	0.082 J	1.7	0.28 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)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	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	0.13 J	2.3	0.60 J
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

Client Sample ID: Lab Blank

Lab ID#: 1011598A-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x120111a	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/1/10 09:54 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	2.0	Not Detected	8.2	Not Detected
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	0.096 J	3.8	0.74 J
Chlorobenzene	0.50	0.067 J	2.3	0.31 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	0.11 J	3.0	0.64 J
alpha-Chlorotoluene	0.50	0.094 J	2.6	0.49 J
1,2-Dichlorobenzene	0.50	0.090 J	3.0	0.54 J
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	93	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	86	70-130

Client Sample ID: Lab Blank

Lab ID#: 1011598A-11B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120207e	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/2/10 12:09 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5.0	Not Detected	25	Not Detected
Freon 114	5.0	Not Detected	35	Not Detected
Chloromethane	20	Not Detected	41	Not Detected
Vinyl Chloride	5.0	Not Detected	13	Not Detected
1,3-Butadiene	5.0	Not Detected	11	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	5.0	Not Detected	13	Not Detected
Freon 11	5.0	Not Detected	28	Not Detected
Ethanol	20	Not Detected	38	Not Detected
Freon 113	5.0	Not Detected	38	Not Detected
1,1-Dichloroethene	5.0	Not Detected	20	Not Detected
Acetone	20	4.2 J	48	10 J
2-Propanol	20	Not Detected	49	Not Detected
Carbon Disulfide	5.0	Not Detected	16	Not Detected
3-Chloropropene	20	Not Detected	63	Not Detected
Methylene Chloride	5.0	3.9 J	17	14 J
Methyl tert-butyl ether	5.0	Not Detected	18	Not Detected
trans-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Hexane	5.0	Not Detected	18	Not Detected
1,1-Dichloroethane	5.0	Not Detected	20	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Tetrahydrofuran	5.0	Not Detected	15	Not Detected
Chloroform	5.0	Not Detected	24	Not Detected
1,1,1-Trichloroethane	5.0	Not Detected	27	Not Detected
Cyclohexane	5.0	Not Detected	17	Not Detected
Carbon Tetrachloride	5.0	Not Detected	31	Not Detected
2,2,4-Trimethylpentane	5.0	1.1 J	23	5.3 J
Benzene	5.0	Not Detected	16	Not Detected
1,2-Dichloroethane	5.0	Not Detected	20	Not Detected
Heptane	5.0	Not Detected	20	Not Detected
Trichloroethene	5.0	Not Detected	27	Not Detected
1,2-Dichloropropane	5.0	Not Detected	23	Not Detected
1,4-Dioxane	20	Not Detected	72	Not Detected
Bromodichloromethane	5.0	Not Detected	34	Not Detected
cis-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
4-Methyl-2-pentanone	5.0	Not Detected	20	Not Detected
Toluene	5.0	2.8 J	19	11 J
trans-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
1,1,2-Trichloroethane	5.0	Not Detected	27	Not Detected
Tetrachloroethene	5.0	Not Detected	34	Not Detected

Client Sample ID: Lab Blank

Lab ID#: 1011598A-11B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120207e	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/2/10 12:09 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	20	Not Detected	82	Not Detected
Dibromochloromethane	5.0	Not Detected	42	Not Detected
1,2-Dibromoethane (EDB)	5.0	Not Detected	38	Not Detected
Chlorobenzene	5.0	Not Detected	23	Not Detected
Ethyl Benzene	5.0	Not Detected	22	Not Detected
m,p-Xylene	5.0	3.3 J	22	14 J
o-Xylene	5.0	1.5 J	22	6.6 J
Styrene	5.0	Not Detected	21	Not Detected
Bromoform	5.0	Not Detected	52	Not Detected
Cumene	5.0	Not Detected	24	Not Detected
1,1,2,2-Tetrachloroethane	5.0	Not Detected	34	Not Detected
Propylbenzene	5.0	Not Detected	24	Not Detected
4-Ethyltoluene	5.0	1.6 J	24	8.1 J
1,3,5-Trimethylbenzene	5.0	Not Detected	24	Not Detected
1,2,4-Trimethylbenzene	5.0	2.0 J	24	10 J
1,3-Dichlorobenzene	5.0	Not Detected	30	Not Detected
1,4-Dichlorobenzene	5.0	Not Detected	30	Not Detected
alpha-Chlorotoluene	5.0	Not Detected	26	Not Detected
1,2-Dichlorobenzene	5.0	Not Detected	30	Not Detected
1,2,4-Trichlorobenzene	20	Not Detected	150	Not Detected
Hexachlorobutadiene	20	Not Detected	210	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: Lab Blank

Lab ID#: 1011598A-11C

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120306a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/3/10 11:38 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5.0	Not Detected	25	Not Detected
Freon 114	5.0	Not Detected	35	Not Detected
Chloromethane	20	Not Detected	41	Not Detected
Vinyl Chloride	5.0	Not Detected	13	Not Detected
1,3-Butadiene	5.0	Not Detected	11	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	5.0	Not Detected	13	Not Detected
Freon 11	5.0	Not Detected	28	Not Detected
Ethanol	20	Not Detected	38	Not Detected
Freon 113	5.0	Not Detected	38	Not Detected
1,1-Dichloroethene	5.0	Not Detected	20	Not Detected
Acetone	20	Not Detected	48	Not Detected
2-Propanol	20	Not Detected	49	Not Detected
Carbon Disulfide	5.0	Not Detected	16	Not Detected
3-Chloropropene	20	Not Detected	63	Not Detected
Methylene Chloride	5.0	2.6 J	17	9.0 J
Methyl tert-butyl ether	5.0	Not Detected	18	Not Detected
trans-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Hexane	5.0	Not Detected	18	Not Detected
1,1-Dichloroethane	5.0	Not Detected	20	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Tetrahydrofuran	5.0	Not Detected	15	Not Detected
Chloroform	5.0	Not Detected	24	Not Detected
1,1,1-Trichloroethane	5.0	Not Detected	27	Not Detected
Cyclohexane	5.0	Not Detected	17	Not Detected
Carbon Tetrachloride	5.0	Not Detected	31	Not Detected
2,2,4-Trimethylpentane	5.0	Not Detected	23	Not Detected
Benzene	5.0	Not Detected	16	Not Detected
1,2-Dichloroethane	5.0	Not Detected	20	Not Detected
Heptane	5.0	Not Detected	20	Not Detected
Trichloroethene	5.0	Not Detected	27	Not Detected
1,2-Dichloropropane	5.0	Not Detected	23	Not Detected
1,4-Dioxane	20	Not Detected	72	Not Detected
Bromodichloromethane	5.0	Not Detected	34	Not Detected
cis-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
4-Methyl-2-pentanone	5.0	Not Detected	20	Not Detected
Toluene	5.0	Not Detected	19	Not Detected
trans-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
1,1,2-Trichloroethane	5.0	Not Detected	27	Not Detected
Tetrachloroethene	5.0	Not Detected	34	Not Detected

Client Sample ID: Lab Blank

Lab ID#: 1011598A-11C

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120306a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/3/10 11:38 AM

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

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: CCV

Lab ID#: 1011598A-12A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x120107	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/1/10 07:27 PM

Compound	%Recovery
Freon 12	80
Freon 114	94
Chloromethane	91
Vinyl Chloride	88
1,3-Butadiene	89
Bromomethane	98
Chloroethane	89
Freon 11	81
Ethanol	78
Freon 113	87
1,1-Dichloroethene	86
Acetone	82
2-Propanol	87
Carbon Disulfide	87
3-Chloropropene	95
Methylene Chloride	77
Methyl tert-butyl ether	94
trans-1,2-Dichloroethene	90
Hexane	91
1,1-Dichloroethane	82
2-Butanone (Methyl Ethyl Ketone)	91
cis-1,2-Dichloroethene	90
Tetrahydrofuran	79
Chloroform	81
1,1,1-Trichloroethane	85
Cyclohexane	88
Carbon Tetrachloride	89
2,2,4-Trimethylpentane	86
Benzene	89
1,2-Dichloroethane	82
Heptane	93
Trichloroethene	92
1,2-Dichloropropane	85
1,4-Dioxane	90
Bromodichloromethane	91
cis-1,3-Dichloropropene	99
4-Methyl-2-pentanone	95
Toluene	89
trans-1,3-Dichloropropene	110
1,1,2-Trichloroethane	93
Tetrachloroethene	106

Client Sample ID: CCV

Lab ID#: 1011598A-12A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x120107	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/1/10 07:27 PM

Compound	%Recovery
2-Hexanone	92
Dibromochloromethane	109
1,2-Dibromoethane (EDB)	97
Chlorobenzene	88
Ethyl Benzene	90
m,p-Xylene	95
o-Xylene	95
Styrene	97
Bromoform	106
Cumene	97
1,1,2,2-Tetrachloroethane	81
Propylbenzene	96
4-Ethyltoluene	94
1,3,5-Trimethylbenzene	97
1,2,4-Trimethylbenzene	100
1,3-Dichlorobenzene	85
1,4-Dichlorobenzene	90
alpha-Chlorotoluene	106
1,2-Dichlorobenzene	85
1,2,4-Trichlorobenzene	80
Hexachlorobutadiene	93

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: CCV

Lab ID#: 1011598A-12B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120202	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/2/10 08:52 AM

Compound	%Recovery
Freon 12	92
Freon 114	89
Chloromethane	77
Vinyl Chloride	90
1,3-Butadiene	88
Bromomethane	91
Chloroethane	90
Freon 11	95
Ethanol	79
Freon 113	88
1,1-Dichloroethene	93
Acetone	87
2-Propanol	75
Carbon Disulfide	95
3-Chloropropene	94
Methylene Chloride	92
Methyl tert-butyl ether	85
trans-1,2-Dichloroethene	88
Hexane	87
1,1-Dichloroethane	90
2-Butanone (Methyl Ethyl Ketone)	87
cis-1,2-Dichloroethene	91
Tetrahydrofuran	82
Chloroform	92
1,1,1-Trichloroethane	90
Cyclohexane	90
Carbon Tetrachloride	94
2,2,4-Trimethylpentane	85
Benzene	88
1,2-Dichloroethane	94
Heptane	91
Trichloroethene	89
1,2-Dichloropropane	88
1,4-Dioxane	90
Bromodichloromethane	92
cis-1,3-Dichloropropene	89
4-Methyl-2-pentanone	90
Toluene	89
trans-1,3-Dichloropropene	88
1,1,2-Trichloroethane	87
Tetrachloroethene	81

Client Sample ID: CCV

Lab ID#: 1011598A-12B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120202	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/2/10 08:52 AM

Compound	%Recovery
2-Hexanone	83
Dibromochloromethane	90
1,2-Dibromoethane (EDB)	87
Chlorobenzene	85
Ethyl Benzene	87
m,p-Xylene	86
o-Xylene	85
Styrene	89
Bromoform	90
Cumene	87
1,1,2,2-Tetrachloroethane	88
Propylbenzene	89
4-Ethyltoluene	88
1,3,5-Trimethylbenzene	92
1,2,4-Trimethylbenzene	92
1,3-Dichlorobenzene	85
1,4-Dichlorobenzene	88
alpha-Chlorotoluene	90
1,2-Dichlorobenzene	88
1,2,4-Trichlorobenzene	107
Hexachlorobutadiene	113

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: CCV

Lab ID#: 1011598A-12C

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/3/10 08:44 AM

Compound	%Recovery
Freon 12	105
Freon 114	101
Chloromethane	87
Vinyl Chloride	103
1,3-Butadiene	99
Bromomethane	105
Chloroethane	100
Freon 11	107
Ethanol	88
Freon 113	102
1,1-Dichloroethene	105
Acetone	100
2-Propanol	84
Carbon Disulfide	107
3-Chloropropene	107
Methylene Chloride	102
Methyl tert-butyl ether	96
trans-1,2-Dichloroethene	100
Hexane	97
1,1-Dichloroethane	103
2-Butanone (Methyl Ethyl Ketone)	100
cis-1,2-Dichloroethene	102
Tetrahydrofuran	94
Chloroform	104
1,1,1-Trichloroethane	100
Cyclohexane	100
Carbon Tetrachloride	106
2,2,4-Trimethylpentane	97
Benzene	98
1,2-Dichloroethane	105
Heptane	103
Trichloroethene	100
1,2-Dichloropropane	100
1,4-Dioxane	103
Bromodichloromethane	104
cis-1,3-Dichloropropene	100
4-Methyl-2-pentanone	103
Toluene	98
trans-1,3-Dichloropropene	96
1,1,2-Trichloroethane	95
Tetrachloroethene	88

Client Sample ID: CCV

Lab ID#: 1011598A-12C

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/3/10 08:44 AM

Compound	%Recovery
2-Hexanone	93
Dibromochloromethane	98
1,2-Dibromoethane (EDB)	96
Chlorobenzene	93
Ethyl Benzene	95
m,p-Xylene	93
o-Xylene	94
Styrene	99
Bromoform	99
Cumene	97
1,1,2,2-Tetrachloroethane	98
Propylbenzene	99
4-Ethyltoluene	98
1,3,5-Trimethylbenzene	103
1,2,4-Trimethylbenzene	102
1,3-Dichlorobenzene	96
1,4-Dichlorobenzene	98
alpha-Chlorotoluene	100
1,2-Dichlorobenzene	98
1,2,4-Trichlorobenzene	122
Hexachlorobutadiene	127

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	103	70-130

Client Sample ID: LCS

Lab ID#: 1011598A-13A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x120108	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/1/10 08:02 PM

Compound	%Recovery
Freon 12	86
Freon 114	98
Chloromethane	98
Vinyl Chloride	102
1,3-Butadiene	100
Bromomethane	107
Chloroethane	99
Freon 11	86
Ethanol	110
Freon 113	101
1,1-Dichloroethene	92
Acetone	100
2-Propanol	98
Carbon Disulfide	104
3-Chloropropene	104
Methylene Chloride	81
Methyl tert-butyl ether	102
trans-1,2-Dichloroethene	96
Hexane	94
1,1-Dichloroethane	83
2-Butanone (Methyl Ethyl Ketone)	96
cis-1,2-Dichloroethene	95
Tetrahydrofuran	82
Chloroform	83
1,1,1-Trichloroethane	89
Cyclohexane	94
Carbon Tetrachloride	95
2,2,4-Trimethylpentane	91
Benzene	93
1,2-Dichloroethane	82
Heptane	96
Trichloroethene	96
1,2-Dichloropropane	88
1,4-Dioxane	94
Bromodichloromethane	96
cis-1,3-Dichloropropene	103
4-Methyl-2-pentanone	98
Toluene	90
trans-1,3-Dichloropropene	117
1,1,2-Trichloroethane	100
Tetrachloroethene	108

Client Sample ID: LCS

Lab ID#: 1011598A-13A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x120108	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/1/10 08:02 PM

Compound	%Recovery
2-Hexanone	96
Dibromochloromethane	117
1,2-Dibromoethane (EDB)	102
Chlorobenzene	92
Ethyl Benzene	93
m,p-Xylene	93
o-Xylene	95
Styrene	98
Bromoform	114
Cumene	98
1,1,2,2-Tetrachloroethane	84
Propylbenzene	97
4-Ethyltoluene	90
1,3,5-Trimethylbenzene	92
1,2,4-Trimethylbenzene	95
1,3-Dichlorobenzene	86
1,4-Dichlorobenzene	85
alpha-Chlorotoluene	107
1,2-Dichlorobenzene	86
1,2,4-Trichlorobenzene	82
Hexachlorobutadiene	92

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: LCSD

Lab ID#: 1011598A-13AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x120109	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/1/10 08:37 PM

Compound	%Recovery
Freon 12	85
Freon 114	98
Chloromethane	97
Vinyl Chloride	100
1,3-Butadiene	98
Bromomethane	108
Chloroethane	103
Freon 11	84
Ethanol	109
Freon 113	101
1,1-Dichloroethene	91
Acetone	101
2-Propanol	100
Carbon Disulfide	103
3-Chloropropene	104
Methylene Chloride	81
Methyl tert-butyl ether	101
trans-1,2-Dichloroethene	94
Hexane	94
1,1-Dichloroethane	82
2-Butanone (Methyl Ethyl Ketone)	95
cis-1,2-Dichloroethene	94
Tetrahydrofuran	82
Chloroform	83
1,1,1-Trichloroethane	89
Cyclohexane	95
Carbon Tetrachloride	94
2,2,4-Trimethylpentane	90
Benzene	94
1,2-Dichloroethane	83
Heptane	97
Trichloroethene	98
1,2-Dichloropropane	89
1,4-Dioxane	94
Bromodichloromethane	98
cis-1,3-Dichloropropene	104
4-Methyl-2-pentanone	100
Toluene	92
trans-1,3-Dichloropropene	118
1,1,2-Trichloroethane	100
Tetrachloroethene	110

Client Sample ID: LCS D

Lab ID#: 1011598A-13AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	x120109	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/1/10 08:37 PM

Compound	%Recovery
2-Hexanone	98
Dibromochloromethane	118
1,2-Dibromoethane (EDB)	104
Chlorobenzene	92
Ethyl Benzene	95
m,p-Xylene	95
o-Xylene	97
Styrene	98
Bromoform	115
Cumene	100
1,1,2,2-Tetrachloroethane	86
Propylbenzene	98
4-Ethyltoluene	93
1,3,5-Trimethylbenzene	94
1,2,4-Trimethylbenzene	100
1,3-Dichlorobenzene	86
1,4-Dichlorobenzene	89
alpha-Chlorotoluene	110
1,2-Dichlorobenzene	87
1,2,4-Trichlorobenzene	87
Hexachlorobutadiene	96

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	83	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: LCS

Lab ID#: 1011598A-13B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120203	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/2/10 09:39 AM

Compound	%Recovery
Freon 12	114
Freon 114	112
Chloromethane	84
Vinyl Chloride	117
1,3-Butadiene	114
Bromomethane	114
Chloroethane	113
Freon 11	118
Ethanol	98
Freon 113	109
1,1-Dichloroethene	118
Acetone	109
2-Propanol	103
Carbon Disulfide	118
3-Chloropropene	118
Methylene Chloride	112
Methyl tert-butyl ether	109
trans-1,2-Dichloroethene	111
Hexane	104
1,1-Dichloroethane	108
2-Butanone (Methyl Ethyl Ketone)	114
cis-1,2-Dichloroethene	114
Tetrahydrofuran	103
Chloroform	114
1,1,1-Trichloroethane	112
Cyclohexane	112
Carbon Tetrachloride	118
2,2,4-Trimethylpentane	108
Benzene	109
1,2-Dichloroethane	112
Heptane	113
Trichloroethene	110
1,2-Dichloropropane	108
1,4-Dioxane	111
Bromodichloromethane	118
cis-1,3-Dichloropropene	114
4-Methyl-2-pentanone	114
Toluene	109
trans-1,3-Dichloropropene	111
1,1,2-Trichloroethane	109
Tetrachloroethene	99

Client Sample ID: LCS

Lab ID#: 1011598A-13B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120203	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/2/10 09:39 AM

Compound	%Recovery
2-Hexanone	110
Dibromochloromethane	114
1,2-Dibromoethane (EDB)	109
Chlorobenzene	105
Ethyl Benzene	110
m,p-Xylene	106
o-Xylene	108
Styrene	113
Bromoform	115
Cumene	111
1,1,2,2-Tetrachloroethane	111
Propylbenzene	115
4-Ethyltoluene	109
1,3,5-Trimethylbenzene	116
1,2,4-Trimethylbenzene	113
1,3-Dichlorobenzene	108
1,4-Dichlorobenzene	108
alpha-Chlorotoluene	122
1,2-Dichlorobenzene	114
1,2,4-Trichlorobenzene	139 Q
Hexachlorobutadiene	144 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: LCSD

Lab ID#: 1011598A-13BB

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120204	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/2/10 10:25 AM

Compound	%Recovery
Freon 12	111
Freon 114	110
Chloromethane	94
Vinyl Chloride	113
1,3-Butadiene	110
Bromomethane	111
Chloroethane	109
Freon 11	116
Ethanol	102
Freon 113	105
1,1-Dichloroethene	113
Acetone	107
2-Propanol	100
Carbon Disulfide	114
3-Chloropropene	113
Methylene Chloride	109
Methyl tert-butyl ether	106
trans-1,2-Dichloroethene	108
Hexane	101
1,1-Dichloroethane	106
2-Butanone (Methyl Ethyl Ketone)	109
cis-1,2-Dichloroethene	110
Tetrahydrofuran	98
Chloroform	110
1,1,1-Trichloroethane	108
Cyclohexane	110
Carbon Tetrachloride	114
2,2,4-Trimethylpentane	105
Benzene	107
1,2-Dichloroethane	109
Heptane	111
Trichloroethene	107
1,2-Dichloropropane	106
1,4-Dioxane	110
Bromodichloromethane	114
cis-1,3-Dichloropropene	111
4-Methyl-2-pentanone	112
Toluene	106
trans-1,3-Dichloropropene	108
1,1,2-Trichloroethane	105
Tetrachloroethene	97

Client Sample ID: LCSD

Lab ID#: 1011598A-13BB

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120204	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/2/10 10:25 AM

Compound	%Recovery
2-Hexanone	106
Dibromochloromethane	111
1,2-Dibromoethane (EDB)	107
Chlorobenzene	103
Ethyl Benzene	106
m,p-Xylene	105
o-Xylene	105
Styrene	112
Bromoform	113
Cumene	109
1,1,2,2-Tetrachloroethane	109
Propylbenzene	113
4-Ethyltoluene	107
1,3,5-Trimethylbenzene	114
1,2,4-Trimethylbenzene	112
1,3-Dichlorobenzene	108
1,4-Dichlorobenzene	109
alpha-Chlorotoluene	122
1,2-Dichlorobenzene	112
1,2,4-Trichlorobenzene	147 Q
Hexachlorobutadiene	147 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	103	70-130

Client Sample ID: LCS

Lab ID#: 1011598A-13C

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/3/10 09:27 AM

Compound	%Recovery
Freon 12	114
Freon 114	112
Chloromethane	97
Vinyl Chloride	114
1,3-Butadiene	113
Bromomethane	111
Chloroethane	112
Freon 11	119
Ethanol	94
Freon 113	107
1,1-Dichloroethene	116
Acetone	110
2-Propanol	99
Carbon Disulfide	116
3-Chloropropene	118
Methylene Chloride	113
Methyl tert-butyl ether	105
trans-1,2-Dichloroethene	111
Hexane	103
1,1-Dichloroethane	108
2-Butanone (Methyl Ethyl Ketone)	111
cis-1,2-Dichloroethene	110
Tetrahydrofuran	101
Chloroform	113
1,1,1-Trichloroethane	109
Cyclohexane	110
Carbon Tetrachloride	116
2,2,4-Trimethylpentane	107
Benzene	106
1,2-Dichloroethane	112
Heptane	109
Trichloroethene	107
1,2-Dichloropropane	107
1,4-Dioxane	108
Bromodichloromethane	114
cis-1,3-Dichloropropene	110
4-Methyl-2-pentanone	113
Toluene	106
trans-1,3-Dichloropropene	108
1,1,2-Trichloroethane	108
Tetrachloroethene	97

Client Sample ID: LCS

Lab ID#: 1011598A-13C

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/3/10 09:27 AM

Compound	%Recovery
2-Hexanone	105
Dibromochloromethane	110
1,2-Dibromoethane (EDB)	106
Chlorobenzene	103
Ethyl Benzene	106
m,p-Xylene	102
o-Xylene	104
Styrene	110
Bromoform	111
Cumene	108
1,1,2,2-Tetrachloroethane	109
Propylbenzene	112
4-Ethyltoluene	105
1,3,5-Trimethylbenzene	114
1,2,4-Trimethylbenzene	110
1,3-Dichlorobenzene	107
1,4-Dichlorobenzene	106
alpha-Chlorotoluene	115
1,2-Dichlorobenzene	111
1,2,4-Trichlorobenzene	131 Q
Hexachlorobutadiene	135 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	103	70-130

Client Sample ID: LCSD

Lab ID#: 1011598A-13CC

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/3/10 10:00 AM

Compound	%Recovery
Freon 12	103
Freon 114	102
Chloromethane	89
Vinyl Chloride	108
1,3-Butadiene	106
Bromomethane	106
Chloroethane	107
Freon 11	113
Ethanol	92
Freon 113	104
1,1-Dichloroethene	113
Acetone	106
2-Propanol	98
Carbon Disulfide	114
3-Chloropropene	113
Methylene Chloride	108
Methyl tert-butyl ether	103
trans-1,2-Dichloroethene	106
Hexane	100
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	111
cis-1,2-Dichloroethene	109
Tetrahydrofuran	99
Chloroform	110
1,1,1-Trichloroethane	108
Cyclohexane	109
Carbon Tetrachloride	116
2,2,4-Trimethylpentane	105
Benzene	108
1,2-Dichloroethane	111
Heptane	111
Trichloroethene	110
1,2-Dichloropropane	107
1,4-Dioxane	112
Bromodichloromethane	116
cis-1,3-Dichloropropene	112
4-Methyl-2-pentanone	114
Toluene	108
trans-1,3-Dichloropropene	111
1,1,2-Trichloroethane	107
Tetrachloroethene	98

Client Sample ID: LCSD

Lab ID#: 1011598A-13CC

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/3/10 10:00 AM

Compound	%Recovery
2-Hexanone	108
Dibromochloromethane	112
1,2-Dibromoethane (EDB)	107
Chlorobenzene	104
Ethyl Benzene	107
m,p-Xylene	106
o-Xylene	106
Styrene	113
Bromoform	115
Cumene	111
1,1,2,2-Tetrachloroethane	110
Propylbenzene	114
4-Ethyltoluene	108
1,3,5-Trimethylbenzene	115
1,2,4-Trimethylbenzene	113
1,3-Dichlorobenzene	108
1,4-Dichlorobenzene	108
alpha-Chlorotoluene	121
1,2-Dichlorobenzene	113
1,2,4-Trichlorobenzene	136 Q
Hexachlorobutadiene	142 Q

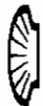
Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

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

Receipt
VHE
11/28/10

1011598



Shell Oil Products Chain Of Custody Record

Air Toxics LTD.
Project Name: Roxana Dissolved Phase
Project #

Lab Vendor # _____
 URS CORPORATION
 1001 HIGHLAND PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
 Air Toxics LTD 160 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
 TEL: 314-7429-0100 FAX: 314-428-0482
 TURNAROUND TIME (CALENDAR DAYS) _____
 1 DAY 3 DAYS 5 DAYS 7 DAYS 24 HOURS RESULTS NEEDED ON WEDNESDAY

Print Bill To Contact Name: Thomas Adams
 PO # _____
 500 SOUTH CENTRAL AVE - ROXANA
 ELIZABETH KUMKEL, URS, ST. LOUIS
 314-742-4179

INCIDENT # (ENV SERVICES) _____
 DATE: 11/18/2010
 PAGE: 1 of 3

LAB USE ONLY

LAB USE ONLY	Field Sample Identification	DATE	START TIME	STOP TIME	CONTEINER NUMBER	INITIAL (PSI)	RECEIPT	FINAL (PSI)
01A	VMP-8-23.5-111910 - 6.0% Hg	11/19/10	1455	1530	2177	-30	-7	
02A	VMP-9-5-111910 - 4.5% Hg	11/19/10	0931	1008	3040	-30	-5.5	
03A	VMP-9-11.5-111910 - 7.5% Hg	11/19/10	1053	1135	3872	-30	-7.5	
04A	VMP-9-25.5-111910 - 8.0% Hg	11/19/10	1218	1300	3039	-30	-8	
05A	VMP-7-5-111910 - 4.5% Hg	11/19/10	1019	1048	3451	-30	-5	
06A	VMP-7-13.5-111910 - 5.0% Hg	11/19/10	1148	1216	814	-30	-6	
07A	VMP-7-29.5-111910 - 5.5% Hg	11/19/10	1312	1340	3663	-30	-7.5	
08A	VMP-18-8.5-111910 - 2.0% Hg	11/19/10	1452	1522	678	-30	-6.5	
09A	VMP-3-5-112210 - 7.5% Hg	11/22/10	0853	0935	1462	-30	-9	
10A	VMP-3-22-112210 - 4.0% Hg	11/22/10	1322	1351	728	-30	-4.5	

Requester by: (Signature) *Dave Zwillert*
 Requested by: (Signature) *FedEx*

DATE: 11/24/10
 TIME: 11:05

DATE: 11/28/10
 TIME: 18:00

DATE: _____
 TIME: _____

ASTM D-1946 + Helium
 Modified TO-15
 ASTM D-1946

Turn Around Time: _____
 Pressurized by: _____
 Date: _____
 Pressurization Gas: N₂, He

REQUESTED ANALYSIS
 Normal
 Rush
 Specify

ADDITIONAL NOTES:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVF

QUESTIONS CONTACT
 Y N O N/A
 FedEx

12/9/2010
Mr. Jeff Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Dissolved Phase
Project #:
Workorder #: 1011598B

Dear Mr. Jeff Adams

The following report includes the data for the above referenced project for sample(s) received on 11/24/2010 at Air Toxics Ltd.

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

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

Regards,



Jacquelyn Luta
Project Manager

Reviewed
on
12/17/2010

WORK ORDER #: 1011598B

Work Order Summary

CLIENT:	Mr. Jeff Adams 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:	314-429-0100	P.O. #	21562291.00005
FAX:		PROJECT #	Roxana Dissolved Phase
DATE RECEIVED:	11/24/2010	CONTACT:	Jacquelyn Luta
DATE COMPLETED:	12/09/2010		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
11A	VMP-3-10-112210 ✓	Modified TO-15	7.0 "Hg	15 psi
11B	VMP-3-10-112210 ✓	Modified TO-15	7.0 "Hg	15 psi
12A	VMP-3-10-112210-Dup ✓	Modified TO-15	6.5 "Hg	15 psi
13A	VMP-3-31.5-112210 ✓	Modified TO-15	7.0 "Hg	15 psi
13B	VMP-3-31.5-112210 ✓	Modified TO-15	7.0 "Hg	15 psi
14A	VMP-4-5-112210 ✓	Modified TO-15	7.5 "Hg	15 psi
15A	VMP-11-5-112210 ✓	Modified TO-15	6.5 "Hg	15 psi
16A	VMP-11-8-112210 ✓	Modified TO-15	6.5 "Hg	15 psi
17A	VMP-11-29-112210 ✓	Modified TO-15	8.0 "Hg	15 psi
18A	VMP-11-29-112210-Dup ✓	Modified TO-15	8.5 "Hg	15 psi
19A	VMP-17-5-112210 ✓	Modified TO-15	7.5 "Hg	15 psi
20A	VMP-5-5-112210 ✓	Modified TO-15	6.5 "Hg	15 psi
20B	VMP-5-5-112210 ✓	Modified TO-15	6.5 "Hg	15 psi
21A	VMP-4-12-112310 ✓	Modified TO-15	6.5 "Hg	15 psi
22A	VMP-4-23.5-112310 ✓	Modified TO-15	4.0 "Hg	15 psi
23A	VMP-5-12.5-112310 ✓	Modified TO-15	7.0 "Hg	15 psi
24A	VMP-5-31-112310 ✓	Modified TO-15	5.0 "Hg	15 psi

Continued on next page

WORK ORDER #: 1011598B

Work Order Summary

CLIENT:	Mr. Jeff Adams 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:	314-429-0100	P.O. #	21562291.00005
FAX:		PROJECT #	Roxana Dissolved Phase
DATE RECEIVED:	11/24/2010	CONTACT:	Jacquelyn Luta
DATE COMPLETED:	12/09/2010		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
24B	VMP-5-31-112310 ✓	Modified TO-15	5.0 "Hg	15 psi
25A	Lab Blank	Modified TO-15	NA	NA
25B	Lab Blank	Modified TO-15	NA	NA
26A	CCV	Modified TO-15	NA	NA
26B	CCV	Modified TO-15	NA	NA
27A	LCS	Modified TO-15	NA	NA
27AA	LCSD	Modified TO-15	NA	NA
27B	LCS	Modified TO-15	NA	NA
27BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY:

Sandra D. Furrer

Laboratory Director

DATE: 12/09/10

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

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11

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

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

**LABORATORY NARRATIVE
EPA Method TO-15
URS Corporation
Workorder# 1011598B**

Fourteen 1 Liter Summa Canister samples were received on November 24, 2010. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Due to high-level target compounds, sample VMP-3-10-112210, VMP-3-31.5-112210, VMP-5-5-112210 and VMP-5-31-112310 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.

Dilution was performed on samples VMP-4-5-112210 and VMP-4-12-112310 due to the presence of high level non-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

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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

Client Sample ID: VMP-3-10-112210

Lab ID#: 1011598B-11A DF = 377

* "Use these results only. All other data was reported from the 264 X dilution analysis."

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1900	320000	6600	1100000
Cyclohexane	1900	320000	6500	1100000
* 2,2,4-Trimethylpentane	1900	700000	8800	3200000
Benzene	1900	4900	6000	16000
Heptane	1900	19000	7700	79000
Toluene	1900	670 J	7100	2500 J
m,p-Xylene	1900	580 J	8200	2500 J
Cumene	1900	1100 J	9300	5500 J
Propylbenzene	1900	1600 J	9300	8000 J

Client Sample ID: VMP-3-10-112210

Lab ID#: 1011598B-11B DF = 264

* "Do not use this data. Use all other data."

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1300	360000	4600	1200000
Cyclohexane	1300	370000	4500	1300000
* 2,2,4-Trimethylpentane	1300	800000 E	6200	3700000 E
Benzene	1300	5800	4200	18000
Heptane	1300	21000	5400	86000
Toluene	1300	560 J	5000	2100 J
m,p-Xylene	1300	630 J	5700	2800 J
Cumene	1300	1600	6500	7800
Propylbenzene	1300	2300	6500	11000

Client Sample ID: VMP-3-10-112210-Dup

Lab ID#: 1011598B-12A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1800	310000	6500	1100000
Cyclohexane	1800	310000	6300	1100000
2,2,4-Trimethylpentane	1800	670000	8600	3100000

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

Client Sample ID: VMP-3-10-112210-Dup

Lab ID#: 1011598B-12A

Benzene	1800	4700	5900	15000
Heptane	1800	20000	7500	82000
Toluene	1800	520 J	6900	2000 J
m,p-Xylene	1800	510 J	8000	2200 J
Cumene	1800	1100 J	9000	5400 J
Propylbenzene	1800	1600 J	9000	7900 J

Client Sample ID: VMP-3-31.5-112210

Lab ID#: 1011598B-13A

DF = 3300 "Use these results only. All other data was reported from the 1060X dilution analysis."

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	16000	5700000	58000	20000000
Cyclohexane	16000	400000	57000	1400000
2,2,4-Trimethylpentane	16000	1600000	77000	7600000
Benzene	16000	56000	53000	180000
Heptane	16000	290000	68000	1200000
Toluene	16000	5500 J	62000	21000 J
Ethyl Benzene	16000	13000 J	72000	55000 J
m,p-Xylene	16000	15000 J	72000	64000 J
4-Ethyltoluene	16000	3800 J	81000	19000 J

Client Sample ID: VMP-3-31.5-112210

Lab ID#: 1011598B-13B

*DF = 1060 * "Do not use this data. Use all other data."*

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
* Hexane	5300	6000000 E	19000	24000000 E
Cyclohexane	5300	410000	18000	1400000
2,2,4-Trimethylpentane	5300	1700000	25000	8000000
Benzene	5300	58000	17000	180000
Heptane	5300	280000	22000	1200000
Toluene	5300	5100 J	20000	19000 J
Ethyl Benzene	5300	11000	23000	50000
m,p-Xylene	5300	16000	23000	68000

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

Client Sample ID: VMP-3-31.5-112210

Lab ID#: 1011598B-13B

o-Xylene	5300	4500 J	23000	19000 J
Propylbenzene	5300	2000 J	26000	9800 J
4-Ethyltoluene	5300	3500 J	26000	17000 J
1,2,4-Trimethylbenzene	5300	2000 J	26000	9800 J

Client Sample ID: VMP-4-5-112210

Lab ID#: 1011598B-14A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	2700	380000	9500	1300000
Cyclohexane	2700	340000	9200	1200000
2,2,4-Trimethylpentane	2700	380000	12000	1800000
Benzene	2700	13000	8600	41000
Heptane	2700	140000	11000	580000
Toluene	2700	750 J	10000	2800 J
Ethyl Benzene	2700	4800	12000	21000
m,p-Xylene	2700	2500 J	12000	11000 J
Cumene	2700	1300 J	13000	6600 J
Propylbenzene	2700	1700 J	13000	8400 J
4-Ethyltoluene	2700	1300 J	13000	6200 J

Client Sample ID: VMP-11-5-112210

Lab ID#: 1011598B-15A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.39 J	6.4	1.9 J
Ethanol	5.2	5.9	9.7	11
Acetone	5.2	6.2	12	15
2-Propanol	5.2	32	13	78
Carbon Disulfide	1.3	0.0 ND 0.59 " "	4.0	0.0 ND 1.8 " "
Hexane	1.3	0.50 J	4.5	1.8 J
2-Butanone (Methyl Ethyl Ketone)	1.3	1.1 J	3.8	3.4 J
Chloroform	1.3	0.80 J	6.3	3.9 J

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

Client Sample ID: VMP-11-5-112210

Lab ID#: 1011598B-15A

2,2,4-Trimethylpentane	1.3	0.41 J	6.0	1.9 J
Benzene	1.3	0.28 J	4.1	0.89 J
Heptane	1.3	0.31 J	5.3	1.3 J
Toluene	1.3	0.65 J	4.9	2.4 J
Ethyl Benzene	1.3	0.48 J	5.6	2.1 J
m,p-Xylene	1.3	0.0 ND 0.16 μ "	5.6	0.0 ND 0.17 μ "
Styrene	1.3	1.4	5.5	6.0
1,3-Dichlorobenzene	1.3	0.18 J	7.8	1.1 J

Client Sample ID: VMP-11-8-112210

Lab ID#: 1011598B-16A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.44 J	6.4	2.2 J
Ethanol	5.2	2.9 J	9.7	5.6 J
Acetone	5.2	5.8	12	14
2-Propanol	5.2	14	13	33
Carbon Disulfide	1.3	0.0 ND 0.58 μ "	4.0	0.0 ND 1.8 μ "
2,2,4-Trimethylpentane	1.3	0.52 J	6.0	2.4 J
Benzene	1.3	0.54 J	4.1	1.7 J
Heptane	1.3	0.18 J	5.3	0.74 J
Toluene	1.3	0.0 ND 0.33 μ "	4.9	0.0 ND 1.2 μ "
Ethyl Benzene	1.3	0.37 J	5.6	1.6 J
m,p-Xylene	1.3	0.0 ND 0.17 μ "	5.6	0.0 ND 0.73 μ "
Styrene	1.3	0.83 J	5.5	3.5 J

Client Sample ID: VMP-11-29-112210

Lab ID#: 1011598B-17A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2,2,4-Trimethylpentane	460	380 J	2100	1800 J
Benzene	460	140000	1500	460000



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

Client Sample ID: VMP-11-29-112210-Dup

Lab ID#: 1011598B-18A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2,2,4-Trimethylpentane	320	390	1500	1800
Benzene	320	140000	1000	440000
Tetrachloroethene	320	100 J	2200	690 J

Client Sample ID: VMP-17-5-112210

Lab ID#: 1011598B-19A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.45 J	6.6	2.2 J
Chloromethane	5.4	1.7 J	11	3.5 J
Ethanol	5.4	5.8	10	11
Acetone	5.4	13	13	30
2-Propanol	5.4	9.0	13	22
Carbon Disulfide	1.3	0.0 ND, 0.03 u"	4.2	0.0 ND, 2.0 u"
Hexane	1.3	0.38 J	4.7	1.3 J
2-Butanone (Methyl Ethyl Ketone)	1.3	1.6	4.0	4.8
2,2,4-Trimethylpentane	1.3	0.68 J	6.3	3.2 J
Benzene	1.3	1.4	4.3	4.4
1,4-Dioxane	5.4	1.0 J	19	3.6 J
Toluene	1.3	0.0 ND, 0.25 u"	5.1	0.0 ND, 1.8 u"
Tetrachloroethene	1.3	0.0 ND, 0.28 u"	9.1	0.0 ND, 2.0 u"
m,p-Xylene	1.3	0.0 ND, 0.45 u"	5.8	0.0 ND, 0.64 u"
Styrene	1.3	0.64 J	5.7	2.7 J

Client Sample ID: VMP-5-5-112210

Lab ID#: 1011598B-20A DF = 187

"Use these results only. All other data was reported from the 129 X dilution analysis."

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	920	400000	3200	1400000
Cyclohexane	920	130000	3200	450000
2,2,4-Trimethylpentane	920	360000	4300	1700000

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

Client Sample ID: VMP-5-5-112210

Lab ID#: 1011598B-20A

Benzene	920	2800	2900	9100
Heptane	920	31000	3800	130000

Client Sample ID: VMP-5-5-112210

Lab ID#: 1011598B-20B

DF = 129

Do not use this data. Use all other data.

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	640	400000 E	2300	1400000 E
Cyclohexane	640	130000	2200	450000
2,2,4-Trimethylpentane	640	350000 E	3000	1600000 E
Benzene	640	2700	2100	8600
Heptane	640	30000	2600	120000

Client Sample ID: VMP-4-12-112310

Lab ID#: 1011598B-21A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1300	200000	4500	690000
Cyclohexane	1300	220000	4400	760000
2,2,4-Trimethylpentane	1300	290000	6000	1300000
Benzene	1300	4800	4100	15000
Heptane	1300	58000	5300	240000
Ethyl Benzene	1300	400 J	5600	1700 J
m,p-Xylene	1300	1400	5600	6200
4-Ethyltoluene	1300	950 J	6300	4700 J
1,3,5-Trimethylbenzene	1300	520 J	6300	2600 J
1,2,4-Trimethylbenzene	1300	720 J	6300	3500 J

Client Sample ID: VMP-4-23.5-112310

Lab ID#: 1011598B-22A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	14000	4300000	51000	15000000

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

Client Sample ID: VMP-4-23.5-112310

Lab ID#: 1011598B-22A

Cyclohexane	14000	830000	50000	2900000
2,2,4-Trimethylpentane	14000	1000000	68000	4800000
Benzene	14000	160000	46000	510000
Heptane	14000	960000	60000	3900000
Toluene	14000	440000	55000	1600000
Ethyl Benzene	14000	140000	63000	630000
m,p-Xylene	14000	240000	63000	1100000
o-Xylene	14000	72000	63000	310000
Propylbenzene	14000	4500 J	72000	22000 J
4-Ethyltoluene	14000	12000 J	72000	58000 J
1,2,4-Trimethylbenzene	14000	6400 J	72000	31000 J

Client Sample ID: VMP-5-12.5-112310

Lab ID#: 1011598B-23A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	66	4400	230	15000
Cyclohexane	66	4100	230	14000
2,2,4-Trimethylpentane	66	23000	310	110000
Benzene	66	170	210	540
Toluene	66	130	250	500
Ethyl Benzene	66	24 J	290	100 J
m,p-Xylene	66	46 J	290	200 J

Client Sample ID: VMP-5-31-112310

Lab ID#: 1011598B-24A DF = 1210

* "Use these results only. All other data was reported from the G91 X dilution analysis."

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
* Hexane	6000	2300000	21000	8200000
Cyclohexane	6000	600000	21000	2100000
2,2,4-Trimethylpentane	6000	940000	28000	4400000
Benzene	6000	50000	19000	160000
Heptane	6000	380000	25000	1600000

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

Client Sample ID: VMP-5-31-112310

Lab ID#: 1011598B-24A

~~m,p-Xylene~~ 6000 1700 J 26000 7500 J

Client Sample ID: VMP-5-31-112310

Lab ID#: 1011598B-24B

Do not use this data. Use all other data.

DF = 691

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	3400	2600000 E	12000	8900000 E
Cyclohexane	3400	650000	12000	2200000
2,2,4-Trimethylpentane	3400	1000000	16000	4700000
Benzene	3400	55000	11000	180000
Heptane	3400	410000	14000	1700000
Toluene	3400	2200 J	13000	8200 J
m,p-Xylene	3400	2700 J	15000	12000 J

* "Use these results only. All other data was reported from the 264x dilution analysis."



