WASTE MANAGEMENT

Waste Management of Alameda County, Inc.
172 98th Avenue, Oakland, CA 94603

February 9, 2012

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11:21 am, Feb 16, 2012

Alameda County
Environmental Health

Alameda County Health Care Services Agency
Environmental Health Services, Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Attn: Mr. Jerry Wickman, PG, CEG, CHG
Senior Hazardous Materials Specialist

Transmittal: Additional Site Investigation Report
Former Waste Management of Alameda County, Inc. Property
6175 Southfront Road, Livermore, California 94550
GeoTracker Global ID T10000003066
SLIC Case RO0003076

Dear Mr. Wickman:

I declare, under penalty of perjury, that the information and recommendations contained in the attached Additional Site Investigation report are true and correct to the best of my knowledge.

Sincerely,
Waste Management of Alameda County, Inc.

Barry Skolnick
Area Vice President
WM-California Bay Area

Attachment

TETRA TECH

ADDITIONAL SITE INVESTIGATION REPORT
FORMER WASTE MANAGEMENT OF ALAMEDA COUNTY, INC. PROPERTY
6175 SOUTHFRONT ROAD
LIVERMORE, CALIFORNIA 94550
GEOTRACKER GLOBAL ID T10000003066
SLIC CASE RO0003076

February 15, 2012

Prepared for:

Alameda County Health Care Services Agency
Environmental Health Services, Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Prepared by:

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Rancho Cordova, California 95670

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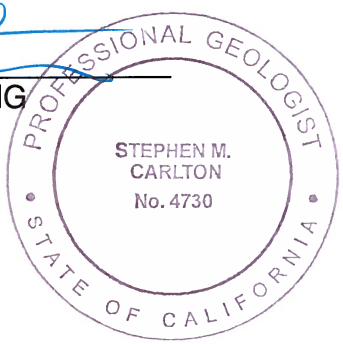
Stephen M. Carlton, PG, CHG
Principal Hydrogeologist



Tetra Tech GEO Project 117-2402099.01

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1.0 INTRODUCTION

Tetra Tech GEO was retained by Waste Management of Alameda County, Inc. (WMAC) to perform an additional site investigation at the former WMAC property located at 6175 Southfront Road, Livermore, California (the Property). Work was performed in accordance with Tetra Tech GEO's September 7, 2011 *Work Plan for Additional Investigation, Former Waste Management of Alameda County, Inc. Property, 6175 Southfront Road, Livermore, California 94550, GeoTracker Global ID T10000003066, SLIC Case RO0003076* (Work Plan), as modified by the Alameda County Health Care Services Agency in their *Conditional Work Plan Approval* letter dated October 11, 2011. The modifications included collection and analysis of soil vapor samples from three additional locations in the vicinity of former sample SV-6, the collection and analysis of a groundwater sample near SV-6, and the analysis of soil samples from the two proposed wash rack groundwater borings.

The objectives of the additional site investigation work were as follows:

- Acquire additional data on the presence of total petroleum hydrocarbons (TPH) in groundwater near the wash rack, in addition to evaluating potential TPH in soil; and
- Acquire additional soil vapor data for volatile organic compounds (VOCs) in the vicinity of sample SV-6, in addition to evaluating groundwater for the presence of VOCs and TPH.

2.0 ADDITIONAL SITE INVESTIGATION

The work scope, field sampling procedures and quality assurance (QA) methods were performed consistent with the protocols described in the Work Plan and Conditional Approval letter. There were no significant deviations from the Work Plan, aside from changing to a helium-based leak detection protocol during the soil vapor sampling (described in Section 2.4), and laboratory filtering the groundwater sample from boring SB-2 (versus field filtering).

The field work was performed on January 5 and 9, 2012. Tetra Tech GEO staff members Garrett Kuhl (Staff Geologist) and Keith Hoofard (Senior Geologist) performed the soil boring and soil gas probe installation work on January 5, 2012. Tetra Tech GEO staff members Keith Hoofard and Keith McIntyre (Senior Scientist) performed the soil gas probe sampling and abandonment on January 9, 2012. Vannucci Technologies of Woodland, California provided drilling and soil/groundwater sampling services, utilizing a track-mounted GeoProbe rig.