Client Sample ID: VMP-3-10-112210

Lab ID#: 1011598B-11A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120615	Date of Collection: 11/22/10 12:24:00 P
Dil. Factor:	377	Date of Analysis: 12/6/10 05:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1900	Not Detected	9300	Not Detected
Freon 114	1900	Not Detected	13000	Not Detected
Chloromethane	7500	Not Detected	16000	Not Detected
Vinyl Chloride	1900	Not Detected	4800	Not Detected
1,3-Butadiene	1900	Not Detected	4200	Not Detected
Bromomethane	1900	Not Detected	7300	Not Detected
Chloroethane	1900	Not Detected	5000	Not Detected
Freon 11	1900	Not Detected	10000	Not Detected
Ethanol	7500	Not Detected	14000	Not Detected
Freon 113	1900	Not Detected	14000	Not Detected
1,1-Dichloroethene	1900	Not Detected	7500	Not Detected
Acetone	7500	Not Detected	18000	Not Detected
2-Propanol	7500	Not Detected	18000	Not Detected
Carbon Disulfide	1900	Not Detected	5900	Not Detected
3-Chloropropene	7500	Not Detected	24000	Not Detected
Methylene Chloride	1900	Not Detected	6500	Not Detected
Methyl tert-butyl ether	1900	Not Detected	6800	Not Detected
trans-1,2-Dichloroethene	1900	Not Detected	7500	Not Detected
Hexane	1900	320000	6600	1100000
1,1-Dichloroethane	1900	Not Detected	7600	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1900	Not Detected	5600	Not Detected
cis-1,2-Dichloroethene	1900	Not Detected	7500	Not Detected
Tetrahydrofuran	1900	Not Detected	5600	Not Detected
Chloroform	1900	Not Detected	9200	Not Detected
1,1,1-Trichloroethane	1900	Not Detected	10000	Not Detected
Cyclohexane	1900	320000	6500	1100000
Carbon Tetrachloride	1900	Not Detected	12000	Not Detected
* 2,2,4-Trimethylpentane	1900	700000	8800	3200000
Benzene	1900	4900	6000	16000
1,2-Dichloroethane	1900	Not Detected	7600	Not Detected
Heptane	1900	19000	7700	79000
Trichloroethene	1900	Not Detected	10000	Not Detected
1,2-Dichloropropane	1900	Not Detected	8700	Not Detected
1,4-Dioxane	7500	Not Detected	27000	Not Detected
Bromodichloromethane	1900	Not Detected	13000	Not Detected
cis-1,3-Dichloropropene	1900	Not Detected	8600	Not Detected
4-Methyl-2-pentanone	1900	Not Detected	7700	Not Detected
Toluene	1900	670 J	7100	2500 J
trans-1,3-Dichloropropene	1900	Not Detected	8600	Not Detected
1,1,2-Trichloroethane	1900	Not Detected	10000	Not Detected
Tetrachloroethene	1900	Not Detected	13000	Not Detected



Client Sample ID: VMP-3-10-112210

Lab ID#: 1011598B-11A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120615	Date of Collection: 11/22/10 12:24:00 P
Dil. Factor:	377	Date of Analysis: 12/6/10 05:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	7500	Not Detected	31000	Not Detected
Dibromochloromethane	1900	Not Detected	16000	Not Detected
1,2-Dibromoethane (EDB)	1900	Not Detected	14000	Not Detected
Chlorobenzene	1900	Not Detected	8700	Not Detected
Ethyl Benzene	1900	Not Detected	8200	Not Detected
m,p-Xylene	1900	580 J	8200	2500 J
o-Xylene	1900	Not Detected	8200	Not Detected
Styrene	1900	Not Detected	8000	Not Detected
Bromoform	1900	Not Detected	19000	Not Detected
Cumene	1900	1100 J	9300	5500 J
1,1,2,2-Tetrachloroethane	1900	Not Detected	13000	Not Detected
Propylbenzene	1900	1600 J	9300	8000 J
4-Ethyltoluene	1900	Not Detected	9300	Not Detected
1,3,5-Trimethylbenzene	1900	Not Detected	9300	Not Detected
1,2,4-Trimethylbenzene	1900	Not Detected	9300	Not Detected
1,3-Dichlorobenzene	1900	Not Detected	11000	Not Detected
1,4-Dichlorobenzene	1900	Not Detected	11000	Not Detected
alpha-Chlorotoluene	1900	Not Detected	9800	Not Detected
1,2-Dichlorobenzene	1900	Not Detected	11000	Not Detected
1,2,4-Trichlorobenzene	7500	Not Detected	56000	Not Detected
Hexachlorobutadiene	7500	Not Detected	80000	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	123	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130

*X "Do not use this data. Use all other data."



Client Sample ID: VMP-3-10-112210

Lab ID#: 1011598B-11B

MODIFIED EPA METHOD TO-15 GC/MS

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
File Name:	b120614		Date of Collection: 11/22/10 12:24:00 P	
Dil. Factor:	264		Date of Analysis: 12/6/10 04:23 PM	
Freon 12	1300	Not Detected	6500	Not Detected
Freon 114	1300	Not Detected	9200	Not Detected
Chloromethane	5300	Not Detected	11000	Not Detected
Vinyl Chloride	1300	Not Detected	3400	Not Detected
1,3-Butadiene	1300	Not Detected	2900	Not Detected
Bromomethane	1300	Not Detected	5100	Not Detected
Chloroethane	1300	Not Detected	3500	Not Detected
Freon 11	1300	Not Detected	7400	Not Detected
Ethanol	5300	Not Detected	9900	Not Detected
Freon 113	1300	Not Detected	10000	Not Detected
1,1-Dichloroethene	1300	Not Detected	5200	Not Detected
Acetone	5300	Not Detected	12000	Not Detected
2-Propanol	5300	Not Detected	13000	Not Detected
Carbon Disulfide	1300	Not Detected	4100	Not Detected
3-Chloropropene	5300	Not Detected	16000	Not Detected
Methylene Chloride	1300	Not Detected	4600	Not Detected
Methyl tert-butyl ether	1300	Not Detected	4800	Not Detected
trans-1,2-Dichloroethene	1300	Not Detected	5200	Not Detected
Hexane	1300	360000	4600	1200000
1,1-Dichloroethane	1300	Not Detected	5300	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1300	Not Detected	3900	Not Detected
cis-1,2-Dichloroethene	1300	Not Detected	5200	Not Detected
Tetrahydrofuran	1300	Not Detected	3900	Not Detected
Chloroform	1300	Not Detected	6400	Not Detected
1,1,1-Trichloroethane	1300	Not Detected	7200	Not Detected
Cyclohexane	1300	370000	4500	1300000
Carbon Tetrachloride	1300	Not Detected	8300	Not Detected
2,2,4-Trimethylpentane	1300	800000 E	6200	3700000 E
Benzene	1300	5800	4200	18000
1,2-Dichloroethane	1300	Not Detected	5300	Not Detected
Heptane	1300	21000	5400	86000
Trichloroethene	1300	Not Detected	7100	Not Detected
1,2-Dichloropropane	1300	Not Detected	6100	Not Detected
1,4-Dioxane	5300	Not Detected	19000	Not Detected
Bromodichloromethane	1300	Not Detected	8800	Not Detected
cis-1,3-Dichloropropene	1300	Not Detected	6000	Not Detected
4-Methyl-2-pentanone	1300	Not Detected	5400	Not Detected
Toluene	1300	560 J	5000	2100 J
trans-1,3-Dichloropropene	1300	Not Detected	6000	Not Detected
1,1,2-Trichloroethane	1300	Not Detected	7200	Not Detected
Tetrachloroethene	1300	Not Detected	9000	Not Detected



Client Sample ID: VMP-3-10-112210

Lab ID#: 1011598B-11B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120614	Date of Collection: 11/22/10 12:24:00 P
Dil. Factor:	264	Date of Analysis: 12/6/10 04:23 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	5300	Not Detected	22000	Not Detected
Dibromochloromethane	1300	Not Detected	11000	Not Detected
1,2-Dibromoethane (EDB)	1300	Not Detected	10000	Not Detected
Chlorobenzene	1300	Not Detected	6100	Not Detected
Ethyl Benzene	1300	Not Detected	5700	Not Detected
m,p-Xylene	1300	630 J	5700	2800 J
o-Xylene	1300	Not Detected	5700	Not Detected
Styrene	1300	Not Detected	5600	Not Detected
Bromoform	1300	Not Detected	14000	Not Detected
Cumene	1300	1600	6500	7800
1,1,2,2-Tetrachloroethane	1300	Not Detected	9100	Not Detected
Propylbenzene	1300	2300	6500	11000
4-Ethyltoluene	1300	Not Detected	6500	Not Detected
1,3,5-Trimethylbenzene	1300	Not Detected	6500	Not Detected
1,2,4-Trimethylbenzene	1300	Not Detected	6500	Not Detected
1,3-Dichlorobenzene	1300	Not Detected	7900	Not Detected
1,4-Dichlorobenzene	1300	Not Detected	7900	Not Detected
alpha-Chlorotoluene	1300	Not Detected	6800	Not Detected
1,2-Dichlorobenzene	1300	Not Detected	7900	Not Detected
1,2,4-Trichlorobenzene	5300	Not Detected	39000	Not Detected
Hexachlorobutadiene	5300	Not Detected	56000	Not Detected

E = Exceeds instrument calibration range.

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	128	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: VMP-3-10-112210-Dup

Lab ID#: 1011598B-12A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120616	Date of Collection:	11/22/10 12:24:00 P
Dil. Factor:	368	Date of Analysis:	12/6/10 05:58 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1800	Not Detected	9100	Not Detected
Freon 114	1800	Not Detected	13000	Not Detected
Chloromethane	7400	Not Detected	15000	Not Detected
Vinyl Chloride	1800	Not Detected	4700	Not Detected
1,3-Butadiene	1800	Not Detected	4100	Not Detected
Bromomethane	1800	Not Detected	7100	Not Detected
Chloroethane	1800	Not Detected	4800	Not Detected
Freon 11	1800	Not Detected	10000	Not Detected
Ethanol	7400	Not Detected	14000	Not Detected
Freon 113	1800	Not Detected	14000	Not Detected
1,1-Dichloroethene	1800	Not Detected	7300	Not Detected
Acetone	7400	Not Detected	17000	Not Detected
2-Propanol	7400	Not Detected	18000	Not Detected
Carbon Disulfide	1800	Not Detected	5700	Not Detected
3-Chloropropene	7400	Not Detected	23000	Not Detected
Methylene Chloride	1800	Not Detected	6400	Not Detected
Methyl tert-butyl ether	1800	Not Detected	6600	Not Detected
trans-1,2-Dichloroethene	1800	Not Detected	7300	Not Detected
Hexane	1800	310000	6500	1100000
1,1-Dichloroethane	1800	Not Detected	7400	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1800	Not Detected	5400	Not Detected
cis-1,2-Dichloroethene	1800	Not Detected	7300	Not Detected
Tetrahydrofuran	1800	Not Detected	5400	Not Detected
Chloroform	1800	Not Detected	9000	Not Detected
1,1,1-Trichloroethane	1800	Not Detected	10000	Not Detected
Cyclohexane	1800	310000	6300	1100000
Carbon Tetrachloride	1800	Not Detected	12000	Not Detected
2,2,4-Trimethylpentane	1800	670000	8600	3100000
Benzene	1800	4700	5900	15000
1,2-Dichloroethane	1800	Not Detected	7400	Not Detected
Heptane	1800	20000	7500	82000
Trichloroethene	1800	Not Detected	9900	Not Detected
1,2-Dichloropropane	1800	Not Detected	8500	Not Detected
1,4-Dioxane	7400	Not Detected	26000	Not Detected
Bromodichloromethane	1800	Not Detected	12000	Not Detected
cis-1,3-Dichloropropene	1800	Not Detected	8400	Not Detected
4-Methyl-2-pentanone	1800	Not Detected	7500	Not Detected
Toluene	1800	520 J	6900	2000 J
trans-1,3-Dichloropropene	1800	Not Detected	8400	Not Detected
1,1,2-Trichloroethane	1800	Not Detected	10000	Not Detected
Tetrachloroethene	1800	Not Detected	12000	Not Detected



Client Sample ID: VMP-3-10-112210-Dup

Lab ID#: 1011598B-12A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120616	Date of Collection:	11/22/10 12:24:00 P
Dil. Factor:	368	Date of Analysis:	12/6/10 05:58 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	7400	Not Detected	30000	Not Detected
Dibromochloromethane	1800	Not Detected	16000	Not Detected
1,2-Dibromoethane (EDB)	1800	Not Detected	14000	Not Detected
Chlorobenzene	1800	Not Detected	8500	Not Detected
Ethyl Benzene	1800	Not Detected	8000	Not Detected
m,p-Xylene	1800	510 J	8000	2200 J
o-Xylene	1800	Not Detected	8000	Not Detected
Styrene	1800	Not Detected	7800	Not Detected
Bromoform	1800	Not Detected	19000	Not Detected
Cumene	1800	1100 J	9000	5400 J
1,1,2,2-Tetrachloroethane	1800	Not Detected	13000	Not Detected
Propylbenzene	1800	1600 J	9000	7900 J
4-Ethyltoluene	1800	Not Detected	9000	Not Detected
1,3,5-Trimethylbenzene	1800	Not Detected	9000	Not Detected
1,2,4-Trimethylbenzene	1800	Not Detected	9000	Not Detected
1,3-Dichlorobenzene	1800	Not Detected	11000	Not Detected
1,4-Dichlorobenzene	1800	Not Detected	11000	Not Detected
alpha-Chlorotoluene	1800	Not Detected	9500	Not Detected
1,2-Dichlorobenzene	1800	Not Detected	11000	Not Detected
1,2,4-Trichlorobenzene	7400	Not Detected	55000	Not Detected
Hexachlorobutadiene	7400	Not Detected	78000	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	121	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130



Client Sample ID: VMP-3-31.5-112210

Lab ID#: 1011598B-13A

MODIFIED EPA METHOD TO-15 GC/MS

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	16000	Not Detected	82000	Not Detected
Freon 114	16000	Not Detected	120000	Not Detected
Chloromethane	66000	Not Detected	140000	Not Detected
Vinyl Chloride	16000	Not Detected	42000	Not Detected
1,3-Butadiene	16000	Not Detected	36000	Not Detected
Bromomethane	16000	Not Detected	64000	Not Detected
Chloroethane	16000	Not Detected	44000	Not Detected
Freon 11	16000	Not Detected	93000	Not Detected
Ethanol	66000	Not Detected	120000	Not Detected
Freon 113	16000	Not Detected	130000	Not Detected
1,1-Dichloroethene	16000	Not Detected	65000	Not Detected
Acetone	66000	Not Detected	160000	Not Detected
2-Propanol	66000	Not Detected	160000	Not Detected
Carbon Disulfide	16000	Not Detected	51000	Not Detected
3-Chloropropene	66000	Not Detected	210000	Not Detected
Methylene Chloride	16000	Not Detected	57000	Not Detected
Methyl tert-butyl ether	16000	Not Detected	59000	Not Detected
trans-1,2-Dichloroethene	16000	Not Detected	65000	Not Detected
Hexane	16000	5700000	58000	20000000
1,1-Dichloroethane	16000	Not Detected	67000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	16000	Not Detected	49000	Not Detected
cis-1,2-Dichloroethene	16000	Not Detected	65000	Not Detected
Tetrahydrofuran	16000	Not Detected	49000	Not Detected
Chloroform	16000	Not Detected	80000	Not Detected
1,1,1-Trichloroethane	16000	Not Detected	90000	Not Detected
Cyclohexane	16000	400000	57000	1400000
Carbon Tetrachloride	16000	Not Detected	100000	Not Detected
2,2,4-Trimethylpentane	16000	1600000	77000	7600000
Benzene	16000	56000	53000	180000
1,2-Dichloroethane	16000	Not Detected	67000	Not Detected
Heptane	16000	290000	68000	1200000
Trichloroethene	16000	Not Detected	89000	Not Detected
1,2-Dichloropropane	16000	Not Detected	76000	Not Detected
1,4-Dioxane	66000	Not Detected	240000	Not Detected
Bromodichloromethane	16000	Not Detected	110000	Not Detected
cis-1,3-Dichloropropene	16000	Not Detected	75000	Not Detected
4-Methyl-2-pentanone	16000	Not Detected	68000	Not Detected
Toluene	16000	5500 J	62000	21000 J
trans-1,3-Dichloropropene	16000	Not Detected	75000	Not Detected
1,1,2-Trichloroethane	16000	Not Detected	90000	Not Detected
Tetrachloroethene	16000	Not Detected	110000	Not Detected



Client Sample ID: VMP-3-31.5-112210

Lab ID#: 1011598B-13A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120618	Date of Collection:	11/22/10 11:03:00 A
Dil. Factor:	3300	Date of Analysis:	12/6/10 07:05 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	66000	Not Detected	270000	Not Detected
Dibromochloromethane	16000	Not Detected	140000	Not Detected
1,2-Dibromoethane (EDB)	16000	Not Detected	130000	Not Detected
Chlorobenzene	16000	Not Detected	76000	Not Detected
Ethyl Benzene	16000	13000 J	72000	55000 J
m,p-Xylene	16000	15000 J	72000	64000 J
o-Xylene	16000	Not Detected	72000	Not Detected
Styrene	16000	Not Detected	70000	Not Detected
Bromoform	16000	Not Detected	170000	Not Detected
Cumene	16000	Not Detected	81000	Not Detected
1,1,2,2-Tetrachloroethane	16000	Not Detected	110000	Not Detected
Propylbenzene	16000	Not Detected	81000	Not Detected
4-Ethyltoluene	16000	3800 J	81000	19000 J
1,3,5-Trimethylbenzene	16000	Not Detected	81000	Not Detected
1,2,4-Trimethylbenzene	16000	Not Detected	81000	Not Detected
1,3-Dichlorobenzene	16000	Not Detected	99000	Not Detected
1,4-Dichlorobenzene	16000	Not Detected	99000	Not Detected
alpha-Chlorotoluene	16000	Not Detected	85000	Not Detected
1,2-Dichlorobenzene	16000	Not Detected	99000	Not Detected
1,2,4-Trichlorobenzene	66000	Not Detected	490000	Not Detected
Hexachlorobutadiene	66000	Not Detected	700000	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130



Client Sample ID: VMP-3-31.5-112210

Lab ID#: 1011598B-13B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120617	Date of Collection: 11/22/10 11:03:00 A		
Dil. Factor:	1060	Date of Analysis: 12/6/10 06:36 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5300	Not Detected	26000	Not Detected
Freon 114	5300	Not Detected	37000	Not Detected
Chloromethane	21000	Not Detected	44000	Not Detected
Vinyl Chloride	5300	Not Detected	14000	Not Detected
1,3-Butadiene	5300	Not Detected	12000	Not Detected
Bromomethane	5300	Not Detected	20000	Not Detected
Chloroethane	5300	Not Detected	14000	Not Detected
Freon 11	5300	Not Detected	30000	Not Detected
Ethanol	21000	Not Detected	40000	Not Detected
Freon 113	5300	Not Detected	41000	Not Detected
1,1-Dichloroethene	5300	Not Detected	21000	Not Detected
Acetone	21000	Not Detected	50000	Not Detected
2-Propanol	21000	Not Detected	52000	Not Detected
Carbon Disulfide	5300	Not Detected	16000	Not Detected
3-Chloropropene	21000	Not Detected	66000	Not Detected
Methylene Chloride	5300	Not Detected	18000	Not Detected
Methyl tert-butyl ether	5300	Not Detected	19000	Not Detected
trans-1,2-Dichloroethene	5300	Not Detected	21000	Not Detected
Hexane	5300	6000000 E	19000	21000000 E
1,1-Dichloroethane	5300	Not Detected	21000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5300	Not Detected	16000	Not Detected
cis-1,2-Dichloroethene	5300	Not Detected	21000	Not Detected
Tetrahydrofuran	5300	Not Detected	16000	Not Detected
Chloroform	5300	Not Detected	26000	Not Detected
1,1,1-Trichloroethane	5300	Not Detected	29000	Not Detected
Cyclohexane	5300	410000	18000	1400000
Carbon Tetrachloride	5300	Not Detected	33000	Not Detected
2,2,4-Trimethylpentane	5300	1700000	25000	8000000
Benzene	5300	58000	17000	180000
1,2-Dichloroethane	5300	Not Detected	21000	Not Detected
Heptane	5300	280000	22000	1200000
Trichloroethene	5300	Not Detected	28000	Not Detected
1,2-Dichloropropane	5300	Not Detected	24000	Not Detected
1,4-Dioxane	21000	Not Detected	76000	Not Detected
Bromodichloromethane	5300	Not Detected	36000	Not Detected
cis-1,3-Dichloropropene	5300	Not Detected	24000	Not Detected
4-Methyl-2-pentanone	5300	Not Detected	22000	Not Detected
Toluene	5300	5100 J	20000	19000 J
trans-1,3-Dichloropropene	5300	Not Detected	24000	Not Detected
1,1,2-Trichloroethane	5300	Not Detected	29000	Not Detected
Tetrachloroethene	5300	Not Detected	36000	Not Detected



Client Sample ID: VMP-3-31.5-112210

Lab ID#: 1011598B-13B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120617	Date of Collection:	11/22/10 11:03:00 A
Dil. Factor:	1060	Date of Analysis:	12/6/10 06:36 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	21000	Not Detected	87000	Not Detected
Dibromochloromethane	5300	Not Detected	45000	Not Detected
1,2-Dibromoethane (EDB)	5300	Not Detected	41000	Not Detected
Chlorobenzene	5300	Not Detected	24000	Not Detected
Ethyl Benzene	5300	11000	23000	50000
m,p-Xylene	5300	16000	23000	68000
o-Xylene	5300	4500 J	23000	19000 J
Styrene	5300	Not Detected	22000	Not Detected
Bromoform	5300	Not Detected	55000	Not Detected
Cumene	5300	Not Detected	26000	Not Detected
1,1,2,2-Tetrachloroethane	5300	Not Detected	36000	Not Detected
Propylbenzene	5300	2000 J	26000	9800 J
4-Ethyltoluene	5300	3500 J	26000	17000 J
1,3,5-Trimethylbenzene	5300	Not Detected	26000	Not Detected
1,2,4-Trimethylbenzene	5300	2000 J	26000	9800 J
1,3-Dichlorobenzene	5300	Not Detected	32000	Not Detected
1,4-Dichlorobenzene	5300	Not Detected	32000	Not Detected
alpha-Chlorotoluene	5300	Not Detected	27000	Not Detected
1,2-Dichlorobenzene	5300	Not Detected	32000	Not Detected
1,2,4-Trichlorobenzene	21000	Not Detected	160000	Not Detected
Hexachlorobutadiene	21000	Not Detected	230000	Not Detected

E = Exceeds instrument calibration range.

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: VMP-4-5-112210

Lab ID#: 1011598B-14A

MODIFIED EPA METHOD TO-15 GC/MS

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
File Name:	b120613		Date of Collection:	11/22/10 3:26:00 PM
Dil. Factor:	538		Date of Analysis:	12/6/10 03:48 PM
Freon 12	2700	Not Detected	13000	Not Detected
Freon 114	2700	Not Detected	19000	Not Detected
Chloromethane	11000	Not Detected	22000	Not Detected
Vinyl Chloride	2700	Not Detected	6900	Not Detected
1,3-Butadiene	2700	Not Detected	6000	Not Detected
Bromomethane	2700	Not Detected	10000	Not Detected
Chloroethane	2700	Not Detected	7100	Not Detected
Freon 11	2700	Not Detected	15000	Not Detected
Ethanol	11000	Not Detected	20000	Not Detected
Freon 113	2700	Not Detected	21000	Not Detected
1,1-Dichloroethene	2700	Not Detected	11000	Not Detected
Acetone	11000	Not Detected	26000	Not Detected
2-Propanol	11000	Not Detected	26000	Not Detected
Carbon Disulfide	2700	Not Detected	8400	Not Detected
3-Chloropropene	11000	Not Detected	34000	Not Detected
Methylene Chloride	2700	Not Detected	9300	Not Detected
Methyl tert-butyl ether	2700	Not Detected	9700	Not Detected
trans-1,2-Dichloroethene	2700	Not Detected	11000	Not Detected
Hexane	2700	380000	9500	1300000
1,1-Dichloroethane	2700	Not Detected	11000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2700	Not Detected	7900	Not Detected
cis-1,2-Dichloroethene	2700	Not Detected	11000	Not Detected
Tetrahydrofuran	2700	Not Detected	7900	Not Detected
Chloroform	2700	Not Detected	13000	Not Detected
1,1,1-Trichloroethane	2700	Not Detected	15000	Not Detected
Cyclohexane	2700	340000	9200	1200000
Carbon Tetrachloride	2700	Not Detected	17000	Not Detected
2,2,4-Trimethylpentane	2700	380000	12000	1800000
Benzene	2700	13000	8600	41000
1,2-Dichloroethane	2700	Not Detected	11000	Not Detected
Heptane	2700	140000	11000	580000
Trichloroethene	2700	Not Detected	14000	Not Detected
1,2-Dichloropropane	2700	Not Detected	12000	Not Detected
1,4-Dioxane	11000	Not Detected	39000	Not Detected
Bromodichloromethane	2700	Not Detected	18000	Not Detected
cis-1,3-Dichloropropene	2700	Not Detected	12000	Not Detected
4-Methyl-2-pentanone	2700	Not Detected	11000	Not Detected
Toluene	2700	750 J	10000	2800 J
trans-1,3-Dichloropropene	2700	Not Detected	12000	Not Detected
1,1,2-Trichloroethane	2700	Not Detected	15000	Not Detected
Tetrachloroethene	2700	Not Detected	18000	Not Detected



Client Sample ID: VMP-4-5-112210

Lab ID#: 1011598B-14A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120613	Date of Collection: 11/22/10 3:26:00 PM
Dil. Factor:	538	Date of Analysis: 12/6/10 03:48 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	11000	Not Detected	44000	Not Detected
Dibromochloromethane	2700	Not Detected	23000	Not Detected
1,2-Dibromoethane (EDB)	2700	Not Detected	21000	Not Detected
Chlorobenzene	2700	Not Detected	12000	Not Detected
Ethyl Benzene	2700	4800	12000	21000
m,p-Xylene	2700	2500 J	12000	11000 J
o-Xylene	2700	Not Detected	12000	Not Detected
Styrene	2700	Not Detected	11000	Not Detected
Bromoform	2700	Not Detected	28000	Not Detected
Cumene	2700	1300 J	13000	6600 J
1,1,2,2-Tetrachloroethane	2700	Not Detected	18000	Not Detected
Propylbenzene	2700	1700 J	13000	8400 J
4-Ethyltoluene	2700	1300 J	13000	6200 J
1,3,5-Trimethylbenzene	2700	Not Detected	13000	Not Detected
1,2,4-Trimethylbenzene	2700	Not Detected	13000	Not Detected
1,3-Dichlorobenzene	2700	Not Detected	16000	Not Detected
1,4-Dichlorobenzene	2700	Not Detected	16000	Not Detected
alpha-Chlorotoluene	2700	Not Detected	14000	Not Detected
1,2-Dichlorobenzene	2700	Not Detected	16000	Not Detected
1,2,4-Trichlorobenzene	11000	Not Detected	80000	Not Detected
Hexachlorobutadiene	11000	Not Detected	110000	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: VMP-11-5-112210

Lab ID#: 1011598B-15A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p120426	Date of Collection:	11/22/10 9:28:00 AM
Dil. Factor:	2.58	Date of Analysis:	12/4/10 04:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.39 J	6.4	1.9 J
Freon 114	1.3	Not Detected	9.0	Not Detected
Chloromethane	5.2	Not Detected	11	Not Detected
Vinyl Chloride	1.3	Not Detected	3.3	Not Detected
1,3-Butadiene	1.3	Not Detected	2.8	Not Detected
Bromomethane	1.3	Not Detected	5.0	Not Detected
Chloroethane	1.3	Not Detected	3.4	Not Detected
Freon 11	1.3	Not Detected	7.2	Not Detected
Ethanol	5.2	5.9	9.7	11
Freon 113	1.3	Not Detected	9.9	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Acetone	5.2	6.2	12	15
2-Propanol	5.2	32	13	78
Carbon Disulfide	1.3	0.0 ND 0.59 u"	4.0	0.0 ND 1.8 u"
3-Chloropropene	5.2	Not Detected	16	Not Detected
Methylene Chloride	1.3	Not Detected	4.5	Not Detected
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	0.50 J	4.5	1.8 J
1,1-Dichloroethane	1.3	Not Detected	5.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.3	1.1 J	3.8	3.4 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	0.80 J	6.3	3.9 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	0.41 J	6.0	1.9 J
Benzene	1.3	0.28 J	4.1	0.89 J
1,2-Dichloroethane	1.3	Not Detected	5.2	Not Detected
Heptane	1.3	0.31 J	5.3	1.3 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	Not Detected	5.3	Not Detected
Toluene	1.3	0.65 J	4.9	2.4 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



Client Sample ID: VMP-11-5-112210

Lab ID#: 1011598B-15A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p120426	Date of Collection:	11/22/10 9:28:00 AM
Dil. Factor:	2.58	Date of Analysis:	12/4/10 04:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	5.2	Not Detected	21	Not Detected
Dibromochloromethane	1.3	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.3	Not Detected	9.9	Not Detected
Chlorobenzene	1.3	Not Detected	5.9	Not Detected
Ethyl Benzene	1.3	0.48 J	5.6	2.1 J
m,p-Xylene	1.3	0.0ND 0.16 ug	5.6	0.0ND 0.17 ug
o-Xylene	1.3	Not Detected	5.6	Not Detected
Styrene	1.3	1.4	5.5	6.0
Bromoform	1.3	Not Detected	13	Not Detected
Cumene	1.3	Not Detected	6.3	Not Detected
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	Not Detected	6.3	Not Detected
1,3-Dichlorobenzene	1.3	0.18 J	7.8	1.1 J
1,4-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
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

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	91	70-130



Client Sample ID: VMP-11-8-112210

Lab ID#: 1011598B-16A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p120427	Date of Collection:	11/22/10 11:07:00 A
Dil. Factor:	2.58	Date of Analysis:	12/4/10 05:25 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.44 J	6.4	2.2 J
Freon 114	1.3	Not Detected	9.0	Not Detected
Chloromethane	5.2	Not Detected	11	Not Detected
Vinyl Chloride	1.3	Not Detected	3.3	Not Detected
1,3-Butadiene	1.3	Not Detected	2.8	Not Detected
Bromomethane	1.3	Not Detected	5.0	Not Detected
Chloroethane	1.3	Not Detected	3.4	Not Detected
Freon 11	1.3	Not Detected	7.2	Not Detected
Ethanol	5.2	2.9 J	9.7	5.6 J
Freon 113	1.3	Not Detected	9.9	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Acetone	5.2	5.8	12	14
2-Propanol	5.2	14	13	33
Carbon Disulfide	1.3	0.0ND 0.59 u"	4.0	0.0ND 18 u"
3-Chloropropene	5.2	Not Detected	16	Not Detected
Methylene Chloride	1.3	Not Detected	4.5	Not Detected
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)	1.3	Not Detected	3.8	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Tetrahydrofuran	1.3	Not Detected	3.8	Not Detected
Chloroform	1.3	Not Detected	6.3	Not Detected
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	0.52 J	6.0	2.4 J
Benzene	1.3	0.54 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	0.74 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	Not Detected	5.3	Not Detected
Toluene	1.3	0.0ND 0.53 u"	4.9	0.0ND 12 u"
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

Client Sample ID: VMP-11-8-112210

Lab ID#: 1011598B-16A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p120427	Date of Collection: 11/22/10 11:07:00 A
Dil. Factor:	2.58	Date of Analysis: 12/4/10 05:25 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	5.2	Not Detected	21	Not Detected
Dibromochloromethane	1.3	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.3	Not Detected	9.9	Not Detected
Chlorobenzene	1.3	Not Detected	5.9	Not Detected
Ethyl Benzene	1.3	0.37 J	5.6	1.6 J
m,p-Xylene	1.3	0.0 ND 0.17 J	5.6	0.0 ND 0.73 J
o-Xylene	1.3	Not Detected	5.6	Not Detected
Styrene	1.3	0.83 J	5.5	3.5 J
Bromoform	1.3	Not Detected	13	Not Detected
Cumene	1.3	Not Detected	6.3	Not Detected
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	Not Detected	6.3	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
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

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	91	70-130
4-Bromofluorobenzene	91	70-130



Client Sample ID: VMP-11-29-112210

Lab ID#: 1011598B-17A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120611	Date of Collection: 11/22/10 12:31:00 P
Dil. Factor:	92.0	Date of Analysis: 12/6/10 02:41 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	460	Not Detected	2300	Not Detected
Freon 114	460	Not Detected	3200	Not Detected
Chloromethane	1800	Not Detected	3800	Not Detected
Vinyl Chloride	460	Not Detected	1200	Not Detected
1,3-Butadiene	460	Not Detected	1000	Not Detected
Bromomethane	460	Not Detected	1800	Not Detected
Chloroethane	460	Not Detected	1200	Not Detected
Freon 11	460	Not Detected	2600	Not Detected
Ethanol	1800	Not Detected	3500	Not Detected
Freon 113	460	Not Detected	3500	Not Detected
1,1-Dichloroethene	460	Not Detected	1800	Not Detected
Acetone	1800	Not Detected	4400	Not Detected
2-Propanol	1800	Not Detected	4500	Not Detected
Carbon Disulfide	460	Not Detected	1400	Not Detected
3-Chloropropene	1800	Not Detected	5800	Not Detected
Methylene Chloride	460	Not Detected	1600	Not Detected
Methyl tert-butyl ether	460	Not Detected	1600	Not Detected
trans-1,2-Dichloroethene	460	Not Detected	1800	Not Detected
Hexane	460	Not Detected	1600	Not Detected
1,1-Dichloroethane	460	Not Detected	1900	Not Detected
2-Butanone (Methyl Ethyl Ketone)	460	Not Detected	1400	Not Detected
cis-1,2-Dichloroethene	460	Not Detected	1800	Not Detected
Tetrahydrofuran	460	Not Detected	1400	Not Detected
Chloroform	460	Not Detected	2200	Not Detected
1,1,1-Trichloroethane	460	Not Detected	2500	Not Detected
Cyclohexane	460	Not Detected	1600	Not Detected
Carbon Tetrachloride	460	Not Detected	2900	Not Detected
2,2,4-Trimethylpentane	460	380 J	2100	1800 J
Benzene	460	140000	1500	460000
1,2-Dichloroethane	460	Not Detected	1900	Not Detected
Heptane	460	Not Detected	1900	Not Detected
Trichloroethene	460	Not Detected	2500	Not Detected
1,2-Dichloropropane	460	Not Detected	2100	Not Detected
1,4-Dioxane	1800	Not Detected	6600	Not Detected
Bromodichloromethane	460	Not Detected	3100	Not Detected
cis-1,3-Dichloropropene	460	Not Detected	2100	Not Detected
4-Methyl-2-pentanone	460	Not Detected	1900	Not Detected
Toluene	460	Not Detected	1700	Not Detected
trans-1,3-Dichloropropene	460	Not Detected	2100	Not Detected
1,1,2-Trichloroethane	460	Not Detected	2500	Not Detected
Tetrachloroethene	460	Not Detected	3100	Not Detected



Client Sample ID: VMP-11-29-112210

Lab ID#: 1011598B-17A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120611	Date of Collection: 11/22/10 12:31:00 P
Dil. Factor:	92.0	Date of Analysis: 12/6/10 02:41 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	1800	Not Detected	7500	Not Detected
Dibromochloromethane	460	Not Detected	3900	Not Detected
1,2-Dibromoethane (EDB)	460	Not Detected	3500	Not Detected
Chlorobenzene	460	Not Detected	2100	Not Detected
Ethyl Benzene	460	Not Detected	2000	Not Detected
m,p-Xylene	460	Not Detected	2000	Not Detected
o-Xylene	460	Not Detected	2000	Not Detected
Styrene	460	Not Detected	2000	Not Detected
Bromoform	460	Not Detected	4800	Not Detected
Cumene	460	Not Detected	2300	Not Detected
1,1,2,2-Tetrachloroethane	460	Not Detected	3200	Not Detected
Propylbenzene	460	Not Detected	2300	Not Detected
4-Ethyltoluene	460	Not Detected	2300	Not Detected
1,3,5-Trimethylbenzene	460	Not Detected	2300	Not Detected
1,2,4-Trimethylbenzene	460	Not Detected	2300	Not Detected
1,3-Dichlorobenzene	460	Not Detected	2800	Not Detected
1,4-Dichlorobenzene	460	Not Detected	2800	Not Detected
alpha-Chlorotoluene	460	Not Detected	2400	Not Detected
1,2-Dichlorobenzene	460	Not Detected	2800	Not Detected
1,2,4-Trichlorobenzene	1800	Not Detected	14000	Not Detected
Hexachlorobutadiene	1800	Not Detected	20000	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130



Client Sample ID: VMP-11-29-112210-Dup

Lab ID#: 1011598B-18A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120610	Date of Collection: 11/22/10 12:31:00 P
Dil. Factor:	64.1	Date of Analysis: 12/6/10 02:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	320	Not Detected	1600	Not Detected
Freon 114	320	Not Detected	2200	Not Detected
Chloromethane	1300	Not Detected	2600	Not Detected
Vinyl Chloride	320	Not Detected	820	Not Detected
1,3-Butadiene	320	Not Detected	710	Not Detected
Bromomethane	320	Not Detected	1200	Not Detected
Chloroethane	320	Not Detected	840	Not Detected
Freon 11	320	Not Detected	1800	Not Detected
Ethanol	1300	Not Detected	2400	Not Detected
Freon 113	320	Not Detected	2400	Not Detected
1,1-Dichloroethene	320	Not Detected	1300	Not Detected
Acetone	1300	Not Detected	3000	Not Detected
2-Propanol	1300	Not Detected	3200	Not Detected
Carbon Disulfide	320	Not Detected	1000	Not Detected
3-Chloropropene	1300	Not Detected	4000	Not Detected
Methylene Chloride	320	Not Detected	1100	Not Detected
Methyl tert-butyl ether	320	Not Detected	1200	Not Detected
trans-1,2-Dichloroethene	320	Not Detected	1300	Not Detected
Hexane	320	Not Detected	1100	Not Detected
1,1-Dichloroethane	320	Not Detected	1300	Not Detected
2-Butanone (Methyl Ethyl Ketone)	320	Not Detected	940	Not Detected
cis-1,2-Dichloroethene	320	Not Detected	1300	Not Detected
Tetrahydrofuran	320	Not Detected	940	Not Detected
Chloroform	320	Not Detected	1600	Not Detected
1,1,1-Trichloroethane	320	Not Detected	1700	Not Detected
Cyclohexane	320	Not Detected	1100	Not Detected
Carbon Tetrachloride	320	Not Detected	2000	Not Detected
2,2,4-Trimethylpentane	320	390	1500	1800
Benzene	320	140000	1000	440000
1,2-Dichloroethane	320	Not Detected	1300	Not Detected
Heptane	320	Not Detected	1300	Not Detected
Trichloroethene	320	Not Detected	1700	Not Detected
1,2-Dichloropropane	320	Not Detected	1500	Not Detected
1,4-Dioxane	1300	Not Detected	4600	Not Detected
Bromodichloromethane	320	Not Detected	2100	Not Detected
cis-1,3-Dichloropropene	320	Not Detected	1400	Not Detected
4-Methyl-2-pentanone	320	Not Detected	1300	Not Detected
Toluene	320	Not Detected	1200	Not Detected
trans-1,3-Dichloropropene	320	Not Detected	1400	Not Detected
1,1,2-Trichloroethane	320	Not Detected	1700	Not Detected
Tetrachloroethene	320	100 J	2200	690 J



Client Sample ID: VMP-11-29-112210-Dup

Lab ID#: 1011598B-18A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120610	Date of Collection: 11/22/10 12:31:00 P
Dil. Factor:	64.1	Date of Analysis: 12/6/10 02:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	1300	Not Detected	5200	Not Detected
Dibromochloromethane	320	Not Detected	2700	Not Detected
1,2-Dibromoethane (EDB)	320	Not Detected	2500	Not Detected
Chlorobenzene	320	Not Detected	1500	Not Detected
Ethyl Benzene	320	Not Detected	1400	Not Detected
m,p-Xylene	320	Not Detected	1400	Not Detected
o-Xylene	320	Not Detected	1400	Not Detected
Styrene	320	Not Detected	1400	Not Detected
Bromoform	320	Not Detected	3300	Not Detected
Cumene	320	Not Detected	1600	Not Detected
1,1,2,2-Tetrachloroethane	320	Not Detected	2200	Not Detected
Propylbenzene	320	Not Detected	1600	Not Detected
4-Ethyltoluene	320	Not Detected	1600	Not Detected
1,3,5-Trimethylbenzene	320	Not Detected	1600	Not Detected
1,2,4-Trimethylbenzene	320	Not Detected	1600	Not Detected
1,3-Dichlorobenzene	320	Not Detected	1900	Not Detected
1,4-Dichlorobenzene	320	Not Detected	1900	Not Detected
alpha-Chlorotoluene	320	Not Detected	1600	Not Detected
1,2-Dichlorobenzene	320	Not Detected	1900	Not Detected
1,2,4-Trichlorobenzene	1300	Not Detected	9500	Not Detected
Hexachlorobutadiene	1300	Not Detected	14000	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130



Client Sample ID: VMP-17-5-112210

Lab ID#: 1011598B-19A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p120428	Date of Collection:	11/22/10 2:17:00 PM
Dil. Factor:	2.69	Date of Analysis:	12/4/10 05:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.45 J	6.6	2.2 J
Freon 114	1.3	Not Detected	9.4	Not Detected
Chloromethane	5.4	1.7 J	11	3.5 J
Vinyl Chloride	1.3	Not Detected	3.4	Not Detected
1,3-Butadiene	1.3	Not Detected	3.0	Not Detected
Bromomethane	1.3	Not Detected	5.2	Not Detected
Chloroethane	1.3	Not Detected	3.5	Not Detected
Freon 11	1.3	Not Detected	7.6	Not Detected
Ethanol	5.4	5.8	10	11
Freon 113	1.3	Not Detected	10	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.3	Not Detected
Acetone	5.4	13	13	30
2-Propanol	5.4	9.0	13	22
Carbon Disulfide	1.3	0.0 ND 0.65 u"	4.2	0.0 ND 2.0 u"
3-Chloropropene	5.4	Not Detected	17	Not Detected
Methylene Chloride	1.3	Not Detected	4.7	Not Detected
Methyl tert-butyl ether	1.3	Not Detected	4.8	Not Detected
trans-1,2-Dichloroethene	1.3	Not Detected	5.3	Not Detected
Hexane	1.3	0.38 J	4.7	1.3 J
1,1-Dichloroethane	1.3	Not Detected	5.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.3	1.6	4.0	4.8
cis-1,2-Dichloroethene	1.3	Not Detected	5.3	Not Detected
Tetrahydrofuran	1.3	Not Detected	4.0	Not Detected
Chloroform	1.3	Not Detected	6.6	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	7.3	Not Detected
Cyclohexane	1.3	Not Detected	4.6	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.5	Not Detected
2,2,4-Trimethylpentane	1.3	0.68 J	6.3	3.2 J
Benzene	1.3	1.4	4.3	4.4
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	1.0 J	19	3.6 J
Bromodichloromethane	1.3	Not Detected	9.0	Not Detected
cis-1,3-Dichloropropene	1.3	Not Detected	6.1	Not Detected
4-Methyl-2-pentanone	1.3	Not Detected	5.5	Not Detected
Toluene	1.3	0.0 ND 0.35 u"	5.1	0.0 ND 1.0 u"
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	0.0 ND 0.35 u"	9.1	0.0 ND 2.0 u"

Client Sample ID: VMP-17-5-112210

Lab ID#: 1011598B-19A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p120428	Date of Collection:	11/22/10 2:17:00 PM
Dil. Factor:	2.69	Date of Analysis:	12/4/10 05:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	5.4	Not Detected	22	Not Detected
Dibromochloromethane	1.3	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.3	Not Detected	10	Not Detected
Chlorobenzene	1.3	Not Detected	6.2	Not Detected
Ethyl Benzene	1.3	Not Detected	5.8	Not Detected
m,p-Xylene	1.3	0.0 ND 0.15 U "	5.8	0.0 ND 0.15 U "
o-Xylene	1.3	Not Detected	5.8	Not Detected
Styrene	1.3	0.64 J	5.7	2.7 J
Bromoform	1.3	Not Detected	14	Not Detected
Cumene	1.3	Not Detected	6.6	Not Detected
1,1,2,2-Tetrachloroethane	1.3	Not Detected	9.2	Not Detected
Propylbenzene	1.3	Not Detected	6.6	Not Detected
4-Ethyltoluene	1.3	Not Detected	6.6	Not Detected
1,3,5-Trimethylbenzene	1.3	Not Detected	6.6	Not Detected
1,2,4-Trimethylbenzene	1.3	Not Detected	6.6	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	8.1	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	8.1	Not Detected
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

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	90	70-130

* - Use these results only. All other data was reported from the 129X dilution analysis.