A site plan identifying the soil boring and soil vapor sampling locations is presented as Figure 1. A photographic log is provided in Appendix A. Soil boring logs are presented in Appendix B.

The field activities performed are described below.

2.1 Pre-Field

Prior to mobilizing to the field, the proposed soil boring and soil vapor probe locations were marked in the field and the site painted for Underground Service Alert (USA) notification. USA was notified 48 hours prior to the start of field work as required by law.

A drilling permit (#2011136) was obtained from the Zone 7 Water Agency prior to drilling. A copy of the permit is included in Appendix C.

A Health & Safety Plan was prepared addressing potential hazards associated with the proposed sampling work. based on existing laboratory data from the prior site investigation.

2.2 Soil and Groundwater Testing for TPH – Wash Rack Area

Soil and groundwater samples were collected from borings SB-1 and SB-2 near the wash rack for TPH-diesel and TPH-motor oil analyses using EPA Method 8015M, preceded by silica gel treatment (SGT). SGT removes naturally occurring organic material (polar compounds) which can cause false positive results. The borings were continuously cored in 5-foot intervals to 35 feet in depth, where water then entered the borings. No free water was encountered in the soil cores collected to total depth, and only a thin layer of very moist to saturated fine sand was present at the bottom of SB-1.

New, temporary PVC well screen and casing was placed in each completed boring, and after waiting a short time, groundwater entered each boring. Depth to water was subsequently measured at 10.3 feet below grade in SB-1 and 22.1 feet below grade in SB-2. The groundwater sample from SB-1 was field filtered. An attempt was made to field filter the groundwater sample from SB-2, however, the filters immediately clogged with sediment. The groundwater sample from SB-2 was therefore filtered at the laboratory prior to analysis. No odor, sheen or discoloration was noted in connection with either groundwater sample.

No indication of soil odor or discoloration was observed in borings SB-1 and SB-2. The only positive field screening photo-ionizing detector (PID) reading was 0.1 parts per million by volume (ppmv) at 10-feet in depth at SB-1. Ambient air concentrations were between 0.0 and 0.2 ppmv. Therefore, the 5-foot soil sample (default depth) from each boring was submitted for laboratory analysis.

The borings were grouted to near surface with neat cement following sampling, and the surface patched with concrete.

2.3 Groundwater Testing for VOCs and TPH – Former SV-6 Boring Area

One groundwater sample was collected from boring SB-3 located near former soil vapor sample location SV-6 for VOC analysis using EPA Method 8260B and for TPH (gas, diesel and motor oil) analysis using EPA Method 8015M preceded by SGT (for the diesel fuel and motor oil ranges). The boring was continuously cored in 5-foot intervals to 35 feet in depth, where water then entered the boring. No free water was encountered in the soil cores collected to total depth.

No indication of soil odor or discoloration was observed in boring SB-3, and no positive PID field screening readings were observed. Soil samples were not submitted for laboratory analysis from boring SB-3.

New, temporary PVC well screen and casing was placed in the completed boring, and after waiting a short time, groundwater entered the boring. Depth to water was subsequently measured at 11 feet below grade in SB-3. The groundwater sample from SB-3 was field filtered. No odor, sheen or discoloration was noted in connection with the groundwater sample.

The boring was grouted to near surface with neat cement following sampling, and the surface patched with concrete.

2.4 Soil Vapor Testing for VOCs – Former Boring SV-6 Area

Five shallow soil vapor probes (SV-13 through SV-17) were installed in the vicinity of former soil vapor sample location SV-6 and sampled for VOCs using Method TO-15 Direct Inject. Probes SV-13, SV-14 and SV-16 were completed through asphalt. Probes SV-15 and SV-17 were completed through concrete. The GeoProbe rig was used to continuously core a 2-inch diameter boring to 5-feet in depth at each location for the construction of the soil vapor probes. The soil vapor probes were completed as described in the Work Plan – 0.5" diameter x 6" probe screens placed at the bottom of the borehole, fitted with an anchor tip and compression-fitted to continuous ¼"-diameter stainless steel tubing to the surface; 1-foot of #2/12 sand from 4 to 5 feet; 6-inches of dry granular bentonite placed atop the sand pack from 3.5 to 4 feet; with a medium-solids bentonite slurry seal to the surface. The medium-solids slurry self-seals around the probe tubing that extends to the surface, should there be any movement of the tubing. The probe tubing at the surface was compression-fitted with a brass ball valve and brass tubing barb at each probe location (Photo 4). Teflon tape was used on all threaded connections.

The five soil vapor probes were sampled on January 9, 2012, after waiting three days following construction. Prior to sampling, the ball valve connection to the probe tubing was checked for tightness at each probe, and additional bentonite gel was used to top-off the borehole at each location to ensure a tight surface seal.

The soil vapor purge/sample train setup, and initial vacuum leak test (shut-in test), were as described in the Work Plan. The second leak test, using a leak detection compound, was however modified by the use of helium instead of Freon. [Note: The use of helium

as a leak detection compound is a method accepted by the Department of Toxics Substances Control (DTSC) in their soil gas sampling guidance.] A 5-quart plastic bucket was inverted over the soil gas probe surface completion, creating a "helium shroud". The bucket was fitted with rubber grommets to allow the probe sample tubing to connect to the sampling train through the shroud, and to allow the introduction of helium to the shroud, and a port for monitoring helium concentrations inside the shroud with a helium detector.

The sample tubing and purge/sample train were plumbed together through the shroud at each probe location, with the shroud elevated above grade during the shut-in test (to allow operation of the probe ball valve without disconnecting tubing, Photo 6). Once the shut-in test was complete, the probe valve was opened, and the shroud lowered down to grade. Three purge volumes of air were evacuated from each probe location prior to sampling utilizing a 6-liter Summa canister with an initial vacuum of -30 inches of Mercury. A steady flow of helium was then introduced to the shroud, at which point collection of the air sample was initiated. Helium concentrations were monitored throughout the sampling time period to insure a blanket of helium remained over the probe during sampling.

Each probe location passed the shut-in test, sustaining an equalized vacuum across the flow regulator for at least 60 seconds (indicating there was no ambient air leaking into the sample train after the upstream side of the probe ball valve). Complete soil vapor samples were obtained from locations SV-15 and SV-16; however, only low volume samples could be obtained from probes SV-13, SV-14 and SV-17 due to restricted air flow in the formation. The sample probes were left under vacuum for upwards of 45 minutes to 1 hour at these low-flow locations, after the vacuum across the flow regulator had equalized (indicating flow had stopped). Observation of soil lithology indicated the presence of low-plasticity, stiff, silty clay at these locations; the same as that encountered at boring locations SB-1 through SB-3 (see Appendix B). The lithology at probe locations SV-15 and SV-16 was similar, but also contained a small percentage of fine sand at depth.

Throughout the soil vapor sampling period, pungent odors were periodically noted coming from the nearby vehicle repair bays, particularly at location SV-15 completed in front of the repair bays. Hydraulic hoses are cut and assembled on-site, resulting in a burned rubber odor, in addition to welding fumes, and wire soldering fumes. Welding related gases such as acetylene, argon and helium are expected to be present in the repair shops. While these fugitive emissions are not expected to interfere with the soil vapor samples in the absence of short circuiting to the atmosphere, the presence of

potential VOCs in ambient air are noted as a matter of practice while performing a soil vapor investigation.

After completing the soil vapor sampling, each 5-foot probe assembly was pulled from the ground using a Hi-Lift jack fitted with a tubing puller, allowing the semi-solid bentonite gel to settle into the resulting void space left by the tubing. With each probe assembly, the downhole compression fitting connection between the tubing and the screen pulled apart during removal, leaving the anchored screen encased in the filter pack. This demonstrated the compression-fitting connection at the surface, between the tubing and ball valve, was tight. The borings were topped off with cement and patched with high strength concrete, except SV-16, which was patched with asphalt.

2.5 Investigation Derived Wastes

Equipment wash-water was used to mix the neat cement grout for borehole abandonment at SB-1, SB-2 and SB-3. The small amount of excess soil core material was placed in the landscaped areas on-site.

3.0 FINDINGS AND ANALYTICAL RESULTS

Soil and groundwater samples were submitted to CLS Laboratories in Rancho Cordova, California for analysis. The soil vapor samples were submitted to Air Toxics, LTD of Folsom, California for analysis. CLS and Air Toxics are both State-certified/accredited laboratories for the selected analyses. Laboratory analytical results are summarized in Table 1 (soil), Table 2 (groundwater) and Table 3 (soil vapor). Copies of the laboratory analytical data sheets and chain of custody forms are provided in Appendix D.