Client Sample ID: VMP-5-5-112210

Lab ID#: 1011598B-20A

MODIFIED EPA METHOD TO-15 GC/MS

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
File Name:	b120620		Date of Collection:	11/22/10 4:17:00 PM
Dil. Factor:	184		Date of Analysis:	12/6/10 08:05 PM
Freon 12	920	Not Detected	4500	Not Detected
Freon 114	920	Not Detected	6400	Not Detected
Chloromethane	3700	Not Detected	7600	Not Detected
Vinyl Chloride	920	Not Detected	2400	Not Detected
1,3-Butadiene	920	Not Detected	2000	Not Detected
Bromomethane	920	Not Detected	3600	Not Detected
Chloroethane	920	Not Detected	2400	Not Detected
Freon 11	920	Not Detected	5200	Not Detected
Ethanol	3700	Not Detected	6900	Not Detected
Freon 113	920	Not Detected	7000	Not Detected
1,1-Dichloroethene	920	Not Detected	3600	Not Detected
Acetone	3700	Not Detected	8700	Not Detected
2-Propanol	3700	Not Detected	9000	Not Detected
Carbon Disulfide	920	Not Detected	2900	Not Detected
3-Chloropropene	3700	Not Detected	12000	Not Detected
Methylene Chloride	920	Not Detected	3200	Not Detected
Methyl tert-butyl ether	920	Not Detected	3300	Not Detected
trans-1,2-Dichloroethene	920	Not Detected	3600	Not Detected
* Hexane	920	400000	3200	1400000
1,1-Dichloroethane	920	Not Detected	3700	Not Detected
2-Butanone (Methyl Ethyl Ketone)	920	Not Detected	2700	Not Detected
cis-1,2-Dichloroethene	920	Not Detected	3600	Not Detected
Tetrahydrofuran	920	Not Detected	2700	Not Detected
Chloroform	920	Not Detected	4500	Not Detected
1,1,1-Trichloroethane	920	Not Detected	5000	Not Detected
Cyclohexane	920	130000	3200	460000
Carbon Tetrachloride	920	Not Detected	5800	Not Detected
* 2,2,4-Trimethylpentane	920	360000	4300	1700000
Benzene	920	2800	2900	9100
1,2-Dichloroethane	920	Not Detected	3700	Not Detected
Heptane	920	31000	3800	130000
Trichloroethene	920	Not Detected	4900	Not Detected
1,2-Dichloropropane	920	Not Detected	4200	Not Detected
1,4-Dioxane	3700	Not Detected	13000	Not Detected
Bromodichloromethane	920	Not Detected	6200	Not Detected
cis-1,3-Dichloropropene	920	Not Detected	4200	Not Detected
4-Methyl-2-pentanone	920	Not Detected	3800	Not Detected
Toluene	920	Not Detected	3500	Not Detected
trans-1,3-Dichloropropene	920	Not Detected	4200	Not Detected
1,1,2-Trichloroethane	920	Not Detected	5000	Not Detected
Tetrachloroethene	920	Not Detected	6200	Not Detected



Client Sample ID: VMP-5-5-112210

Lab ID#: 1011598B-20A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120620	Date of Collection: 11/22/10 4:17:00 PM
Dil. Factor:	184	Date of Analysis: 12/6/10 08:05 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	3700	Not Detected	15000	Not Detected
Dibromochloromethane	920	Not Detected	7800	Not Detected
1,2-Dibromoethane (EDB)	920	Not Detected	7100	Not Detected
Chlorobenzene	920	Not Detected	4200	Not Detected
Ethyl Benzene	920	Not Detected	4000	Not Detected
m,p-Xylene	920	Not Detected	4000	Not Detected
o-Xylene	920	Not Detected	4000	Not Detected
Styrene	920	Not Detected	3900	Not Detected
Bromoform	920	Not Detected	9500	Not Detected
Cumene	920	Not Detected	4500	Not Detected
1,1,2,2-Tetrachloroethane	920	Not Detected	6300	Not Detected
Propylbenzene	920	Not Detected	4500	Not Detected
4-Ethyltoluene	920	Not Detected	4500	Not Detected
1,3,5-Trimethylbenzene	920	Not Detected	4500	Not Detected
1,2,4-Trimethylbenzene	920	Not Detected	4500	Not Detected
1,3-Dichlorobenzene	920	Not Detected	5500	Not Detected
1,4-Dichlorobenzene	920	Not Detected	5500	Not Detected
alpha-Chlorotoluene	920	Not Detected	4800	Not Detected
1,2-Dichlorobenzene	920	Not Detected	5500	Not Detected
1,2,4-Trichlorobenzene	3700	Not Detected	27000	Not Detected
Hexachlorobutadiene	3700	Not Detected	39000	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

** "Do not use this data. Use all other data."



Client Sample ID: VMP-5-5-112210

Lab ID#: 1011598B-20B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120619	Date of Collection:	11/22/10 4:17:00 PM
Dil. Factor:	129	Date of Analysis:	12/6/10 07:30 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	640	Not Detected	3200	Not Detected
Freon 114	640	Not Detected	4500	Not Detected
Chloromethane	2600	Not Detected	5300	Not Detected
Vinyl Chloride	640	Not Detected	1600	Not Detected
1,3-Butadiene	640	Not Detected	1400	Not Detected
Bromomethane	640	Not Detected	2500	Not Detected
Chloroethane	640	Not Detected	1700	Not Detected
Freon 11	640	Not Detected	3600	Not Detected
Ethanol	2600	Not Detected	4900	Not Detected
Freon 113	640	Not Detected	4900	Not Detected
1,1-Dichloroethene	640	Not Detected	2600	Not Detected
Acetone	2600	Not Detected	6100	Not Detected
2-Propanol	2600	Not Detected	6300	Not Detected
Carbon Disulfide	640	Not Detected	2000	Not Detected
3-Chloropropene	2600	Not Detected	8100	Not Detected
Methylene Chloride	640	Not Detected	2200	Not Detected
Methyl tert-butyl ether	640	Not Detected	2300	Not Detected
trans-1,2-Dichloroethene	640	Not Detected	2600	Not Detected
Hexane	640	400000 E	2300	1400000 E
1,1-Dichloroethane	640	Not Detected	2600	Not Detected
2-Butanone (Methyl Ethyl Ketone)	640	Not Detected	1900	Not Detected
cis-1,2-Dichloroethene	640	Not Detected	2600	Not Detected
Tetrahydrofuran	640	Not Detected	1900	Not Detected
Chloroform	640	Not Detected	3100	Not Detected
1,1,1-Trichloroethane	640	Not Detected	3500	Not Detected
Cyclohexane	640	130000	2200	450000
Carbon Tetrachloride	640	Not Detected	4000	Not Detected
2,2,4 Trimethylpentane	640	350000 E	3000	1600000 E
Benzene	640	2700	2100	8600
1,2-Dichloroethane	640	Not Detected	2600	Not Detected
Heptane	640	30000	2600	120000
Trichloroethene	640	Not Detected	3500	Not Detected
1,2-Dichloropropane	640	Not Detected	3000	Not Detected
1,4-Dioxane	2600	Not Detected	9300	Not Detected
Bromodichloromethane	640	Not Detected	4300	Not Detected
cis-1,3-Dichloropropene	640	Not Detected	2900	Not Detected
4-Methyl-2-pentanone	640	Not Detected	2600	Not Detected
Toluene	640	Not Detected	2400	Not Detected
trans-1,3-Dichloropropene	640	Not Detected	2900	Not Detected
1,1,2-Trichloroethane	640	Not Detected	3500	Not Detected
Tetrachloroethene	640	Not Detected	4400	Not Detected



Client Sample ID: VMP-5-5-112210

Lab ID#: 1011598B-20B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120619	Date of Collection: 11/22/10 4:17:00 PM
Dil. Factor:	129	Date of Analysis: 12/6/10 07:30 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	2600	Not Detected	10000	Not Detected
Dibromochloromethane	640	Not Detected	5500	Not Detected
1,2-Dibromoethane (EDB)	640	Not Detected	5000	Not Detected
Chlorobenzene	640	Not Detected	3000	Not Detected
Ethyl Benzene	640	Not Detected	2800	Not Detected
m,p-Xylene	640	Not Detected	2800	Not Detected
o-Xylene	640	Not Detected	2800	Not Detected
Styrene	640	Not Detected	2700	Not Detected
Bromoform	640	Not Detected	6700	Not Detected
Cumene	640	Not Detected	3200	Not Detected
1,1,2,2-Tetrachloroethane	640	Not Detected	4400	Not Detected
Propylbenzene	640	Not Detected	3200	Not Detected
4-Ethyltoluene	640	Not Detected	3200	Not Detected
1,3,5-Trimethylbenzene	640	Not Detected	3200	Not Detected
1,2,4-Trimethylbenzene	640	Not Detected	3200	Not Detected
1,3-Dichlorobenzene	640	Not Detected	3900	Not Detected
1,4-Dichlorobenzene	640	Not Detected	3900	Not Detected
alpha-Chlorotoluene	640	Not Detected	3300	Not Detected
1,2-Dichlorobenzene	640	Not Detected	3900	Not Detected
1,2,4-Trichlorobenzene	2600	Not Detected	19000	Not Detected
Hexachlorobutadiene	2600	Not Detected	28000	Not Detected

E = Exceeds instrument calibration range.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	123	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: VMP-4-12-112310

Lab ID#: 1011598B-21A

MODIFIED EPA METHOD TO-15 GC/MS

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1300	Not Detected	6400	Not Detected
Freon 114	1300	Not Detected	9000	Not Detected
Chloromethane	5200	Not Detected	11000	Not Detected
Vinyl Chloride	1300	Not Detected	3300	Not Detected
1,3-Butadiene	1300	Not Detected	2800	Not Detected
Bromomethane	1300	Not Detected	5000	Not Detected
Chloroethane	1300	Not Detected	3400	Not Detected
Freon 11	1300	Not Detected	7200	Not Detected
Ethanol	5200	Not Detected	9700	Not Detected
Freon 113	1300	Not Detected	9900	Not Detected
1,1-Dichloroethene	1300	Not Detected	5100	Not Detected
Acetone	5200	Not Detected	12000	Not Detected
2-Propanol	5200	Not Detected	13000	Not Detected
Carbon Disulfide	1300	Not Detected	4000	Not Detected
3-Chloropropene	5200	Not Detected	16000	Not Detected
Methylene Chloride	1300	Not Detected	4500	Not Detected
Methyl tert-butyl ether	1300	Not Detected	4600	Not Detected
trans-1,2-Dichloroethene	1300	Not Detected	5100	Not Detected
Hexane	1300	200000	4500	690000
1,1-Dichloroethane	1300	Not Detected	5200	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1300	Not Detected	3800	Not Detected
cis-1,2-Dichloroethene	1300	Not Detected	5100	Not Detected
Tetrahydrofuran	1300	Not Detected	3800	Not Detected
Chloroform	1300	Not Detected	6300	Not Detected
1,1,1-Trichloroethane	1300	Not Detected	7000	Not Detected
Cyclohexane	1300	220000	4400	760000
Carbon Tetrachloride	1300	Not Detected	8100	Not Detected
2,2,4-Trimethylpentane	1300	290000	6000	1300000
Benzene	1300	4800	4100	15000
1,2-Dichloroethane	1300	Not Detected	5200	Not Detected
Heptane	1300	58000	5300	240000
Trichloroethene	1300	Not Detected	6900	Not Detected
1,2-Dichloropropane	1300	Not Detected	6000	Not Detected
1,4-Dioxane	5200	Not Detected	18000	Not Detected
Bromodichloromethane	1300	Not Detected	8600	Not Detected
cis-1,3-Dichloropropene	1300	Not Detected	5800	Not Detected
4-Methyl-2-pentanone	1300	Not Detected	5300	Not Detected
Toluene	1300	Not Detected	4900	Not Detected
trans-1,3-Dichloropropene	1300	Not Detected	5800	Not Detected
1,1,2-Trichloroethane	1300	Not Detected	7000	Not Detected
Tetrachloroethene	1300	Not Detected	8800	Not Detected



Client Sample ID: VMP-4-12-112310

Lab ID#: 1011598B-21A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120621	Date of Collection: 11/23/10 2:52:00 PM
Dil. Factor:	258	Date of Analysis: 12/6/10 08:31 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	5200	Not Detected	21000	Not Detected
Dibromochloromethane	1300	Not Detected	11000	Not Detected
1,2-Dibromoethane (EDB)	1300	Not Detected	9900	Not Detected
Chlorobenzene	1300	Not Detected	5900	Not Detected
Ethyl Benzene	1300	400 J	5600	1700 J
m,p-Xylene	1300	1400	5600	6200
o-Xylene	1300	Not Detected	5600	Not Detected
Styrene	1300	Not Detected	5500	Not Detected
Bromoform	1300	Not Detected	13000	Not Detected
Cumene	1300	Not Detected	6300	Not Detected
1,1,2,2-Tetrachloroethane	1300	Not Detected	8800	Not Detected
Propylbenzene	1300	Not Detected	6300	Not Detected
4-Ethyltoluene	1300	950 J	6300	4700 J
1,3,5-Trimethylbenzene	1300	520 J	6300	2600 J
1,2,4-Trimethylbenzene	1300	720 J	6300	3500 J
1,3-Dichlorobenzene	1300	Not Detected	7800	Not Detected
1,4-Dichlorobenzene	1300	Not Detected	7800	Not Detected
alpha-Chlorotoluene	1300	Not Detected	6700	Not Detected
1,2-Dichlorobenzene	1300	Not Detected	7800	Not Detected
1,2,4-Trichlorobenzene	5200	Not Detected	38000	Not Detected
Hexachlorobutadiene	5200	Not Detected	55000	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130



Client Sample ID: VMP-4-23.5-112310

Lab ID#: 1011598B-22A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120622	Date of Collection: 11/23/10 4:05:00 PM
Dil. Factor:	2910	Date of Analysis: 12/6/10 08:59 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	14000	Not Detected	72000	Not Detected
Freon 114	14000	Not Detected	100000	Not Detected
Chloromethane	58000	Not Detected	120000	Not Detected
Vinyl Chloride	14000	Not Detected	37000	Not Detected
1,3-Butadiene	14000	Not Detected	32000	Not Detected
Bromomethane	14000	Not Detected	56000	Not Detected
Chloroethane	14000	Not Detected	38000	Not Detected
Freon 11	14000	Not Detected	82000	Not Detected
Ethanol	58000	Not Detected	110000	Not Detected
Freon 113	14000	Not Detected	110000	Not Detected
1,1-Dichloroethene	14000	Not Detected	58000	Not Detected
Acetone	58000	Not Detected	140000	Not Detected
2-Propanol	58000	Not Detected	140000	Not Detected
Carbon Disulfide	14000	Not Detected	45000	Not Detected
3-Chloropropene	58000	Not Detected	180000	Not Detected
Methylene Chloride	14000	Not Detected	50000	Not Detected
Methyl tert-butyl ether	14000	Not Detected	52000	Not Detected
trans-1,2-Dichloroethene	14000	Not Detected	58000	Not Detected
Hexane	14000	4300000	51000	15000000
1,1-Dichloroethane	14000	Not Detected	59000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	14000	Not Detected	43000	Not Detected
cis-1,2-Dichloroethene	14000	Not Detected	58000	Not Detected
Tetrahydrofuran	14000	Not Detected	43000	Not Detected
Chloroform	14000	Not Detected	71000	Not Detected
1,1,1-Trichloroethane	14000	Not Detected	79000	Not Detected
Cyclohexane	14000	830000	50000	2900000
Carbon Tetrachloride	14000	Not Detected	92000	Not Detected
2,2,4-Trimethylpentane	14000	1000000	68000	4800000
Benzene	14000	160000	46000	510000
1,2-Dichloroethane	14000	Not Detected	59000	Not Detected
Heptane	14000	960000	60000	3900000
Trichloroethene	14000	Not Detected	78000	Not Detected
1,2-Dichloropropane	14000	Not Detected	67000	Not Detected
1,4-Dioxane	58000	Not Detected	210000	Not Detected
Bromodichloromethane	14000	Not Detected	97000	Not Detected
cis-1,3-Dichloropropene	14000	Not Detected	66000	Not Detected
4-Methyl-2-pentanone	14000	Not Detected	60000	Not Detected
Toluene	14000	440000	55000	1600000
trans-1,3-Dichloropropene	14000	Not Detected	66000	Not Detected
1,1,2-Trichloroethane	14000	Not Detected	79000	Not Detected
Tetrachloroethene	14000	Not Detected	99000	Not Detected



Client Sample ID: VMP-4-23.5-112310

Lab ID#: 1011598B-22A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120622	Date of Collection: 11/23/10 4:05:00 PM
Dil. Factor:	2910	Date of Analysis: 12/6/10 08:59 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	58000	Not Detected	240000	Not Detected
Dibromochloromethane	14000	Not Detected	120000	Not Detected
1,2-Dibromoethane (EDB)	14000	Not Detected	110000	Not Detected
Chlorobenzene	14000	Not Detected	67000	Not Detected
Ethyl Benzene	14000	140000	63000	630000
m,p-Xylene	14000	240000	63000	1100000
o-Xylene	14000	72000	63000	310000
Styrene	14000	Not Detected	62000	Not Detected
Bromoform	14000	Not Detected	150000	Not Detected
Cumene	14000	Not Detected	72000	Not Detected
1,1,2,2-Tetrachloroethane	14000	Not Detected	100000	Not Detected
Propylbenzene	14000	4500 J	72000	22000 J
4-Ethyltoluene	14000	12000 J	72000	58000 J
1,3,5-Trimethylbenzene	14000	Not Detected	72000	Not Detected
1,2,4-Trimethylbenzene	14000	6400 J	72000	31000 J
1,3-Dichlorobenzene	14000	Not Detected	87000	Not Detected
1,4-Dichlorobenzene	14000	Not Detected	87000	Not Detected
alpha-Chlorotoluene	14000	Not Detected	75000	Not Detected
1,2-Dichlorobenzene	14000	Not Detected	87000	Not Detected
1,2,4-Trichlorobenzene	58000	Not Detected	430000	Not Detected
Hexachlorobutadiene	58000	Not Detected	620000	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: VMP-5-12.5-112310

Lab ID#: 1011598B-23A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120623	Date of Collection: 11/23/10 10:20:00 A
Dil. Factor:	13.2	Date of Analysis: 12/6/10 09:35 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	66	Not Detected	330	Not Detected
Freon 114	66	Not Detected	460	Not Detected
Chloromethane	260	Not Detected	540	Not Detected
Vinyl Chloride	66	Not Detected	170	Not Detected
1,3-Butadiene	66	Not Detected	150	Not Detected
Bromomethane	66	Not Detected	260	Not Detected
Chloroethane	66	Not Detected	170	Not Detected
Freon 11	66	Not Detected	370	Not Detected
Ethanol	260	Not Detected	500	Not Detected
Freon 113	66	Not Detected	500	Not Detected
1,1-Dichloroethene	66	Not Detected	260	Not Detected
Acetone	260	Not Detected	630	Not Detected
2-Propanol	260	Not Detected	650	Not Detected
Carbon Disulfide	66	Not Detected	200	Not Detected
3-Chloropropene	260	Not Detected	830	Not Detected
Methylene Chloride	66	Not Detected	230	Not Detected
Methyl tert-butyl ether	66	Not Detected	240	Not Detected
trans-1,2-Dichloroethene	66	Not Detected	260	Not Detected
Hexane	66	4400	230	15000
1,1-Dichloroethane	66	Not Detected	270	Not Detected
2-Butanone (Methyl Ethyl Ketone)	66	Not Detected	190	Not Detected
cis-1,2-Dichloroethene	66	Not Detected	260	Not Detected
Tetrahydrofuran	66	Not Detected	190	Not Detected
Chloroform	66	Not Detected	320	Not Detected
1,1,1-Trichloroethane	66	Not Detected	360	Not Detected
Cyclohexane	66	4100	230	14000
Carbon Tetrachloride	66	Not Detected	420	Not Detected
2,2,4-Trimethylpentane	66	23000	310	110000
Benzene	66	170	210	540
1,2-Dichloroethane	66	Not Detected	270	Not Detected
Heptane	66	Not Detected	270	Not Detected
Trichloroethene	66	Not Detected	350	Not Detected
1,2-Dichloropropane	66	Not Detected	300	Not Detected
1,4-Dioxane	260	Not Detected	950	Not Detected
Bromodichloromethane	66	Not Detected	440	Not Detected
cis-1,3-Dichloropropene	66	Not Detected	300	Not Detected
4-Methyl-2-pentanone	66	Not Detected	270	Not Detected
Toluene	66	130	250	500
trans-1,3-Dichloropropene	66	Not Detected	300	Not Detected
1,1,2-Trichloroethane	66	Not Detected	360	Not Detected
Tetrachloroethene	66	Not Detected	450	Not Detected



Client Sample ID: VMP-5-12.5-112310

Lab ID#: 1011598B-23A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120623	Date of Collection: 11/23/10 10:20:00 A
Dil. Factor:	13.2	Date of Analysis: 12/6/10 09:35 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	260	Not Detected	1100	Not Detected
Dibromochloromethane	66	Not Detected	560	Not Detected
1,2-Dibromoethane (EDB)	66	Not Detected	510	Not Detected
Chlorobenzene	66	Not Detected	300	Not Detected
Ethyl Benzene	66	24 J	290	100 J
m,p-Xylene	66	46 J	290	200 J
o-Xylene	66	Not Detected	290	Not Detected
Styrene	66	Not Detected	280	Not Detected
Bromoform	66	Not Detected	680	Not Detected
Cumene	66	Not Detected	320	Not Detected
1,1,2,2-Tetrachloroethane	66	Not Detected	450	Not Detected
Propylbenzene	66	Not Detected	320	Not Detected
4-Ethyltoluene	66	Not Detected	320	Not Detected
1,3,5-Trimethylbenzene	66	Not Detected	320	Not Detected
1,2,4-Trimethylbenzene	66	Not Detected	320	Not Detected
1,3-Dichlorobenzene	66	Not Detected	400	Not Detected
1,4-Dichlorobenzene	66	Not Detected	400	Not Detected
alpha-Chlorotoluene	66	Not Detected	340	Not Detected
1,2-Dichlorobenzene	66	Not Detected	400	Not Detected
1,2,4-Trichlorobenzene	260	Not Detected	2000	Not Detected
Hexachlorobutadiene	260	Not Detected	2800	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	96	70-130

Use these results only. All other data was reported from the 691 X dilution analysis.



Client Sample ID: VMP-5-31-112310

Lab ID#: 1011598B-24A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120625	Date of Collection:	11/23/10 12:16:00 P
Dil. Factor:	1210	Date of Analysis:	12/6/10 10:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	6000	Not Detected	30000	Not Detected
Freon 114	6000	Not Detected	42000	Not Detected
Chloromethane	24000	Not Detected	50000	Not Detected
Vinyl Chloride	6000	Not Detected	15000	Not Detected
1,3-Butadiene	6000	Not Detected	13000	Not Detected
Bromomethane	6000	Not Detected	23000	Not Detected
Chloroethane	6000	Not Detected	16000	Not Detected
Freon 11	6000	Not Detected	34000	Not Detected
Ethanol	24000	Not Detected	46000	Not Detected
Freon 113	6000	Not Detected	46000	Not Detected
1,1-Dichloroethene	6000	Not Detected	24000	Not Detected
Acetone	24000	Not Detected	57000	Not Detected
2-Propanol	24000	Not Detected	59000	Not Detected
Carbon Disulfide	6000	Not Detected	19000	Not Detected
3-Chloropropene	24000	Not Detected	76000	Not Detected
Methylene Chloride	6000	Not Detected	21000	Not Detected
Methyl tert-butyl ether	6000	Not Detected	22000	Not Detected
trans-1,2-Dichloroethene	6000	Not Detected	24000	Not Detected
Hexane	6000	2300000	21000	8200000
1,1-Dichloroethane	6000	Not Detected	24000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	6000	Not Detected	18000	Not Detected
cis-1,2-Dichloroethene	6000	Not Detected	24000	Not Detected
Tetrahydrofuran	6000	Not Detected	18000	Not Detected
Chloroform	6000	Not Detected	30000	Not Detected
1,1,1-Trichloroethane	6000	Not Detected	33000	Not Detected
Cyclohexane	6000	600000	21000	2100000
Carbon Tetrachloride	6000	Not Detected	38000	Not Detected
2,2,4-Trimethylpentane	6000	940000	28000	4400000
Benzene	6000	50000	19000	160000
1,2-Dichloroethane	6000	Not Detected	24000	Not Detected
Heptane	6000	380000	25000	1600000
Trichloroethene	6000	Not Detected	32000	Not Detected
1,2-Dichloropropane	6000	Not Detected	28000	Not Detected
1,4-Dioxane	24000	Not Detected	87000	Not Detected
Bromodichloromethane	6000	Not Detected	40000	Not Detected
cis-1,3-Dichloropropene	6000	Not Detected	27000	Not Detected
4-Methyl-2-pentanone	6000	Not Detected	25000	Not Detected
Toluene	6000	Not Detected	23000	Not Detected
trans-1,3-Dichloropropene	6000	Not Detected	27000	Not Detected
1,1,2-Trichloroethane	6000	Not Detected	33000	Not Detected
Tetrachloroethene	6000	Not Detected	41000	Not Detected



Client Sample ID: VMP-5-31-112310

Lab ID#: 1011598B-24A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120625	Date of Collection: 11/23/10 12:16:00 P
Dil. Factor:	1210	Date of Analysis: 12/6/10 10:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	24000	Not Detected	99000	Not Detected
Dibromochloromethane	6000	Not Detected	52000	Not Detected
1,2-Dibromoethane (EDB)	6000	Not Detected	46000	Not Detected
Chlorobenzene	6000	Not Detected	28000	Not Detected
Ethyl Benzene	6000	Not Detected	26000	Not Detected
m,p-Xylene	6000	1700 J	26000	7500 J
o-Xylene	6000	Not Detected	26000	Not Detected
Styrene	6000	Not Detected	26000	Not Detected
Bromoform	6000	Not Detected	62000	Not Detected
Cumene	6000	Not Detected	30000	Not Detected
1,1,2,2-Tetrachloroethane	6000	Not Detected	42000	Not Detected
Propylbenzene	6000	Not Detected	30000	Not Detected
4-Ethyltoluene	6000	Not Detected	30000	Not Detected
1,3,5-Trimethylbenzene	6000	Not Detected	30000	Not Detected
1,2,4-Trimethylbenzene	6000	Not Detected	30000	Not Detected
1,3-Dichlorobenzene	6000	Not Detected	36000	Not Detected
1,4-Dichlorobenzene	6000	Not Detected	36000	Not Detected
alpha-Chlorotoluene	6000	Not Detected	31000	Not Detected
1,2-Dichlorobenzene	6000	Not Detected	36000	Not Detected
1,2,4-Trichlorobenzene	24000	Not Detected	180000	Not Detected
Hexachlorobutadiene	24000	Not Detected	260000	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

Do not use this data. Use all other data."



Client Sample ID: VMP-5-31-112310

Lab ID#: 1011598B-24B

MODIFIED EPA METHOD TO-15 GC/MS

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
File Name:	b120624		Date of Collection: 11/23/10 12:16:00 P	
Dil. Factor:	691		Date of Analysis: 12/6/10 10:20 PM	
Freon 12	3400	Not Detected	17000	Not Detected
Freon 114	3400	Not Detected	24000	Not Detected
Chloromethane	14000	Not Detected	28000	Not Detected
Vinyl Chloride	3400	Not Detected	8800	Not Detected
1,3-Butadiene	3400	Not Detected	7600	Not Detected
Bromomethane	3400	Not Detected	13000	Not Detected
Chloroethane	3400	Not Detected	9100	Not Detected
Freon 11	3400	Not Detected	19000	Not Detected
Ethanol	14000	Not Detected	26000	Not Detected
Freon 113	3400	Not Detected	26000	Not Detected
1,1-Dichloroethene	3400	Not Detected	14000	Not Detected
Acetone	14000	Not Detected	33000	Not Detected
2-Propanol	14000	Not Detected	34000	Not Detected
Carbon Disulfide	3400	Not Detected	11000	Not Detected
3-Chloropropene	14000	Not Detected	43000	Not Detected
Methylene Chloride	3400	Not Detected	12000	Not Detected
Methyl tert-butyl ether	3400	Not Detected	12000	Not Detected
trans-1,2-Dichloroethene	3400	Not Detected	14000	Not Detected
Hexane	3400	2500000 E	12000	8900000 E
1,1-Dichloroethane	3400	Not Detected	14000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3400	Not Detected	10000	Not Detected
cis-1,2-Dichloroethene	3400	Not Detected	14000	Not Detected
Tetrahydrofuran	3400	Not Detected	10000	Not Detected
Chloroform	3400	Not Detected	17000	Not Detected
1,1,1-Trichloroethane	3400	Not Detected	19000	Not Detected
Cyclohexane	3400	650000	12000	2200000
Carbon Tetrachloride	3400	Not Detected	22000	Not Detected
2,2,4-Trimethylpentane	3400	1000000	16000	4700000
Benzene	3400	55000	11000	180000
1,2-Dichloroethane	3400	Not Detected	14000	Not Detected
Heptane	3400	410000	14000	1700000
Trichloroethene	3400	Not Detected	18000	Not Detected
1,2-Dichloropropane	3400	Not Detected	16000	Not Detected
1,4-Dioxane	14000	Not Detected	50000	Not Detected
Bromodichloromethane	3400	Not Detected	23000	Not Detected
cis-1,3-Dichloropropene	3400	Not Detected	16000	Not Detected
4-Methyl-2-pentanone	3400	Not Detected	14000	Not Detected
Toluene	3400	2200 J	13000	8200 J
trans-1,3-Dichloropropene	3400	Not Detected	16000	Not Detected
1,1,2-Trichloroethane	3400	Not Detected	19000	Not Detected
Tetrachloroethene	3400	Not Detected	23000	Not Detected

Client Sample ID: VMP-5-31-112310

Lab ID#: 1011598B-24B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120624	Date of Collection: 11/23/10 12:16:00 P
Dil. Factor:	691	Date of Analysis: 12/6/10 10:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	14000	Not Detected	57000	Not Detected
Dibromochloromethane	3400	Not Detected	29000	Not Detected
1,2-Dibromoethane (EDB)	3400	Not Detected	26000	Not Detected
Chlorobenzene	3400	Not Detected	16000	Not Detected
Ethyl Benzene	3400	Not Detected	15000	Not Detected
m,p-Xylene	3400	2700 J	15000	12000 J
o-Xylene	3400	Not Detected	15000	Not Detected
Styrene	3400	Not Detected	15000	Not Detected
Bromoform	3400	Not Detected	36000	Not Detected
Cumene	3400	Not Detected	17000	Not Detected
1,1,2,2-Tetrachloroethane	3400	Not Detected	24000	Not Detected
Propylbenzene	3400	Not Detected	17000	Not Detected
4-Ethyltoluene	3400	Not Detected	17000	Not Detected
1,3,5-Trimethylbenzene	3400	Not Detected	17000	Not Detected
1,2,4-Trimethylbenzene	3400	Not Detected	17000	Not Detected
1,3-Dichlorobenzene	3400	Not Detected	21000	Not Detected
1,4-Dichlorobenzene	3400	Not Detected	21000	Not Detected
alpha-Chlorotoluene	3400	Not Detected	18000	Not Detected
1,2-Dichlorobenzene	3400	Not Detected	21000	Not Detected
1,2,4-Trichlorobenzene	14000	Not Detected	100000	Not Detected
Hexachlorobutadiene	14000	Not Detected	150000	Not Detected

E = Exceeds instrument calibration range.

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: Lab Blank

Lab ID#: 1011598B-25A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
File Name:	p120407c	Date of Collection: NA		
Dil. Factor:	1.00	Date of Analysis: 12/4/10 03:07 AM		
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	0.33 J	1.9	1.3 J
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	0.30 J	4.8	0.72 J
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	0.50	0.30 J	1.6	0.95 J
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	0.50	Not Detected	1.7	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	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	0.074 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	0.096 J	3.4	0.65 J



Client Sample ID: Lab Blank

Lab ID#: 1011598B-25A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p120407c	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/4/10 03:07 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	2.0	Not Detected	8.2	Not Detected
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	0.11 J	2.3	0.49 J
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	0.13 J	2.2	0.57 J
o-Xylene	0.50	0.10 J	2.2	0.45 J
Styrene	0.50	0.079 J	2.1	0.34 J
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	0.10 J	2.4	0.52 J
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	0.10 J	2.4	0.51 J
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	0.14 J	2.4	0.67 J
1,2,4-Trimethylbenzene	0.50	0.15 J	2.4	0.72 J
1,3-Dichlorobenzene	0.50	0.20 J	3.0	1.2 J
1,4-Dichlorobenzene	0.50	0.23 J	3.0	1.4 J
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	0.18 J	3.0	1.0 J
1,2,4-Trichlorobenzene	2.0	0.58 J	15	4.3 J
Hexachlorobutadiene	2.0	0.24 J	21	2.5 J

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	91	70-130
4-Bromofluorobenzene	93	70-130

Client Sample ID: Lab Blank

Lab ID#: 1011598B-25B

MODIFIED EPA METHOD TO-15 GC/MS

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5.0	Not Detected	25	Not Detected
Freon 114	5.0	Not Detected	35	Not Detected
Chloromethane	20	Not Detected	41	Not Detected
Vinyl Chloride	5.0	Not Detected	13	Not Detected
1,3-Butadiene	5.0	Not Detected	11	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	5.0	Not Detected	13	Not Detected
Freon 11	5.0	Not Detected	28	Not Detected
Ethanol	20	Not Detected	38	Not Detected
Freon 113	5.0	Not Detected	38	Not Detected
1,1-Dichloroethene	5.0	Not Detected	20	Not Detected
Acetone	20	Not Detected	48	Not Detected
2-Propanol	20	Not Detected	49	Not Detected
Carbon Disulfide	5.0	Not Detected	16	Not Detected
3-Chloropropene	20	Not Detected	63	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	5.0	Not Detected	18	Not Detected
trans-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Hexane	5.0	Not Detected	18	Not Detected
1,1-Dichloroethane	5.0	Not Detected	20	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Tetrahydrofuran	5.0	Not Detected	15	Not Detected
Chloroform	5.0	Not Detected	24	Not Detected
1,1,1-Trichloroethane	5.0	Not Detected	27	Not Detected
Cyclohexane	5.0	Not Detected	17	Not Detected
Carbon Tetrachloride	5.0	Not Detected	31	Not Detected
2,2,4-Trimethylpentane	5.0	Not Detected	23	Not Detected
Benzene	5.0	Not Detected	16	Not Detected
1,2-Dichloroethane	5.0	Not Detected	20	Not Detected
Heptane	5.0	Not Detected	20	Not Detected
Trichloroethene	5.0	Not Detected	27	Not Detected
1,2-Dichloropropane	5.0	Not Detected	23	Not Detected
1,4-Dioxane	20	Not Detected	72	Not Detected
Bromodichloromethane	5.0	Not Detected	34	Not Detected
cis-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
4-Methyl-2-pentanone	5.0	Not Detected	20	Not Detected
Toluene	5.0	Not Detected	19	Not Detected
trans-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
1,1,2-Trichloroethane	5.0	Not Detected	27	Not Detected
Tetrachloroethene	5.0	Not Detected	34	Not Detected



Client Sample ID: Lab Blank

Lab ID#: 1011598B-25B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120608a	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/6/10 12:57 PM

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

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: CCV

Lab ID#: 1011598B-26A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p120402	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/4/10 01:25 AM

Compound	%Recovery
Freon 12	95
Freon 114	97
Chloromethane	88
Vinyl Chloride	103
1,3-Butadiene	103
Bromomethane	100
Chloroethane	106
Freon 11	96
Ethanol	77
Freon 113	95
1,1-Dichloroethene	98
Acetone	107
2-Propanol	98
Carbon Disulfide	89
3-Chloropropene	99
Methylene Chloride	100
Methyl tert-butyl ether	92
trans-1,2-Dichloroethene	95
Hexane	96
1,1-Dichloroethane	98
2-Butanone (Methyl Ethyl Ketone)	109
cis-1,2-Dichloroethene	102
Tetrahydrofuran	102
Chloroform	97
1,1,1-Trichloroethane	94
Cyclohexane	103
Carbon Tetrachloride	92
2,2,4-Trimethylpentane	106
Benzene	105
1,2-Dichloroethane	101
Heptane	108
Trichloroethene	105
1,2-Dichloropropane	105
1,4-Dioxane	106
Bromodichloromethane	101
cis-1,3-Dichloropropene	106
4-Methyl-2-pentanone	102
Toluene	111
trans-1,3-Dichloropropene	107
1,1,2-Trichloroethane	111
Tetrachloroethene	107

Client Sample ID: CCV

Lab ID#: 1011598B-26A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p120402	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/4/10 01:25 AM

Compound	%Recovery
2-Hexanone	115
Dibromochloromethane	108
1,2-Dibromoethane (EDB)	109
Chlorobenzene	108
Ethyl Benzene	110
m,p-Xylene	111
o-Xylene	109
Styrene	108
Bromoform	107
Cumene	112
1,1,2,2-Tetrachloroethane	108
Propylbenzene	105
4-Ethyltoluene	107
1,3,5-Trimethylbenzene	107
1,2,4-Trimethylbenzene	103
1,3-Dichlorobenzene	101
1,4-Dichlorobenzene	98
alpha-Chlorotoluene	105
1,2-Dichlorobenzene	99
1,2,4-Trichlorobenzene	97
Hexachlorobutadiene	101

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	93	70-130

Client Sample ID: CCV

Lab ID#: 1011598B-26B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/6/10 09:40 AM

Compound	%Recovery
Freon 12	113
Freon 114	106
Chloromethane	79
Vinyl Chloride	105
1,3-Butadiene	100
Bromomethane	108
Chloroethane	103
Freon 11	110
Ethanol	85
Freon 113	103
1,1-Dichloroethene	106
Acetone	100
2-Propanol	87
Carbon Disulfide	111
3-Chloropropene	111
Methylene Chloride	100
Methyl tert-butyl ether	95
trans-1,2-Dichloroethene	103
Hexane	100
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	102
cis-1,2-Dichloroethene	104
Tetrahydrofuran	95
Chloroform	107
1,1,1-Trichloroethane	104
Cyclohexane	102
Carbon Tetrachloride	109
2,2,4-Trimethylpentane	98
Benzene	104
1,2-Dichloroethane	110
Heptane	108
Trichloroethene	106
1,2-Dichloropropane	102
1,4-Dioxane	105
Bromodichloromethane	109
cis-1,3-Dichloropropene	106
4-Methyl-2-pentanone	103
Toluene	102
trans-1,3-Dichloropropene	101
1,1,2-Trichloroethane	100
Tetrachloroethene	94

Client Sample ID: CCV

Lab ID#: 1011598B-26B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/6/10 09:40 AM

Compound	%Recovery
2-Hexanone	95
Dibromochloromethane	105
1,2-Dibromoethane (EDB)	101
Chlorobenzene	98
Ethyl Benzene	100
m,p-Xylene	98
o-Xylene	98
Styrene	103
Bromoform	107
Cumene	101
1,1,2,2-Tetrachloroethane	101
Propylbenzene	104
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	107
1,2,4-Trimethylbenzene	104
1,3-Dichlorobenzene	101
1,4-Dichlorobenzene	101
alpha-Chlorotoluene	103
1,2-Dichlorobenzene	102
1,2,4-Trichlorobenzene	118
Hexachlorobutadiene	123

Container Type: NA - Not Applicable

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

Client Sample ID: LCS

Lab ID#: 1011598B-27A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p120403	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/4/10 01:53 AM

Compound	%Recovery
Freon 12	100
Freon 114	103
Chloromethane	101
Vinyl Chloride	107
1,3-Butadiene	113
Bromomethane	103
Chloroethane	109
Freon 11	100
Ethanol	94
Freon 113	99
1,1-Dichloroethene	100
Acetone	103
2-Propanol	108
Carbon Disulfide	92
3-Chloropropene	100
Methylene Chloride	100
Methyl tert-butyl ether	97
trans-1,2-Dichloroethene	98
Hexane	97
1,1-Dichloroethane	98
2-Butanone (Methyl Ethyl Ketone)	114
cis-1,2-Dichloroethene	102
Tetrahydrofuran	101
Chloroform	98
1,1,1-Trichloroethane	98
Cyclohexane	104
Carbon Tetrachloride	97
2,2,4-Trimethylpentane	107
Benzene	103
1,2-Dichloroethane	96
Heptane	103
Trichloroethene	98
1,2-Dichloropropane	104
1,4-Dioxane	103
Bromodichloromethane	99
cis-1,3-Dichloropropene	99
4-Methyl-2-pentanone	99
Toluene	99
trans-1,3-Dichloropropene	103
1,1,2-Trichloroethane	105
Tetrachloroethene	99

Client Sample ID: LCS

Lab ID#: 1011598B-27A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p120403	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/4/10 01:53 AM

Compound	%Recovery
2-Hexanone	108
Dibromochloromethane	106
1,2-Dibromoethane (EDB)	104
Chlorobenzene	102
Ethyl Benzene	105
m,p-Xylene	103
o-Xylene	107
Styrene	107
Bromoform	104
Cumene	104
1,1,2,2-Tetrachloroethane	103
Propylbenzene	104
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	104
1,2,4-Trimethylbenzene	100
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	95
alpha-Chlorotoluene	103
1,2-Dichlorobenzene	99
1,2,4-Trichlorobenzene	95
Hexachlorobutadiene	95

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: LCSD

Lab ID#: 1011598B-27AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p120404	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/4/10 02:10 AM

Compound	%Recovery
Freon 12	97
Freon 114	100
Chloromethane	90
Vinyl Chloride	105
1,3-Butadiene	108
Bromomethane	100
Chloroethane	107
Freon 11	104
Ethanol	105
Freon 113	96
1,1-Dichloroethene	96
Acetone	99
2-Propanol	104
Carbon Disulfide	89
3-Chloropropene	101
Methylene Chloride	98
Methyl tert-butyl ether	97
trans-1,2-Dichloroethene	96
Hexane	96
1,1-Dichloroethane	96
2-Butanone (Methyl Ethyl Ketone)	111
cis-1,2-Dichloroethene	100
Tetrahydrofuran	99
Chloroform	98
1,1,1-Trichloroethane	97
Cyclohexane	104
Carbon Tetrachloride	95
2,2,4-Trimethylpentane	105
Benzene	106
1,2-Dichloroethane	101
Heptane	105
Trichloroethene	102
1,2-Dichloropropane	104
1,4-Dioxane	106
Bromodichloromethane	103
cis-1,3-Dichloropropene	105
4-Methyl-2-pentanone	104
Toluene	103
trans-1,3-Dichloropropene	105
1,1,2-Trichloroethane	110
Tetrachloroethene	103

Client Sample ID: LCS D

Lab ID#: 1011598B-27AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p120404	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/4/10 02:10 AM

Compound	%Recovery
2-Hexanone	112
Dibromochloromethane	110
1,2-Dibromoethane (EDB)	107
Chlorobenzene	106
Ethyl Benzene	108
m,p-Xylene	107
o-Xylene	111
Styrene	111
Bromoform	110
Cumene	108
1,1,2,2-Tetrachloroethane	108
Propylbenzene	108
4-Ethyltoluene	106
1,3,5-Trimethylbenzene	107
1,2,4-Trimethylbenzene	104
1,3-Dichlorobenzene	102
1,4-Dichlorobenzene	100
alpha-Chlorotoluene	108
1,2-Dichlorobenzene	104
1,2,4-Trichlorobenzene	100
Hexachlorobutadiene	101

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: LCS

Lab ID#: 1011598B-27B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/6/10 10:34 AM

Compound	%Recovery
Freon 12	114
Freon 114	110
Chloromethane	94
Vinyl Chloride	112
1,3-Butadiene	109
Bromomethane	111
Chloroethane	108
Freon 11	115
Ethanol	90
Freon 113	105
1,1-Dichloroethene	112
Acetone	105
2-Propanol	96
Carbon Disulfide	114
3-Chloropropene	113
Methylene Chloride	102
Methyl tert-butyl ether	100
trans-1,2-Dichloroethene	108
Hexane	99
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	110
cis-1,2-Dichloroethene	109
Tetrahydrofuran	96
Chloroform	109
1,1,1-Trichloroethane	108
Cyclohexane	109
Carbon Tetrachloride	114
2,2,4-Trimethylpentane	103
Benzene	104
1,2-Dichloroethane	109
Heptane	108
Trichloroethene	105
1,2-Dichloropropane	105
1,4-Dioxane	107
Bromodichloromethane	114
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	108
Toluene	104
trans-1,3-Dichloropropene	107
1,1,2-Trichloroethane	105
Tetrachloroethene	96

Client Sample ID: LCS

Lab ID#: 1011598B-27B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/6/10 10:34 AM

Compound	%Recovery
2-Hexanone	102
Dibromochloromethane	109
1,2-Dibromoethane (EDB)	105
Chlorobenzene	102
Ethyl Benzene	105
m,p-Xylene	102
o-Xylene	103
Styrene	110
Bromoform	113
Cumene	108
1,1,2,2-Tetrachloroethane	108
Propylbenzene	112
4-Ethyltoluene	106
1,3,5-Trimethylbenzene	112
1,2,4-Trimethylbenzene	111
1,3-Dichlorobenzene	106
1,4-Dichlorobenzene	107
alpha-Chlorotoluene	113
1,2-Dichlorobenzene	110
1,2,4-Trichlorobenzene	136 Q
Hexachlorobutadiene	140 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

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

Client Sample ID: LCSD

Lab ID#: 1011598B-27BB

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120605	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/6/10 11:10 AM

Compound	%Recovery
Freon 12	116
Freon 114	106
Chloromethane	94
Vinyl Chloride	107
1,3-Butadiene	103
Bromomethane	106
Chloroethane	104
Freon 11	112
Ethanol	92
Freon 113	102
1,1-Dichloroethene	110
Acetone	102
2-Propanol	91
Carbon Disulfide	112
3-Chloropropene	112
Methylene Chloride	98
Methyl tert-butyl ether	98
trans-1,2-Dichloroethene	103
Hexane	98
1,1-Dichloroethane	101
2-Butanone (Methyl Ethyl Ketone)	108
cis-1,2-Dichloroethene	106
Tetrahydrofuran	95
Chloroform	108
1,1,1-Trichloroethane	106
Cyclohexane	106
Carbon Tetrachloride	111
2,2,4-Trimethylpentane	100
Benzene	104
1,2-Dichloroethane	107
Heptane	108
Trichloroethene	106
1,2-Dichloropropane	103
1,4-Dioxane	108
Bromodichloromethane	112
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	106
Toluene	104
trans-1,3-Dichloropropene	105
1,1,2-Trichloroethane	104
Tetrachloroethene	93

Client Sample ID: LCSD

Lab ID#: 1011598B-27BB

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b120605	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/6/10 11:10 AM

Compound	%Recovery
2-Hexanone	102
Dibromochloromethane	108
1,2-Dibromoethane (EDB)	104
Chlorobenzene	101
Ethyl Benzene	104
m,p-Xylene	102
o-Xylene	104
Styrene	109
Bromoform	110
Cumene	106
1,1,2,2-Tetrachloroethane	106
Propylbenzene	111
4-Ethyltoluene	105
1,3,5-Trimethylbenzene	112
1,2,4-Trimethylbenzene	109
1,3-Dichlorobenzene	105
1,4-Dichlorobenzene	105
alpha-Chlorotoluene	111
1,2-Dichlorobenzene	108
1,2,4-Trichlorobenzene	133 Q
Hexachlorobutadiene	138 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130

1011593



Shell Oil Products Chain Of Custody Record

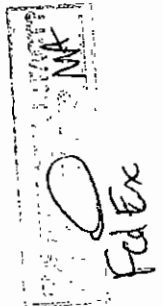
Air Toxics LTD.
Project Name: Roxana Dissolved Phase
Project #
 Lab Vendor #
 ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
 AIR TOXICS LTD, 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
 TEL: 916-916-3142
 FAX: 916-916-3142
 TURNAROUND TIME (CALENDAR DAYS): 3 DAYS
 SHIP/DROP (11 DAY) 3 DAYS
 L.A. - RWQCB REPORT FORMAT 3 DAYS
 DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4

Print Bill To Contact Name: Thomas Adams
PO #
 SITE ADDRESS: 900 SOUTH CENTRAL AVE - ROXANA, ILL. 62450
 (SP. VULNERABLE TO BOMB, CHEMICAL, BIOLOGICAL)
 Elizabeth Kumbel, URS, St. Louis
 REQUESTED ANALYSIS: SHELL CONTRACT RATE APPLIES STATE REIMBURSEMENT RATE APPLIES EDO NOT INEDED RECEIPT VERIFICATION REQUESTED

INCIDENT # (ENV SERVICES) CHECK IF NO INCIDENT # APPLIES
 DATE: 11/23/2010
 PAGE: 2 of 3
 Turn Around Time: Normal Rush
 Date: Pressurization Gas: N₂ He
 Specify:

LAB USE ONLY	Field Sample Identification		SAMPLE ID		Canister Number	Canister Pressure/Vacuum		Final (psi)
	DATE	START TIME	STOP TIME	Initial (Psi)		Receipt		
11A	VMP-3-10-112210	11/22/10 1149	1224	2226	-30	-8	X	X
11B	VMP-3-10-112210-Dup	11/22/10 1149	1224	2134	-30	-8	X	X
12A	VMP-3-31.5-112210	11/22/10 1032	1103	1004	-30	-8	X	X
12B	VMP-4-5-112210	11/22/10 1451	1526	2709	-30	-8.5	X	X
12C	VMP-11-5-112210	11/22/10 0857	0928	3042	-30	-6	X	X
12D	VMP-11-8-112210	11/22/10 1035	1107	2753	-30	-6	X	X
12E	VMP-11-29-112210	11/22/10 1154	1231	3953	-30	-7.5	X	X
12F	VMP-11-29-112210-Dup	11/22/10 1154	1231	3151	-30	-8.5	X	X
12G	VMP-17-5-112210	11/22/10 1337	1417	97	-30	-7	X	X
20A	VMP-5-5-112210	11/22/10 1537	1617	1418	-30	-6	X	X

REQUESTED ANALYSIS
 Turn Around Time: Normal Rush
 Date: Pressurization Gas: N₂ He
 Specify:
 ADDITIONAL NOTES:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVP
 DATE: 11/23/10 TIME: 1800
 DATE: 11/24/10 TIME: 1105
 RECEIVED BY: (Signature)
 RECEIVED BY: (Signature)
 RECEIVED BY: (Signature)



1011593



Shell Oil Products Chain Of Custody Record



Air Toxics LTD.
Project Name: Roxana Dissolved Phase

Lab Vendor #
 URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110

Print Bill To Contact Name: Thomas Adams
PO #
 900 SOUTH CENTRAL AVE - ROXANA
 (or SUBSTITUTED TO SHOW COMPANY'S OPERATIONS)
 Elizabeth Kunkel, URS, St. Louis
 Elizabeth.Kunkel@URS Corp.com

INCIDENT # (ENV SERVICES)

9	7	2	1	6	6	4	0
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DATE: 11/23/2010
PAGE: 3 of 3

Lab Vendor #
 URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
 AIR TOXICS, LTD 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
 314-7429-0100
 314-429-0462

Site Address: Street and City
 900 SOUTH CENTRAL AVE - ROXANA
 (or SUBSTITUTED TO SHOW COMPANY'S OPERATIONS)
 Elizabeth Kunkel, URS, St. Louis
 Elizabeth.Kunkel@URS Corp.com

OTHER (SPECIFY):

REQUESTED ANALYSIS

Turn Around Time: Lab Use Only

Prepressurized by: _____
 Date: _____
 Prepressurization Gas: N₂ Ho

REQUIRED ANALYSIS
 Normal
 Rush
 Specify: _____

ADDITIONAL NOTES:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVIP

Lab Use ONLY	Field Sample Identification	SAMPLING		Conifer Pressure/Vacuum				
		DATE	START TIME	STOP TIME	Initial (inHg)	Final (inHg)	Residual (psl)	Final (psl)
21A	VMP-4-12-112310	11/23/10	1415	1452	-30	-7.5	X	
22A	VMP-4-23-5-112310	11/23/10	1640	1605	-30	-6.5	X	
23A	VMP-5-12-5-112310	11/23/10	0945	1020	-30	-7	X	
24A	VMP-5-31-112310	11/23/10	1135	1216	-30	-6	X	

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY) _____

LA - ROGEE REPORT FORMAT UST AGENCY

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

Delivered by (Signature): *[Signature]*
Received by (Signature): *[Signature]*
Released by (Signature): *[Signature]*

Turn Around Time: _____
Date: _____
Prepressurization Gas: N₂ Ho

Additional Notes:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVIP

DRN: 4/12/10
DRK: 4/24/10
DRM: 11:05

REC O NA Fed Ex

12/9/2010
Mr. Jeff Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Dissolved Phase
Project #:
Workorder #: 1011598C

Dear Mr. Jeff Adams

The following report includes the data for the above referenced project for sample(s) received on 11/24/2010 at Air Toxics Ltd.

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

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

Regards,



Jacquelyn Luta
Project Manager

Reviewed
on
12/17/2010

WORK ORDER #: 1011598C

Work Order Summary

CLIENT: Mr. Jeff Adams
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: 314-429-0100

P.O. # 21562291.00005

FAX:

PROJECT # Roxana Dissolved Phase

DATE RECEIVED: 11/24/2010

CONTACT: Jacquelyn Luta

DATE COMPLETED: 12/09/2010

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	VMP-8-23.5-111910 ✓	Modified ASTM D-1946	6.0 "Hg	15 psi
02A	VMP-9-5-111910 ✓	Modified ASTM D-1946	4.5 "Hg	15 psi
03A	VMP-9-11.5-111910 ✓	Modified ASTM D-1946	7.5 "Hg	15 psi
04A	VMP-9-25.5-111910 ✓	Modified ASTM D-1946	8.0 "Hg	15 psi
05A	VMP-7-5-111910 ✓	Modified ASTM D-1946	4.5 "Hg	15 psi
06A	VMP-7-13.5-111910 ✓	Modified ASTM D-1946	5.0 "Hg	15 psi
07A	VMP-7-29.5-111910 ✓	Modified ASTM D-1946	5.5 "Hg	15 psi
08A	VMP-18-8.5-111910 ✓	Modified ASTM D-1946	2.0 "Hg	15 psi
09A	VMP-3-5-112210 ✓	Modified ASTM D-1946	7.5 "Hg	15 psi
10A	VMP-3-22-112210 ✓	Modified ASTM D-1946	4.0 "Hg	15 psi
11A	Lab Blank	Modified ASTM D-1946	NA	NA
11B	Lab Blank	Modified ASTM D-1946	NA	NA
12A	LCS	Modified ASTM D-1946	NA	NA
12AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: *Sinda A. Freeman*

DATE: 12/09/10

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1011598C

Ten 1 Liter Summa Canister samples were received on November 24, 2010. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: VMP-8-23.5-111910

Lab ID#: 1011598C-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	11
Nitrogen	0.25	79
Methane	0.00025	0.000069 J
Carbon Dioxide	0.025	9.9
Helium	0.13	0.028 J

Client Sample ID: VMP-9-5-111910

Lab ID#: 1011598C-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	3.8
Nitrogen	0.24	82
Methane	0.00024	0.00036
Carbon Dioxide	0.024	14
Helium	0.12	0.042 J

Client Sample ID: VMP-9-11.5-111910

Lab ID#: 1011598C-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	1.6
Nitrogen	0.27	81
Methane	0.00027	1.5
Carbon Dioxide	0.027	16
Helium	0.13	0.021 J

Client Sample ID: VMP-9-25.5-111910

Lab ID#: 1011598C-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	1.6

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

Client Sample ID: VMP-9-25.5-111910

Lab ID#: 1011598C-04A

Nitrogen	0.28	80
Methane	0.00028	3.0
Carbon Dioxide	0.028	15
Ethane	0.0028	0.00020 J

Client Sample ID: VMP-7-5-111910

Lab ID#: 1011598C-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	5.1
Nitrogen	0.24	80
Methane	0.00024	0.0052
Carbon Dioxide	0.024	14
Helium	0.12	0.76

Client Sample ID: VMP-7-13.5-111910

Lab ID#: 1011598C-06A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	1.6
Nitrogen	0.24	80
Methane	0.00024	1.8
Carbon Dioxide	0.024	16
Ethane	0.0024	0.00025 J
Helium	0.12	0.014 J

Client Sample ID: VMP-7-29.5-111910

Lab ID#: 1011598C-07A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	1.5
Nitrogen	0.25	79
Methane	0.00025	3.4

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

Client Sample ID: VMP-7-29.5-111910

Lab ID#: 1011598C-07A

Carbon Dioxide	0.025	16
Ethane	0.0025	0.00068 J
Helium	0.12	0.011 J

Client Sample ID: VMP-18-8.5-111910

Lab ID#: 1011598C-08A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	12
Nitrogen	0.22	80
Methane	0.00022	0.000054 J
Carbon Dioxide	0.022	8.2
Helium	0.11	0.015 J

Client Sample ID: VMP-3-5-112210

Lab ID#: 1011598C-09A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	6.9
Nitrogen	0.27	72
Methane	0.00027	10
Carbon Dioxide	0.027	8.0
Ethane	0.0027	0.0028
Helium	0.13	1.5

Client Sample ID: VMP-3-22-112210

Lab ID#: 1011598C-10A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	1.3
Nitrogen	0.23	56
Methane	0.00023	28
Carbon Dioxide	0.023	8.2

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

Client Sample ID: VMP-3-22-112210

Lab ID#: 1011598C-10A

Ethane	0.0023	0.011
Helium	0.12	0.020 J

Client Sample ID: VMP-8-23.5-111910

Lab ID#: 1011598C-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120112	Date of Collection:	11/19/10 3:36:00 PM
Dil. Factor:	2.52	Date of Analysis:	12/1/10 12:07 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	11
Nitrogen	0.25	79
Carbon Monoxide	0.025	Not Detected
Methane	0.00025	0.000069 J
Carbon Dioxide	0.025	9.9
Ethane	0.0025	Not Detected
Ethene	0.0025	Not Detected
Helium	0.13	0.028 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-9-5-111910

Lab ID#: 1011598C-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120113	Date of Collection: 11/19/10 10:08:00 A
Dil. Factor:	2.38	Date of Analysis: 12/1/10 12:29 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	3.8
Nitrogen	0.24	82
Carbon Monoxide	0.024	Not Detected
Methane	0.00024	0.00036
Carbon Dioxide	0.024	14
Ethane	0.0024	Not Detected
Ethene	0.0024	Not Detected
Helium	0.12	0.042 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-9-11.5-111910

Lab ID#: 1011598C-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120116	Date of Collection: 11/19/10 11:35:00 A
Dil. Factor:	2.69	Date of Analysis: 12/1/10 01:45 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	1.6
Nitrogen	0.27	81
Carbon Monoxide	0.027	Not Detected
Methane	0.00027	1.5
Carbon Dioxide	0.027	16
Ethane	0.0027	Not Detected
Ethene	0.0027	Not Detected
Helium	0.13	0.021 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-9-25.5-111910

Lab ID#: 1011598C-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120117	Date of Collection:	11/19/10 1:00:00 PM
Dil. Factor:	2.76	Date of Analysis:	12/1/10 02:11 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	1.6
Nitrogen	0.28	80
Carbon Monoxide	0.028	Not Detected
Methane	0.00028	3.0
Carbon Dioxide	0.028	15
Ethane	0.0028	0.00020 J
Ethene	0.0028	Not Detected
Helium	0.14	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-7-5-111910

Lab ID#: 1011598C-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120114	Date of Collection: 11/19/10 10:46:00 A
Dil. Factor:	2.38	Date of Analysis: 12/1/10 12:53 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	5.1
Nitrogen	0.24	80
Carbon Monoxide	0.024	Not Detected
Methane	0.00024	0.0052
Carbon Dioxide	0.024	14
Ethane	0.0024	Not Detected
Ethene	0.0024	Not Detected
Helium	0.12	0.76

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-7-13.5-111910

Lab ID#: 1011598C-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120118	Date of Collection: 11/19/10 12:16:00 P
Dil. Factor:	2.42	Date of Analysis: 12/1/10 02:42 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	1.6
Nitrogen	0.24	80
Carbon Monoxide	0.024	Not Detected
Methane	0.00024	1.8
Carbon Dioxide	0.024	16
Ethane	0.0024	0.00025 J
Ethene	0.0024	Not Detected
Helium	0.12	0.014 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-7-29.5-111910

Lab ID#: 1011598C-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120119	Date of Collection: 11/19/10 1:40:00 PM
Dil. Factor:	2.47	Date of Analysis: 12/1/10 03:08 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	1.5
Nitrogen	0.25	79
Carbon Monoxide	0.025	Not Detected
Methane	0.00025	3.4
Carbon Dioxide	0.025	16
Ethane	0.0025	0.00068 J
Ethene	0.0025	Not Detected
Helium	0.12	0.011 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-18-8.5-111910

Lab ID#: 1011598C-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120115	Date of Collection: 11/19/10 3:22:00 PM
Dil. Factor:	2.16	Date of Analysis: 12/1/10 01:16 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	12
Nitrogen	0.22	80
Carbon Monoxide	0.022	Not Detected
Methane	0.00022	0.000054 J
Carbon Dioxide	0.022	8.2
Ethane	0.0022	Not Detected
Ethene	0.0022	Not Detected
Helium	0.11	0.015 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-3-5-112210

Lab ID#: 1011598C-09A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120120	Date of Collection:	11/22/10 9:35:00 AM
Dil. Factor:	2.69	Date of Analysis:	12/1/10 03:46 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	6.9
Nitrogen	0.27	72
Carbon Monoxide	0.027	Not Detected
Methane	0.00027	10
Carbon Dioxide	0.027	8.0
Ethane	0.0027	0.0028
Ethene	0.0027	Not Detected
Helium	0.13	1.5

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-3-22-112210

Lab ID#: 1011598C-10A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120121	Date of Collection:	11/22/10 1:51:00 PM
Dil. Factor:	2.33	Date of Analysis:	12/1/10 04:08 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	1.3
Nitrogen	0.23	56
Carbon Monoxide	0.023	Not Detected
Methane	0.00023	28
Carbon Dioxide	0.023	8.2
Ethane	0.0023	0.011
Ethene	0.0023	Not Detected
Helium	0.12	0.020 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: Lab Blank

Lab ID#: 1011598C-11A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120104a	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/1/10 08:44 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.017 J
Nitrogen	0.10	0.084 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Client Sample ID: Lab Blank

Lab ID#: 1011598C-11B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120103ba	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/1/10 08:14 AM

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

Container Type: NA - Not Applicable

Client Sample ID: LCS

Lab ID#: 1011598C-12A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120102	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/1/10 07:46 AM

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	99
Methane	96
Carbon Dioxide	99
Ethane	97
Ethene	97
Helium	94

Container Type: NA - Not Applicable

Client Sample ID: LCSD

Lab ID#: 1011598C-12AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120122	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/1/10 04:45 PM

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

Container Type: NA - Not Applicable

Receipt
VGE
11/28/10

1011598



Shell Oil Products Chain Of Custody Record

Air Toxics LTD.
Project Name: Roxana Dissolved Phase
Project #
Lab Vendor #
SHELL OIL COMPANY
UFS CORPORATION
1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
Air Toxics, LTD. 100 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
TURNAROUND TIME (CALENDAR DAYS)
STANDARD (14 DAY)

INCIDENT # (ENV SERVICES)
9 7 2 1 6 6 4 0
DATE: 11/18/2010
PAGE: 1 of 3
SAP #
3 4 0 0 8 1
SITE ADDRESS BY STATE AND CITY
900 SOUTH CENTRAL AVE - ROXANA
ROXANA, ILL. 62451
ELIZABETH KUNTIJE, URS, SL LOUIS
314-743-4179
FAX: 314-429-0482
TEL: 314-429-0482
TURNAROUND TIME (CALENDAR DAYS)
STANDARD (14 DAY)

Print Bill To Contact Name: Thomas Adams
PO #
SHELL CHECK APPROPRIATE BOX:
 ENV. SERVICES
 INDUSTRIAL RETAIL
 MOTION SICK
 SHELL PRELUDE
 CONSULTANT
 LUBES
 OTHER

RESULTS NEEDED ON VEEBASIO
 24 HOURS
 OTHER (SPECIFY)

LAB USE ONLY	Field Sample Identification	DATE	START TIME	STOP TIME	Container Number	Container Pressure/Vacuum		Final (PSI)	Receipt	ASTM D-1946 + Helium	ASTM D-1946	Modified TO-15	REQUESTED ANALYSIS
						Initial (PSI)	Final (PSI)						
	M/A VMP-8-23.5-111910 - 6.0% Hg	11/19/10	1455	1536	2177	-30	-7			X	X		Leak Use Only Pressurized by:
	M/A VMP-9-5-111910 - 4.5% Hg	11/19/10	0931	1008	3040	-30	-5.5			X	X		Date:
	M/A VMP-9-11.5-111910 - 7.5% Hg	11/19/10	1053	1135	3872	-30	-7.5			X	X		Pressurization Gas: N ₂ , He
	M/A VMP-9-25.6-111910 - 8.0% Hg	11/19/10	1218	1300	3039	-30	-8			X	X		ADDITIONAL NOTES: - 14 day hold time - Report results between MDL and RL - Level IV ECVP
	M/A VMP-7-5-111910 - 4.5% Hg	11/19/10	1019	1046	3451	-30	-5			X	X		
	M/A VMP-7-13.5-111910 - 5.0% Hg	11/19/10	1146	1216	814	-30	-6			X	X		
	M/A VMP-7-29.5-111910 - 5.5% Hg	11/19/10	1312	1340	3663	-30	-7.5			X	X		
	M/A VMP-18-8.5-111910 - 2.0% Hg	11/19/10	1452	1522	678	-30	-5.5			X	X		
	M/A VMP-3-5-112210 - 7.5% Hg	11/22/10	0853	1035	1462	-30	-9			X	X		
	M/A VMP-3-22-112210 - 4.0% Hg	11/22/10	1322	1351	728	-30	-4.5			X	X		

Requested by: (Signature)
Date: 11/23/10
Time: 1:00

Requested by: (Signature)
Date: 11/24/10
Time: 11:05

QUESTIONS
CALL 800-451-4511
FedEx

12/9/2010
Mr. Jeff Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Dissolved Phase
Project #:
Workorder #: 1011598D

Dear Mr. Jeff Adams

The following report includes the data for the above referenced project for sample(s) received on 11/24/2010 at Air Toxics Ltd.

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

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

Regards,



Jacquelyn Luta
Project Manager

Reviewed
on
12/17/2010

WORK ORDER #: 1011598D

Work Order Summary

CLIENT:	Mr. Jeff Adams 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:	314-429-0100	P.O. #	21562291.00005
FAX:		PROJECT #	Roxana Dissolved Phase
DATE RECEIVED:	11/24/2010	CONTACT:	Jacquelyn Luta
DATE COMPLETED:	12/08/2010		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
11A	VMP-3-10-112210 ✓	Modified ASTM D-1946	7.0 "Hg	15 psi
12A	VMP-3-10-112210-Dup ✓	Modified ASTM D-1946	6.5 "Hg	15 psi
13A	VMP-3-31.5-112210 ✓	Modified ASTM D-1946	7.0 "Hg	15 psi
14A	VMP-4-5-112210 ✓	Modified ASTM D-1946	7.5 "Hg	15 psi
15A	VMP-11-5-112210 ✓	Modified ASTM D-1946	6.5 "Hg	15 psi
16A	VMP-11-8-112210 ✓	Modified ASTM D-1946	6.5 "Hg	15 psi
17A	VMP-11-29-112210 ✓	Modified ASTM D-1946	8.0 "Hg	15 psi
18A	VMP-11-29-112210-Dup ✓	Modified ASTM D-1946	8.5 "Hg	15 psi
19A	VMP-17-5-112210 ✓	Modified ASTM D-1946	7.5 "Hg	15 psi
20A	VMP-5-5-112210 ✓	Modified ASTM D-1946	6.5 "Hg	15 psi
21A	VMP-4-12-112310 ✓	Modified ASTM D-1946	6.5 "Hg	15 psi
22A	VMP-4-23.5-112310 ✓	Modified ASTM D-1946	4.0 "Hg	15 psi
23A	VMP-5-12.5-112310 ✓	Modified ASTM D-1946	7.0 "Hg	15 psi
24A	VMP-5-31-112310 ✓	Modified ASTM D-1946	5.0 "Hg	15 psi
25A	Lab Blank	Modified ASTM D-1946	NA	NA
25B	Lab Blank	Modified ASTM D-1946	NA	NA
26A	LCS	Modified ASTM D-1946	NA	NA

Continued on next page

WORK ORDER #: 1011598D

Work Order Summary

CLIENT:	Mr. Jeff Adams 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:	314-429-0100	P.O. #	21562291.00005
FAX:		PROJECT #	Roxana Dissolved Phase
DATE RECEIVED:	11/24/2010	CONTACT:	Jacquelyn Luta
DATE COMPLETED:	12/08/2010		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
26AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: *Sinda A. Freeman*

DATE: 12/09/10

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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

**LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1011598D**

Fourteen 1 Liter Summa Canister samples were received on November 24, 2010. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: VMP-3-10-112210

Lab ID#: 1011598D-11A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	1.6
Nitrogen	0.26	60
Methane	0.00026	25
Carbon Dioxide	0.026	8.7
Ethane	0.0026	0.011
Helium	0.13	0.044 J

Client Sample ID: VMP-3-10-112210-Dup

Lab ID#: 1011598D-12A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	2.6
Nitrogen	0.26	61
Methane	0.00026	23
Carbon Dioxide	0.026	8.3
Ethane	0.0026	0.0098
Helium	0.13	0.018 J

Client Sample ID: VMP-3-31.5-112210

Lab ID#: 1011598D-13A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	1.1
Nitrogen	0.26	32
Methane	0.00026	47
Carbon Dioxide	0.026	4.9
Ethane	0.0026	0.017
Helium	0.13	0.024 J

Client Sample ID: VMP-4-5-112210

Lab ID#: 1011598D-14A

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

Client Sample ID: VMP-4-5-112210

Lab ID#: 1011598D-14A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	1.9
Nitrogen	0.27	69
Methane	0.00027	14
Carbon Dioxide	0.027	13
Ethane	0.0027	0.0052
Helium	0.13	0.024 J

Client Sample ID: VMP-11-5-112210

Lab ID#: 1011598D-15A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	9.4
Nitrogen	0.26	80
Methane	0.00026	0.000096 J
Carbon Dioxide	0.026	10
Helium	0.13	0.016 J

Client Sample ID: VMP-11-8-112210

Lab ID#: 1011598D-16A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	8.8
Nitrogen	0.26	80
Carbon Dioxide	0.026	11
Helium	0.13	0.031 J

Client Sample ID: VMP-11-29-112210

Lab ID#: 1011598D-17A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	1.9

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

Client Sample ID: VMP-11-29-112210

Lab ID#: 1011598D-17A

Nitrogen	0.28	84
Methane	0.00028	0.071
Carbon Dioxide	0.028	14
Helium	0.14	0.0073 J

Client Sample ID: VMP-11-29-112210-Dup

Lab ID#: 1011598D-18A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	1.5
Nitrogen	0.28	84
Methane	0.00028	0.071
Carbon Dioxide	0.028	14
Helium	0.14	0.013 J

Client Sample ID: VMP-17-5-112210

Lab ID#: 1011598D-19A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	16
Nitrogen	0.27	79
Carbon Dioxide	0.027	5.0
Helium	0.13	0.011 J

Client Sample ID: VMP-5-5-112210

Lab ID#: 1011598D-20A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	1.6
Nitrogen	0.26	76
Methane	0.00026	7.0
Carbon Dioxide	0.026	13
Ethane	0.0026	0.0046

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

Client Sample ID: VMP-5-5-112210

Lab ID#: 1011598D-20A

Helium	0.13	0.010 J
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Client Sample ID: VMP-4-12-112310

Lab ID#: 1011598D-21A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	1.3
Nitrogen	0.26	72
Methane	0.00026	12
Carbon Dioxide	0.026	13
Ethane	0.0026	0.0036

Client Sample ID: VMP-4-23.5-112310

Lab ID#: 1011598D-22A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	0.77
Nitrogen	0.23	28
Methane	0.00023	50
Carbon Dioxide	0.023	6.7
Ethane	0.0023	0.021
Helium	0.12	0.010 J

Client Sample ID: VMP-5-12.5-112310

Lab ID#: 1011598D-23A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	5.2
Nitrogen	0.26	83
Methane	0.00026	0.025
Carbon Dioxide	0.026	12
Helium	0.13	0.026 J

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

Client Sample ID: VMP-5-31-112310

Lab ID#: 1011598D-24A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	1.2
Nitrogen	0.24	53
Methane	0.00024	28
Carbon Dioxide	0.024	9.2
Ethane	0.0024	0.012
Helium	0.12	0.012 J



Client Sample ID: VMP-3-10-112210

Lab ID#: 1011598D-11A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120410	Date of Collection: 11/22/10 12:24:00 P
Dil. Factor:	2.64	Date of Analysis: 12/4/10 09:48 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	1.6
Nitrogen	0.26	60
Carbon Monoxide	0.026	Not Detected
Methane	0.00026	25
Carbon Dioxide	0.026	8.7
Ethane	0.0026	0.011
Ethene	0.0026	Not Detected
Helium	0.13	0.044 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-3-10-112210-Dup

Lab ID#: 1011598D-12A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120411	Date of Collection: 11/22/10 12:24:00 P
Dil. Factor:	2.58	Date of Analysis: 12/4/10 10:11 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	2.6
Nitrogen	0.26	61
Carbon Monoxide	0.026	Not Detected
Methane	0.00026	23
Carbon Dioxide	0.026	8.3
Ethane	0.0026	0.0098
Ethene	0.0026	Not Detected
Helium	0.13	0.018 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-3-31.5-112210

Lab ID#: 1011598D-13A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120412	Date of Collection: 11/22/10 11:03:00 A
Dil. Factor:	2.64	Date of Analysis: 12/4/10 10:39 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	1.1
Nitrogen	0.26	32
Carbon Monoxide	0.026	Not Detected
Methane	0.00026	47
Carbon Dioxide	0.026	4.9
Ethane	0.0026	0.017
Ethene	0.0026	Not Detected
Helium	0.13	0.024 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-4-5-112210

Lab ID#: 1011598D-14A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120413	Date of Collection: 11/22/10 3:26:00 PM
Dil. Factor:	2.69	Date of Analysis: 12/4/10 11:02 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	1.9
Nitrogen	0.27	69
Carbon Monoxide	0.027	Not Detected
Methane	0.00027	14
Carbon Dioxide	0.027	13
Ethane	0.0027	0.0052
Ethene	0.0027	Not Detected
Helium	0.13	0.024 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-11-5-112210

Lab ID#: 1011598D-15A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120424	Date of Collection: 11/22/10 9:28:00 AM
Dil. Factor:	2.58	Date of Analysis: 12/4/10 03:20 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	9.4
Nitrogen	0.26	80
Carbon Monoxide	0.026	Not Detected
Methane	0.00026	0.000096 J
Carbon Dioxide	0.026	10
Ethane	0.0026	Not Detected
Ethene	0.0026	Not Detected
Helium	0.13	0.016 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-11-8-112210

Lab ID#: 1011598D-16A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120425	Date of Collection: 11/22/10 11:07:00 A
Dil. Factor:	2.58	Date of Analysis: 12/4/10 03:46 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	8.8
Nitrogen	0.26	80
Carbon Monoxide	0.026	Not Detected
Methane	0.00026	Not Detected
Carbon Dioxide	0.026	11
Ethane	0.0026	Not Detected
Ethene	0.0026	Not Detected
Helium	0.13	0.031 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-11-29-112210

Lab ID#: 1011598D-17A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120415	Date of Collection: 11/22/10 12:31:00 P
Dil. Factor:	2.76	Date of Analysis: 12/4/10 11:47 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	1.9
Nitrogen	0.28	84
Carbon Monoxide	0.028	Not Detected
Methane	0.00028	0.071
Carbon Dioxide	0.028	14
Ethane	0.0028	Not Detected
Ethene	0.0028	Not Detected
Helium	0.14	0.0073 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-11-29-112210-Dup

Lab ID#: 1011598D-18A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120416	Date of Collection: 11/22/10 12:31:00 P
Dil. Factor:	2.82	Date of Analysis: 12/4/10 12:11 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	1.5
Nitrogen	0.28	84
Carbon Monoxide	0.028	Not Detected
Methane	0.00028	0.071
Carbon Dioxide	0.028	14
Ethane	0.0028	Not Detected
Ethene	0.0028	Not Detected
Helium	0.14	0.013 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-17-5-112210

Lab ID#: 1011598D-19A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120426	Date of Collection:	11/22/10 2:17:00 PM
Dil. Factor:	2.69	Date of Analysis:	12/4/10 04:07 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	16
Nitrogen	0.27	79
Carbon Monoxide	0.027	Not Detected
Methane	0.00027	Not Detected
Carbon Dioxide	0.027	5.0
Ethane	0.0027	Not Detected
Ethene	0.0027	Not Detected
Helium	0.13	0.011 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-5-5-112210

Lab ID#: 1011598D-20A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120417	Date of Collection: 11/22/10 4:17:00 PM
Dil. Factor:	2.58	Date of Analysis: 12/4/10 12:33 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	1.6
Nitrogen	0.26	76
Carbon Monoxide	0.026	Not Detected
Methane	0.00026	7.0
Carbon Dioxide	0.026	13
Ethane	0.0026	0.0046
Ethene	0.0026	Not Detected
Helium	0.13	0.010 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-4-12-112310

Lab ID#: 1011598D-21A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120418	Date of Collection:	11/23/10 2:52:00 PM
Dil. Factor:	2.58	Date of Analysis:	12/4/10 12:57 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	1.3
Nitrogen	0.26	72
Carbon Monoxide	0.026	Not Detected
Methane	0.00026	12
Carbon Dioxide	0.026	13
Ethane	0.0026	0.0036
Ethene	0.0026	Not Detected
Helium	0.13	Not Detected

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-4-23.5-112310

Lab ID#: 1011598D-22A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120419	Date of Collection:	11/23/10 4:05:00 PM
Dil. Factor:	2.33	Date of Analysis:	12/4/10 01:20 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	0.77
Nitrogen	0.23	28
Carbon Monoxide	0.023	Not Detected
Methane	0.00023	50
Carbon Dioxide	0.023	6.7
Ethane	0.0023	0.021
Ethene	0.0023	Not Detected
Helium	0.12	0.010 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-5-12.5-112310

Lab ID#: 1011598D-23A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120421	Date of Collection: 11/23/10 10:20:00 A
Dil. Factor:	2.64	Date of Analysis: 12/4/10 02:06 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	5.2
Nitrogen	0.26	83
Carbon Monoxide	0.026	Not Detected
Methane	0.00026	0.025
Carbon Dioxide	0.026	12
Ethane	0.0026	Not Detected
Ethene	0.0026	Not Detected
Helium	0.13	0.026 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-5-31-112310

Lab ID#: 1011598D-24A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120422	Date of Collection: 11/23/10 12:16:00 P
Dil. Factor:	2.42	Date of Analysis: 12/4/10 02:32 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	1.2
Nitrogen	0.24	53
Carbon Monoxide	0.024	Not Detected
Methane	0.00024	28
Carbon Dioxide	0.024	9.2
Ethane	0.0024	0.012
Ethene	0.0024	Not Detected
Helium	0.12	0.012 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: Lab Blank

Lab ID#: 1011598D-25A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120406a	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/3/10 10:14 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.015 J
Nitrogen	0.10	0.082 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable



Client Sample ID: Lab Blank

Lab ID#: 1011598D-25B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120405ba	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/3/10 09:49 PM

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

Container Type: NA - Not Applicable

Client Sample ID: LCS

Lab ID#: 1011598D-26A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120402	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/3/10 08:28 PM

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

Container Type: NA - Not Applicable



Client Sample ID: LCSD

Lab ID#: 1011598D-26AA

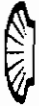
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120429	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/4/10 05:17 PM

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

Container Type: NA - Not Applicable

1011593



Shell Oil Products Chain of Custody Record

Air Toxics LTD.
Project Name: Roxana Dissolved Phase
Project #
Lab Vendor #

Please Check Appropriate Box:
 ENV. SERVICES SHELL RETAIL SHELL RETAIL
 MOTIVA SEARCH CONSULTANT URES
 SHELL PIPELINE OTHER

Print Bill To Contact Name: Thomas Adams
PO #

INCIDENT # (ENV SERVICES) 9 7 2 1 6 6 4 0
DATE: 11/23/2010
PAGE: 2 of 3

Site Address: Street and City
 900 SOUTH CENTRAL AVE., ROXANA, ILL.
 (FOR DELIVERABLES TO FLOW, CONSULTANT DELIVERABLES)
 314-743-4179
 Elizabeth Kunkel, URES, St. Louis
 SAMPLE NUMBER: 314-743-4179

REGULATORY PROJECT NUMBER: Roxana Dissolved Phase

RESULTS NEEDED ON WEEKEND: 24 HOURS RESULTS NEEDED ON WEEKEND

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4

REQUESTED ANALYSIS:
 Turn Around Time: Normal Rush
 Pressurized by: Normal Rush
 Date: _____
 Pressurization Gas: N₂ He

Lab Use Only	Field Sample Identification	SAMPLING		Complier Number	Complier Pressure/Vacuum		ASTM D-1946 + Helium	ASTM D-1946	Additional Notes:
		DATE	START TIME		STOP TIME	Initial (Psi)			
	11A VMP-3-10-112210	11/22/10	1149	1224	2226	-30	-8	X	- 14 day hold time
	12A VMP-3-10-112210-Dup	11/22/10	1149	1224	2134	-30	-8	X	- Report results between MDL and RL
	13A VMP-3-31.5-112210	11/22/10	1032	1103	1004	-30	-8	X	- Level IV ECVP
	14A VMP-4-5-112210	11/22/10	1451	1526	2709	-30	-8.5	X	
	15A VMP-11-5-112210	11/22/10	0857	0928	3042	-30	-6	X	
	16A VMP-11-8-112210	11/22/10	1035	1107	2753	-30	-6	X	
	17A VMP-11-29-112210	11/22/10	1154	1231	3959	-30	-7.5	X	
	18A VMP-11-29-112210-Dup	11/22/10	1154	1231	3151	-30	-8.5	X	
	19A VMP-17-5-112210	11/22/10	1337	1417	97	-30	-7	X	
	20A VMP-5-5-112210	11/22/10	1537	1617	1418	-30	-6	X	

Requested by (Signature): [Signature]
Requested by (Printed): [Name]
Requested by (Company): [Company]
Requested by (Address): [Address]
Requested by (City/State): [City/State]

Date: 11/23/10
Time: 1800

Date: 11/24/10
Time: 11:05



0500 Rev10

1011593



Shell Oil Products Chain Of Custody Record

Air Toxics LTD.
Project Name: Roxana Dissolved Phase
 Project # _____

Lab Vendor # _____
 COUNTY/STATE _____
 URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
 PHONE: (314) 742-0100 FAX: (314) 429-0462

INCIDENT # (ENV SERVICES) CHECK IF NO INCIDENT # APPLIES
 9 7 2 1 6 6 4 0 DATE: 11/23/2010
 SAP # _____ PAGE: 3 of 3
 3 4 0 0 6 1

Print Bill To Contact Name: Thomas Adams
 PO # _____
 8774 ADDRESS: Street and City
 800 SOUTH CENTRAL AVE. - ROXANA, ILL. 61274
 FOR DELIVERABLE TO NAME, COMPANY, STREET ADDRESS
 Elizabeth Kunkel, URS, St. Louis, Missouri 63102-1123
 PHONE/FAX: 314-743-4179
 EMAIL: elizabeth.kunkel@urscorp.com

TURNAROUND TIME (CALENDAR DAYS): 5 DAYS 3 DAYS 1 DAY
 LA RVOCS REPORT FORMAT UST AGENCY: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4
 24 HOURS RESULTS NEEDED ON WEDSDAY

REQUESTED ANALYSIS

Turn Around Time: _____
 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

Lab Use Only	Field Sample Identification	SAMPLING		Cylinder Number	Cylinder Pressure/Amount		ASTM D-1946 + Helium	ASTM D-1946
		DATE	STOP TIME		Initial (Psi)	Receipt		
	21A VMP-4-12-112310	11/23/10	1415	3795	-30	-7.5	X	X
	22A VMP-4-23-5-112310	11/23/10	1805	1347	-30	-6.5	X	X
	23A VMP-5-12-5-112310	11/23/10	0046	662	-30	-7	X	X
	24A VMP-5-31-112310	11/23/10	1135	3065	-30	-6	X	X

Requested by: (Signature) _____ Date: 4/28/10 Time: 1:00
 Requested by: (Signature) _____ Date: 11/24/10 Time: 11:05
 Requested by: (Signature) _____

MOBILE
 Fed Ex
 MA

Roxana Vapor Data Review

Laboratory SDG: 1012020A, B

Reviewer: Elizabeth Kunkel

Date Reviewed: 12/20/2010

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

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

Sample Identification	Sample Identification
VMP-16-5-112910	VMP-16-13.5-112910
VMP-16-19-112910	VMP-16-31-112910
VMP-15-5-113010	VMP-15-21.5-113010

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 the surrogate recovery for 1,2-dichloroethane-d₄ was outside evaluation criteria in sample VMP-16-5-112910. Samples VMP-16-5-112910 and VMP-15-21.5-113010 were analyzed at two different dilutions since several target analytes exceeded calibration range. Although not indicated in the laboratory case narrative, natural gases were detected in the method blank. Additionally, TO-15 LCS/LCSD recoveries were outside evaluation criteria. Samples were diluted due to high levels of target analytes. These issues are addressed further in the appropriate sections below.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

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

Yes

Blank ID	Parameter	Analyte	Concentration/Amount
1012020B-07A	Natural Gases	Oxygen	0.017%
1012020B-07A	Natural Gases	Nitrogen	0.078%
1012020B-08A	Natural Gases	Oxygen	0.015%

Blank ID	Parameter	Analyte	Concentration/Amount
1012020B-08A	Natural Gases	Nitrogen	0.086%
1012020B-08A	Natural Gases	Helium	0.0025%

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

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/RPD Criteria
1012020A-09A/AA	TO-15	Chloromethane	69/73	6	70-130/25
1012020A-09A/AA	TO-15	1,2,4-Trichlorobenzene	136/136	0	70-130/25
1012020A-09A/AA	TO-15	Hexachlorobutadiene	142/139	2	70-130/25

Analytical data that required qualification based on LCS data are included in the table below. Analytical data which were reported non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
VMP-16-5-112910	TO-15	Chloromethane	UJ
VMP-16-13.5-112910	TO-15	Chloromethane	UJ
VMP-16-19-112910	TO-15	Chloromethane	UJ
VMP-16-31-112910	TO-15	Chloromethane	UJ
VMP-15-5-113010	TO-15	Chloromethane	UJ
VMP-15-21.5-113010	TO-15	Chloromethane	UJ

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery	Criteria
VMP-16-5-112910	TO-15	1,2-Dichloroethane-d ₄	140	70-130

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

Sample ID	Parameter	Analyte	Qualification
VMP-16-5-112910	TO-15	Chloroethane	J
VMP-16-5-112910	TO-15	Methyl tert-butyl ether	J
VMP-16-5-112910	TO-15	Cyclohexane	J

Sample ID	Parameter	Analyte	Qualification
VMP-16-5-112910	TO-15	Benzene	J
VMP-16-5-112910	TO-15	Ethylbenzene	J
VMP-16-5-112910	TO-15	m,p-Xylene	J
VMP-16-5-112910	TO-15	Cumene	J
VMP-16-5-112910	TO-15	Propylbenzene	J

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

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

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

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

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

12.0 Additional Qualifications

Were additional qualifications applied?