No indication of soil or groundwater impacts were observed in the three soil borings (SB-1, SB-2 and SB-3), and no indications of soil impacts were observed at soil gas probe locations SV-13 through SV-17. Strong odors were however noted coming from the nearby vehicle repair bays throughout the day during the soil vapor sampling, most notably during sampling at SV-15.

No free groundwater was observed during the drilling of boring SB-1, SB-2 and SB-3, but water did eventually enter each boring after a waiting period, rising to 10.3-feet, 22.1-feet and 11-feet below grade, respectively.

3.1 Field Investigation Summary Table

Boring ID	Total Depth (feet)	Soil Sample Depth (feet, bgs)	Field PID Reading (ppmv)	Soil Sample Analyzed	Groundwater Sample Analyzed
SB-1	35	5 10 15 20 25 30 35	0.0 0.1 0.0 0.0 0.0 0.0 0.0	5-foot	YES
SB-2	35	5 10 15 20 25 30 35	0.0 0.0 0.0 0.0 0.0 0.0 0.0	5-foot	YES
SB-3	35	5 10 15 20 25 30 35	0.0 0.0 0.0 0.0 0.0 0.0 0.0	NO	YES

3.2 Results and Discussion

Soil, groundwater and soil vapor results are compared to commercial land use criteria presented in the May 2008 Environmental Screening Level (ESL) document prepared by the California Regional Water Quality Control Board – San Francisco Bay Region. Groundwater data were also compared to the State Water Resources Control Board Primary Maximum Contaminant Levels (MCLs – drinking water standards).

Table 1 presents the TPH soil sample results, Table 2 presents the TPH and VOC groundwater sample results, and Table 3 presents the soil vapor sample results.

Soil and Groundwater

TPH-diesel and TPH-motor oil were not found in soil or groundwater samples from SB-1 and SB-2, except for a trace detection of motor oil range petroleum hydrocarbons at a concentration of 9.1 milligrams per kilogram (mg/Kg) in soil at SB-1. The TPH motor oil detection is well below the commercial ESL value of 370 mg/Kg for motor oil range petroleum hydrocarbons in soil.

VOCs and TPH were not found in groundwater at boring SB-3, except for a trace detection of toluene at a concentration of 1.1 micrograms per liter (µg/L). The toluene detection is well below the commercial ESL values of 530,000 µg/L (vapor intrusion) and 41 µg/L (groundwater protection) for toluene in water, and well below the 150 µg/L drinking water standard.

Soil Vapor

As shown in Table 3, a variety of petroleum and chlorinated VOC compounds were detected in each of the soil vapor samples. Of the compounds detected, only vinyl chloride exceeded its respective commercial ESL value (100 µg/m3 for vinyl chloride), with detections of 730 µg/m3 (SV-13) and 17,000 µg/m3 (SV-14). Both of these samples are in the vicinity of former sample SV-6, where vinyl chloride was previously reported in soil vapor at a concentration of 370 µg/m3.

Most of the other compounds detected in soil vapor samples were petroleum related, including benzene, toluene, ethyl benzene, and xylenes (BTEX), trimethylbenzene, and methyl tert-butyl ether (MTBE). Chlorinated compounds were detected, including trichloroethene (TCE, one detection at 12 µg/m3), tetrachloroethene (PCE, three detections with a maximum concentration of 400 µg/m3)), cis-1,2-dichloroethene (cis-

1,2-DCE, two detections with a maximum concentration of 1,400 µg/m3), and trans-1,2-dichloroethene (trans-1,2-DCE, two detections with a maximum concentration of 130 µg/m3).

Helium, used as the leak detection compound, was detected at 20% in sample SV-15. Helium was not detected in the other four soil vapor samples. Each of the sample manifolds passed the vacuum shut-in test, indicating there were no topside leaks in the sampling train, all the way to the upstream side of the probe ball valve. Ambient air leakage is unlikely with the use of medium-solids bentonite gel. Although the compression fittings on the downstream side of the ball valve fit-tested tight, this fitting is the most likely source for a leak to have occurred at SV-15.