No

12/14/2010
Mr. Jeff Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Dissolved Phase
Project #:
Workorder #: 1012020A

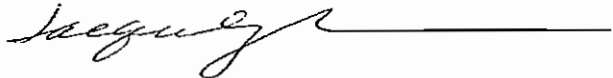
Dear Mr. Jeff Adams

The following report includes the data for the above referenced project for sample(s) received on 12/1/2010 at Air Toxics Ltd.

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

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

Regards,



Jacquelyn Luta
Project Manager

Reviewed
on
12/20/2010

WORK ORDER #: 1012020A

Work Order Summary

CLIENT:	Mr. Jeff Adams 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:	314-429-0100	P.O. #	21562291.00005
FAX:		PROJECT #	Roxana Dissolved Phase
DATE RECEIVED:	12/01/2010	CONTACT:	Jacquelyn Luta
DATE COMPLETED:	12/14/2010		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	VMP-16-5-112910 ✓	Modified TO-15	2.2 "Hg	15 psi
01B	VMP-16-5-112910	Modified TO-15	2.2 "Hg	15 psi
02A	VMP-16-13.5-112910 ✓	Modified TO-15	3.0 "Hg	15 psi
03A	VMP-16-19-112910 ✓	Modified TO-15	2.0 "Hg	15 psi
04A	VMP-16-31-112910 ✓	Modified TO-15	2.2 "Hg	15 psi
05A	VMP-15-5-113010 ✓	Modified TO-15	4.6 "Hg	15 psi
06A	VMP-15-21.5-113010 ✓	Modified TO-15	5.2 "Hg	15 psi
06B	VMP-15-21.5-113010	Modified TO-15	5.2 "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: *Linda J. Fumara*

DATE: 12/14/10

Laboratory Director

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

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11

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

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

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
EPA Method TO-15 Soil Gas
URS Corporation
Workorder# 1012020A**

Six 1 Liter Summa Canister samples were received on December 01, 2010. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 50 mLs of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

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

All Quality Control Limit exceedences 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.

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. All The canisters used for this project have been certified to the Reporting Limit for the target analytes included in this workorder. Concentrations that are below the level at which the canister was certified may be false positives.

Due to high-level target compounds, samples VMP-16-5-112910 and VMP-15-21.5-113010 were analyzed twice. In the "A" fractions, the samples were diluted to bring the highest-level compounds within the calibration range. The "B" fractions are 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 surrogate 1,2-Dichloroethane-d4 in sample VMP-16-5-112910 (01B) was outside control limits due to high level hydrocarbon matrix interference. Data is reported as qualified.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

- U - Compound analyzed for but not detected above the reporting limit.
- UJ- Non-detected compound associated with low bias in the CCV
- N - The identification is based on presumptive evidence.

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

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue

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

Client Sample ID: VMP-16-5-112910 * "Use these results only. All other data was reported from the 218X dilution analysis."
Lab ID#: 1012020A-01A DF = 872

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Cyclohexane	4400	36000	15000	120000
* 2,2,4-Trimethylpentane	4400	1600000	20000	7600000
Benzene	1400	5600	14000	18000
Ethyl Benzene	4400	1600 J	19000	7000 J

Client Sample ID: VMP-16-5-112910 * "Do not use this data. Use all other data."
Lab ID#: 1012020A-01B DF = 218

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroethane	1100	930 "J"	2900	2400 J
Methyl tert-butyl ether	1100	330 "J"	3900	1200 J
Cyclohexane	1100	43000 "J"	3800	150000
* 2,2,4-Trimethylpentane	1100	1900000 E	5100	8800000 E
Benzene	1100	5100 "J"	3500	16000
Ethyl Benzene	1100	1700 "J"	4700	7500
m,p-Xylene	1100	600 "J"	4700	2600 J
Cumene	1100	860 "J"	5400	4200 J
Propylbenzene	1100	900 "J"	5400	4400 J

Client Sample ID: VMP-16-13.5-112910

Lab ID#: 1012020A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Cyclohexane	7000	52000	24000	180000
2,2,4-Trimethylpentane	7000	2300000	33000	11000000
Benzene	7000	6700 J	22000	21000 J
Ethyl Benzene	7000	2300 J	30000	9900 J

Client Sample ID: VMP-16-19-112910

Lab ID#: 1012020A-03A



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

Client Sample ID: VMP-16-19-112910

Lab ID#: 1012020A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Cyclohexane	5400	50000	18000	170000
2,2,4-Trimethylpentane	5400	2100000	25000	10000000
Benzene	5400	6200	17000	20000
Ethyl Benzene	5400	3200 J	23000	14000 J
Cumene	5400	1900 J	26000	9400 J
Propylbenzene	5400	2400 J	26000	12000 J

Client Sample ID: VMP-16-31-112910

Lab ID#: 1012020A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Cyclohexane	5400	51000	19000	170000
2,2,4-Trimethylpentane	5400	2300000	25000	11000000
Benzene	5400	6300	17000	20000
Ethyl Benzene	5400	3400 J	24000	15000 J
Cumene	5400	2400 J	27000	12000 J
Propylbenzene	5400	2800 J	27000	14000 J

Client Sample ID: VMP-15-5-113010

Lab ID#: 1012020A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroethane	30	82	79	220
Hexane	30	35	100	120
Cyclohexane	30	2500	100	8600
2,2,4-Trimethylpentane	30	12000	140	56000
Ethyl Benzene	30	7.2 J	130	31 J
Propylbenzene	30	13 J	150	65 J

Client Sample ID: VMP-15-21.5-113010

Lab ID#: 1012020A-06A

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

Client Sample ID: VMP-15-21.5-113010
 Lab ID#: 1012020A-06A
 12/14/10 12:37AM
 DF = 48.8

** Use these results only. All other data was reported from the 32.1 X dilution analysis.*

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Cyclohexane	240	1600	840	5600
* 2,2,4-Trimethylpentane	240	93000	1100	440000

Client Sample ID: VMP-15-21.5-113010
 Lab ID#: 1012020A-06B
 12/13/10 3:04PM
 DF = 32.1

*** Do not use this data. Use all other data.*

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Cyclohexane	160	1700	550	6000
** 2,2,4-Trimethylpentane	160	99000 E	750	460000 E

* "Use these results only. All other data was reported from the 218X dilution analysis."



Client Sample ID: VMP-16-5-112910

Lab ID#: 1012020A-01A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121315	Date of Collection:	11/29/10 10:06:00 A
Dil. Factor:	872	Date of Analysis:	12/13/10 05:07 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	4400	Not Detected	22000	Not Detected
Freon 114	4400	Not Detected	30000	Not Detected
Chloromethane	17000	Not Detected UJ	36000	Not Detected UJ
Vinyl Chloride	4400	Not Detected	11000	Not Detected
1,3-Butadiene	4400	Not Detected	9600	Not Detected
Bromomethane	4400	Not Detected	17000	Not Detected
Chloroethane	4400	Not Detected	12000	Not Detected
Freon 11	4400	Not Detected	24000	Not Detected
Ethanol	17000	Not Detected	33000	Not Detected
Freon 113	4400	Not Detected	33000	Not Detected
1,1-Dichloroethene	4400	Not Detected	17000	Not Detected
Acetone	17000	Not Detected	41000	Not Detected
2-Propanol	17000	Not Detected	43000	Not Detected
Carbon Disulfide	4400	Not Detected	14000	Not Detected
3-Chloropropene	17000	Not Detected	54000	Not Detected
Methylene Chloride	4400	Not Detected	15000	Not Detected
Methyl tert-butyl ether	4400	Not Detected	16000	Not Detected
trans-1,2-Dichloroethene	4400	Not Detected	17000	Not Detected
Hexane	4400	Not Detected	15000	Not Detected
1,1-Dichloroethane	4400	Not Detected	18000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4400	Not Detected	13000	Not Detected
cis-1,2-Dichloroethene	4400	Not Detected	17000	Not Detected
Tetrahydrofuran	4400	Not Detected	13000	Not Detected
Chloroform	4400	Not Detected	21000	Not Detected
1,1,1-Trichloroethane	4400	Not Detected	24000	Not Detected
Cyclohexane	4400	36000	16000	120000
Carbon Tetrachloride	4400	Not Detected	27000	Not Detected
* 2,2,4-Trimethylpentane	4400	1600000	20000	7600000
Benzene	4400	5600	14000	18000
1,2-Dichloroethane	4400	Not Detected	18000	Not Detected
Heptane	4400	Not Detected	18000	Not Detected
Trichloroethene	4400	Not Detected	23000	Not Detected
1,2-Dichloropropane	4400	Not Detected	20000	Not Detected
1,4-Dioxane	17000	Not Detected	63000	Not Detected
Bromodichloromethane	4400	Not Detected	29000	Not Detected
cis-1,3-Dichloropropene	4400	Not Detected	20000	Not Detected
4-Methyl-2-pentanone	4400	Not Detected	18000	Not Detected
Toluene	4400	Not Detected	16000	Not Detected
trans-1,3-Dichloropropene	4400	Not Detected	20000	Not Detected
1,1,2-Trichloroethane	4400	Not Detected	24000	Not Detected
Tetrachloroethene	4400	Not Detected	30000	Not Detected



Client Sample ID: VMP-16-5-112910

Lab ID#: 1012020A-01A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121315	Date of Collection: 11/29/10 10:06:00 A
Dil. Factor:	872	Date of Analysis: 12/13/10 05:07 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	17000	Not Detected	71000	Not Detected
Dibromochloromethane	4400	Not Detected	37000	Not Detected
1,2-Dibromoethane (EDB)	4400	Not Detected	34000	Not Detected
Chlorobenzene	4400	Not Detected	20000	Not Detected
Ethyl Benzene	4400	1600 J	19000	7000 J
m,p-Xylene	4400	Not Detected	19000	Not Detected
o-Xylene	4400	Not Detected	19000	Not Detected
Styrene	4400	Not Detected	18000	Not Detected
Bromoform	4400	Not Detected	45000	Not Detected
Cumene	4400	Not Detected	21000	Not Detected
1,1,2,2-Tetrachloroethane	4400	Not Detected	30000	Not Detected
Propylbenzene	4400	Not Detected	21000	Not Detected
4-Ethyltoluene	4400	Not Detected	21000	Not Detected
1,3,5-Trimethylbenzene	4400	Not Detected	21000	Not Detected
1,2,4-Trimethylbenzene	4400	Not Detected	21000	Not Detected
1,3-Dichlorobenzene	4400	Not Detected	26000	Not Detected
1,4-Dichlorobenzene	4400	Not Detected	26000	Not Detected
alpha-Chlorotoluene	4400	Not Detected	22000	Not Detected
1,2-Dichlorobenzene	4400	Not Detected	26000	Not Detected
1,2,4-Trichlorobenzene	17000	Not Detected	130000	Not Detected
Hexachlorobutadiene	17000	Not Detected	180000	Not Detected

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

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	99	70-130

* "Do not use this data. Use all other data."



Client Sample ID: VMP-16-5-112910

Lab ID#: 1012020A-01B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121314	Date of Collection:	11/29/10 10:06:00 A
Dil. Factor:	218	Date of Analysis:	12/13/10 04:19 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1100	Not Detected	5400	Not Detected
Freon 114	1100	Not Detected	7600	Not Detected
Chloromethane	4400	Not Detected "UJ"	9000	Not Detected UJ
Vinyl Chloride	1100	Not Detected	2800	Not Detected
1,3-Butadiene	1100	Not Detected	2400	Not Detected
Bromomethane	1100	Not Detected	4200	Not Detected
Chloroethane	1100	930 "J"	2900	2400 J
Freon 11	1100	Not Detected	6100	Not Detected
Ethanol	4400	Not Detected	8200	Not Detected
Freon 113	1100	Not Detected	8400	Not Detected
1,1-Dichloroethene	1100	Not Detected	4300	Not Detected
Acetone	4400	Not Detected	10000	Not Detected
2-Propanol	4400	Not Detected	11000	Not Detected
Carbon Disulfide	1100	Not Detected	3400	Not Detected
3-Chloropropene	4400	Not Detected	14000	Not Detected
Methylene Chloride	1100	Not Detected	3800	Not Detected
Methyl tert-butyl ether	1100	330 "J"	3900	1200 J
trans-1,2-Dichloroethene	1100	Not Detected	4300	Not Detected
Hexane	1100	Not Detected	3800	Not Detected
1,1-Dichloroethane	1100	Not Detected	4400	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1100	Not Detected	3200	Not Detected
cis-1,2-Dichloroethene	1100	Not Detected	4300	Not Detected
Tetrahydrofuran	1100	Not Detected	3200	Not Detected
Chloroform	1100	Not Detected	5300	Not Detected
1,1,1-Trichloroethane	1100	Not Detected	5900	Not Detected
Cyclohexane	1100	43000 "J"	3800	150000
Carbon Tetrachloride	1100	Not Detected	6800	Not Detected
2,2,4-Trimethylpentane	1100	1900000 E	5100	8800000 E
Benzene	1100	5100 "J"	3500	16000
1,2-Dichloroethane	1100	Not Detected	4400	Not Detected
Heptane	1100	Not Detected	4500	Not Detected
Trichloroethene	1100	Not Detected	5800	Not Detected
1,2-Dichloropropane	1100	Not Detected	5000	Not Detected
1,4-Dioxane	4400	Not Detected	16000	Not Detected
Bromodichloromethane	1100	Not Detected	7300	Not Detected
cis-1,3-Dichloropropene	1100	Not Detected	4900	Not Detected
4-Methyl-2-pentanone	1100	Not Detected	4500	Not Detected
Toluene	1100	Not Detected	4100	Not Detected
trans-1,3-Dichloropropene	1100	Not Detected	4900	Not Detected
1,1,2-Trichloroethane	1100	Not Detected	5900	Not Detected
Tetrachloroethene	1100	Not Detected	7400	Not Detected

* ~~2,2,4-Trimethylpentane~~

Client Sample ID: VMP-16-5-112910

Lab ID#: 1012020A-01B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121314	Date of Collection: 11/29/10 10:06:00 A
Dil. Factor:	218	Date of Analysis: 12/13/10 04:19 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	4400	Not Detected	18000	Not Detected
Dibromochloromethane	1100	Not Detected	9300	Not Detected
1,2-Dibromoethane (EDB)	1100	Not Detected	8400	Not Detected
Chlorobenzene	1100	Not Detected	5000	Not Detected
Ethyl Benzene	1100	1700 J	4700	7500
m,p-Xylene	1100	600 J	4700	2600 J
o-Xylene	1100	Not Detected	4700	Not Detected
Styrene	1100	Not Detected	4600	Not Detected
Bromoform	1100	Not Detected	11000	Not Detected
Cumene	1100	860 J	5400	4200 J
1,1,2,2-Tetrachloroethane	1100	Not Detected	7500	Not Detected
Propylbenzene	1100	900 J	5400	4400 J
4-Ethyltoluene	1100	Not Detected	5400	Not Detected
1,3,5-Trimethylbenzene	1100	Not Detected	5400	Not Detected
1,2,4-Trimethylbenzene	1100	Not Detected	5400	Not Detected
1,3-Dichlorobenzene	1100	Not Detected	6600	Not Detected
1,4-Dichlorobenzene	1100	Not Detected	6600	Not Detected
alpha-Chlorotoluene	1100	Not Detected	5600	Not Detected
1,2-Dichlorobenzene	1100	Not Detected	6600	Not Detected
1,2,4-Trichlorobenzene	4400	Not Detected	32000	Not Detected
Hexachlorobutadiene	4400	Not Detected	46000	Not Detected

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

J = Estimated value.

E = Exceeds instrument calibration range.

Q = Exceeds Quality Control limits of 70% to 130%, due to matrix effects.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	140 Q	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	98	70-130



Client Sample ID: VMP-16-13.5-112910

Lab ID#: 1012020A-02A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121316	Date of Collection:	11/29/10 11:27:00 A	
Dil. Factor:	1400	Date of Analysis:	12/13/10 06:01 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	7000	Not Detected	35000	Not Detected
Freon 114	7000	Not Detected	49000	Not Detected
Chloromethane	28000	Not Detected UJ	58000	Not Detected UJ
Vinyl Chloride	7000	Not Detected	18000	Not Detected
1,3-Butadiene	7000	Not Detected	15000	Not Detected
Bromomethane	7000	Not Detected	27000	Not Detected
Chloroethane	7000	Not Detected	18000	Not Detected
Freon 11	7000	Not Detected	39000	Not Detected
Ethanol	28000	Not Detected	53000	Not Detected
Freon 113	7000	Not Detected	54000	Not Detected
1,1-Dichloroethene	7000	Not Detected	28000	Not Detected
Acetone	28000	Not Detected	66000	Not Detected
2-Propanol	28000	Not Detected	69000	Not Detected
Carbon Disulfide	7000	Not Detected	22000	Not Detected
3-Chloropropene	28000	Not Detected	88000	Not Detected
Methylene Chloride	7000	Not Detected	24000	Not Detected
Methyl tert-butyl ether	7000	Not Detected	25000	Not Detected
trans-1,2-Dichloroethene	7000	Not Detected	28000	Not Detected
Hexane	7000	Not Detected	25000	Not Detected
1,1-Dichloroethane	7000	Not Detected	28000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	7000	Not Detected	21000	Not Detected
cis-1,2-Dichloroethene	7000	Not Detected	28000	Not Detected
Tetrahydrofuran	7000	Not Detected	21000	Not Detected
Chloroform	7000	Not Detected	34000	Not Detected
1,1,1-Trichloroethane	7000	Not Detected	38000	Not Detected
Cyclohexane	7000	52000	24000	180000
Carbon Tetrachloride	7000	Not Detected	44000	Not Detected
2,2,4-Trimethylpentane	7000	2300000	33000	11000000
Benzene	7000	6700 J	22000	21000 J
1,2-Dichloroethane	7000	Not Detected	28000	Not Detected
Heptane	7000	Not Detected	29000	Not Detected
Trichloroethene	7000	Not Detected	38000	Not Detected
1,2-Dichloropropane	7000	Not Detected	32000	Not Detected
1,4-Dioxane	28000	Not Detected	100000	Not Detected
Bromodichloromethane	7000	Not Detected	47000	Not Detected
cis-1,3-Dichloropropene	7000	Not Detected	32000	Not Detected
4-Methyl-2-pentanone	7000	Not Detected	29000	Not Detected
Toluene	7000	Not Detected	26000	Not Detected
trans-1,3-Dichloropropene	7000	Not Detected	32000	Not Detected
1,1,2-Trichloroethane	7000	Not Detected	38000	Not Detected
Tetrachloroethene	7000	Not Detected	47000	Not Detected



Client Sample ID: VMP-16-13.5-112910

Lab ID#: 1012020A-02A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121316	Date of Collection: 11/29/10 11:27:00 A
Dil. Factor:	1400	Date of Analysis: 12/13/10 06:01 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	28000	Not Detected	110000	Not Detected
Dibromochloromethane	7000	Not Detected	60000	Not Detected
1,2-Dibromoethane (EDB)	7000	Not Detected	54000	Not Detected
Chlorobenzene	7000	Not Detected	32000	Not Detected
Ethyl Benzene	7000	2300 J	30000	9900 J
m,p-Xylene	7000	Not Detected	30000	Not Detected
o-Xylene	7000	Not Detected	30000	Not Detected
Styrene	7000	Not Detected	30000	Not Detected
Bromoform	7000	Not Detected	72000	Not Detected
Cumene	7000	Not Detected	34000	Not Detected
1,1,2,2-Tetrachloroethane	7000	Not Detected	48000	Not Detected
Propylbenzene	7000	Not Detected	34000	Not Detected
4-Ethyltoluene	7000	Not Detected	34000	Not Detected
1,3,5-Trimethylbenzene	7000	Not Detected	34000	Not Detected
1,2,4-Trimethylbenzene	7000	Not Detected	34000	Not Detected
1,3-Dichlorobenzene	7000	Not Detected	42000	Not Detected
1,4-Dichlorobenzene	7000	Not Detected	42000	Not Detected
alpha-Chlorotoluene	7000	Not Detected	36000	Not Detected
1,2-Dichlorobenzene	7000	Not Detected	42000	Not Detected
1,2,4-Trichlorobenzene	28000	Not Detected	210000	Not Detected
Hexachlorobutadiene	28000	Not Detected	300000	Not Detected

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

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	105	70-130

Client Sample ID: VMP-16-19-112910

Lab ID#: 1012020A-03A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121317	Date of Collection:	11/29/10 12:52:00 P
Dil. Factor:	1080	Date of Analysis:	12/13/10 06:36 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5400	Not Detected	27000	Not Detected
Freon 114	5400	Not Detected	38000	Not Detected
Chloromethane	22000	Not Detected UJ	45000	Not Detected UJ
Vinyl Chloride	5400	Not Detected	14000	Not Detected
1,3-Butadiene	5400	Not Detected	12000	Not Detected
Bromomethane	5400	Not Detected	21000	Not Detected
Chloroethane	5400	Not Detected	14000	Not Detected
Freon 11	5400	Not Detected	30000	Not Detected
Ethanol	22000	Not Detected	41000	Not Detected
Freon 113	5400	Not Detected	41000	Not Detected
1,1-Dichloroethene	5400	Not Detected	21000	Not Detected
Acetone	22000	Not Detected	51000	Not Detected
2-Propanol	22000	Not Detected	53000	Not Detected
Carbon Disulfide	5400	Not Detected	17000	Not Detected
3-Chloropropene	22000	Not Detected	68000	Not Detected
Methylene Chloride	5400	Not Detected	19000	Not Detected
Methyl tert-butyl ether	5400	Not Detected	19000	Not Detected
trans-1,2-Dichloroethene	5400	Not Detected	21000	Not Detected
Hexane	5400	Not Detected	19000	Not Detected
1,1-Dichloroethane	5400	Not Detected	22000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5400	Not Detected	16000	Not Detected
cis-1,2-Dichloroethene	5400	Not Detected	21000	Not Detected
Tetrahydrofuran	5400	Not Detected	16000	Not Detected
Chloroform	5400	Not Detected	26000	Not Detected
1,1,1-Trichloroethane	5400	Not Detected	29000	Not Detected
Cyclohexane	5400	50000	18000	170000
Carbon Tetrachloride	5400	Not Detected	34000	Not Detected
2,2,4-Trimethylpentane	5400	2100000	25000	10000000
Benzene	5400	6200	17000	20000
1,2-Dichloroethane	5400	Not Detected	22000	Not Detected
Heptane	5400	Not Detected	22000	Not Detected
Trichloroethene	5400	Not Detected	29000	Not Detected
1,2-Dichloropropane	5400	Not Detected	25000	Not Detected
1,4-Dioxane	22000	Not Detected	78000	Not Detected
Bromodichloromethane	5400	Not Detected	36000	Not Detected
cis-1,3-Dichloropropene	5400	Not Detected	24000	Not Detected
4-Methyl-2-pentanone	5400	Not Detected	22000	Not Detected
Toluene	5400	Not Detected	20000	Not Detected
trans-1,3-Dichloropropene	5400	Not Detected	24000	Not Detected
1,1,2-Trichloroethane	5400	Not Detected	29000	Not Detected
Tetrachloroethene	5400	Not Detected	37000	Not Detected

Client Sample ID: VMP-16-19-112910

Lab ID#: 1012020A-03A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121317	Date of Collection:	11/29/10 12:52:00 P
Dil. Factor:	1080	Date of Analysis:	12/13/10 06:36 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	22000	Not Detected	88000	Not Detected
Dibromochloromethane	5400	Not Detected	46000	Not Detected
1,2-Dibromoethane (EDB)	5400	Not Detected	41000	Not Detected
Chlorobenzene	5400	Not Detected	25000	Not Detected
Ethyl Benzene	5400	3200 J	23000	14000 J
m,p-Xylene	5400	Not Detected	23000	Not Detected
o-Xylene	5400	Not Detected	23000	Not Detected
Styrene	5400	Not Detected	23000	Not Detected
Bromoform	5400	Not Detected	56000	Not Detected
Cumene	5400	1900 J	26000	9400 J
1,1,2,2-Tetrachloroethane	5400	Not Detected	37000	Not Detected
Propylbenzene	5400	2400 J	26000	12000 J
4-Ethyltoluene	5400	Not Detected	26000	Not Detected
1,3,5-Trimethylbenzene	5400	Not Detected	26000	Not Detected
1,2,4-Trimethylbenzene	5400	Not Detected	26000	Not Detected
1,3-Dichlorobenzene	5400	Not Detected	32000	Not Detected
1,4-Dichlorobenzene	5400	Not Detected	32000	Not Detected
alpha-Chlorotoluene	5400	Not Detected	28000	Not Detected
1,2-Dichlorobenzene	5400	Not Detected	32000	Not Detected
1,2,4-Trichlorobenzene	22000	Not Detected	160000	Not Detected
Hexachlorobutadiene	22000	Not Detected	230000	Not Detected

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

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	100	70-130



Client Sample ID: VMP-16-31-112910

Lab ID#: 1012020A-04A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121318	Date of Collection:	11/29/10 2:38:00 PM
Dil. Factor:	1090	Date of Analysis:	12/13/10 08:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5400	Not Detected	27000	Not Detected
Freon 114	5400	Not Detected	38000	Not Detected
Chloromethane	22000	Not Detected UJ	45000	Not Detected UJ
Vinyl Chloride	5400	Not Detected	14000	Not Detected
1,3-Butadiene	5400	Not Detected	12000	Not Detected
Bromomethane	5400	Not Detected	21000	Not Detected
Chloroethane	5400	Not Detected	14000	Not Detected
Freon 11	5400	Not Detected	31000	Not Detected
Ethanol	22000	Not Detected	41000	Not Detected
Freon 113	5400	Not Detected	42000	Not Detected
1,1-Dichloroethene	5400	Not Detected	22000	Not Detected
Acetone	22000	Not Detected	52000	Not Detected
2-Propanol	22000	Not Detected	54000	Not Detected
Carbon Disulfide	5400	Not Detected	17000	Not Detected
3-Chloropropene	22000	Not Detected	68000	Not Detected
Methylene Chloride	5400	Not Detected	19000	Not Detected
Methyl tert-butyl ether	5400	Not Detected	20000	Not Detected
trans-1,2-Dichloroethene	5400	Not Detected	22000	Not Detected
Hexane	5400	Not Detected	19000	Not Detected
1,1-Dichloroethane	5400	Not Detected	22000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5400	Not Detected	16000	Not Detected
cis-1,2-Dichloroethene	5400	Not Detected	22000	Not Detected
Tetrahydrofuran	5400	Not Detected	16000	Not Detected
Chloroform	5400	Not Detected	27000	Not Detected
1,1,1-Trichloroethane	5400	Not Detected	30000	Not Detected
Cyclohexane	5400	51000	19000	170000
Carbon Tetrachloride	5400	Not Detected	34000	Not Detected
2,2,4-Trimethylpentane	5400	2300000	25000	11000000
Benzene	5400	6300	17000	20000
1,2-Dichloroethane	5400	Not Detected	22000	Not Detected
Heptane	5400	Not Detected	22000	Not Detected
Trichloroethene	5400	Not Detected	29000	Not Detected
1,2-Dichloropropane	5400	Not Detected	25000	Not Detected
1,4-Dioxane	22000	Not Detected	78000	Not Detected
Bromodichloromethane	5400	Not Detected	36000	Not Detected
cis-1,3-Dichloropropene	5400	Not Detected	25000	Not Detected
4-Methyl-2-pentanone	5400	Not Detected	22000	Not Detected
Toluene	5400	Not Detected	20000	Not Detected
trans-1,3-Dichloropropene	5400	Not Detected	25000	Not Detected
1,1,2-Trichloroethane	5400	Not Detected	30000	Not Detected
Tetrachloroethene	5400	Not Detected	37000	Not Detected



Client Sample ID: VMP-16-31-112910

Lab ID#: 1012020A-04A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121318	Date of Collection:	11/29/10 2:38:00 PM
Dil. Factor:	1090	Date of Analysis:	12/13/10 08:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	22000	Not Detected	89000	Not Detected
Dibromochloromethane	5400	Not Detected	46000	Not Detected
1,2-Dibromoethane (EDB)	5400	Not Detected	42000	Not Detected
Chlorobenzene	5400	Not Detected	25000	Not Detected
Ethyl Benzene	5400	3400 J	24000	15000 J
m,p-Xylene	5400	Not Detected	24000	Not Detected
o-Xylene	5400	Not Detected	24000	Not Detected
Styrene	5400	Not Detected	23000	Not Detected
Bromoform	5400	Not Detected	56000	Not Detected
Cumene	5400	2400 J	27000	12000 J
1,1,2,2-Tetrachloroethane	5400	Not Detected	37000	Not Detected
Propylbenzene	5400	2800 J	27000	14000 J
4-Ethyltoluene	5400	Not Detected	27000	Not Detected
1,3,5-Trimethylbenzene	5400	Not Detected	27000	Not Detected
1,2,4-Trimethylbenzene	5400	Not Detected	27000	Not Detected
1,3-Dichlorobenzene	5400	Not Detected	33000	Not Detected
1,4-Dichlorobenzene	5400	Not Detected	33000	Not Detected
alpha-Chlorotoluene	5400	Not Detected	28000	Not Detected
1,2-Dichlorobenzene	5400	Not Detected	33000	Not Detected
1,2,4-Trichlorobenzene	22000	Not Detected	160000	Not Detected
Hexachlorobutadiene	22000	Not Detected	230000	Not Detected

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

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	98	70-130



Client Sample ID: VMP-15-5-113010

Lab ID#: 1012020A-05A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121321	Date of Collection:	11/30/10 11:01:00 A
Dil. Factor:	5.98	Date of Analysis:	12/13/10 09:59 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	30	Not Detected	150	Not Detected
Freon 114	30	Not Detected	210	Not Detected
Chloromethane	120	Not Detected	250	Not Detected
Vinyl Chloride	30	Not Detected	76	Not Detected
1,3-Butadiene	30	Not Detected	66	Not Detected
Bromomethane	30	Not Detected	120	Not Detected
Chloroethane	30	82	79	220
Freon 11	30	Not Detected	170	Not Detected
Ethanol	120	Not Detected	220	Not Detected
Freon 113	30	Not Detected	230	Not Detected
1,1-Dichloroethene	30	Not Detected	120	Not Detected
Acetone	120	Not Detected	280	Not Detected
2-Propanol	120	Not Detected	290	Not Detected
Carbon Disulfide	30	Not Detected	93	Not Detected
3-Chloropropene	120	Not Detected	370	Not Detected
Methylene Chloride	30	Not Detected	100	Not Detected
Methyl tert-butyl ether	30	Not Detected	110	Not Detected
trans-1,2-Dichloroethene	30	Not Detected	120	Not Detected
Hexane	30	35	100	120
1,1-Dichloroethane	30	Not Detected	120	Not Detected
2-Butanone (Methyl Ethyl Ketone)	30	Not Detected	88	Not Detected
cis-1,2-Dichloroethene	30	Not Detected	120	Not Detected
Tetrahydrofuran	30	Not Detected	88	Not Detected
Chloroform	30	Not Detected	150	Not Detected
1,1,1-Trichloroethane	30	Not Detected	160	Not Detected
Cyclohexane	30	2500	100	8600
Carbon Tetrachloride	30	Not Detected	190	Not Detected
2,2,4-Trimethylpentane	30	12000	140	56000
Benzene	30	Not Detected	96	Not Detected
1,2-Dichloroethane	30	Not Detected	120	Not Detected
Heptane	30	Not Detected	120	Not Detected
Trichloroethene	30	Not Detected	160	Not Detected
1,2-Dichloropropane	30	Not Detected	140	Not Detected
1,4-Dioxane	120	Not Detected	430	Not Detected
Bromodichloromethane	30	Not Detected	200	Not Detected
cis-1,3-Dichloropropene	30	Not Detected	140	Not Detected
4-Methyl-2-pentanone	30	Not Detected	120	Not Detected
Toluene	30	Not Detected	110	Not Detected
trans-1,3-Dichloropropene	30	Not Detected	140	Not Detected
1,1,2-Trichloroethane	30	Not Detected	160	Not Detected
Tetrachloroethene	30	Not Detected	200	Not Detected

Client Sample ID: VMP-15-5-113010

Lab ID#: 1012020A-05A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121321	Date of Collection: 11/30/10 11:01:00 A
Dil. Factor:	5.98	Date of Analysis: 12/13/10 09:59 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	120	Not Detected	490	Not Detected
Dibromochloromethane	30	Not Detected	250	Not Detected
1,2-Dibromoethane (EDB)	30	Not Detected	230	Not Detected
Chlorobenzene	30	Not Detected	140	Not Detected
Ethyl Benzene	30	7.2 J	130	31 J
m,p-Xylene	30	Not Detected	130	Not Detected
o-Xylene	30	Not Detected	130	Not Detected
Styrene	30	Not Detected	130	Not Detected
Bromoform	30	Not Detected	310	Not Detected
Cumene	30	Not Detected	150	Not Detected
1,1,2,2-Tetrachloroethane	30	Not Detected	200	Not Detected
Propylbenzene	30	13 J	150	65 J
4-Ethyltoluene	30	Not Detected	150	Not Detected
1,3,5-Trimethylbenzene	30	Not Detected	150	Not Detected
1,2,4-Trimethylbenzene	30	Not Detected	150	Not Detected
1,3-Dichlorobenzene	30	Not Detected	180	Not Detected
1,4-Dichlorobenzene	30	Not Detected	180	Not Detected
alpha-Chlorotoluene	30	Not Detected	150	Not Detected
1,2-Dichlorobenzene	30	Not Detected	180	Not Detected
1,2,4-Trichlorobenzene	120	Not Detected	890	Not Detected
Hexachlorobutadiene	120	Not Detected	1300	Not Detected

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

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	125	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	95	70-130

* " Use these results only. All other data was reported from the 32.1 X dilution analysis. "



Client Sample ID: VMP-15-21.5-113010

Lab ID#: 1012020A-06A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121323	Date of Collection:	11/30/10 12:50:00 P
Dil. Factor:	48.8	Date of Analysis:	12/14/10 12:34 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	240	Not Detected	1200	Not Detected
Freon 114	240	Not Detected	1700	Not Detected
Chloromethane	980	Not Detected	2000	Not Detected
Vinyl Chloride	240	Not Detected	620	Not Detected
1,3-Butadiene	240	Not Detected	540	Not Detected
Bromomethane	240	Not Detected	950	Not Detected
Chloroethane	240	Not Detected	640	Not Detected
Freon 11	240	Not Detected	1400	Not Detected
Ethanol	980	Not Detected	1800	Not Detected
Freon 113	240	Not Detected	1900	Not Detected
1,1-Dichloroethene	240	Not Detected	970	Not Detected
Acetone	980	Not Detected	2300	Not Detected
2-Propanol	980	Not Detected	2400	Not Detected
Carbon Disulfide	240	Not Detected	760	Not Detected
3-Chloropropene	980	Not Detected	3000	Not Detected
Methylene Chloride	240	Not Detected	850	Not Detected
Methyl tert-butyl ether	240	Not Detected	880	Not Detected
trans-1,2-Dichloroethene	240	Not Detected	970	Not Detected
Hexane	240	Not Detected	860	Not Detected
1,1-Dichloroethane	240	Not Detected	990	Not Detected
2-Butanone (Methyl Ethyl Ketone)	240	Not Detected	720	Not Detected
cis-1,2-Dichloroethene	240	Not Detected	970	Not Detected
Tetrahydrofuran	240	Not Detected	720	Not Detected
Chloroform	240	Not Detected	1200	Not Detected
1,1,1-Trichloroethane	240	Not Detected	1300	Not Detected
Cyclohexane	240	1600	840	5600
Carbon Tetrachloride	240	Not Detected	1500	Not Detected
* 2,2,4-Trimethylpentane	240	93000	1100	440000
Benzene	240	Not Detected	780	Not Detected
1,2-Dichloroethane	240	Not Detected	990	Not Detected
Heptane	240	Not Detected	1000	Not Detected
Trichloroethene	240	Not Detected	1300	Not Detected
1,2-Dichloropropane	240	Not Detected	1100	Not Detected
1,4-Dioxane	980	Not Detected	3500	Not Detected
Bromodichloromethane	240	Not Detected	1600	Not Detected
cis-1,3-Dichloropropene	240	Not Detected	1100	Not Detected
4-Methyl-2-pentanone	240	Not Detected	1000	Not Detected
Toluene	240	Not Detected	920	Not Detected
trans-1,3-Dichloropropene	240	Not Detected	1100	Not Detected
1,1,2-Trichloroethane	240	Not Detected	1300	Not Detected
Tetrachloroethene	240	Not Detected	1600	Not Detected



Client Sample ID: VMP-15-21.5-113010

Lab ID#: 1012020A-06A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121323	Date of Collection:	11/30/10 12:50:00 P
Dil. Factor:	48.8	Date of Analysis:	12/14/10 12:34 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	980	Not Detected	4000	Not Detected
Dibromochloromethane	240	Not Detected	2100	Not Detected
1,2-Dibromoethane (EDB)	240	Not Detected	1900	Not Detected
Chlorobenzene	240	Not Detected	1100	Not Detected
Ethyl Benzene	240	Not Detected	1000	Not Detected
m,p-Xylene	240	Not Detected	1000	Not Detected
o-Xylene	240	Not Detected	1000	Not Detected
Styrene	240	Not Detected	1000	Not Detected
Bromoform	240	Not Detected	2500	Not Detected
Cumene	240	Not Detected	1200	Not Detected
1,1,2,2-Tetrachloroethane	240	Not Detected	1700	Not Detected
Propylbenzene	240	Not Detected	1200	Not Detected
4-Ethyltoluene	240	Not Detected	1200	Not Detected
1,3,5-Trimethylbenzene	240	Not Detected	1200	Not Detected
1,2,4-Trimethylbenzene	240	Not Detected	1200	Not Detected
1,3-Dichlorobenzene	240	Not Detected	1500	Not Detected
1,4-Dichlorobenzene	240	Not Detected	1500	Not Detected
alpha-Chlorotoluene	240	Not Detected	1300	Not Detected
1,2-Dichlorobenzene	240	Not Detected	1500	Not Detected
1,2,4-Trichlorobenzene	980	Not Detected	7200	Not Detected
Hexachlorobutadiene	980	Not Detected	10000	Not Detected

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

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	98	70-130

* "Do not use this data. Use all other data."



Client Sample ID: VMP-15-21.5-113010

Lab ID#: 1012020A-06B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121313	Date of Collection:	11/30/10 12:50:00 P
Dil. Factor:	32.1	Date of Analysis:	12/13/10 03:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	160	Not Detected	790	Not Detected
Freon 114	160	Not Detected	1100	Not Detected
Chloromethane	640	Not Detected ^{UJ}	1300	Not Detected UJ
Vinyl Chloride	160	Not Detected	410	Not Detected
1,3-Butadiene	160	Not Detected	360	Not Detected
Bromomethane	160	Not Detected	620	Not Detected
Chloroethane	160	Not Detected	420	Not Detected
Freon 11	160	Not Detected	900	Not Detected
Ethanol	640	Not Detected	1200	Not Detected
Freon 113	160	Not Detected	1200	Not Detected
1,1-Dichloroethene	160	Not Detected	640	Not Detected
Acetone	640	Not Detected	1500	Not Detected
2-Propanol	640	Not Detected	1600	Not Detected
Carbon Disulfide	160	Not Detected	500	Not Detected
3-Chloropropene	640	Not Detected	2000	Not Detected
Methylene Chloride	160	Not Detected	560	Not Detected
Methyl tert-butyl ether	160	Not Detected	580	Not Detected
trans-1,2-Dichloroethene	160	Not Detected	640	Not Detected
Hexane	160	Not Detected	560	Not Detected
1,1-Dichloroethane	160	Not Detected	650	Not Detected
2-Butanone (Methyl Ethyl Ketone)	160	Not Detected	470	Not Detected
cis-1,2-Dichloroethene	160	Not Detected	640	Not Detected
Tetrahydrofuran	160	Not Detected	470	Not Detected
Chloroform	160	Not Detected	780	Not Detected
1,1,1-Trichloroethane	160	Not Detected	880	Not Detected
Cyclohexane	160	1700	550	6000
Carbon Tetrachloride	160	Not Detected	1000	Not Detected
2,2,4-Trimethylpentane	160	99000 E	750	460000 E
Benzene	160	Not Detected	510	Not Detected
1,2-Dichloroethane	160	Not Detected	650	Not Detected
Heptane	160	Not Detected	660	Not Detected
Trichloroethene	160	Not Detected	860	Not Detected
1,2-Dichloropropane	160	Not Detected	740	Not Detected
1,4-Dioxane	640	Not Detected	2300	Not Detected
Bromodichloromethane	160	Not Detected	1100	Not Detected
cis-1,3-Dichloropropene	160	Not Detected	730	Not Detected
4-Methyl-2-pentanone	160	Not Detected	660	Not Detected
Toluene	160	Not Detected	600	Not Detected
trans-1,3-Dichloropropene	160	Not Detected	730	Not Detected
1,1,2-Trichloroethane	160	Not Detected	880	Not Detected
Tetrachloroethene	160	Not Detected	1100	Not Detected

* ~~2,2,4-Trimethylpentane~~

Client Sample ID: VMP-15-21.5-113010

Lab ID#: 1012020A-06B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121313	Date of Collection: 11/30/10 12:50:00 P
Dil. Factor:	32.1	Date of Analysis: 12/13/10 03:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	640	Not Detected	2600	Not Detected
Dibromochloromethane	160	Not Detected	1400	Not Detected
1,2-Dibromoethane (EDB)	160	Not Detected	1200	Not Detected
Chlorobenzene	160	Not Detected	740	Not Detected
Ethyl Benzene	160	Not Detected	700	Not Detected
m,p-Xylene	160	Not Detected	700	Not Detected
o-Xylene	160	Not Detected	700	Not Detected
Styrene	160	Not Detected	680	Not Detected
Bromoform	160	Not Detected	1600	Not Detected
Cumene	160	Not Detected	790	Not Detected
1,1,2,2-Tetrachloroethane	160	Not Detected	1100	Not Detected
Propylbenzene	160	Not Detected	790	Not Detected
4-Ethyltoluene	160	Not Detected	790	Not Detected
1,3,5-Trimethylbenzene	160	Not Detected	790	Not Detected
1,2,4-Trimethylbenzene	160	Not Detected	790	Not Detected
1,3-Dichlorobenzene	160	Not Detected	960	Not Detected
1,4-Dichlorobenzene	160	Not Detected	960	Not Detected
alpha-Chlorotoluene	160	Not Detected	830	Not Detected
1,2-Dichlorobenzene	160	Not Detected	960	Not Detected
1,2,4-Trichlorobenzene	640	Not Detected	4800	Not Detected
Hexachlorobutadiene	640	Not Detected	6800	Not Detected

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

E = Exceeds instrument calibration range.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	121	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: Lab Blank

Lab ID#: 1012020A-07A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121306a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 11:09 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5.0	Not Detected	25	Not Detected
Freon 114	5.0	Not Detected	35	Not Detected
Chloromethane	20	Not Detected UJ	41	Not Detected UJ
Vinyl Chloride	5.0	Not Detected	13	Not Detected
1,3-Butadiene	5.0	Not Detected	11	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	5.0	Not Detected	13	Not Detected
Freon 11	5.0	Not Detected	28	Not Detected
Ethanol	20	Not Detected	38	Not Detected
Freon 113	5.0	Not Detected	38	Not Detected
1,1-Dichloroethene	5.0	Not Detected	20	Not Detected
Acetone	20	Not Detected	48	Not Detected
2-Propanol	20	Not Detected	49	Not Detected
Carbon Disulfide	5.0	Not Detected	16	Not Detected
3-Chloropropene	20	Not Detected	63	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	5.0	Not Detected	18	Not Detected
trans-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Hexane	5.0	Not Detected	18	Not Detected
1,1-Dichloroethane	5.0	Not Detected	20	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Tetrahydrofuran	5.0	Not Detected	15	Not Detected
Chloroform	5.0	Not Detected	24	Not Detected
1,1,1-Trichloroethane	5.0	Not Detected	27	Not Detected
Cyclohexane	5.0	Not Detected	17	Not Detected
Carbon Tetrachloride	5.0	Not Detected	31	Not Detected
2,2,4-Trimethylpentane	5.0	Not Detected	23	Not Detected
Benzene	5.0	Not Detected	16	Not Detected
1,2-Dichloroethane	5.0	Not Detected	20	Not Detected
Heptane	5.0	Not Detected	20	Not Detected
Trichloroethene	5.0	Not Detected	27	Not Detected
1,2-Dichloropropane	5.0	Not Detected	23	Not Detected
1,4-Dioxane	20	Not Detected	72	Not Detected
Bromodichloromethane	5.0	Not Detected	34	Not Detected
cis-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
4-Methyl-2-pentanone	5.0	Not Detected	20	Not Detected
Toluene	5.0	Not Detected	19	Not Detected
trans-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
1,1,2-Trichloroethane	5.0	Not Detected	27	Not Detected
Tetrachloroethene	5.0	Not Detected	34	Not Detected

Client Sample ID: Lab Blank

Lab ID#: 1012020A-07A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121306a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 11:09 AM

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

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

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: CCV

Lab ID#: 1012020A-08A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 08:29 AM

Compound	%Recovery
Freon 12	114
Freon 114	111
Chloromethane	68 Q
Vinyl Chloride	104
1,3-Butadiene	103
Bromomethane	109
Chloroethane	107
Freon 11	112
Ethanol	88
Freon 113	102
1,1-Dichloroethene	105
Acetone	99
2-Propanol	85
Carbon Disulfide	106
3-Chloropropene	108
Methylene Chloride	96
Methyl tert-butyl ether	96
trans-1,2-Dichloroethene	102
Hexane	100
1,1-Dichloroethane	105
2-Butanone (Methyl Ethyl Ketone)	105
cis-1,2-Dichloroethene	105
Tetrahydrofuran	96
Chloroform	106
1,1,1-Trichloroethane	103
Cyclohexane	104
Carbon Tetrachloride	110
2,2,4-Trimethylpentane	99
Benzene	106
1,2-Dichloroethane	109
Heptane	111
Trichloroethene	107
1,2-Dichloropropane	104
1,4-Dioxane	109
Bromodichloromethane	111
cis-1,3-Dichloropropene	109
4-Methyl-2-pentanone	107
Toluene	104
trans-1,3-Dichloropropene	102
1,1,2-Trichloroethane	100
Tetrachloroethene	96

Client Sample ID: CCV

Lab ID#: 1012020A-08A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 08:29 AM

Compound	%Recovery
2-Hexanone	98
Dibromochloromethane	104
1,2-Dibromoethane (EDB)	102
Chlorobenzene	99
Ethyl Benzene	100
m,p-Xylene	98
o-Xylene	98
Styrene	96
Bromoform	104
Cumene	103
1,1,2,2-Tetrachloroethane	98
Propylbenzene	101
4-Ethyltoluene	97
1,3,5-Trimethylbenzene	98
1,2,4-Trimethylbenzene	96
1,3-Dichlorobenzene	96
1,4-Dichlorobenzene	95
alpha-Chlorotoluene	81
1,2-Dichlorobenzene	94
1,2,4-Trichlorobenzene	98
Hexachlorobutadiene	106

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	106	70-130

Client Sample ID: LCS

Lab ID#: 1012020A-09A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 08:58 AM

Compound	%Recovery
Freon 12	115
Freon 114	112
Chloromethane	69 Q
Vinyl Chloride	108
1,3-Butadiene	105
Bromomethane	112
Chloroethane	109
Freon 11	114
Ethanol	102
Freon 113	107
1,1-Dichloroethene	112
Acetone	106
2-Propanol	96
Carbon Disulfide	116
3-Chloropropene	114
Methylene Chloride	98
Methyl tert-butyl ether	98
trans-1,2-Dichloroethene	108
Hexane	99
1,1-Dichloroethane	103
2-Butanone (Methyl Ethyl Ketone)	111
cis-1,2-Dichloroethene	109
Tetrahydrofuran	98
Chloroform	111
1,1,1-Trichloroethane	106
Cyclohexane	110
Carbon Tetrachloride	115
2,2,4-Trimethylpentane	102
Benzene	106
1,2-Dichloroethane	107
Heptane	110
Trichloroethene	107
1,2-Dichloropropane	106
1,4-Dioxane	113
Bromodichloromethane	115
cis-1,3-Dichloropropene	112
4-Methyl-2-pentanone	116
Toluene	107
trans-1,3-Dichloropropene	108
1,1,2-Trichloroethane	107
Tetrachloroethene	98

Client Sample ID: LCS

Lab ID#: 1012020A-09A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 08:58 AM

Compound	%Recovery
2-Hexanone	106
Dibromochloromethane	111
1,2-Dibromoethane (EDB)	108
Chlorobenzene	104
Ethyl Benzene	107
m,p-Xylene	104
o-Xylene	106
Styrene	111
Bromoform	115
Cumene	108
1,1,2,2-Tetrachloroethane	110
Propylbenzene	114
4-Ethyltoluene	107
1,3,5-Trimethylbenzene	113
1,2,4-Trimethylbenzene	112
1,3-Dichlorobenzene	109
1,4-Dichlorobenzene	108
alpha-Chlorotoluene	124
1,2-Dichlorobenzene	113
1,2,4-Trichlorobenzene	136 Q
Hexachlorobutadiene	142 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

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

Client Sample ID: LCSD

Lab ID#: 1012020A-09AA

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121305	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 10:43 AM

Compound	%Recovery
Freon 12	118
Freon 114	113
Chloromethane	73
Vinyl Chloride	110
1,3-Butadiene	106
Bromomethane	114
Chloroethane	111
Freon 11	114
Ethanol	104
Freon 113	107
1,1-Dichloroethene	111
Acetone	108
2-Propanol	100
Carbon Disulfide	118
3-Chloropropene	117
Methylene Chloride	99
Methyl tert-butyl ether	100
trans-1,2-Dichloroethene	110
Hexane	100
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	112
cis-1,2-Dichloroethene	107
Tetrahydrofuran	98
Chloroform	110
1,1,1-Trichloroethane	108
Cyclohexane	109
Carbon Tetrachloride	115
2,2,4-Trimethylpentane	102
Benzene	108
1,2-Dichloroethane	105
Heptane	111
Trichloroethene	108
1,2-Dichloropropane	106
1,4-Dioxane	114
Bromodichloromethane	114
cis-1,3-Dichloropropene	112
4-Methyl-2-pentanone	114
Toluene	106
trans-1,3-Dichloropropene	113
1,1,2-Trichloroethane	109
Tetrachloroethene	99

Client Sample ID: LCSD

Lab ID#: 1012020A-09AA

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121305	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 10:43 AM

Compound	%Recovery
2-Hexanone	109
Dibromochloromethane	112
1,2-Dibromoethane (EDB)	110
Chlorobenzene	105
Ethyl Benzene	108
m,p-Xylene	105
o-Xylene	107
Styrene	114
Bromoform	118
Cumene	110
1,1,2,2-Tetrachloroethane	111
Propylbenzene	115
4-Ethyltoluene	108
1,3,5-Trimethylbenzene	114
1,2,4-Trimethylbenzene	114
1,3-Dichlorobenzene	109
1,4-Dichlorobenzene	109
alpha-Chlorotoluene	129
1,2-Dichlorobenzene	115
1,2,4-Trichlorobenzene	136 Q
Hexachlorobutadiene	139 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	103	70-130

1012020



Shell Oil Products Chain Of Custody Record

Air Toxics LTD.
Project Name: Roxana Dissolved Phase
Project #
 Lab Vendor #
 URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
 Air Toxics, LTD. 180 Blue Rivine Road, Suite B, Folsom, CA 95630-4719
 314-729-0100
 314-420-0462
 URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
 Air Toxics, LTD. 180 Blue Rivine Road, Suite B, Folsom, CA 95630-4719
 314-729-0100
 314-420-0462

Print Bill To Contact Name: Thomas Adams
 PO #
 BITE (BOOKEND) Street and City
 800 SOUTH CENTRAL AVE -- ROXANA
 Elizabeth Kumbal, URS, St. Louis
 314-793-4179
 URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
 Air Toxics, LTD. 180 Blue Rivine Road, Suite B, Folsom, CA 95630-4719
 314-729-0100
 314-420-0462

INCIDENT # (ENV SERVICES) 0 7 2 1 6 6 4 0
 DATE: 11/30/2010
 PAGE: 1 of 1

LAB USE ONLY
 SHELL RETAIL
 MOTIVA RETAIL
 MOTIVA SACKS
 SHELL PIPELINE
 SHELL RETAIL
 LUBES
 CONSULTANT
 OTHER

LABORATORY USE ONLY
 SHELL CONTRACT RATE APPLIES
 STATE ACHIEVEMENT RATE APPLIES
 EDO NOT NEEDED
 RECEIPT VERIFICATION REQUESTED

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4
 1A - RWCB REPORT FORWAT 2 DAYS 3 DAYS 24 HOURS RESULTS HEARD ON WEEKEND
 1A - RWCB REPORT FORWAT 5 DAYS 10 DAYS 15 DAYS 20 DAYS 30 DAYS

TURNAROUND TIME (CALENDAR DAYS)
 STANDARD (14 DAY)
 FAST TRACK (7 DAY)
 EXPEDITED (5 DAY)

LABORATORY USE ONLY
 SHELL CONTRACT RATE APPLIES
 STATE ACHIEVEMENT RATE APPLIES
 EDO NOT NEEDED
 RECEIPT VERIFICATION REQUESTED

LAB USE ONLY	Field Sample Identification	SAMPLING		Container Pressure/Volume		Modified TO-15	ASTM D-1946 + Helium	ASTM D-1946	Turn Around Time:	Lab Use Only
		DATE	START TIME	STOP TIME	Carrier Number					
	D1A VMP-18-5-112910	11/29/10	0936	1008	570	-28	-5	X		
	B2A VMP-16-13.5-112910	11/29/10	1057	1127	2058	-29.5	-5	X		
	O3A VMP-16-19-112910	11/29/10	1222	1252	2721	-29	-4	X		
	D4A VMP-16-31-112910	11/29/10	1408	1438	1414	-29.5	-2.5	X		
	O5A VMP-15-5-113010	11/30/10	1028	1101	5818	-30	-6	X		
	O6A VMP-15-21.5-113010	11/30/10	1210	1250	3999	-29.5	-6.5	X		

REQUESTED ANALYSIS

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

Signature: *[Signature]*
 Date: 11/30/10 Time: 1700

Signature: *[Signature]*
 Date: 12/1/10 Time: 9:25

Signature: *[Signature]*
 Date: _____ Time: _____

RECEIVED
 CUSTOMER SEAL INTACT?
 Y N NONE TEMP

12/14/2010
Mr. Jeff Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Dissolved Phase
Project #:
Workorder #: 1012020B


Dear Mr. Jeff Adams

The following report includes the data for the above referenced project for sample(s) received on 12/1/2010 at Air Toxics Ltd.

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

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

Regards,



Jacquelyn Luta
Project Manager

Reviewed
on
12/20/2010

WORK ORDER #: 1012020B

Work Order Summary

CLIENT:	Mr. Jeff Adams 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:	314-429-0100	P.O. #	21562291.00005
FAX:		PROJECT #	Roxana Dissolved Phase
DATE RECEIVED:	12/01/2010	CONTACT:	Jacquelyn Luta
DATE COMPLETED:	12/14/2010		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	VMP-16-5-112910 ✓	Modified ASTM D-1946	2.2 "Hg	15 psi
02A	VMP-16-13.5-112910 ✓	Modified ASTM D-1946	3.0 "Hg	15 psi
03A	VMP-16-19-112910 ✓	Modified ASTM D-1946	2.0 "Hg	15 psi
04A	VMP-16-31-112910 ✓	Modified ASTM D-1946	2.2 "Hg	15 psi
05A	VMP-15-5-113010 ✓	Modified ASTM D-1946	4.6 "Hg	15 psi
06A	VMP-15-21.5-113010 ✓	Modified ASTM D-1946	5.2 "Hg	15 psi
07A	Lab Blank	Modified ASTM D-1946	NA	NA
07B	Lab Blank	Modified ASTM D-1946	NA	NA
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
10A	LCS	Modified ASTM D-1946	NA	NA
10AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: *Sandra D. Furrer*
Laboratory Director

DATE: 12/14/10

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards
This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1012020B**

Six 1 Liter Summa Canister samples were received on December 01, 2010. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

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

Client Sample ID: VMP-16-5-112910

Lab ID#: 1012020B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	7.3
Nitrogen	0.22	48
Methane	0.00022	32
Carbon Dioxide	0.022	12
Ethane	0.0022	0.00080 J
Helium	0.11	0.10 J

Client Sample ID: VMP-16-13.5-112910

Lab ID#: 1012020B-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	0.84
Nitrogen	0.22	31
Methane	0.00022	50
Carbon Dioxide	0.022	17
Ethane	0.0022	0.0012 J
Helium	0.11	0.011 J

Client Sample ID: VMP-16-19-112910

Lab ID#: 1012020B-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	1.5
Nitrogen	0.22	29
Methane	0.00022	51
Carbon Dioxide	0.022	17
Ethane	0.0022	0.0012 J
Helium	-0.11	0.014 J

Client Sample ID: VMP-16-31-112910

Lab ID#: 1012020B-04A

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

Client Sample ID: VMP-16-31-112910

Lab ID#: 1012020B-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	1.2
Nitrogen	0.22	29
Methane	0.00022	51
Carbon Dioxide	0.022	17
Ethane	0.0022	0.0012 J
Helium	0.11	0.034 J

Client Sample ID: VMP-15-5-113010

Lab ID#: 1012020B-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	1.5
Nitrogen	0.24	82
Methane	0.00024	1.3
Carbon Dioxide	0.024	15
Ethane	0.0024	0.00077 J
Helium	0.12	0.040 J

Client Sample ID: VMP-15-21.5-113010

Lab ID#: 1012020B-06A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	1.3
Nitrogen	0.24	68
Methane	0.00024	11
Carbon Dioxide	0.024	19
Ethane	0.0024	0.0085
Helium	0.12	0.22



Client Sample ID: VMP-16-5-112910

Lab ID#: 1012020B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120516	Date of Collection: 11/29/10 10:06:00 A
Dil. Factor:	2.18	Date of Analysis: 12/5/10 12:14 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	7.3
Nitrogen	0.22	48
Carbon Monoxide	0.022	Not Detected
Methane	0.00022	32
Carbon Dioxide	0.022	12
Ethane	0.0022	0.00080 J
Ethene	0.0022	Not Detected
Helium	0.11	0.10 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-16-13.5-112910

Lab ID#: 1012020B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120517	Date of Collection: 11/29/10 11:27:00 A
Dil. Factor:	2.24	Date of Analysis: 12/5/10 12:36 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	0.84
Nitrogen	0.22	31
Carbon Monoxide	0.022	Not Detected
Methane	0.00022	50
Carbon Dioxide	0.022	17
Ethane	0.0022	0.0012 J
Ethene	0.0022	Not Detected
Helium	0.11	0.011 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-16-19-112910

Lab ID#: 1012020B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120607	Date of Collection: 11/29/10 12:52:00 P
Dil. Factor:	2.16	Date of Analysis: 12/6/10 10:02 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	1.5
Nitrogen	0.22	29
Carbon Monoxide	0.022	Not Detected
Methane	0.00022	51
Carbon Dioxide	0.022	17
Ethane	0.0022	0.0012 J
Ethene	0.0022	Not Detected
Helium	0.11	0.014 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-16-31-112910

Lab ID#: 1012020B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120520	Date of Collection: 11/29/10 2:38:00 PM
Dil. Factor:	2.18	Date of Analysis: 12/5/10 02:24 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	1.2
Nitrogen	0.22	29
Carbon Monoxide	0.022	Not Detected
Methane	0.00022	51
Carbon Dioxide	0.022	17
Ethane	0.0022	0.0012 J
Ethene	0.0022	Not Detected
Helium	0.11	0.034 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-15-5-113010

Lab ID#: 1012020B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120521	Date of Collection: 11/30/10 11:01:00 A
Dil. Factor:	2.39	Date of Analysis: 12/5/10 02:45 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	1.5
Nitrogen	0.24	82
Carbon Monoxide	0.024	Not Detected
Methane	0.00024	1.3
Carbon Dioxide	0.024	15
Ethane	0.0024	0.00077 J
Ethene	0.0024	Not Detected
Helium	0.12	0.040 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-15-21.5-113010

Lab ID#: 1012020B-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120522	Date of Collection: 11/30/10 12:50:00 P
Dil. Factor:	2.44	Date of Analysis: 12/5/10 03:08 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	1.3
Nitrogen	0.24	68
Carbon Monoxide	0.024	Not Detected
Methane	0.00024	11
Carbon Dioxide	0.024	19
Ethane	0.0024	0.0085
Ethene	0.0024	Not Detected
Helium	0.12	0.22

Container Type: 1 Liter Summa Canister

Client Sample ID: Lab Blank

Lab ID#: 1012020B-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120504a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/4/10 08:57 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.017 J
Nitrogen	0.10	0.078 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable



Client Sample ID: Lab Blank

Lab ID#: 1012020B-07B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120503ba	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/4/10 08:18 PM

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

Container Type: NA - Not Applicable

Client Sample ID: Lab Blank

Lab ID#: 1012020B-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120606a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/6/10 09:26 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.015 J
Nitrogen	0.10	0.086 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Client Sample ID: Lab Blank

Lab ID#: 1012020B-08B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120605ba	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/6/10 08:45 AM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.050	0.0025 J

J = Estimated value.

Container Type: NA - Not Applicable

Client Sample ID: LCS

Lab ID#: 1012020B-09A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/4/10 07:31 PM

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	101
Methane	100
Carbon Dioxide	99
Ethane	102
Ethene	101
Helium	96

Container Type: NA - Not Applicable



Client Sample ID: LCSD

Lab ID#: 1012020B-09AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120524	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/5/10 04:13 PM

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	100
Methane	96
Carbon Dioxide	99
Ethane	97
Ethene	97
Helium	96

Container Type: NA - Not Applicable

Client Sample ID: LCS

Lab ID#: 1012020B-10A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/6/10 07:34 AM

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

Container Type: NA - Not Applicable

Client Sample ID: LCSD

Lab ID#: 1012020B-10AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120631	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/6/10 08:35 PM

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	100
Methane	96
Carbon Dioxide	100
Ethane	97
Ethene	97
Helium	97

Container Type: NA - Not Applicable

1012020



Shell Oil Products Chain Of Custody Record

11/30/10

Air Toxics LTD.
 Project Name: **Roxana Dissolved Phase**
 Project #

Lab Vendor # _____
 Please Check Appropriate Box:
 ENV. SERVICES SHELL RETAIL
 MOTIVA SEARCH CONSULTANT LURIS
 SHELL PIPELINE OTHER _____
 Print Bill To Contact Name: Thomas Adams
 PO # _____
 INCIDENT # (ENV SERVICES) 0 7 2 1 6 8 4 0
 DATE: 11/30/2010
 PAGE: 1 of 1

URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
 314-748-0100
 314-420-0462
 URS SOUTH CENTRAL AVE. - ROXANA
 900 SOUTH CENTRAL AVE. - ROXANA, ILL.
 314-748-4172
 Elizabeth Kunkel, URS, St. Louis
 314-748-4172

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 LEVEL 7
 15 - RHOQ REPORT FORSAIT LIST AGENCY
 24 HOURS RESULTS NEEDED ON WEEKEND
 SHELL CONTRACT RATE APPLIES
 STATE REMBURSEMENT RATE APPLIES
 EDD NOT NEEDED
 RECEIPT VERIFICATION REQUESTED

LAB USE ONLY	Field Sample Identification	DATE		Cylinder Number	Initial (Psi)		Final (Psi)		Modified TO-15	ASTM D-1945 + Helium	ASTM D-1945	Turn Around Time: <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush Specify _____	Lab Use Only Prepared by: Date: Pressurization Gas: N ₂ He
		START TIME	STOP TIME		Initial (Psi)	Recalib	Final (Psi)	Recalib					
01A	VMP-18-5-112910	11/29/10	0939	570	-28	-5			X	X			
02A	VMP-18-13-5-112910	11/29/10	1057	2058	-28.5	-5			X	X			
03A	VMP-18-19-112910	11/29/10	1222	2721	-29	-4			X	X			
04A	VMP-18-31-112910	11/29/10	1409	1414	-28.5	-2.5			X	X			
05A	VMP-15-5-113010	11/30/10	1028	5818	-30	-8			X	X			
06A	VMP-15-21.5-113010	11/30/10	1210	3899	-29.5	-6.5			X	X			

Requested by: *[Signature]*
 Received by: *[Signature]*
 Date: 11/30/10 Time: 17:00
 Requested by: *[Signature]*
 Received by: *[Signature]*
 Date: 12/1/10 Time: 9:25

REQUESTED ANALYSIS

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

09/20/08 Revision



Roxana Vapor Data Review

Laboratory SDG: 1012101A, B

Reviewer: Elizabeth Kunkel

Date Reviewed: 12/20/2010

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

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

Sample Identification	Sample Identification
VMP-13-5-120110	VMP-13-10.5-120110
VMP-13-10.5-120110-DUP	VMP-13-21.5-120110
VMP-14-5-120110	VMP-14-11.5-120210
VMP-14-11.5-120210-DUP	VMP-14-20-120210

1.0 Data Package Completeness

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

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

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

Yes, the laboratory case narrative indicated that samples VMP-14-11.5-120110 and VMP-14-11.5-120110-DUP were diluted due to the presence of high levels of non-target analytes for TO-15 analysis. Although not indicated in the laboratory case narrative, TO-15 analytes and natural gases were detected in the method blank. TO-15 LCS/LCSD recoveries were outside evaluation criteria. Samples were diluted due to high levels of target analytes. These issues are addressed further in the appropriate sections below.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

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

Yes

Blank ID	Parameter	Analyte	Concentration/Amount
1012101A-09A	TO-15	Bromomethane	0.15 ppbv/0.58 µg/m ³
1012101A-09A	TO-15	Acetone	0.84 ppbv/2.0 µg/m ³

Blank ID	Parameter	Analyte	Concentration/Amount
1012101A-09A	TO-15	Carbon disulfide	0.10 ppbv/0.31 µg/m ³
1012101A-09A	TO-15	Methyl tert-butyl ether	0.048 ppbv/0.17 µg/m ³
1012101A-09A	TO-15	Hexane	0.58 ppbv/0.21 µg/m ³
1012101A-09A	TO-15	2-Butanone	0.14 ppbv/0.43 µg/m ³
1012101A-09A	TO-15	Trichloroethene	0.10 ppbv/0.56 µg/m ³
1012101A-09A	TO-15	Tetrachloroethene	0.057 ppbv/0.38 µg/m ³
1012101A-09A	TO-15	Ethylbenzene	0.14 ppbv/0.60 µg/m ³
1012101A-09A	TO-15	m,p-Xylene	0.16 ppbv/0.68 µg/m ³
1012101A-09A	TO-15	o-Xylene	0.16 ppbv/0.72 µg/m ³
1012101A-09A	TO-15	Propylbenzene	0.052 ppbv/0.26 µg/m ³
1012101A-09A	TO-15	4-Ethyltoluene	0.071 ppbv/0.35 µg/m ³
1012101A-09A	TO-15	1,2,4-Trimethylbenzene	0.092 ppbv/0.45 µg/m ³
1012101A-09A	TO-15	1,3-Dichlorobenzene	0.13 ppbv/0.76 µg/m ³
1012101A-09A	TO-15	1,4-Dichlorobenzene	0.15 ppbv/0.92 µg/m ³
1012101A-09A	TO-15	alpha-Chlorotoluene	0.074 ppbv/0.38 µg/m ³
1012101A-09A	TO-15	1,2-Dichlorobenzene	0.11 ppbv/0.67 µg/m ³
1012101A-09A	TO-15	1,2,4-Trichlorobenzene	0.50 ppbv/3.7 µg/m ³
1012101A-09A	TO-15	Hexachlorobutadiene	0.36 ppbv/3.9 µg/m ³
1012101B-09A	Natural gases	Oxygen	0.014%
1012101B-09A	Natural gases	Nitrogen	0.047%

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-13-5-120110	TO-15	Methyl tert-butyl ether	-	U
VMP-13-5-120110	TO-15	2-Butanone	-	U
VMP-13-5-120110	TO-15	Trichloroethene	-	U
VMP-13-5-120110	TO-15	Tetrachloroethene	-	U
VMP-13-10.5-120110	TO-15	Methyl tert-butyl ether	-	U
VMP-13-10.5-120110	TO-15	2-Butanone	-	U
VMP-13-10.5-120110	TO-15	Trichloroethene	-	U
VMP-13-10.5-120110	TO-15	Tetrachloroethene	-	U
VMP-13-10.5-120110	TO-15	Ethylbenzene	-	U
VMP-13-10.5-120110	TO-15	m,p-Xylene	-	U
VMP-13-10.5-120110-DUP	TO-15	Acetone	-	U
VMP-13-10.5-120110-DUP	TO-15	Methyl tert-butyl ether	-	U
VMP-13-10.5-120110-DUP	TO-15	2-Butanone	-	U
VMP-13-10.5-120110-DUP	TO-15	Trichloroethene	-	U
VMP-13-10.5-120110-DUP	TO-15	Tetrachloroethene	-	U
VMP-13-10.5-120110-DUP	TO-15	m,p-Xylene	-	U

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/RPD Criteria
1012101A-11B/BB	TO-15	1,2,4-Trichlorobenzene	147/145	1	70-130/25
1012101A-11B/BB	TO-15	Hexachlorobutadiene	150/146	3	70-130/25
1012101A-11B/BB	TO-15	alpha-Chlorotoluene	130/131	1	70-130/25

Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria indicating a possible high bias did not require qualification. No qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

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

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
VMP-13-10.5-120110	VMP-13-10.5-120110
VMP-14-11.5-120210	VMP-14-11.5-120210

Were field duplicates within evaluation criteria?

Yes

11.0 Sample Dilutions

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

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

12.0 Additional Qualifications

Were additional qualifications applied?

No

12/16/2010
Mr. Jeff Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Dissolved Phase
Project #:
Workorder #: 1012101A

Dear Mr. Jeff Adams

The following report includes the data for the above referenced project for sample(s) received on 12/3/2010 at Air Toxics Ltd.

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

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

Regards,



Jacquelyn Luta
Project Manager

Reviewed
on
12/20/2010

WORK ORDER #: 1012101A

Work Order Summary

CLIENT:	Mr. Jeff Adams 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:	314-429-0100	P.O. #	21562291.00005
FAX:		PROJECT #	Roxana Dissolved Phase
DATE RECEIVED:	12/03/2010	CONTACT:	Jacquelyn Luta
DATE COMPLETED:	12/16/2010		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	VMP-13-5-120110 ✓	Modified TO-15	4.0 "Hg	15 psi
02A	VMP-13-10.5-120110 ✓	Modified TO-15	6.6 "Hg	15 psi
03A	VMP-13-10.5-120110-DUP ✓	Modified TO-15	7.6 "Hg	15 psi
04A	VMP-13-21.5-120110 ✓	Modified TO-15	5.2 "Hg	15 psi
05A	VMP-14-5-120110 ✓	Modified TO-15	4.8 "Hg	15 psi
06A	VMP-14-11.5-120110 ✓	Modified TO-15	5.6 "Hg	15 psi
07A	VMP-14-11.5-120110-DUP ✓	Modified TO-15	5.2 "Hg	15 psi
08A	VMP-14-20-120110 ✓	Modified TO-15	4.2 "Hg	15 psi
09A	Lab Blank	Modified TO-15	NA	NA
09B	Lab Blank	Modified TO-15	NA	NA
10A	CCV	Modified TO-15	NA	NA
10B	CCV	Modified TO-15	NA	NA
11A	LCS	Modified TO-15	NA	NA
11AA	LCSD	Modified TO-15	NA	NA
11B	LCS	Modified TO-15	NA	NA
11BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: *Janida D. Freeman*

DATE: 12/16/10

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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**LABORATORY NARRATIVE
Modified TO-15 Std & Soil Gas
URS Corporation
Workorder# 1012101A**

Eight 1 Liter Summa Canister samples were received on December 03, 2010. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan mode. The method involves concentrating up to 1.0 liter of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Dilution was performed on samples VMP-14-11.5-120110 and VMP-14-11.5-120110-DUP due to the presence of high level non-target species.

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

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: VMP-13-5-120110

Lab ID#: 1012101A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.64 J	5.8	3.2 J
Freon 11	1.2	0.27 J	6.5	1.5 J
Ethanol	4.7	3.7 J	8.8	7.0 J
Acetone	4.7	5.3	11	13
2-Propanol	4.7	20	11	49
Methyl tert-butyl ether	1.2	0.0 ND 0.10 u "	4.2	0.0 ND 0.38 u "
Hexane	1.2	40	4.1	140
2-Butanone (Methyl Ethyl Ketone)	1.2	0.0 ND 0.68 u "	3.4	0.0 ND 2.0 u "
Cyclohexane	1.2	9.1	4.0	31
2,2,4-Trimethylpentane	1.2	28	5.4	130
Benzene	1.2	1.5	3.7	4.9
Heptane	1.2	21	4.8	84
Trichloroethene	1.2	0.0 ND 0.28 u "	6.3	0.0 ND 1.5 u "
Toluene	1.2	9.6	4.4	36
Tetrachloroethene	1.2	0.0 ND 0.15 u "	7.9	0.0 ND 1.0 u "
Ethyl Benzene	1.2	11	5.0	47
m,p-Xylene	1.2	24	5.0	110
o-Xylene	1.2	8.4	5.0	37
Cumene	1.2	0.75 J	5.7	3.7 J
Propylbenzene	1.2	1.6	5.7	8.0
4-Ethyltoluene	1.2	6.6	5.7	32
1,3,5-Trimethylbenzene	1.2	1.8	5.7	9.1
1,2,4-Trimethylbenzene	1.2	7.6	5.7	37

Client Sample ID: VMP-13-10.5-120110

Lab ID#: 1012101A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.62 J	6.4	3.0 J
Freon 11	1.3	0.27 J	7.3	1.5 J
Acetone	5.2	5.2	12	12

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

Client Sample ID: VMP-13-10.5-120110

Lab ID#: 1012101A-02A

2-Propanol	5.2	43	13	100
Methyl tert-butyl ether	1.3	O.O.ND 0.17 U"	4.7	O.O.ND 0.82 U"
Hexane	1.3	2.2	4.6	7.6
2-Butanone (Methyl Ethyl Ketone)	1.3	O.O.ND 0.67 U"	3.8	O.O.ND 1.7 U"
Chloroform	1.3	0.25 J	6.3	1.2 J
1,1,1-Trichloroethane	1.3	0.19 J	7.1	1.0 J
Cyclohexane	1.3	0.84 J	4.4	2.9 J
2,2,4-Trimethylpentane	1.3	17	6.0	81
Benzene	1.3	1.4	4.1	4.5
Heptane	1.3	0.71 J	5.3	2.9 J
Trichloroethene	1.3	O.O.ND 0.58 U"	7.0	O.O.ND 2.7 U"
Toluene	1.3	0.29 J	4.9	1.1 J
Tetrachloroethene	1.3	O.O.ND 0.46 U"	8.8	O.O.ND 1.7 U"
Ethyl Benzene	1.3	O.O.ND 0.20 U"	5.6	O.O.ND 0.88 U"
m,p-Xylene	1.3	O.O.ND 0.37 U"	5.6	O.O.ND 1.4 U"

Client Sample ID: VMP-13-10.5-120110-DUP

Lab ID#: 1012101A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.66 J	6.7	3.2 J
Freon 11	1.4	0.23 J	7.6	1.3 J
Ethanol	5.4	8.2	10	16
Acetone	5.4	O.O.ND 4.0 U"	13	O.O.ND 9.5 U"
2-Propanol	5.4	54	13	130
Methyl tert-butyl ether	1.4	O.O.ND 0.27 U"	4.9	O.O.ND 0.76 U"
Hexane	1.4	2.9	4.8	10
2-Butanone (Methyl Ethyl Ketone)	1.4	O.O.ND 0.67 U"	4.0	O.O.ND 1.8 U"
Chloroform	1.4	0.20 J	6.6	0.98 J
1,1,1-Trichloroethane	1.4	0.20 J	7.4	1.1 J
Cyclohexane	1.4	1.4	4.6	4.8
2,2,4-Trimethylpentane	1.4	21	6.3	97
Benzene	1.4	2.0	4.3	6.6



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

Client Sample ID: VMP-13-10.5-120110-DUP

Lab ID#: 1012101A-03A

Heptane	1.4	0.88 J	5.5	3.6 J
Trichloroethene	1.4	0.0 ND 0.38 u"	7.2	0.0 ND 2.0 u"
Toluene	1.4	0.24 J	5.1	0.92 J
Tetrachloroethene	1.4	0.0 ND 0.17 u"	9.2	0.0 ND 1.2 u"
m,p-Xylene	1.4	0.0 ND 0.20 u"	5.9	0.0 ND 0.85 u"

OK

Client Sample ID: VMP-13-21.5-120110

Lab ID#: 1012101A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methylene Chloride	4700	8100	16000	28000
2,2,4-Trimethylpentane	4700	12000	22000	57000
Benzene	4700	1700000	15000	5400000

Client Sample ID: VMP-14-5-120110

Lab ID#: 1012101A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.50 J	5.9	2.5 J
Freon 11	1.2	0.14 J	6.7	0.80 J
Ethanol	4.8	4.5 J	9.0	8.5 J
Acetone	4.8	7.3	11	17
2-Propanol	4.8	60	12	150
Methyl tert-butyl ether	1.2	0.17 J	4.3	0.61 J
Hexane	1.2	0.48 J	4.2	1.7 J
2-Butanone (Methyl Ethyl Ketone)	1.2	0.97 J	3.5	2.8 J
Tetrahydrofuran	1.2	0.86 J	3.5	2.5 J
Chloroform	1.2	0.14 J	5.8	0.67 J
Cyclohexane	1.2	0.30 J	4.1	1.0 J
2,2,4-Trimethylpentane	1.2	3.0	5.6	14
Benzene	1.2	2.5	3.8	8.0
Heptane	1.2	0.26 J	4.9	1.1 J
Trichloroethene	1.2	0.31 J	6.4	1.6 J

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

Client Sample ID: VMP-14-5-120110

Lab ID#: 1012101A-05A

Bromodichloromethane	1.2	0.19 J	8.0	1.2 J
m,p-Xylene	1.2	0.11 J	5.2	0.50 J

Client Sample ID: VMP-14-11.5-120110

Lab ID#: 1012101A-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	340	160 J	820	390 J
Methylene Chloride	84	350	290	1200
Hexane	84	77 J	300	270 J
Cyclohexane	84	1000	290	3600
2,2,4-Trimethylpentane	84	7700	390	36000
Benzene	84	88	270	280
m,p-Xylene	84	22 J	360	94 J

Client Sample ID: VMP-14-11.5-120110-DUP

Lab ID#: 1012101A-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	300	170 J	750	420 J
Methylene Chloride	76	540	260	1900
Hexane	76	90	270	320
Cyclohexane	76	1100	260	3700
2,2,4-Trimethylpentane	76	7600	360	36000
Benzene	76	89	240	280
Toluene	76	40 J	290	150 J
Ethyl Benzene	76	18 J	330	80 J
m,p-Xylene	76	33 J	330	140 J

Client Sample ID: VMP-14-20-120110

Lab ID#: 1012101A-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
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**Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS**

Client Sample ID: VMP-14-20-120110

Lab ID#: 1012101A-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Methylene Chloride	39000	47000	140000	160000
Hexane	39000	230000	140000	800000
Cyclohexane	39000	91000	130000	310000
2,2,4-Trimethylpentane	39000	67000	180000	320000
Benzene	39000	15000000	120000	47000000
Heptane	39000	33000 J	160000	130000 J

Client Sample ID: VMP-13-5-120110

Lab ID#: 1012101A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6121324	Date of Collection:	12/1/10 10:03:00 AM
Dil. Factor:	2.33	Date of Analysis:	12/13/10 09:45 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.64 J	5.8	3.2 J
Freon 114	1.2	Not Detected	8.1	Not Detected
Chloromethane	4.7	Not Detected	9.6	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,3-Butadiene	1.2	Not Detected	2.6	Not Detected
Bromomethane	1.2	Not Detected	4.5	Not Detected
Chloroethane	1.2	Not Detected	3.1	Not Detected
Freon 11	1.2	0.27 J	6.5	1.5 J
Ethanol	4.7	3.7 J	8.8	7.0 J
Freon 113	1.2	Not Detected	8.9	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Acetone	4.7	5.3	11	13
2-Propanol	4.7	20	11	49
Carbon Disulfide	1.2	Not Detected	3.6	Not Detected
3-Chloropropene	4.7	Not Detected	14	Not Detected
Methylene Chloride	1.2	Not Detected	4.0	Not Detected
Methyl tert-butyl ether	1.2	0.0 ND 0.10 u"	4.2	0.0 ND 0.38 u"
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Hexane	1.2	40	4.1	140
1,1-Dichloroethane	1.2	Not Detected	4.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.2	0.0 ND 0.68 u"	3.4	0.0 ND 2.8 u"
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	5.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Cyclohexane	1.2	9.1	4.0	31
Carbon Tetrachloride	1.2	Not Detected	7.3	Not Detected
2,2,4-Trimethylpentane	1.2	28	5.4	130
Benzene	1.2	1.5	3.7	4.9
1,2-Dichloroethane	1.2	Not Detected	4.7	Not Detected
Heptane	1.2	21	4.8	84
Trichloroethene	1.2	0.0 ND 0.28 u"	6.3	0.0 ND 1.5 u"
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	7.8	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	9.6	4.4	36
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	0.0 ND 0.18 u"	7.9	0.0 ND 1.0 u"

Client Sample ID: VMP-13-5-120110

Lab ID#: 1012101A-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6121324	Date of Collection:	12/1/10 10:03:00 AM
Dil. Factor:	2.33	Date of Analysis:	12/13/10 09:45 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	4.7	Not Detected	19	Not Detected
Dibromochloromethane	1.2	Not Detected	9.9	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.0	Not Detected
Chlorobenzene	1.2	Not Detected	5.4	Not Detected
Ethyl Benzene	1.2	11	5.0	47
m,p-Xylene	1.2	24	5.0	110
o-Xylene	1.2	8.4	5.0	37
Styrene	1.2	Not Detected	5.0	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	0.75 J	5.7	3.7 J
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.0	Not Detected
Propylbenzene	1.2	1.6	5.7	8.0
4-Ethyltoluene	1.2	6.6	5.7	32
1,3,5-Trimethylbenzene	1.2	1.8	5.7	9.1
1,2,4-Trimethylbenzene	1.2	7.6	5.7	37
1,3-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.0	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,2,4-Trichlorobenzene	4.7	Not Detected	34	Not Detected
Hexachlorobutadiene	4.7	Not Detected	50	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	118	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: VMP-13-10.5-120110

Lab ID#: 1012101A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6121325	Date of Collection:	12/1/10 11:27:00 AM
Dil. Factor:	2.59	Date of Analysis:	12/13/10 10:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	0.62 J	6.4	3.0 J
Freon 114	1.3	Not Detected	9.0	Not Detected
Chloromethane	5.2	Not Detected	11	Not Detected
Vinyl Chloride	1.3	Not Detected	3.3	Not Detected
1,3-Butadiene	1.3	Not Detected	2.9	Not Detected
Bromomethane	1.3	Not Detected	5.0	Not Detected
Chloroethane	1.3	Not Detected	3.4	Not Detected
Freon 11	1.3	0.27 J	7.3	1.5 J
Ethanol	5.2	Not Detected	9.8	Not Detected
Freon 113	1.3	Not Detected	9.9	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Acetone	5.2	5.2	12	12
2-Propanol	5.2	43	13	100
Carbon Disulfide	1.3	Not Detected	4.0	Not Detected
3-Chloropropene	5.2	Not Detected	16	Not Detected
Methylene Chloride	1.3	Not Detected	4.5	Not Detected
Methyl tert-butyl ether	1.3	0.0 ND 0.17 U "	4.7	0.0 ND 0.02 U "
trans-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Hexane	1.3	2.2	4.6	7.6
1,1-Dichloroethane	1.3	Not Detected	5.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.3	0.0 ND 0.57 U "	3.8	0.0 ND 1.7 U "
cis-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Tetrahydrofuran	1.3	Not Detected	3.8	Not Detected
Chloroform	1.3	0.25 J	6.3	1.2 J
1,1,1-Trichloroethane	1.3	0.19 J	7.1	1.0 J
Cyclohexane	1.3	0.84 J	4.4	2.9 J
Carbon Tetrachloride	1.3	Not Detected	8.1	Not Detected
2,2,4-Trimethylpentane	1.3	17	6.0	81
Benzene	1.3	1.4	4.1	4.5
1,2-Dichloroethane	1.3	Not Detected	5.2	Not Detected
Heptane	1.3	0.71 J	5.3	2.9 J
Trichloroethene	1.3	0.0 ND 0.36 U "	7.0	0.0 ND 2.7 U "
1,2-Dichloropropane	1.3	Not Detected	6.0	Not Detected
1,4-Dioxane	5.2	Not Detected	19	Not Detected
Bromodichloromethane	1.3	Not Detected	8.7	Not Detected
cis-1,3-Dichloropropene	1.3	Not Detected	5.9	Not Detected
4-Methyl-2-pentanone	1.3	Not Detected	5.3	Not Detected
Toluene	1.3	0.29 J	4.9	1.1 J
trans-1,3-Dichloropropene	1.3	Not Detected	5.9	Not Detected
1,1,2-Trichloroethane	1.3	Not Detected	7.1	Not Detected
Tetrachloroethene	1.3	0.0 ND 0.16 U "	8.8	0.0 ND 1.7 U "

Client Sample ID: VMP-13-10.5-120110

Lab ID#: 1012101A-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6121325	Date of Collection:	12/1/10 11:27:00 AM
Dil. Factor:	2.59	Date of Analysis:	12/13/10 10:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	5.2	Not Detected	21	Not Detected
Dibromochloromethane	1.3	Not Detected	11	Not Detected
1,2-Dibromoethane (EDB)	1.3	Not Detected	10	Not Detected
Chlorobenzene	1.3	Not Detected	6.0	Not Detected
Ethyl Benzene	1.3	0.0ND 0.20 u"	5.6	0.0ND 0.88 u"
m,p-Xylene	1.3	0.0ND 0.37 u"	5.6	0.0ND 1.47 u"
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	Not Detected	6.4	Not Detected
1,1,2,2-Tetrachloroethane	1.3	Not Detected	8.9	Not Detected
Propylbenzene	1.3	Not Detected	6.4	Not Detected
4-Ethyltoluene	1.3	Not Detected	6.4	Not Detected
1,3,5-Trimethylbenzene	1.3	Not Detected	6.4	Not Detected
1,2,4-Trimethylbenzene	1.3	Not Detected	6.4	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
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

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	112	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: VMP-13-10.5-120110-DUP