The types of compounds detected in soil vapor are generally consistent with those previously detected at SV-6, although several additional compounds were detected. Comparing sample results from SV-14 to those at previous sample SV-6 shows that concentrations of petroleum compounds benzene, toluene, ethyl benzene, m,p-xylenes and o-xylene in soil vapor are generally comparable. Two significant increases in concentrations at SV-14 as compared to SV-6 were observed for vinyl chloride (17,000 µg/m3 vs. 370 µg/m3) and cis-1,2-DCE (1,400 µg/m3 vs. 210 µg/m3).

The soil vapor sample from previous sample SV-6 was collected using post-run tubing sample collection methods and analyzed by a mobile lab.

To confirm if the elevated vinyl chloride concentrations detected at SV-13 and SV-14 were valid, and the results not affected by the low sample volumes, Tetra Tech GEO requested Air Toxics to review the sample chromatograms, and the laboratory QA/QC and sample canister preparation data. According to Air Toxics, the data are valid and no discrepancies in equipment preparation were noted.

The presence of an elevated vinyl chloride concentration in soil vapor at SV-14 is somewhat unusual in the absence of elevated concentrations of parent products such as cis-1,2-DCE, TCE or PCE in soil vapor, and in the absence of groundwater impact by VOCs. This suggests a possible vinyl chloride source, but vinyl chloride is not commonly found in solution as part of a solvent mix or other compound. Tetra Tech GEO reviewed a 2009-2010 chemical use inventory statement that was attached to a July 9, 2010 Site Closure Plan submitted to the City of Livermore. Vinyl chloride was not identified in the inventory. Chemical use inventories for prior years were not available for review.

4.0 SUMMARY AND CONCLUSIONS

1) Soil and groundwater impacts by TPH were not identified up-gradient or down-gradient of previous sample location SS-4/GW-4 in the wash rack area. Only a trace detection of TPH motor oil (9.1 mg/Kg) was found in soil at SB-1. The motor oil detection is well below the commercial ESL value of 370 mg/Kg for motor oil in soil. No additional work appears necessary in the wash rack area.

2) TPH and VOC impacts to groundwater were not identified in the vicinity of previous sample SV-6. Only a trace detection of toluene (1.1 µg/L) was found in the groundwater sample from SB-3, well below the commercial ESL values of 530,000 µg/L (vapor intrusion) and 41 µg/L (groundwater protection), and well below the 150 µg/L drinking water standard. No additional groundwater investigation work appears necessary in the SB-3 area.

3) Vinyl chloride concentrations in soil vapor exceeding the 100 µg/m3 vapor intrusion ESL value were detected at SV-13 (730 µg/m3) and SV-14 (17,000 µg/m3).

4) Soil vapor samples from SV-15 and SV-16 were collected with sufficient sample flow and full samples were collected. Sample SV-15 was located directly down-gradient (with respect to groundwater flow) from, and closest to, the maintenance building. Sample SV-15 contained the fewest compounds, with no vinyl chloride detected, but also contained helium, indicating some breakthrough occurred and ambient air entered the sample container. SV-16 was located up-gradient of SV-13 and SV-14, and did not contain vinyl chloride above the reporting limit.

5) Only low volume samples could be obtained from probes SV-13, SV-14 and SV-17 due to restricted air flow in the formation, and these three samples contained the highest concentrations of compounds. While the low sample volumes may not directly correlate to higher sample results (they correlate to higher laboratory reporting limits), the association of low volume samples and higher VOC concentrations is noted.

6) The presence of vinyl chloride in soil vapor near SB-3 has not impacted groundwater in the SB-3 area, suggesting a possible minor surface release in the area.

7) The elevated vinyl chloride concentration in soil vapor at SV-14 is somewhat unusual in the absence of elevated concentrations of parent products such as

cis-1,2-DCE, TCE or PCE in soil vapor, and in the absence of groundwater impact by VOCs.

8) Additional soil vapor sampling would be needed to better assess vinyl chloride concentrations in soil vapor in the SV-14 area.

5.0 LIMITATIONS

The Property investigations performed as part of this assessment should not be construed to be complete characterizations of overall environmental regulatory compliance, or of conditions above or below grade. Tetra Tech GEO has assumed that the information sources utilized for this investigation provided complete and accurate information. Any reliance by WMAC shall be consistent and in keeping with the limitations expressed in the September 7, 2011 Tetra Tech GEO Work Plan and December 2, 2011 proposal, and subject to project work scope limitations.

The work performed is consistent with the standards of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation, expressed or implied, and no warranty or guarantee is included or intended in this report.

TABLES

TABLE 1

Analytical Results Summary - Soil
6175 Southfront Avenue
Livermore, California

Boring	Depth below grade (feet)	Date	EPA 8015M w/SGT (mg/kg) TPH Diesel	EPA 8015M w/SGT (mg/kg) TPH Motor Oil
SB-1-5'	5	1/5/2012	< 1.0	9.1
SB-2-5'	5	1/5/2012	< 1.0	< 1.0
	ESL		83	370

Notes:

mg/Kg	milligrams per kilogram or parts per million (ppm).
TPH	Total petroleum hydrocarbons.
SGT	Silica gel treatment to remove naturally occuring organic material (polar compounds).
ESL	Regional Water Quality Control Board - San Francisco Bay Region, Environmental Screening Levels (ESLs), Table A2 - Shallow Soil Screening Levels (<3m), Commercial/Industrial Land Use, May 2008.
---	No reported value.
Shaded Value	Detected concentration.
Bold Value	Exceeds the ESL value.

TABLE 2

Analytical Results Summary - Groundwater
6175 Southfront Avenue
Livermore, California

		GC FID (mg/L)	EPA 8015M w/SGT (mg/L)		VOCs EPA 8260B (µg/L)		
Boring	**Date**	**TPH Gasoline**	**TPH Diesel**	**TPH Motor Oil**	**Toluene**	**Vinyl Chloride**	**Other VOCs**
SB-1-W (1)	1/5/2012	NA	< 0.050	< 0.050	NA	NA	NA
SB-2-W (2)	1/5/2012	NA	< 0.050	< 0.050	NA	NA	NA
SB-3-W (1,3)	1/5/2012	< 0.050	< 0.050	< 0.050	1.1	< 0.5	ND
ESL (E-1)		---	---	---	530,000	13	
ESL (F-1a)		0.1	0.1	0.1	40	0.5	
MCL		---	---	---	150	0.5	

Notes:

(1) Field filtered with a 0.45 µm cartridge filter.
(2) Laboratory filtered prior to analysis. Elevated sediment precluded efficient field filtering.
(3) TPH portion of the sample extracted beyond prescribed hold time; however, data are conistent with VOC results are considered representative.
mg/L milligrams per liter or parts per million (ppm).
µg/L micrograms per liter or parts per billion (ppb).
TPH Total petroleum hydrocarbons.
SGT Silica gel treatment to remove naturally occuring organic material (polar compounds).
VOCs Volatile organic compounds.
NA Not Analyzed.
ND Not Detected. See laboratory analytical data sheets for compound-specific reporting limiits.
ESL (E-1) California Regional Water Quality Control Board - San Francisco Bay Region, Environmental Screening Levels (ESLs), Table E-1, Groundwater Screening Levels for Evaluation of Potential Vapor Instrusion Concerns, Commercial/Industrial Land Use, May 2008.
ESL (F-1a) California Regional Water Quality Control Board - San Francisco Bay Region, Environmental Screening Levels (ESLs), Table F-1a, Groundwater Screening Levels (groundwater is a current or potential drinking water source), May 2008.
MCL California State Water Resources Control Board, Primary Maxiimun Contaminant Level, on-line searchable database as of 2/3/12.
--- No reported value.
Shaded Value Detected concentration.
Bold Value Exceeds the ESL value.