Lab ID#: 1012101A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6121326	Date of Collection:	12/1/10 11:35:00 AM
Dil. Factor:	2.70	Date of Analysis:	12/13/10 10:28 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	0.66 J	6.7	3.2 J
Freon 114	1.4	Not Detected	9.4	Not Detected
Chloromethane	5.4	Not Detected	11	Not Detected
Vinyl Chloride	1.4	Not Detected	3.4	Not Detected
1,3-Butadiene	1.4	Not Detected	3.0	Not Detected
Bromomethane	1.4	Not Detected	5.2	Not Detected
Chloroethane	1.4	Not Detected	3.6	Not Detected
Freon 11	1.4	0.23 J	7.6	1.3 J
Ethanol	5.4	8.2	10	16
Freon 113	1.4	Not Detected	10	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.4	Not Detected
Acetone	5.4	0.0ND 48u"	13	0.0ND 98u"
2-Propanol	5.4	54	13	130
Carbon Disulfide	1.4	Not Detected	4.2	Not Detected
3-Chloropropene	5.4	Not Detected	17	Not Detected
Methylene Chloride	1.4	Not Detected	4.7	Not Detected
Methyl tert-butyl ether	1.4	0.0ND 8.21u"	4.9	0.0ND 0.76u"
trans-1,2-Dichloroethene	1.4	Not Detected	5.4	Not Detected
Hexane	1.4	2.9	4.8	10
1,1-Dichloroethane	1.4	Not Detected	5.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.4	0.0ND 0.81u"	4.0	0.0ND 1.8u"
cis-1,2-Dichloroethene	1.4	Not Detected	5.4	Not Detected
Tetrahydrofuran	1.4	Not Detected	4.0	Not Detected
Chloroform	1.4	0.20 J	6.6	0.98 J
1,1,1-Trichloroethane	1.4	0.20 J	7.4	1.1 J
Cyclohexane	1.4	1.4	4.6	4.8
Carbon Tetrachloride	1.4	Not Detected	8.5	Not Detected
2,2,4-Trimethylpentane	1.4	21	6.3	97
Benzene	1.4	2.0	4.3	6.6
1,2-Dichloroethane	1.4	Not Detected	5.5	Not Detected
Heptane	1.4	0.88 J	5.5	3.6 J
Trichloroethene	1.4	0.0ND 0.38u"	7.2	0.0ND 2.0u"
1,2-Dichloropropane	1.4	Not Detected	6.2	Not Detected
1,4-Dioxane	5.4	Not Detected	19	Not Detected
Bromodichloromethane	1.4	Not Detected	9.0	Not Detected
cis-1,3-Dichloropropene	1.4	Not Detected	6.1	Not Detected
4-Methyl-2-pentanone	1.4	Not Detected	5.5	Not Detected
Toluene	1.4	0.24 J	5.1	0.92 J
trans-1,3-Dichloropropene	1.4	Not Detected	6.1	Not Detected
1,1,2-Trichloroethane	1.4	Not Detected	7.4	Not Detected
Tetrachloroethene	1.4	0.0ND 0.17u"	9.2	0.0ND 1.2u"

Client Sample ID: VMP-13-10.5-120110-DUP

Lab ID#: 1012101A-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6121326	Date of Collection:	12/1/10 11:35:00 AM
Dil. Factor:	2.70	Date of Analysis:	12/13/10 10:28 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	5.4	Not Detected	22	Not Detected
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	10	Not Detected
Chlorobenzene	1.4	Not Detected	6.2	Not Detected
Ethyl Benzene	1.4	Not Detected	5.9	Not Detected
m,p-Xylene	1.4	0.0ND - 0.20 J	5.9	0.0ND 0.85 J
o-Xylene	1.4	Not Detected	5.9	Not Detected
Styrene	1.4	Not Detected	5.8	Not Detected
Bromoform	1.4	Not Detected	14	Not Detected
Cumene	1.4	Not Detected	6.6	Not Detected
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.3	Not Detected
Propylbenzene	1.4	Not Detected	6.6	Not Detected
4-Ethyltoluene	1.4	Not Detected	6.6	Not Detected
1,3,5-Trimethylbenzene	1.4	Not Detected	6.6	Not Detected
1,2,4-Trimethylbenzene	1.4	Not Detected	6.6	Not Detected
1,3-Dichlorobenzene	1.4	Not Detected	8.1	Not Detected
1,4-Dichlorobenzene	1.4	Not Detected	8.1	Not Detected
alpha-Chlorotoluene	1.4	Not Detected	7.0	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.1	Not Detected
1,2,4-Trichlorobenzene	5.4	Not Detected	40	Not Detected
Hexachlorobutadiene	5.4	Not Detected	58	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	116	70-130
4-Bromofluorobenzene	95	70-130

Client Sample ID: VMP-13-21.5-120110

Lab ID#: 1012101A-04A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121512	Date of Collection:	12/1/10 1:55:00 PM
Dil. Factor:	938	Date of Analysis:	12/15/10 02:46 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	4700	Not Detected	23000	Not Detected
Freon 114	4700	Not Detected	33000	Not Detected
Chloromethane	19000	Not Detected	39000	Not Detected
Vinyl Chloride	4700	Not Detected	12000	Not Detected
1,3-Butadiene	4700	Not Detected	10000	Not Detected
Bromomethane	4700	Not Detected	18000	Not Detected
Chloroethane	4700	Not Detected	12000	Not Detected
Freon 11	4700	Not Detected	26000	Not Detected
Ethanol	19000	Not Detected	35000	Not Detected
Freon 113	4700	Not Detected	36000	Not Detected
1,1-Dichloroethene	4700	Not Detected	18000	Not Detected
Acetone	19000	Not Detected	44000	Not Detected
2-Propanol	19000	Not Detected	46000	Not Detected
Carbon Disulfide	4700	Not Detected	15000	Not Detected
3-Chloropropene	19000	Not Detected	59000	Not Detected
Methylene Chloride	4700	8100	16000	28000
Methyl tert-butyl ether	4700	Not Detected	17000	Not Detected
trans-1,2-Dichloroethene	4700	Not Detected	18000	Not Detected
Hexane	4700	Not Detected	16000	Not Detected
1,1-Dichloroethane	4700	Not Detected	19000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4700	Not Detected	14000	Not Detected
cis-1,2-Dichloroethene	4700	Not Detected	18000	Not Detected
Tetrahydrofuran	4700	Not Detected	14000	Not Detected
Chloroform	4700	Not Detected	23000	Not Detected
1,1,1-Trichloroethane	4700	Not Detected	26000	Not Detected
Cyclohexane	4700	Not Detected	16000	Not Detected
Carbon Tetrachloride	4700	Not Detected	30000	Not Detected
2,2,4-Trimethylpentane	4700	12000	22000	57000
Benzene	4700	1700000	15000	5400000
1,2-Dichloroethane	4700	Not Detected	19000	Not Detected
Heptane	4700	Not Detected	19000	Not Detected
Trichloroethene	4700	Not Detected	25000	Not Detected
1,2-Dichloropropane	4700	Not Detected	22000	Not Detected
1,4-Dioxane	19000	Not Detected	68000	Not Detected
Bromodichloromethane	4700	Not Detected	31000	Not Detected
cis-1,3-Dichloropropene	4700	Not Detected	21000	Not Detected
4-Methyl-2-pentanone	4700	Not Detected	19000	Not Detected
Toluene	4700	Not Detected	18000	Not Detected
trans-1,3-Dichloropropene	4700	Not Detected	21000	Not Detected
1,1,2-Trichloroethane	4700	Not Detected	26000	Not Detected
Tetrachloroethene	4700	Not Detected	32000	Not Detected



Client Sample ID: VMP-13-21.5-120110

Lab ID#: 1012101A-04A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121512	Date of Collection:	12/1/10 1:55:00 PM
Dil. Factor:	938	Date of Analysis:	12/15/10 02:46 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	19000	Not Detected	77000	Not Detected
Dibromochloromethane	4700	Not Detected	40000	Not Detected
1,2-Dibromoethane (EDB)	4700	Not Detected	36000	Not Detected
Chlorobenzene	4700	Not Detected	22000	Not Detected
Ethyl Benzene	4700	Not Detected	20000	Not Detected
m,p-Xylene	4700	Not Detected	20000	Not Detected
o-Xylene	4700	Not Detected	20000	Not Detected
Styrene	4700	Not Detected	20000	Not Detected
Bromoform	4700	Not Detected	48000	Not Detected
Cumene	4700	Not Detected	23000	Not Detected
1,1,2,2-Tetrachloroethane	4700	Not Detected	32000	Not Detected
Propylbenzene	4700	Not Detected	23000	Not Detected
4-Ethyltoluene	4700	Not Detected	23000	Not Detected
1,3,5-Trimethylbenzene	4700	Not Detected	23000	Not Detected
1,2,4-Trimethylbenzene	4700	Not Detected	23000	Not Detected
1,3-Dichlorobenzene	4700	Not Detected	28000	Not Detected
1,4-Dichlorobenzene	4700	Not Detected	28000	Not Detected
alpha-Chlorotoluene	4700	Not Detected	24000	Not Detected
1,2-Dichlorobenzene	4700	Not Detected	28000	Not Detected
1,2,4-Trichlorobenzene	19000	Not Detected	140000	Not Detected
Hexachlorobutadiene	19000	Not Detected	200000	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: VMP-14-5-120110

Lab ID#: 1012101A-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6121327	Date of Collection:	12/1/10 3:14:00 PM
Dil. Factor:	2.40	Date of Analysis:	12/13/10 10:47 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	0.50 J	5.9	2.5 J
Freon 114	1.2	Not Detected	8.4	Not Detected
Chloromethane	4.8	Not Detected	9.9	Not Detected
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,3-Butadiene	1.2	Not Detected	2.6	Not Detected
Bromomethane	1.2	Not Detected	4.7	Not Detected
Chloroethane	1.2	Not Detected	3.2	Not Detected
Freon 11	1.2	0.14 J	6.7	0.80 J
Ethanol	4.8	4.5 J	9.0	8.5 J
Freon 113	1.2	Not Detected	9.2	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Acetone	4.8	7.3	11	17
2-Propanol	4.8	60	12	150
Carbon Disulfide	1.2	Not Detected	3.7	Not Detected
3-Chloropropene	4.8	Not Detected	15	Not Detected
Methylene Chloride	1.2	Not Detected	4.2	Not Detected
Methyl tert-butyl ether	1.2	0.17 J	4.3	0.61 J
trans-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Hexane	1.2	0.48 J	4.2	1.7 J
1,1-Dichloroethane	1.2	Not Detected	4.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.2	0.97 J	3.5	2.8 J
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Tetrahydrofuran	1.2	0.86 J	3.5	2.5 J
Chloroform	1.2	0.14 J	5.8	0.67 J
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Cyclohexane	1.2	0.30 J	4.1	1.0 J
Carbon Tetrachloride	1.2	Not Detected	7.6	Not Detected
2,2,4-Trimethylpentane	1.2	3.0	5.6	14
Benzene	1.2	2.5	3.8	8.0
1,2-Dichloroethane	1.2	Not Detected	4.8	Not Detected
Heptane	1.2	0.26 J	4.9	1.1 J
Trichloroethene	1.2	0.31 J	6.4	1.6 J
1,2-Dichloropropane	1.2	Not Detected	5.5	Not Detected
1,4-Dioxane	4.8	Not Detected	17	Not Detected
Bromodichloromethane	1.2	0.19 J	8.0	1.2 J
cis-1,3-Dichloropropene	1.2	Not Detected	5.4	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.9	Not Detected
Toluene	1.2	Not Detected	4.5	Not Detected
trans-1,3-Dichloropropene	1.2	Not Detected	5.4	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Tetrachloroethene	1.2	Not Detected	8.1	Not Detected

Client Sample ID: VMP-14-5-120110

Lab ID#: 1012101A-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6121327	Date of Collection:	12/1/10 3:14:00 PM
Dil. Factor:	2.40	Date of Analysis:	12/13/10 10:47 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	4.8	Not Detected	20	Not Detected
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.2	Not Detected
Chlorobenzene	1.2	Not Detected	5.5	Not Detected
Ethyl Benzene	1.2	Not Detected	5.2	Not Detected
m,p-Xylene	1.2	0.11 J	5.2	0.50 J
o-Xylene	1.2	Not Detected	5.2	Not Detected
Styrene	1.2	Not Detected	5.1	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.9	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.2	Not Detected
Propylbenzene	1.2	Not Detected	5.9	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.9	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.9	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	5.9	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.2	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
1,2,4-Trichlorobenzene	4.8	Not Detected	36	Not Detected
Hexachlorobutadiene	4.8	Not Detected	51	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	113	70-130
4-Bromofluorobenzene	96	70-130



Client Sample ID: VMP-14-11.5-120110

Lab ID#: 1012101A-06A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121510	Date of Collection:	12/2/10 1:44:00 PM
Dil. Factor:	16.8	Date of Analysis:	12/15/10 01:28 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	84	Not Detected	420	Not Detected
Freon 114	84	Not Detected	590	Not Detected
Chloromethane	340	Not Detected	690	Not Detected
Vinyl Chloride	84	Not Detected	210	Not Detected
1,3-Butadiene	84	Not Detected	180	Not Detected
Bromomethane	84	Not Detected	330	Not Detected
Chloroethane	84	Not Detected	220	Not Detected
Freon 11	84	Not Detected	470	Not Detected
Ethanol	340	Not Detected	630	Not Detected
Freon 113	84	Not Detected	640	Not Detected
1,1-Dichloroethene	84	Not Detected	330	Not Detected
Acetone	340	Not Detected	800	Not Detected
2-Propanol	340	160 J	820	390 J
Carbon Disulfide	84	Not Detected	260	Not Detected
3-Chloropropene	340	Not Detected	1000	Not Detected
Methylene Chloride	84	350	290	1200
Methyl tert-butyl ether	84	Not Detected	300	Not Detected
trans-1,2-Dichloroethene	84	Not Detected	330	Not Detected
Hexane	84	77 J	300	270 J
1,1-Dichloroethane	84	Not Detected	340	Not Detected
2-Butanone (Methyl Ethyl Ketone)	84	Not Detected	250	Not Detected
cis-1,2-Dichloroethene	84	Not Detected	330	Not Detected
Tetrahydrofuran	84	Not Detected	250	Not Detected
Chloroform	84	Not Detected	410	Not Detected
1,1,1-Trichloroethane	84	Not Detected	460	Not Detected
Cyclohexane	84	1000	290	3600
Carbon Tetrachloride	84	Not Detected	530	Not Detected
2,2,4-Trimethylpentane	84	7700	390	36000
Benzene	84	88	270	280
1,2-Dichloroethane	84	Not Detected	340	Not Detected
Heptane	84	Not Detected	340	Not Detected
Trichloroethene	84	Not Detected	450	Not Detected
1,2-Dichloropropane	84	Not Detected	390	Not Detected
1,4-Dioxane	340	Not Detected	1200	Not Detected
Bromodichloromethane	84	Not Detected	560	Not Detected
cis-1,3-Dichloropropene	84	Not Detected	380	Not Detected
4-Methyl-2-pentanone	84	Not Detected	340	Not Detected
Toluene	84	Not Detected	320	Not Detected
trans-1,3-Dichloropropene	84	Not Detected	380	Not Detected
1,1,2-Trichloroethane	84	Not Detected	460	Not Detected
Tetrachloroethene	84	Not Detected	570	Not Detected



Client Sample ID: VMP-14-11.5-120110

Lab ID#: 1012101A-06A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121510	Date of Collection:	12/2/10 1:44:00 PM
Dil. Factor:	16.8	Date of Analysis:	12/15/10 01:28 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	340	Not Detected	1400	Not Detected
Dibromochloromethane	84	Not Detected	720	Not Detected
1,2-Dibromoethane (EDB)	84	Not Detected	640	Not Detected
Chlorobenzene	84	Not Detected	390	Not Detected
Ethyl Benzene	84	Not Detected	360	Not Detected
m,p-Xylene	84	22 J	360	94 J
o-Xylene	84	Not Detected	360	Not Detected
Styrene	84	Not Detected	360	Not Detected
Bromoform	84	Not Detected	870	Not Detected
Cumene	84	Not Detected	410	Not Detected
1,1,2,2-Tetrachloroethane	84	Not Detected	580	Not Detected
Propylbenzene	84	Not Detected	410	Not Detected
4-Ethyltoluene	84	Not Detected	410	Not Detected
1,3,5-Trimethylbenzene	84	Not Detected	410	Not Detected
1,2,4-Trimethylbenzene	84	Not Detected	410	Not Detected
1,3-Dichlorobenzene	84	Not Detected	500	Not Detected
1,4-Dichlorobenzene	84	Not Detected	500	Not Detected
alpha-Chlorotoluene	84	Not Detected	430	Not Detected
1,2-Dichlorobenzene	84	Not Detected	500	Not Detected
1,2,4-Trichlorobenzene	340	Not Detected	2500	Not Detected
Hexachlorobutadiene	340	Not Detected	3600	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	104	70-130



Client Sample ID: VMP-14-11.5-120110-DUP

Lab ID#: 1012101A-07A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121509	Date of Collection:	12/2/10 1:44:00 PM
Dil. Factor:	15.2	Date of Analysis:	12/15/10 12:59 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	76	Not Detected	380	Not Detected
Freon 114	76	Not Detected	530	Not Detected
Chloromethane	300	Not Detected	630	Not Detected
Vinyl Chloride	76	Not Detected	190	Not Detected
1,3-Butadiene	76	Not Detected	170	Not Detected
Bromomethane	76	Not Detected	300	Not Detected
Chloroethane	76	Not Detected	200	Not Detected
Freon 11	76	Not Detected	430	Not Detected
Ethanol	300	Not Detected	570	Not Detected
Freon 113	76	Not Detected	580	Not Detected
1,1-Dichloroethene	76	Not Detected	300	Not Detected
Acetone	300	Not Detected	720	Not Detected
2-Propanol	300	170 J	750	420 J
Carbon Disulfide	76	Not Detected	240	Not Detected
3-Chloropropene	300	Not Detected	950	Not Detected
Methylene Chloride	76	540	260	1900
Methyl tert-butyl ether	76	Not Detected	270	Not Detected
trans-1,2-Dichloroethene	76	Not Detected	300	Not Detected
Hexane	76	90	270	320
1,1-Dichloroethane	76	Not Detected	310	Not Detected
2-Butanone (Methyl Ethyl Ketone)	76	Not Detected	220	Not Detected
cis-1,2-Dichloroethene	76	Not Detected	300	Not Detected
Tetrahydrofuran	76	Not Detected	220	Not Detected
Chloroform	76	Not Detected	370	Not Detected
1,1,1-Trichloroethane	76	Not Detected	410	Not Detected
Cyclohexane	76	1100	260	3700
Carbon Tetrachloride	76	Not Detected	480	Not Detected
2,2,4-Trimethylpentane	76	7600	360	36000
Benzene	76	89	240	280
1,2-Dichloroethane	76	Not Detected	310	Not Detected
Heptane	76	Not Detected	310	Not Detected
Trichloroethene	76	Not Detected	410	Not Detected
1,2-Dichloropropane	76	Not Detected	350	Not Detected
1,4-Dioxane	300	Not Detected	1100	Not Detected
Bromodichloromethane	76	Not Detected	510	Not Detected
cis-1,3-Dichloropropene	76	Not Detected	340	Not Detected
4-Methyl-2-pentanone	76	Not Detected	310	Not Detected
Toluene	76	40 J	290	150 J
trans-1,3-Dichloropropene	76	Not Detected	340	Not Detected
1,1,2-Trichloroethane	76	Not Detected	410	Not Detected
Tetrachloroethene	76	Not Detected	520	Not Detected

Client Sample ID: VMP-14-11.5-120110-DUP

Lab ID#: 1012101A-07A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121509	Date of Collection:	12/2/10 1:44:00 PM
Dil. Factor:	15.2	Date of Analysis:	12/15/10 12:59 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	300	Not Detected	1200	Not Detected
Dibromochloromethane	76	Not Detected	650	Not Detected
1,2-Dibromoethane (EDB)	76	Not Detected	580	Not Detected
Chlorobenzene	76	Not Detected	350	Not Detected
Ethyl Benzene	76	18 J	330	80 J
m,p-Xylene	76	33 J	330	140 J
o-Xylene	76	Not Detected	330	Not Detected
Styrene	76	Not Detected	320	Not Detected
Bromoform	76	Not Detected	780	Not Detected
Cumene	76	Not Detected	370	Not Detected
1,1,2,2-Tetrachloroethane	76	Not Detected	520	Not Detected
Propylbenzene	76	Not Detected	370	Not Detected
4-Ethyltoluene	76	Not Detected	370	Not Detected
1,3,5-Trimethylbenzene	76	Not Detected	370	Not Detected
1,2,4-Trimethylbenzene	76	Not Detected	370	Not Detected
1,3-Dichlorobenzene	76	Not Detected	460	Not Detected
1,4-Dichlorobenzene	76	Not Detected	460	Not Detected
alpha-Chlorotoluene	76	Not Detected	390	Not Detected
1,2-Dichlorobenzene	76	Not Detected	460	Not Detected
1,2,4-Trichlorobenzene	300	Not Detected	2200	Not Detected
Hexachlorobutadiene	300	Not Detected	3200	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: VMP-14-20-120110

Lab ID#: 1012101A-08A

MODIFIED EPA METHOD TO-15 GC/MS

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
File Name:	b121514		Date of Collection: 12/2/10 3:17:00 PM	
Dil. Factor:	7830		Date of Analysis: 12/15/10 04:00 PM	
Freon 12	39000	Not Detected	190000	Not Detected
Freon 114	39000	Not Detected	270000	Not Detected
Chloromethane	160000	Not Detected	320000	Not Detected
Vinyl Chloride	39000	Not Detected	100000	Not Detected
1,3-Butadiene	39000	Not Detected	87000	Not Detected
Bromomethane	39000	Not Detected	150000	Not Detected
Chloroethane	39000	Not Detected	100000	Not Detected
Freon 11	39000	Not Detected	220000	Not Detected
Ethanol	160000	Not Detected	300000	Not Detected
Freon 113	39000	Not Detected	300000	Not Detected
1,1-Dichloroethene	39000	Not Detected	160000	Not Detected
Acetone	160000	Not Detected	370000	Not Detected
2-Propanol	160000	Not Detected	380000	Not Detected
Carbon Disulfide	39000	Not Detected	120000	Not Detected
3-Chloropropene	160000	Not Detected	490000	Not Detected
Methylene Chloride	39000	47000	140000	160000
Methyl tert-butyl ether	39000	Not Detected	140000	Not Detected
trans-1,2-Dichloroethene	39000	Not Detected	160000	Not Detected
Hexane	39000	230000	140000	800000
1,1-Dichloroethane	39000	Not Detected	160000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	39000	Not Detected	120000	Not Detected
cis-1,2-Dichloroethene	39000	Not Detected	160000	Not Detected
Tetrahydrofuran	39000	Not Detected	120000	Not Detected
Chloroform	39000	Not Detected	190000	Not Detected
1,1,1-Trichloroethane	39000	Not Detected	210000	Not Detected
Cyclohexane	39000	91000	130000	310000
Carbon Tetrachloride	39000	Not Detected	250000	Not Detected
2,2,4-Trimethylpentane	39000	67000	180000	320000
Benzene	39000	15000000	120000	47000000
1,2-Dichloroethane	39000	Not Detected	160000	Not Detected
Heptane	39000	33000 J	160000	130000 J
Trichloroethene	39000	Not Detected	210000	Not Detected
1,2-Dichloropropane	39000	Not Detected	180000	Not Detected
1,4-Dioxane	160000	Not Detected	560000	Not Detected
Bromodichloromethane	39000	Not Detected	260000	Not Detected
cis-1,3-Dichloropropene	39000	Not Detected	180000	Not Detected
4-Methyl-2-pentanone	39000	Not Detected	160000	Not Detected
Toluene	39000	Not Detected	150000	Not Detected
trans-1,3-Dichloropropene	39000	Not Detected	180000	Not Detected
1,1,2-Trichloroethane	39000	Not Detected	210000	Not Detected
Tetrachloroethene	39000	Not Detected	260000	Not Detected

Client Sample ID: VMP-14-20-120110

Lab ID#: 1012101A-08A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121514	Date of Collection:	12/2/10 3:17:00 PM
Dil. Factor:	7830	Date of Analysis:	12/15/10 04:00 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	160000	Not Detected	640000	Not Detected
Dibromochloromethane	39000	Not Detected	330000	Not Detected
1,2-Dibromoethane (EDB)	39000	Not Detected	300000	Not Detected
Chlorobenzene	39000	Not Detected	180000	Not Detected
Ethyl Benzene	39000	Not Detected	170000	Not Detected
m,p-Xylene	39000	Not Detected	170000	Not Detected
o-Xylene	39000	Not Detected	170000	Not Detected
Styrene	39000	Not Detected	170000	Not Detected
Bromoform	39000	Not Detected	400000	Not Detected
Cumene	39000	Not Detected	190000	Not Detected
1,1,2,2-Tetrachloroethane	39000	Not Detected	270000	Not Detected
Propylbenzene	39000	Not Detected	190000	Not Detected
4-Ethyltoluene	39000	Not Detected	190000	Not Detected
1,3,5-Trimethylbenzene	39000	Not Detected	190000	Not Detected
1,2,4-Trimethylbenzene	39000	Not Detected	190000	Not Detected
1,3-Dichlorobenzene	39000	Not Detected	240000	Not Detected
1,4-Dichlorobenzene	39000	Not Detected	240000	Not Detected
alpha-Chlorotoluene	39000	Not Detected	200000	Not Detected
1,2-Dichlorobenzene	39000	Not Detected	240000	Not Detected
1,2,4-Trichlorobenzene	160000	Not Detected	1200000	Not Detected
Hexachlorobutadiene	160000	Not Detected	1700000	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: Lab Blank

Lab ID#: 1012101A-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6121306d	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 11:10 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	0.15 J	1.9	0.58 J
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	0.84 J	4.8	2.0 J
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	0.50	0.10 J	1.6	0.31 J
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	0.50	Not Detected	1.7	Not Detected
Methyl tert-butyl ether	0.50	0.048 J	1.8	0.17 J
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	0.058 J	1.8	0.21 J
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	0.14 J	1.5	0.43 J
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	0.10 J	2.7	0.56 J
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	0.057 J	3.4	0.38 J

Client Sample ID: Lab Blank

Lab ID#: 1012101A-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6121306d	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 11:10 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	2.0	Not Detected	8.2	Not Detected
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	0.14 J	2.2	0.60 J
m,p-Xylene	0.50	0.16 J	2.2	0.68 J
o-Xylene	0.50	0.16 J	2.2	0.72 J
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	0.052 J	2.4	0.26 J
4-Ethyltoluene	0.50	0.071 J	2.4	0.35 J
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	0.092 J	2.4	0.45 J
1,3-Dichlorobenzene	0.50	0.13 J	3.0	0.76 J
1,4-Dichlorobenzene	0.50	0.15 J	3.0	0.92 J
alpha-Chlorotoluene	0.50	0.074 J	2.6	0.38 J
1,2-Dichlorobenzene	0.50	0.11 J	3.0	0.67 J
1,2,4-Trichlorobenzene	2.0	0.50 J	15	3.7 J
Hexachlorobutadiene	2.0	0.36 J	21	3.9 J

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	109	70-130
4-Bromofluorobenzene	95	70-130

Client Sample ID: Lab Blank

Lab ID#: 1012101A-09B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121507a	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/15/10 11:46 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5.0	Not Detected	25	Not Detected
Freon 114	5.0	Not Detected	35	Not Detected
Chloromethane	20	Not Detected	41	Not Detected
Vinyl Chloride	5.0	Not Detected	13	Not Detected
1,3-Butadiene	5.0	Not Detected	11	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	5.0	Not Detected	13	Not Detected
Freon 11	5.0	Not Detected	28	Not Detected
Ethanol	20	Not Detected	38	Not Detected
Freon 113	5.0	Not Detected	38	Not Detected
1,1-Dichloroethene	5.0	Not Detected	20	Not Detected
Acetone	20	Not Detected	48	Not Detected
2-Propanol	20	Not Detected	49	Not Detected
Carbon Disulfide	5.0	Not Detected	16	Not Detected
3-Chloropropene	20	Not Detected	63	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	5.0	Not Detected	18	Not Detected
trans-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Hexane	5.0	Not Detected	18	Not Detected
1,1-Dichloroethane	5.0	Not Detected	20	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Tetrahydrofuran	5.0	Not Detected	15	Not Detected
Chloroform	5.0	Not Detected	24	Not Detected
1,1,1-Trichloroethane	5.0	Not Detected	27	Not Detected
Cyclohexane	5.0	Not Detected	17	Not Detected
Carbon Tetrachloride	5.0	Not Detected	31	Not Detected
2,2,4-Trimethylpentane	5.0	Not Detected	23	Not Detected
Benzene	5.0	Not Detected	16	Not Detected
1,2-Dichloroethane	5.0	Not Detected	20	Not Detected
Heptane	5.0	Not Detected	20	Not Detected
Trichloroethene	5.0	Not Detected	27	Not Detected
1,2-Dichloropropane	5.0	Not Detected	23	Not Detected
1,4-Dioxane	20	Not Detected	72	Not Detected
Bromodichloromethane	5.0	Not Detected	34	Not Detected
cis-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
4-Methyl-2-pentanone	5.0	Not Detected	20	Not Detected
Toluene	5.0	Not Detected	19	Not Detected
trans-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
1,1,2-Trichloroethane	5.0	Not Detected	27	Not Detected
Tetrachloroethene	5.0	Not Detected	34	Not Detected

Client Sample ID: Lab Blank

Lab ID#: 1012101A-09B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121507a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/15/10 11:46 AM

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

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: CCV

Lab ID#: 1012101A-10A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6121302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 08:53 AM

Compound	%Recovery
Freon 12	111
Freon 114	101
Chloromethane	122
Vinyl Chloride	106
1,3-Butadiene	106
Bromomethane	100
Chloroethane	101
Freon 11	114
Ethanol	106
Freon 113	98
1,1-Dichloroethene	101
Acetone	113
2-Propanol	111
Carbon Disulfide	100
3-Chloropropene	106
Methylene Chloride	113
Methyl tert-butyl ether	116
trans-1,2-Dichloroethene	103
Hexane	114
1,1-Dichloroethane	106
2-Butanone (Methyl Ethyl Ketone)	110
cis-1,2-Dichloroethene	100
Tetrahydrofuran	120
Chloroform	105
1,1,1-Trichloroethane	110
Cyclohexane	105
Carbon Tetrachloride	109
2,2,4-Trimethylpentane	114
Benzene	97
1,2-Dichloroethane	113
Heptane	113
Trichloroethene	101
1,2-Dichloropropane	98
1,4-Dioxane	103
Bromodichloromethane	103
cis-1,3-Dichloropropene	108
4-Methyl-2-pentanone	118
Toluene	96
trans-1,3-Dichloropropene	104
1,1,2-Trichloroethane	98
Tetrachloroethene	93

Client Sample ID: CCV

Lab ID#: 1012101A-10A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6121302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 08:53 AM

Compound	%Recovery
2-Hexanone	105
Dibromochloromethane	96
1,2-Dibromoethane (EDB)	99
Chlorobenzene	96
Ethyl Benzene	101
m,p-Xylene	105
o-Xylene	107
Styrene	107
Bromoform	97
Cumene	113
1,1,2,2-Tetrachloroethane	98
Propylbenzene	109
4-Ethyltoluene	111
1,3,5-Trimethylbenzene	103
1,2,4-Trimethylbenzene	120
1,3-Dichlorobenzene	103
1,4-Dichlorobenzene	103
alpha-Chlorotoluene	109
1,2-Dichlorobenzene	102
1,2,4-Trichlorobenzene	106
Hexachlorobutadiene	98

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	116	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: CCV

Lab ID#: 1012101A-10B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/15/10 08:41 AM

Compound	%Recovery
Freon 12	120
Freon 114	113
Chloromethane	76
Vinyl Chloride	107
1,3-Butadiene	105
Bromomethane	112
Chloroethane	108
Freon 11	114
Ethanol	85
Freon 113	106
1,1-Dichloroethene	105
Acetone	103
2-Propanol	81
Carbon Disulfide	107
3-Chloropropene	106
Methylene Chloride	98
Methyl tert-butyl ether	89
trans-1,2-Dichloroethene	104
Hexane	100
1,1-Dichloroethane	107
2-Butanone (Methyl Ethyl Ketone)	103
cis-1,2-Dichloroethene	104
Tetrahydrofuran	94
Chloroform	107
1,1,1-Trichloroethane	103
Cyclohexane	105
Carbon Tetrachloride	109
2,2,4-Trimethylpentane	100
Benzene	106
1,2-Dichloroethane	107
Heptane	109
Trichloroethene	106
1,2-Dichloropropane	103
1,4-Dioxane	106
Bromodichloromethane	108
cis-1,3-Dichloropropene	104
4-Methyl-2-pentanone	101
Toluene	102
trans-1,3-Dichloropropene	103
1,1,2-Trichloroethane	106
Tetrachloroethene	100

Client Sample ID: CCV

Lab ID#: 1012101A-10B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/15/10 08:41 AM

Compound	%Recovery
2-Hexanone	99
Dibromochloromethane	106
1,2-Dibromoethane (EDB)	104
Chlorobenzene	102
Ethyl Benzene	104
m,p-Xylene	100
o-Xylene	100
Styrene	98
Bromoform	107
Cumene	104
1,1,2,2-Tetrachloroethane	103
Propylbenzene	105
4-Ethyltoluene	102
1,3,5-Trimethylbenzene	100
1,2,4-Trimethylbenzene	99
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	99
alpha-Chlorotoluene	78
1,2-Dichlorobenzene	99
1,2,4-Trichlorobenzene	92
Hexachlorobutadiene	105

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: LCS

Lab ID#: 1012101A-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6121303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 09:28 AM

Compound	%Recovery
Freon 12	117
Freon 114	108
Chloromethane	113
Vinyl Chloride	112
1,3-Butadiene	115
Bromomethane	105
Chloroethane	105
Freon 11	117
Ethanol	122
Freon 113	102
1,1-Dichloroethene	106
Acetone	110
2-Propanol	127
Carbon Disulfide	104
3-Chloropropene	118
Methylene Chloride	118
Methyl tert-butyl ether	129
trans-1,2-Dichloroethene	112
Hexane	119
1,1-Dichloroethane	106
2-Butanone (Methyl Ethyl Ketone)	120
cis-1,2-Dichloroethene	108
Tetrahydrofuran	121
Chloroform	107
1,1,1-Trichloroethane	112
Cyclohexane	109
Carbon Tetrachloride	114
2,2,4-Trimethylpentane	121
Benzene	100
1,2-Dichloroethane	110
Heptane	109
Trichloroethene	100
1,2-Dichloropropane	100
1,4-Dioxane	106
Bromodichloromethane	106
cis-1,3-Dichloropropene	112
4-Methyl-2-pentanone	120
Toluene	97
trans-1,3-Dichloropropene	110
1,1,2-Trichloroethane	99
Tetrachloroethene	93

Client Sample ID: LCS

Lab ID#: 1012101A-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6121303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 09:28 AM

Compound	%Recovery
2-Hexanone	119
Dibromochloromethane	101
1,2-Dibromoethane (EDB)	97
Chlorobenzene	98
Ethyl Benzene	104
m,p-Xylene	104
o-Xylene	112
Styrene	116
Bromoform	100
Cumene	118
1,1,2,2-Tetrachloroethane	102
Propylbenzene	118
4-Ethyltoluene	111
1,3,5-Trimethylbenzene	116
1,2,4-Trimethylbenzene	126
1,3-Dichlorobenzene	105
1,4-Dichlorobenzene	106
alpha-Chlorotoluene	119
1,2-Dichlorobenzene	111
1,2,4-Trichlorobenzene	104
Hexachlorobutadiene	101

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	114	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: LCSD

Lab ID#: 1012101A-11AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6121304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 09:47 AM

Compound	%Recovery
Freon 12	116
Freon 114	106
Chloromethane	119
Vinyl Chloride	106
1,3-Butadiene	108
Bromomethane	102
Chloroethane	104
Freon 11	116
Ethanol	106
Freon 113	101
1,1-Dichloroethene	104
Acetone	104
2-Propanol	118
Carbon Disulfide	102
3-Chloropropene	120
Methylene Chloride	108
Methyl tert-butyl ether	125
trans-1,2-Dichloroethene	111
Hexane	116
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	120
cis-1,2-Dichloroethene	105
Tetrahydrofuran	118
Chloroform	108
1,1,1-Trichloroethane	111
Cyclohexane	108
Carbon Tetrachloride	112
2,2,4-Trimethylpentane	118
Benzene	96
1,2-Dichloroethane	105
Heptane	110
Trichloroethene	99
1,2-Dichloropropane	95
1,4-Dioxane	108
Bromodichloromethane	103
cis-1,3-Dichloropropene	108
4-Methyl-2-pentanone	118
Toluene	96
trans-1,3-Dichloropropene	104
1,1,2-Trichloroethane	100
Tetrachloroethene	93

Client Sample ID: LCSD

Lab ID#: 1012101A-11AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	6121304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 09:47 AM

Compound	%Recovery
2-Hexanone	116
Dibromochloromethane	98
1,2-Dibromoethane (EDB)	96
Chlorobenzene	97
Ethyl Benzene	104
m,p-Xylene	108
o-Xylene	111
Styrene	114
Bromoform	97
Cumene	116
1,1,2,2-Tetrachloroethane	100
Propylbenzene	116
4-Ethyltoluene	118
1,3,5-Trimethylbenzene	109
1,2,4-Trimethylbenzene	127
1,3-Dichlorobenzene	106
1,4-Dichlorobenzene	105
alpha-Chlorotoluene	116
1,2-Dichlorobenzene	109
1,2,4-Trichlorobenzene	123
Hexachlorobutadiene	109

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	117	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: LCS

Lab ID#: 1012101A-11B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121503	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/15/10 09:16 AM

Compound	%Recovery
Freon 12	125
Freon 114	118
Chloromethane	80
Vinyl Chloride	114
1,3-Butadiene	111
Bromomethane	117
Chloroethane	113
Freon 11	118
Ethanol	102
Freon 113	110
1,1-Dichloroethene	113
Acetone	110
2-Propanol	97
Carbon Disulfide	121
3-Chloropropene	119
Methylene Chloride	105
Methyl tert-butyl ether	98
trans-1,2-Dichloroethene	112
Hexane	101
1,1-Dichloroethane	109
2-Butanone (Methyl Ethyl Ketone)	113
cis-1,2-Dichloroethene	112
Tetrahydrofuran	98
Chloroform	112
1,1,1-Trichloroethane	107
Cyclohexane	112
Carbon Tetrachloride	117
2,2,4-Trimethylpentane	105
Benzene	110
1,2-Dichloroethane	108
Heptane	113
Trichloroethene	111
1,2-Dichloropropane	109
1,4-Dioxane	115
Bromodichloromethane	117
cis-1,3-Dichloropropene	112
4-Methyl-2-pentanone	111
Toluene	109
trans-1,3-Dichloropropene	118
1,1,2-Trichloroethane	117
Tetrachloroethene	107

Client Sample ID: LCS

Lab ID#: 1012101A-11B

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121503	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/15/10 09:16 AM

Compound	%Recovery
2-Hexanone	113
Dibromochloromethane	122
1,2-Dibromoethane (EDB)	118
Chlorobenzene	113
Ethyl Benzene	113
m,p-Xylene	112
o-Xylene	114
Styrene	120
Bromoform	125
Cumene	117
1,1,2,2-Tetrachloroethane	119
Propylbenzene	122
4-Ethyltoluene	115
1,3,5-Trimethylbenzene	122
1,2,4-Trimethylbenzene	120
1,3-Dichlorobenzene	119
1,4-Dichlorobenzene	120
alpha-Chlorotoluene	130
1,2-Dichlorobenzene	124
1,2,4-Trichlorobenzene	147 Q
Hexachlorobutadiene	150 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	106	70-130

Client Sample ID: LCSD

Lab ID#: 1012101A-11BB

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121504	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/15/10 09:54 AM

Compound	%Recovery
Freon 12	124
Freon 114	116
Chloromethane	82
Vinyl Chloride	112
1,3-Butadiene	108
Bromomethane	116
Chloroethane	109
Freon 11	115
Ethanol	100
Freon 113	108
1,1-Dichloroethene	112
Acetone	104
2-Propanol	98
Carbon Disulfide	118
3-Chloropropene	118
Methylene Chloride	102
Methyl tert-butyl ether	95
trans-1,2-Dichloroethene	109
Hexane	100
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	109
cis-1,2-Dichloroethene	109
Tetrahydrofuran	97
Chloroform	110
1,1,1-Trichloroethane	107
Cyclohexane	110
Carbon Tetrachloride	113
2,2,4-Trimethylpentane	103
Benzene	108
1,2-Dichloroethane	108
Heptane	112
Trichloroethene	108
1,2-Dichloropropane	108
1,4-Dioxane	115
Bromodichloromethane	116
cis-1,3-Dichloropropene	111
4-Methyl-2-pentanone	110
Toluene	107
trans-1,3-Dichloropropene	115
1,1,2-Trichloroethane	114
Tetrachloroethene	103

Client Sample ID: LCSD

Lab ID#: 1012101A-11BB

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121504	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/15/10 09:54 AM

Compound	%Recovery
2-Hexanone	110
Dibromochloromethane	118
1,2-Dibromoethane (EDB)	114
Chlorobenzene	110
Ethyl Benzene	111
m,p-Xylene	109
o-Xylene	110
Styrene	117
Bromoform	122
Cumene	115
1,1,2,2-Tetrachloroethane	118
Propylbenzene	119
4-Ethyltoluene	112
1,3,5-Trimethylbenzene	119
1,2,4-Trimethylbenzene	115
1,3-Dichlorobenzene	117
1,4-Dichlorobenzene	114
alpha-Chlorotoluene	131 Q
1,2-Dichlorobenzene	121
1,2,4-Trichlorobenzene	145 Q
Hexachlorobutadiene	146 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	105	70-130

1012101



Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Dissolved Phase
Project #

Lab Vendor # _____
 URS CORPORATION
 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110

Print Bill To Contact Name: Thomas Adams
 Thomas Adams
 PO # _____
 SAP # _____

DATE: 12/22/2010
 PAGE: 1 of 1

INCIDENT # (ENV SERVICES) _____
 CHECK IF NO INCIDENT APPLIES _____

Site Address: 800 SOUTH CENTRAL AVE - ROXANA, ILL. 62451
 Phone No: 314-749-4179
 Email: Elizabeth.Kunikel@URS.COOP.COM

Site Address: 180 Blue Ravine Road, Suite B, Folsom, CA 95630-4719
 Phone No: 314-429-0462
 Email: _____

TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS

RESATS NEEDED ON WEBEND: YES NO

Requested Analysis

Turn Around Time:
 Normal
 Rush
 Specify _____

ASTM D-1946 + Helium
 Modified TO-15
 ASTM D-1946

Additional Notes:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVP

LAB USE ONLY	Field Sample Identification	SAMPLING		Canister Number	Conciter Pressure/Vacuum		Final (psi)	Receipt	Final (psi)
		DATE	START TIME		STOP TIME	Initial (psi)			
01A	VMP-13-5-120110	12/01/10	0927	1003	2563	-30	-5		X
02A	VMP-13-10.5-120110	12/01/10	1057	1127	5826	-29.5	-7		X
03A	VMP-13-10.5-120110-DUP	12/01/10	1057	1135	3550	-29.5	-8		X
04A	VMP-13-21.5-120110	12/01/10	1255	1355	3776	-30	-6		X
05A	VMP-14-5-120110	12/01/10	1443	1514	3733	-29.5	-5.5		X
06A	VMP-14-11.5-120210	12/02/10	1314	1344	1455	-30	-6.5		X
07A	VMP-14-11.5-120210-DUP	12/02/10	1314	1344	2170	-30	-6		X
08A	VMP-14-20-120210	12/02/10	1447	1517	2627	-30	-5		X

Requested by: (Signature) _____
 Date: 12/22/10 Time: 1730

Received by: (Signature) *Blair Switkowski*
 Date: 12/31/10 Time: 900

Received by: (Signature) _____
 Date: _____ Time: _____

ASTM D-1946 + Helium
 Modified TO-15

ASTM D-1946

Additional Notes:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVP

Requested by: (Signature) _____
 Date: _____ Time: _____

Received by: (Signature) _____
 Date: _____ Time: _____

Received by: (Signature) _____
 Date: _____ Time: _____

80000 Rev.04

CUSTOMER SEAL INTACT?
 Y N NONE TEMP N/A

FedEx

12/16/2010
Mr. Jeff Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Dissolved Phase
Project #:
Workorder #: 1012101B

Dear Mr. Jeff Adams

The following report includes the data for the above referenced project for sample(s) received on 12/3/2010 at Air Toxics Ltd.