TABLE 3

Analytical Results Summary - Soil Vapor
6175 Southfront Avenue
Livermore, California

Sample ID	Date	Depth (ft, bgs)	ASTM-1946D Helium (%)	VOCs by TO-15 (µg/m3) Vinyl Chloride	VOCs by TO-15 (µg/m3) Other VOCs
SV-13 (1)	1/9/2012	4.5 - 5	ND	**730**	+ 27 others
SV-14 (1)	1/9/2012	4.5 - 5	ND	**17,000**	+ 17 others
SV-15	1/9/2012	4.5 - 5	20	< 2.6	+ 15 others
SV-16	1/9/2012	4.5 - 5	ND	< 2.9	+ 20 others
SV-17 (1)	1/9/2012	4.5 - 5	ND	< 9.2	+ 19 others
ESL			---	100	< ESL (varies)

Notes:

	All samples passed shut-in leak detection test.
ft, bgs	Feet below ground surface.
(1)	Low volume sample due to restricted air flow in the formation at this location.
µg/m3	micrograms per cubic meter.
ND	Not Detected. See laboratory analytical data sheets for compound-specific reporting limitis
ESL	California Regional Water Quality Control Board - San Francisco Bay Region, Environmental Screening Levels (ESLs), Table E-2, Shallow Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion Concerns, Commericial/Industrial exposure, May 2008.
Shaded Value	Detected concentration.
Bold Value	Exceeds the ESL value.

FIGURE

SOURCE: maps.google.com, 2011.

Legend:

- SCS Limited Phase II Sampling Location (soil vapor, soil and/or groundwater sample), July 27-28, 2010.
- Sanitary Sewer Line (with direction of flow).
- **MW-1** Former groundwater monitoring well location (approximate).
- **SB-1** Soil and groundwater sample location for TPH-diesel and TPH-motor oil. SB-3 is groundwater only for VOCs (1/5/12).
- **SV-13** Soil vapor sample location for VOCs, including vinyl chloride. (1/9/12).

N

0 feet 50

TITLE: **Plot Plan, Previous Sample Locations and Additional Sample Locations**

LOCATION: 6175 Southfront Road
Livermore, California

TETRA TECH GEO

CHECKED:	TC
DRAFTED:	KH
FILE:	117-2402099.01
DATE:	01-19-12

FIGURE: 1

APPENDIX A

Photographic Log

PHOTO 1: Overview of SB-1 after water sample collection and prior to grouting.

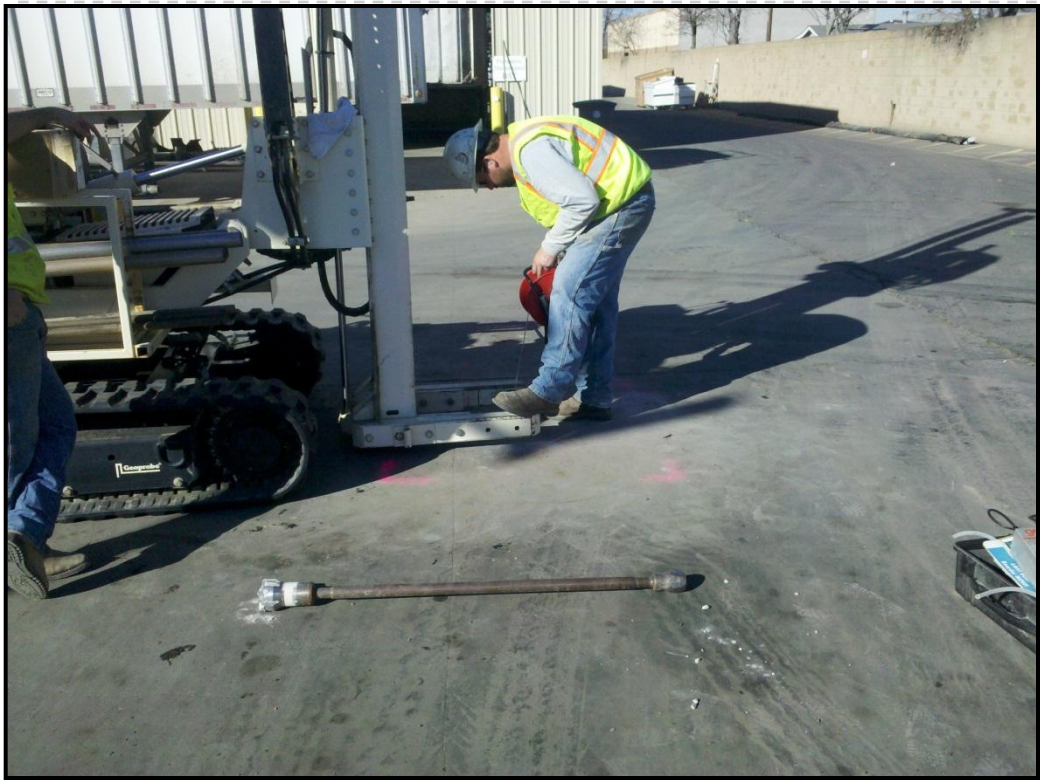

PHOTO 2: Checking for water in boring SB-2.