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

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

Regards,



Jacquelyn Luta
Project Manager

Reviewed
on
12/20/2010

WORK ORDER #: 1012101B

Work Order Summary

CLIENT:	Mr. Jeff Adams 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:	314-429-0100	P.O. #	21562291.00005
FAX:		PROJECT #	Roxana Dissolved Phase
DATE RECEIVED:	12/03/2010	CONTACT:	Jacquelyn Luta
DATE COMPLETED:	12/16/2010		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	VMP-13-5-120110 ✓	Modified ASTM D-1946	4.0 "Hg	15 psi
02A	VMP-13-10.5-120110 ✓	Modified ASTM D-1946	6.6 "Hg	15 psi
03A	VMP-13-10.5-120110-DUP ✓	Modified ASTM D-1946	7.6 "Hg	15 psi
04A	VMP-13-21.5-120110 ✓	Modified ASTM D-1946	5.2 "Hg	15 psi
05A	VMP-14-5-120110 ✓	Modified ASTM D-1946	4.8 "Hg	15 psi
06A	VMP-14-11.5-120110 ✓	Modified ASTM D-1946	5.6 "Hg	15 psi
07A	VMP-14-11.5-120110-DUP ✓	Modified ASTM D-1946	5.2 "Hg	15 psi
08A	VMP-14-20-120110 ✓	Modified ASTM D-1946	4.2 "Hg	15 psi
09A	Lab Blank	Modified ASTM D-1946	NA	NA
09B	Lab Blank	Modified ASTM D-1946	NA	NA
10A	LCS	Modified ASTM D-1946	NA	NA
10AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: *Linda D. Freeman*
Laboratory Director

DATE: 12/16/10

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.
180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1012101B**

Eight 1 Liter Summa Canister samples were received on December 03, 2010. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

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

Client Sample ID: VMP-13-5-120110

Lab ID#: 1012101B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	13
Nitrogen	0.23	81
Carbon Dioxide	0.023	6.1
Helium	0.12	0.047 J

Client Sample ID: VMP-13-10.5-120110

Lab ID#: 1012101B-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	8.8
Nitrogen	0.26	82
Methane	0.00026	0.00032
Carbon Dioxide	0.026	8.6
Helium	0.13	0.028 J

Client Sample ID: VMP-13-10.5-120110-DUP

Lab ID#: 1012101B-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	8.7
Nitrogen	0.27	83
Methane	0.00027	0.00030
Carbon Dioxide	0.027	8.6

Client Sample ID: VMP-13-21.5-120110

Lab ID#: 1012101B-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	1.8
Nitrogen	0.24	83
Methane	0.00024	1.8

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

Client Sample ID: VMP-13-21.5-120110

Lab ID#: 1012101B-04A

Carbon Dioxide	0.024	13
Ethane	0.0024	0.00037 J
Helium	0.12	0.020 J

Client Sample ID: VMP-14-5-120110

Lab ID#: 1012101B-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	12
Nitrogen	0.24	85
Methane	0.00024	0.000070 J
Carbon Dioxide	0.024	2.6
Helium	0.12	0.025 J

Client Sample ID: VMP-14-11.5-120110

Lab ID#: 1012101B-06A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	1.6
Nitrogen	0.25	92
Methane	0.00025	2.8
Carbon Dioxide	0.025	3.6
Ethane	0.0025	0.0010 J
Helium	0.12	0.029 J

Client Sample ID: VMP-14-11.5-120110-DUP

Lab ID#: 1012101B-07A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	1.6
Nitrogen	0.24	92
Methane	0.00024	2.8
Carbon Dioxide	0.024	3.6

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

Client Sample ID: VMP-14-11.5-120110-DUP

Lab ID#: 1012101B-07A

Ethane	0.0024	0.0010 J
Helium	0.12	0.0068 J

Client Sample ID: VMP-14-20-120110

Lab ID#: 1012101B-08A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	1.2
Nitrogen	0.24	59
Methane	0.00024	19
Carbon Dioxide	0.024	18
Ethane	0.0024	0.0047
Helium	0.12	0.0053 J



Client Sample ID: VMP-13-5-120110

Lab ID#: 1012101B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9121309	Date of Collection:	12/1/10 10:03:00 AM
Dil. Factor:	2.33	Date of Analysis:	12/13/10 12:47 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	13
Nitrogen	0.23	81
Carbon Monoxide	0.023	Not Detected
Methane	0.00023	Not Detected
Carbon Dioxide	0.023	6.1
Ethane	0.0023	Not Detected
Ethene	0.0023	Not Detected
Helium	0.12	0.047 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-13-10.5-120110

Lab ID#: 1012101B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9121310	Date of Collection:	12/1/10 11:27:00 AM
Dil. Factor:	2.59	Date of Analysis:	12/13/10 01:14 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	8.8
Nitrogen	0.26	82
Carbon Monoxide	0.026	Not Detected
Methane	0.00026	0.00032
Carbon Dioxide	0.026	8.6
Ethane	0.0026	Not Detected
Ethene	0.0026	Not Detected
Helium	0.13	0.028 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-13-10.5-120110-DUP

Lab ID#: 1012101B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9121311	Date of Collection:	12/1/10 11:35:00 AM
Dil. Factor:	2.70	Date of Analysis:	12/13/10 01:37 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.27	8.7
Nitrogen	0.27	83
Carbon Monoxide	0.027	Not Detected
Methane	0.00027	0.00030
Carbon Dioxide	0.027	8.6
Ethane	0.0027	Not Detected
Ethene	0.0027	Not Detected
Helium	0.14	Not Detected

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-13-21.5-120110

Lab ID#: 1012101B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9121313	Date of Collection: 12/1/10 1:55:00 PM
Dil. Factor:	2.44	Date of Analysis: 12/13/10 02:24 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	1.8
Nitrogen	0.24	83
Carbon Monoxide	0.024	Not Detected
Methane	0.00024	1.8
Carbon Dioxide	0.024	13
Ethane	0.0024	0.00037 J
Ethene	0.0024	Not Detected
Helium	0.12	0.020 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-14-5-120110

Lab ID#: 1012101B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9121312	Date of Collection:	12/1/10 3:14:00 PM
Dil. Factor:	2.40	Date of Analysis:	12/13/10 02:00 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	12
Nitrogen	0.24	85
Carbon Monoxide	0.024	Not Detected
Methane	0.00024	0.000070 J
Carbon Dioxide	0.024	2.6
Ethane	0.0024	Not Detected
Ethene	0.0024	Not Detected
Helium	0.12	0.025 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-14-11.5-120110

Lab ID#: 1012101B-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9121314	Date of Collection:	12/2/10 1:44:00 PM
Dil. Factor:	2.48	Date of Analysis:	12/13/10 02:48 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.25	1.6
Nitrogen	0.25	92
Carbon Monoxide	0.025	Not Detected
Methane	0.00025	2.8
Carbon Dioxide	0.025	3.6
Ethane	0.0025	0.0010 J
Ethene	0.0025	Not Detected
Helium	0.12	0.029 J

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: VMP-14-11.5-120110-DUP

Lab ID#: 1012101B-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9121315	Date of Collection: 12/2/10 1:44:00 PM
Dil. Factor:	2.44	Date of Analysis: 12/13/10 03:25 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	1.6
Nitrogen	0.24	92
Carbon Monoxide	0.024	Not Detected
Methane	0.00024	2.8
Carbon Dioxide	0.024	3.6
Ethane	0.0024	0.0010 J
Ethene	0.0024	Not Detected
Helium	0.12	0.0068 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-14-20-120110

Lab ID#: 1012101B-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9121316	Date of Collection:	12/2/10 3:17:00 PM
Dil. Factor:	2.35	Date of Analysis:	12/13/10 03:59 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	1.2
Nitrogen	0.24	59
Carbon Monoxide	0.024	Not Detected
Methane	0.00024	19
Carbon Dioxide	0.024	18
Ethane	0.0024	0.0047
Ethene	0.0024	Not Detected
Helium	0.12	0.0053 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: Lab Blank

Lab ID#: 1012101B-09A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9121308a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 12:22 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.014 J
Nitrogen	0.10	0.047 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable



Client Sample ID: Lab Blank

Lab ID#: 1012101B-09B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9121304ba	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 09:14 AM

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

Container Type: NA - Not Applicable

Client Sample ID: LCS

Lab ID#: 1012101B-10A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9121303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 08:48 AM

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

Container Type: NA - Not Applicable

Client Sample ID: LCSD

Lab ID#: 1012101B-10AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9121330	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/13/10 10:41 PM

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

Container Type: NA - Not Applicable

1012101



Shell Oil Products Chain Of Custody Record

URS

Air Toxics LTD.
Project Name: Roxana Dissolved Phase
Project #

Print Bill To Contact Name:
Thomas Adams
PO #

INCIDENT # (ENV SERVICES)
9 7 2 1 8 0 4 0
DATE: 12/22/10
PAGE: 1 of 1

Lab Vendor #
URS CORPORATION
1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110

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

314-7428-0100
314-742-0462
314-743-4179

TURNAROUND TIME (CALENDAR DAYS)
 3 DAYS
 7 DAYS
 14 DAYS

RESULTS NEEDED ON WEDNESDAY
 24 HOURS
 48 HOURS
 72 HOURS

314-743-4179
Elizabeth Kuntel, URS, St. Louis

LAB USE ONLY	Field Sample Identification		SAMPLING		Calculator Number		Container Pressure/Vacuum	
	DATE	START TIME	STOP TIME	Initial (Psi)	Final (Psi)	Receipt #	Final (Psi)	
	12/01/10	0927	1003	-30	-5	2563		
	12/01/10	1057	1127	-29.5	-7	5626		
	12/01/10	1057	1135	-29.5	-8	3550		
	12/01/10	1255	1355	-30	-6	3776		
	12/01/10	1443	1514	-29.5	-5.5	3733		
	12/02/10	1314	1344	-30	-6.5	1455		
	12/02/10	1314	1344	-30	-6	2170		
	12/02/10	1447	1517	-30	-5	2627		

ASTM D-1946 + Helium
ASTM D-1946
Modified TO-15
Turn Around Time:
 Normal
 Rush
Specify

REQUESTED ANALYSIS
LAB USE ONLY
Process initialized by:
Date: 12/22/10
Initialization Gas: N₂ He

Additional Notes:
- 14 day hold time
- Report results between MDL and RL
- Level IV ECVF

Signature: [Signature]
Signature: [Signature]
Signature: [Signature]

Date: 12/2/10
Date: 12/3/10 9:00
Date:

66289 Number

CUSTOMER SEAL INTACT
Y N NONE TEMP N/A
FedEx

Roxana Vapor Data Review

Laboratory SDG: 1012152A, B

Reviewer: Elizabeth Kunkel

Date Reviewed: 12/21/2010

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

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

Sample Identification	Sample Identification
VMP-12-5-120310	VMP-12-11.5-120310
VMP-12-25-120310	

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-12-25-120310 was diluted due to high levels of non-target analytes. Although not indicated in the laboratory case narrative, TO-15 analytes and natural gases were detected in the method blank. TO-15 LCS/LCSD recoveries were outside evaluation criteria. Samples were diluted due to high levels of target analytes. These issues are addressed further in the appropriate sections below.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

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

Yes

Blank ID	Parameter	Analyte	Concentration/Amount
1012152A-04A	TO-15	1,1,1-Trichloroethane	1.8 ppbv/9.8 µg/m ³
1012152A-04A	TO-15	4-Ethyltoluene	1.2 ppbv/6.2 µg/m ³
1012152A-04A	TO-15	1,2,4-Trichlorobenzene	2.8 ppbv/20 µg/m ³
1012152B-04A	Natural gases	Oxygen	0.014%
1012152B-04A	Natural gases	Nitrogen	0.087%

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

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/RPD Criteria
1012152A-06A/AA	TO-15	1,2,4-Trichlorobenzene	145/139	4	70-130/25
1012152A-06A/AA	TO-15	Hexachlorobutadiene	145/141	3	70-130/25

Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria indicating a possible high bias did not require qualification. No qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

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

8.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

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

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

12.0 Additional Qualifications

Were additional qualifications applied?

No

12/14/2010
Mr. Jeff Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Dissolved Phase
Project #:
Workorder #: 1012152A

Dear Mr. Jeff Adams

The following report includes the data for the above referenced project for sample(s) received on 12/7/2010 at Air Toxics Ltd.

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

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

Regards,



Jacquelyn Luta
Project Manager

Reviewed
on
12/21/2010

WORK ORDER #: 1012152A

Work Order Summary

CLIENT:	Mr. Jeff Adams 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:	314-429-0100	P.O. #	21562291.00005
FAX:		PROJECT #	Roxana Dissolved Phase
DATE RECEIVED:	12/07/2010	CONTACT:	Jacquelyn Luta
DATE COMPLETED:	12/14/2010		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	VMP-12-5-120310 ✓	Modified TO-15	1.6 "Hg	15 psi
02A	VMP-12-11.5-120310 ✓	Modified TO-15	1.0 "Hg	15 psi
03A	VMP-12-25-120310 ✓	Modified TO-15	2.2 "Hg	15 psi
04A	Lab Blank	Modified TO-15	NA	NA
05A	CCV	Modified TO-15	NA	NA
06A	LCS	Modified TO-15	NA	NA
06AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: *Sinda D. Freeman*
Laboratory Director

DATE: 12/14/10

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

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11

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

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

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
EPA Method TO-15
URS Corporation
Workorder# 1012152A**

Three 1 Liter Summa Canister samples were received on December 07, 2010. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Dilution was performed on sample VMP-12-25-120310 due to the presence of high level non-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

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: VMP-12-5-120310

Lab ID#: 1012152A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	13000	100000	47000	370000
Cyclohexane	13000	220000	46000	750000
2,2,4-Trimethylpentane	13000	360000	62000	1700000
Benzene	13000	5000000	42000	16000000
Cumene	13000	3800 J	65000	18000 J
Propylbenzene	13000	4200 J	65000	20000 J

Client Sample ID: VMP-12-11.5-120310

Lab ID#: 1012152A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	1500	3200	5300	11000
Cyclohexane	1500	98000	5100	340000
2,2,4-Trimethylpentane	1500	190000	7000	910000
Benzene	1500	620000	4800	2000000

Client Sample ID: VMP-12-25-120310

Lab ID#: 1012152A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	110	160	380	550
Cyclohexane	110	5100	380	18000
2,2,4-Trimethylpentane	110	25000	510	120000
Benzene	110	1200	350	3800

Client Sample ID: VMP-12-5-120310

Lab ID#: 1012152A-01A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121117	Date of Collection: 12/3/10 10:59:00 AM
Dil. Factor:	2660	Date of Analysis: 12/11/10 09:48 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	13000	Not Detected	66000	Not Detected
Freon 114	13000	Not Detected	93000	Not Detected
Chloromethane	53000	Not Detected	110000	Not Detected
Vinyl Chloride	13000	Not Detected	34000	Not Detected
1,3-Butadiene	13000	Not Detected	29000	Not Detected
Bromomethane	13000	Not Detected	52000	Not Detected
Chloroethane	13000	Not Detected	35000	Not Detected
Freon 11	13000	Not Detected	75000	Not Detected
Ethanol	53000	Not Detected	100000	Not Detected
Freon 113	13000	Not Detected	100000	Not Detected
1,1-Dichloroethene	13000	Not Detected	53000	Not Detected
Acetone	53000	Not Detected	130000	Not Detected
2-Propanol	53000	Not Detected	130000	Not Detected
Carbon Disulfide	13000	Not Detected	41000	Not Detected
3-Chloropropene	53000	Not Detected	170000	Not Detected
Methylene Chloride	13000	Not Detected	46000	Not Detected
Methyl tert-butyl ether	13000	Not Detected	48000	Not Detected
trans-1,2-Dichloroethene	13000	Not Detected	53000	Not Detected
Hexane	13000	100000	47000	370000
1,1-Dichloroethane	13000	Not Detected	54000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	13000	Not Detected	39000	Not Detected
cis-1,2-Dichloroethene	13000	Not Detected	53000	Not Detected
Tetrahydrofuran	13000	Not Detected	39000	Not Detected
Chloroform	13000	Not Detected	65000	Not Detected
1,1,1-Trichloroethane	13000	Not Detected	72000	Not Detected
Cyclohexane	13000	220000	46000	750000
Carbon Tetrachloride	13000	Not Detected	84000	Not Detected
2,2,4-Trimethylpentane	13000	360000	62000	1700000
Benzene	13000	5000000	42000	16000000
1,2-Dichloroethane	13000	Not Detected	54000	Not Detected
Heptane	13000	Not Detected	54000	Not Detected
Trichloroethene	13000	Not Detected	71000	Not Detected
1,2-Dichloropropane	13000	Not Detected	61000	Not Detected
1,4-Dioxane	53000	Not Detected	190000	Not Detected
Bromodichloromethane	13000	Not Detected	89000	Not Detected
cis-1,3-Dichloropropene	13000	Not Detected	60000	Not Detected
4-Methyl-2-pentanone	13000	Not Detected	54000	Not Detected
Toluene	13000	Not Detected	50000	Not Detected
trans-1,3-Dichloropropene	13000	Not Detected	60000	Not Detected
1,1,2-Trichloroethane	13000	Not Detected	72000	Not Detected
Tetrachloroethene	13000	Not Detected	90000	Not Detected

Client Sample ID: VMP-12-5-120310

Lab ID#: 1012152A-01A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121117	Date of Collection:	12/3/10 10:59:00 AM
Dil. Factor:	2660	Date of Analysis:	12/11/10 09:48 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	53000	Not Detected	220000	Not Detected
Dibromochloromethane	13000	Not Detected	110000	Not Detected
1,2-Dibromoethane (EDB)	13000	Not Detected	100000	Not Detected
Chlorobenzene	13000	Not Detected	61000	Not Detected
Ethyl Benzene	13000	Not Detected	58000	Not Detected
m,p-Xylene	13000	Not Detected	58000	Not Detected
o-Xylene	13000	Not Detected	58000	Not Detected
Styrene	13000	Not Detected	57000	Not Detected
Bromoform	13000	Not Detected	140000	Not Detected
Cumene	13000	3800 J	65000	18000 J
1,1,2,2-Tetrachloroethane	13000	Not Detected	91000	Not Detected
Propylbenzene	13000	4200 J	65000	20000 J
4-Ethyltoluene	13000	Not Detected	65000	Not Detected
1,3,5-Trimethylbenzene	13000	Not Detected	65000	Not Detected
1,2,4-Trimethylbenzene	13000	Not Detected	65000	Not Detected
1,3-Dichlorobenzene	13000	Not Detected	80000	Not Detected
1,4-Dichlorobenzene	13000	Not Detected	80000	Not Detected
alpha-Chlorotoluene	13000	Not Detected	69000	Not Detected
1,2-Dichlorobenzene	13000	Not Detected	80000	Not Detected
1,2,4-Trichlorobenzene	53000	Not Detected	390000	Not Detected
Hexachlorobutadiene	53000	Not Detected	570000	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: VMP-12-11.5-120310

Lab ID#: 1012152A-02A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121115	Date of Collection:	12/3/10 12:24:00 PM
Dil. Factor:	299	Date of Analysis:	12/11/10 07:57 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1500	Not Detected	7400	Not Detected
Freon 114	1500	Not Detected	10000	Not Detected
Chloromethane	6000	Not Detected	12000	Not Detected
Vinyl Chloride	1500	Not Detected	3800	Not Detected
1,3-Butadiene	1500	Not Detected	3300	Not Detected
Bromomethane	1500	Not Detected	5800	Not Detected
Chloroethane	1500	Not Detected	3900	Not Detected
Freon 11	1500	Not Detected	8400	Not Detected
Ethanol	6000	Not Detected	11000	Not Detected
Freon 113	1500	Not Detected	11000	Not Detected
1,1-Dichloroethene	1500	Not Detected	5900	Not Detected
Acetone	6000	Not Detected	14000	Not Detected
2-Propanol	6000	Not Detected	15000	Not Detected
Carbon Disulfide	1500	Not Detected	4600	Not Detected
3-Chloropropene	6000	Not Detected	19000	Not Detected
Methylene Chloride	1500	Not Detected	5200	Not Detected
Methyl tert-butyl ether	1500	Not Detected	5400	Not Detected
trans-1,2-Dichloroethene	1500	Not Detected	5900	Not Detected
Hexane	1500	3200	5300	11000
1,1-Dichloroethane	1500	Not Detected	6000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1500	Not Detected	4400	Not Detected
cis-1,2-Dichloroethene	1500	Not Detected	5900	Not Detected
Tetrahydrofuran	1500	Not Detected	4400	Not Detected
Chloroform	1500	Not Detected	7300	Not Detected
1,1,1-Trichloroethane	1500	Not Detected	8200	Not Detected
Cyclohexane	1500	98000	5100	340000
Carbon Tetrachloride	1500	Not Detected	9400	Not Detected
2,2,4-Trimethylpentane	1500	190000	7000	910000
Benzene	1500	620000	4800	2000000
1,2-Dichloroethane	1500	Not Detected	6000	Not Detected
Heptane	1500	Not Detected	6100	Not Detected
Trichloroethene	1500	Not Detected	8000	Not Detected
1,2-Dichloropropane	1500	Not Detected	6900	Not Detected
1,4-Dioxane	6000	Not Detected	22000	Not Detected
Bromodichloromethane	1500	Not Detected	10000	Not Detected
cis-1,3-Dichloropropene	1500	Not Detected	6800	Not Detected
4-Methyl-2-pentanone	1500	Not Detected	6100	Not Detected
Toluene	1500	Not Detected	5600	Not Detected
trans-1,3-Dichloropropene	1500	Not Detected	6800	Not Detected
1,1,2-Trichloroethane	1500	Not Detected	8200	Not Detected
Tetrachloroethene	1500	Not Detected	10000	Not Detected

Client Sample ID: VMP-12-11.5-120310

Lab ID#: 1012152A-02A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121115	Date of Collection: 12/3/10 12:24:00 PM
Dil. Factor:	299	Date of Analysis: 12/11/10 07:57 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	6000	Not Detected	24000	Not Detected
Dibromochloromethane	1500	Not Detected	13000	Not Detected
1,2-Dibromoethane (EDB)	1500	Not Detected	11000	Not Detected
Chlorobenzene	1500	Not Detected	6900	Not Detected
Ethyl Benzene	1500	Not Detected	6500	Not Detected
m,p-Xylene	1500	Not Detected	6500	Not Detected
o-Xylene	1500	Not Detected	6500	Not Detected
Styrene	1500	Not Detected	6400	Not Detected
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	9000	Not Detected
1,4-Dichlorobenzene	1500	Not Detected	9000	Not Detected
alpha-Chlorotoluene	1500	Not Detected	7700	Not Detected
1,2-Dichlorobenzene	1500	Not Detected	9000	Not Detected
1,2,4-Trichlorobenzene	6000	Not Detected	44000	Not Detected
Hexachlorobutadiene	6000	Not Detected	64000	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: VMP-12-25-120310

Lab ID#: 1012152A-03A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121112	Date of Collection:	12/3/10 3:46:00 PM
Dil. Factor:	21.8	Date of Analysis:	12/11/10 05:21 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	110	Not Detected	540	Not Detected
Freon 114	110	Not Detected	760	Not Detected
Chloromethane	440	Not Detected	900	Not Detected
Vinyl Chloride	110	Not Detected	280	Not Detected
1,3-Butadiene	110	Not Detected	240	Not Detected
Bromomethane	110	Not Detected	420	Not Detected
Chloroethane	110	Not Detected	290	Not Detected
Freon 11	110	Not Detected	610	Not Detected
Ethanol	440	Not Detected	820	Not Detected
Freon 113	110	Not Detected	840	Not Detected
1,1-Dichloroethene	110	Not Detected	430	Not Detected
Acetone	440	Not Detected	1000	Not Detected
2-Propanol	440	Not Detected	1100	Not Detected
Carbon Disulfide	110	Not Detected	340	Not Detected
3-Chloropropene	440	Not Detected	1400	Not Detected
Methylene Chloride	110	Not Detected	380	Not Detected
Methyl tert-butyl ether	110	Not Detected	390	Not Detected
trans-1,2-Dichloroethene	110	Not Detected	430	Not Detected
Hexane	110	160	380	550
1,1-Dichloroethane	110	Not Detected	440	Not Detected
2-Butanone (Methyl Ethyl Ketone)	110	Not Detected	320	Not Detected
cis-1,2-Dichloroethene	110	Not Detected	430	Not Detected
Tetrahydrofuran	110	Not Detected	320	Not Detected
Chloroform	110	Not Detected	530	Not Detected
1,1,1-Trichloroethane	110	Not Detected	590	Not Detected
Cyclohexane	110	5100	380	18000
Carbon Tetrachloride	110	Not Detected	680	Not Detected
2,2,4-Trimethylpentane	110	25000	510	120000
Benzene	110	1200	350	3800
1,2-Dichloroethane	110	Not Detected	440	Not Detected
Heptane	110	Not Detected	450	Not Detected
Trichloroethene	110	Not Detected	580	Not Detected
1,2-Dichloropropane	110	Not Detected	500	Not Detected
1,4-Dioxane	440	Not Detected	1600	Not Detected
Bromodichloromethane	110	Not Detected	730	Not Detected
cis-1,3-Dichloropropene	110	Not Detected	490	Not Detected
4-Methyl-2-pentanone	110	Not Detected	450	Not Detected
Toluene	110	Not Detected	410	Not Detected
trans-1,3-Dichloropropene	110	Not Detected	490	Not Detected
1,1,2-Trichloroethane	110	Not Detected	590	Not Detected
Tetrachloroethene	110	Not Detected	740	Not Detected

Client Sample ID: VMP-12-25-120310

Lab ID#: 1012152A-03A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121112	Date of Collection: 12/3/10 3:46:00 PM
Dil. Factor:	21.8	Date of Analysis: 12/11/10 05:21 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	440	Not Detected	1800	Not Detected
Dibromochloromethane	110	Not Detected	930	Not Detected
1,2-Dibromoethane (EDB)	110	Not Detected	840	Not Detected
Chlorobenzene	110	Not Detected	500	Not Detected
Ethyl Benzene	110	Not Detected	470	Not Detected
m,p-Xylene	110	Not Detected	470	Not Detected
o-Xylene	110	Not Detected	470	Not Detected
Styrene	110	Not Detected	460	Not Detected
Bromoform	110	Not Detected	1100	Not Detected
Cumene	110	Not Detected	540	Not Detected
1,1,2,2-Tetrachloroethane	110	Not Detected	750	Not Detected
Propylbenzene	110	Not Detected	540	Not Detected
4-Ethyltoluene	110	Not Detected	540	Not Detected
1,3,5-Trimethylbenzene	110	Not Detected	540	Not Detected
1,2,4-Trimethylbenzene	110	Not Detected	540	Not Detected
1,3-Dichlorobenzene	110	Not Detected	660	Not Detected
1,4-Dichlorobenzene	110	Not Detected	660	Not Detected
alpha-Chlorotoluene	110	Not Detected	560	Not Detected
1,2-Dichlorobenzene	110	Not Detected	660	Not Detected
1,2,4-Trichlorobenzene	440	Not Detected	3200	Not Detected
Hexachlorobutadiene	440	Not Detected	4600	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: Lab Blank

Lab ID#: 1012152A-04A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121105a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/11/10 09:53 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5.0	Not Detected	25	Not Detected
Freon 114	5.0	Not Detected	35	Not Detected
Chloromethane	20	Not Detected	41	Not Detected
Vinyl Chloride	5.0	Not Detected	13	Not Detected
1,3-Butadiene	5.0	Not Detected	11	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	5.0	Not Detected	13	Not Detected
Freon 11	5.0	Not Detected	28	Not Detected
Ethanol	20	Not Detected	38	Not Detected
Freon 113	5.0	Not Detected	38	Not Detected
1,1-Dichloroethene	5.0	Not Detected	20	Not Detected
Acetone	20	Not Detected	48	Not Detected
2-Propanol	20	Not Detected	49	Not Detected
Carbon Disulfide	5.0	Not Detected	16	Not Detected
3-Chloropropene	20	Not Detected	63	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	5.0	Not Detected	18	Not Detected
trans-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Hexane	5.0	Not Detected	18	Not Detected
1,1-Dichloroethane	5.0	Not Detected	20	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Tetrahydrofuran	5.0	Not Detected	15	Not Detected
Chloroform	5.0	Not Detected	24	Not Detected
1,1,1-Trichloroethane	5.0	1.8 J	27	9.8 J
Cyclohexane	5.0	Not Detected	17	Not Detected
Carbon Tetrachloride	5.0	Not Detected	31	Not Detected
2,2,4-Trimethylpentane	5.0	Not Detected	23	Not Detected
Benzene	5.0	Not Detected	16	Not Detected
1,2-Dichloroethane	5.0	Not Detected	20	Not Detected
Heptane	5.0	Not Detected	20	Not Detected
Trichloroethene	5.0	Not Detected	27	Not Detected
1,2-Dichloropropane	5.0	Not Detected	23	Not Detected
1,4-Dioxane	20	Not Detected	72	Not Detected
Bromodichloromethane	5.0	Not Detected	34	Not Detected
cis-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
4-Methyl-2-pentanone	5.0	Not Detected	20	Not Detected
Toluene	5.0	Not Detected	19	Not Detected
trans-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
1,1,2-Trichloroethane	5.0	Not Detected	27	Not Detected
Tetrachloroethene	5.0	Not Detected	34	Not Detected

Client Sample ID: Lab Blank

Lab ID#: 1012152A-04A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121105a	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/11/10 09:53 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	20	Not Detected	82	Not Detected
Dibromochloromethane	5.0	Not Detected	42	Not Detected
1,2-Dibromoethane (EDB)	5.0	Not Detected	38	Not Detected
Chlorobenzene	5.0	Not Detected	23	Not Detected
Ethyl Benzene	5.0	Not Detected	22	Not Detected
m,p-Xylene	5.0	Not Detected	22	Not Detected
o-Xylene	5.0	Not Detected	22	Not Detected
Styrene	5.0	Not Detected	21	Not Detected
Bromoform	5.0	Not Detected	52	Not Detected
Cumene	5.0	Not Detected	24	Not Detected
1,1,2,2-Tetrachloroethane	5.0	Not Detected	34	Not Detected
Propylbenzene	5.0	Not Detected	24	Not Detected
4-Ethyltoluene	5.0	1.2 J	24	6.2 J
1,3,5-Trimethylbenzene	5.0	Not Detected	24	Not Detected
1,2,4-Trimethylbenzene	5.0	Not Detected	24	Not Detected
1,3-Dichlorobenzene	5.0	Not Detected	30	Not Detected
1,4-Dichlorobenzene	5.0	Not Detected	30	Not Detected
alpha-Chlorotoluene	5.0	Not Detected	26	Not Detected
1,2-Dichlorobenzene	5.0	Not Detected	30	Not Detected
1,2,4-Trichlorobenzene	20	2.8 J	150	20 J
Hexachlorobutadiene	20	Not Detected	210	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: CCV

Lab ID#: 1012152A-05A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121102	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/11/10 08:18 AM

Compound	%Recovery
Freon 12	112
Freon 114	107
Chloromethane	80
Vinyl Chloride	105
1,3-Butadiene	101
Bromomethane	111
Chloroethane	108
Freon 11	111
Ethanol	86
Freon 113	102
1,1-Dichloroethene	106
Acetone	103
2-Propanol	89
Carbon Disulfide	104
3-Chloropropene	111
Methylene Chloride	96
Methyl tert-butyl ether	96
trans-1,2-Dichloroethene	102
Hexane	100
1,1-Dichloroethane	105
2-Butanone (Methyl Ethyl Ketone)	105
cis-1,2-Dichloroethene	105
Tetrahydrofuran	95
Chloroform	106
1,1,1-Trichloroethane	104
Cyclohexane	107
Carbon Tetrachloride	110
2,2,4-Trimethylpentane	99
Benzene	107
1,2-Dichloroethane	106
Heptane	107
Trichloroethene	106
1,2-Dichloropropane	104
1,4-Dioxane	108
Bromodichloromethane	110
cis-1,3-Dichloropropene	110
4-Methyl-2-pentanone	109
Toluene	103
trans-1,3-Dichloropropene	105
1,1,2-Trichloroethane	101
Tetrachloroethene	96

Client Sample ID: CCV

Lab ID#: 1012152A-05A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121102	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/11/10 08:18 AM

Compound	%Recovery
2-Hexanone	99
Dibromochloromethane	105
1,2-Dibromoethane (EDB)	104
Chlorobenzene	99
Ethyl Benzene	101
m,p-Xylene	100
o-Xylene	99
Styrene	97
Bromoform	104
Cumene	101
1,1,2,2-Tetrachloroethane	101
Propylbenzene	102
4-Ethyltoluene	99
1,3,5-Trimethylbenzene	100
1,2,4-Trimethylbenzene	99
1,3-Dichlorobenzene	96
1,4-Dichlorobenzene	97
alpha-Chlorotoluene	85
1,2-Dichlorobenzene	94
1,2,4-Trichlorobenzene	99
Hexachlorobutadiene	106

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: LCS

Lab ID#: 1012152A-06A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121103	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/11/10 08:55 AM

Compound	%Recovery
Freon 12	115
Freon 114	112
Chloromethane	82
Vinyl Chloride	109
1,3-Butadiene	107
Bromomethane	113
Chloroethane	108
Freon 11	114
Ethanol	104
Freon 113	106
1,1-Dichloroethene	112
Acetone	106
2-Propanol	101
Carbon Disulfide	118
3-Chloropropene	111
Methylene Chloride	98
Methyl tert-butyl ether	100
trans-1,2-Dichloroethene	108
Hexane	101
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	111
cis-1,2-Dichloroethene	107
Tetrahydrofuran	97
Chloroform	110
1,1,1-Trichloroethane	107
Cyclohexane	110
Carbon Tetrachloride	114
2,2,4-Trimethylpentane	102
Benzene	106
1,2-Dichloroethane	106
Heptane	109
Trichloroethene	108
1,2-Dichloropropane	106
1,4-Dioxane	113
Bromodichloromethane	114
cis-1,3-Dichloropropene	113
4-Methyl-2-pentanone	113
Toluene	106
trans-1,3-Dichloropropene	111
1,1,2-Trichloroethane	108
Tetrachloroethene	96

Client Sample ID: LCS

Lab ID#: 1012152A-06A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121103	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/11/10 08:55 AM

Compound	%Recovery
2-Hexanone	106
Dibromochloromethane	111
1,2-Dibromoethane (EDB)	107
Chlorobenzene	104
Ethyl Benzene	106
m,p-Xylene	104
o-Xylene	104
Styrene	112
Bromoform	114
Cumene	108
1,1,2,2-Tetrachloroethane	108
Propylbenzene	112
4-Ethyltoluene	107
1,3,5-Trimethylbenzene	113
1,2,4-Trimethylbenzene	115
1,3-Dichlorobenzene	110
1,4-Dichlorobenzene	109
alpha-Chlorotoluene	129
1,2-Dichlorobenzene	114
1,2,4-Trichlorobenzene	145 Q
Hexachlorobutadiene	145 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

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

Client Sample ID: LCS D

Lab ID#: 1012152A-06AA

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121104	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/11/10 09:23 AM

Compound	%Recovery
Freon 12	115
Freon 114	113
Chloromethane	80
Vinyl Chloride	110
1,3-Butadiene	105
Bromomethane	111
Chloroethane	110
Freon 11	115
Ethanol	104
Freon 113	107
1,1-Dichloroethene	113
Acetone	105
2-Propanol	103
Carbon Disulfide	119
3-Chloropropene	117
Methylene Chloride	98
Methyl tert-butyl ether	100
trans-1,2-Dichloroethene	110
Hexane	99
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	111
cis-1,2-Dichloroethene	108
Tetrahydrofuran	98
Chloroform	111
1,1,1-Trichloroethane	110
Cyclohexane	109
Carbon Tetrachloride	116
2,2,4-Trimethylpentane	102
Benzene	107
1,2-Dichloroethane	107
Heptane	111
Trichloroethene	109
1,2-Dichloropropane	105
1,4-Dioxane	115
Bromodichloromethane	116
cis-1,3-Dichloropropene	116
4-Methyl-2-pentanone	119
Toluene	108
trans-1,3-Dichloropropene	112
1,1,2-Trichloroethane	108
Tetrachloroethene	98

Client Sample ID: LCSD

Lab ID#: 1012152A-06AA

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	b121104	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/11/10 09:23 AM

Compound	%Recovery
2-Hexanone	107
Dibromochloromethane	112
1,2-Dibromoethane (EDB)	108
Chlorobenzene	104
Ethyl Benzene	106
m,p-Xylene	104
o-Xylene	107
Styrene	111
Bromoform	114
Cumene	110
1,1,2,2-Tetrachloroethane	110
Propylbenzene	113
4-Ethyltoluene	107
1,3,5-Trimethylbenzene	115
1,2,4-Trimethylbenzene	114
1,3-Dichlorobenzene	110
1,4-Dichlorobenzene	110
alpha-Chlorotoluene	130
1,2-Dichlorobenzene	115
1,2,4-Trichlorobenzene	139 Q
Hexachlorobutadiene	141 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

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

1012152



Shell Oil Products Chain of Custody Record

URS

Air Toxics LTD.

Project Name: Roxana Dissolved Phase

Project #

Lab Vendor #

HWY SERVICES
 NOTVA RETAIL
 CONSULTANT
 NOTVA SPACKY
 SHELL PIPELINE
 SHELL RETAIL
 LIRES
 OTHER

Please Check Appropriate Box:

SHELL CONTRACT RATE APPLIES
 STATE REIMBURSEMENT RATE APPLIES
 ESD NOT NEEDED
 RECEIPT VERIFICATION REQUESTED

Print Bill To Contact Name: Thomas Adams
 PO #
 DATE: 12/6/2010

INCIDENT # (ENV SERVICES)
 8 7 2 1 8 6 4 0
 DATE: 12/6/2010
 PAGE: 1 of 1

Print Bill To Contact Name: Thomas Adams
 PO #
 DATE: 12/6/2010

LAB ADDRESS: STATE AND CITY
 900 SOUTH CENTRAL AVE - ROXANA
 ILL
 STATE: ILL
 ZIP: 62451

LAB ADDRESS: STATE AND CITY
 900 SOUTH CENTRAL AVE - ROXANA
 ILL
 STATE: ILL
 ZIP: 62451

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 STATE: ILL
 ZIP: 62451

LAB ADDRESS: STATE AND CITY
 900 SOUTH CENTRAL AVE - ROXANA
 ILL
 STATE: ILL
 ZIP: 62451

LAB ADDRESS: STATE AND CITY
 900 SOUTH CENTRAL AVE - ROXANA
 ILL
 STATE: ILL
 ZIP: 62451

TURNAROUND TIME (CALENDAR DAYS)

3 DAYS 7 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4

OTHER (SPECIFY)

Field Sample Identification	SAMPLED		CONTAINER PRESSURE/VACUUM	
	DATE	START TIME	INITIAL (PSI)	FINAL (PSI)
02A VMP-12-5-120310	12/03/10	1029	-29.5	-4.5
02A VMP-12-11.5-120310	12/03/10	1154	-29.5	-3
03A VMP-12-25-120310	12/03/10	1319	-29.5	-3.5

Requestor Signature: [Signature]
 Received by (Signature): [Signature]
 Date: 12/6/10

Requestor Signature: [Signature]
 Received by (Signature): [Signature]
 Date: 12/6/10

Requestor Signature: [Signature]
 Received by (Signature): [Signature]
 Date: 12/6/10

Requestor Signature: [Signature]
 Received by (Signature): [Signature]
 Date: 12/6/10

Requestor Signature: [Signature]
 Received by (Signature): [Signature]
 Date: 12/6/10

Requestor Signature: [Signature]
 Received by (Signature): [Signature]
 Date: 12/6/10

Requestor Signature: [Signature]
 Received by (Signature): [Signature]
 Date: 12/6/10

Requestor Signature: [Signature]
 Received by (Signature): [Signature]
 Date: 12/6/10

00208 RefMan

ASTM D-1946 Helium
 ASTM D-1946
 Modified TO-15
 X X X X
 X X X X
 X X X X

Turn Around Time:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVIP
 - 5 Days TAT

Additional Notes:

Turn Around Time:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVIP
 - 5 Days TAT

Additional Notes:

Turn Around Time:
 - 14 day hold time
 - Report results between MDL and RL
 - Level IV ECVIP
 - 5 Days TAT

Additional Notes:

12/14/2010
Mr. Jeff Adams
URS Corporation
1001 Highlands Plaza Dr. West
Suite 300
St. Louis MO 63110

Project Name: Roxana Dissolved Phase
Project #:
Workorder #: 1012152B

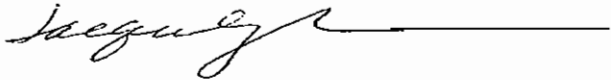
Dear Mr. Jeff Adams

The following report includes the data for the above referenced project for sample(s) received on 12/7/2010 at Air Toxics Ltd.

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

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

Regards,



Jacquelyn Luta
Project Manager

Reviewed
on
12/21/2010

WORK ORDER #: 1012152B

Work Order Summary

CLIENT:	Mr. Jeff Adams 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:	314-429-0100	P.O. #	21562291.00005
FAX:		PROJECT #	Roxana Dissolved Phase
DATE RECEIVED:	12/07/2010	CONTACT:	Jacquelyn Luta
DATE COMPLETED:	12/14/2010		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	VMP-12-5-120310 ✓	Modified ASTM D-1946	1.6 "Hg	15 psi
02A	VMP-12-11.5-120310 ✓	Modified ASTM D-1946	1.0 "Hg	15 psi
03A	VMP-12-25-120310 ✓	Modified ASTM D-1946	2.2 "Hg	15 psi
04A	Lab Blank	Modified ASTM D-1946	NA	NA
04B	Lab Blank	Modified ASTM D-1946	NA	NA
05A	LCS	Modified ASTM D-1946	NA	NA
05AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: *Sandra D. Freeman*
Laboratory Director

DATE: 12/14/10

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
Modified ASTM D-1946
URS Corporation
Workorder# 1012152B**

Three 1 Liter Summa Canister samples were received on December 07, 2010. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

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

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

Client Sample ID: VMP-12-5-120310

Lab ID#: 1012152B-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.21	1.3
Nitrogen	0.21	47
Methane	0.00021	36
Carbon Dioxide	0.021	13
Ethane	0.0021	0.0010 J
Helium	0.11	0.0086 J

Client Sample ID: VMP-12-11.5-120310

Lab ID#: 1012152B-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.21	2.5
Nitrogen	0.21	58
Methane	0.00021	27
Carbon Dioxide	0.021	11
Ethane	0.0021	0.00072 J
Helium	0.10	0.039 J

Client Sample ID: VMP-12-25-120310

Lab ID#: 1012152B-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	1.5
Nitrogen	0.22	80
Methane	0.00022	4.8
Carbon Dioxide	0.022	13
Ethane	0.0022	0.000091 J



Client Sample ID: VMP-12-5-120310

Lab ID#: 1012152B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120923	Date of Collection:	12/3/10 10:59:00 AM
Dil. Factor:	2.13	Date of Analysis:	12/9/10 03:33 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.21	1.3
Nitrogen	0.21	47
Carbon Monoxide	0.021	Not Detected
Methane	0.00021	36
Carbon Dioxide	0.021	13
Ethane	0.0021	0.0010 J
Ethene	0.0021	Not Detected
Helium	0.11	0.0086 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-12-11.5-120310

Lab ID#: 1012152B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120924	Date of Collection:	12/3/10 12:24:00 PM
Dil. Factor:	2.09	Date of Analysis:	12/9/10 04:03 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.21	2.5
Nitrogen	0.21	58
Carbon Monoxide	0.021	Not Detected
Methane	0.00021	27
Carbon Dioxide	0.021	11
Ethane	0.0021	0.00072 J
Ethene	0.0021	Not Detected
Helium	0.10	0.039 J

J = Estimated value.

Container Type: 1 Liter Summa Canister



Client Sample ID: VMP-12-25-120310

Lab ID#: 1012152B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120925	Date of Collection: 12/3/10 3:46:00 PM
Dil. Factor:	2.18	Date of Analysis: 12/9/10 04:33 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	1.5
Nitrogen	0.22	80
Carbon Monoxide	0.022	Not Detected
Methane	0.00022	4.8
Carbon Dioxide	0.022	13
Ethane	0.0022	0.000091 J
Ethene	0.0022	Not Detected
Helium	0.11	Not Detected

J = Estimated value.

Container Type: 1 Liter Summa Canister

Client Sample ID: Lab Blank

Lab ID#: 1012152B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120904a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/9/10 08:08 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	0.014 J
Nitrogen	0.10	0.087 J
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

J = Estimated value.

Container Type: NA - Not Applicable

Client Sample ID: Lab Blank

Lab ID#: 1012152B-04B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120903ba	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/9/10 07:46 AM

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

Container Type: NA - Not Applicable



Client Sample ID: LCS

Lab ID#: 1012152B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/9/10 07:24 AM

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

Container Type: NA - Not Applicable

Client Sample ID: LCSD

Lab ID#: 1012152B-05AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9120928	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/9/10 06:01 PM

Compound	%Recovery
Oxygen	99
Nitrogen	100
Carbon Monoxide	100
Methane	96
Carbon Dioxide	99
Ethane	98
Ethene	98
Helium	97

Container Type: NA - Not Applicable