PHOTO 3: Drilling at SB-3.

PHOTO 4: Typical soil gas probe surface completion.

PHOTO 5: Grouting SB-3 after sampling.

PHOTO 6: Setting up for soil gas sampling at SV-13. Blue bucket is helium shroud. Helium is in cylinder to the left equipped with regulator.

PHOTO 7: Setting up for soil gas sampling at SV-13. Large Summa canister is purge can; small Summa is sample can.

PHOTO 8: Typical surface patch after abandonment (concrete dyed black).

APPENDIX B

Soil Boring Logs

TETRA TECH GEO

BORING LOG

PROJECT NUMBER	117-2402099.01	**BORING/WELL NUMBER**	SB-1
PROJECT NAME	WM-Livermore	**DATE DRILLING BEGAN**	1/5/2012
LOCATION	6175 Southfront Road, Livermore, CA	**DATE DRILLING ENDED**	1/5/2012
DRILLING METHOD	Direct Push	**NORTHING**	
SAMPLING METHOD	Dual-Tube Continous Core	**EASTING**	
DEPTH TO SATURATED SOIL (ft)		**GROUND SURFACE ELEVATION (ft, MSL)**	
LOGGED BY	K. Hoofard	**REMARKS**	No free-water encountered in soil cores during drilling.

PID (ppm)	BLOW COUNTS	RECOVERY (ft)	SAMPLE ID.	SAMPLE DEPTH	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION (Percent Gravel, Sand, Silt, Clay)
								0 - 0.2' ASPHALT.
								0.2' - 0.5' ROAD BASE FILL.
								0.5' - 35' SILTY CLAY (CL): very dark gray (7.5YR 3/1); firm; slight to low plasticity; slighly moist.
0.0			SB-1-5'		5			
0.1					10			@ 11' - color change to brownish yellow (10YR 6/4); soft; moist.
0.0					15			@ 17' - firm; slightly moist.
0.0					20	CL		
0.0					25			@ 27' - 28' - soft; moist; some fine sand.
0.0					30			
0.0					35			@ 33.5 - 34.5' - very moist to saturated fine sand (SP) lens.
								Water level rose to 10.3' below grade after reaching total depth.

TT GEO WM-LIVERMORE.GPJ LAEWNN01.GDT 2/6/12

Name of Geologist

Name of Reviewer

TETRA TECH GEO

BORING LOG

PROJECT NUMBER 117-2402099.01
PROJECT NAME WM-Livermore
LOCATION 6175 Southfront Road, Livermore, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Dual-Tube Continous Core
DEPTH TO SATURATED SOIL (ft)
LOGGED BY K. Hoofard

BORING/WELL NUMBER SB-2
DATE DRILLING BEGAN 1/5/2012
DATE DRILLING ENDED 1/5/2012
NORTHING
EASTING
GROUND SURFACE ELEVATION (ft, MSL)
REMARKS No free-water encountered in soil cores during drilling.

PID (ppm)	BLOW COUNTS	RECOVERY (ft)	SAMPLE ID.	SAMPLE DEPTH	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION (Percent Gravel, Sand, Silt, Clay)
								0 - 0.3' CONCRETE.
								0.3' - 0.5' ROAD BASE.
								0.5' - 8.5' SILTY CLAY (CL): very dark gray (7.5YR 3/1); firm; slight to low plasticity; slighly moist.
0.0			SB-2-5'		5	CL		
0.0					10	SP		8.5' - 13' SAND (SP): Dark yellowish brown (10YR 4/4); fine to medium, subangular, sand; loose; very moist.
								13' - 35' SILTY CLAY (CL): Yellowish brown (10YR 5/6); stiff; slight plasticity; slightly moist.
0.0					15			
0.0					20			
						CL		
0.0					25			@ 25' - Yellowish brown (10YR 5/4); moist; minor fine sand.
0.0					30			
0.0					35			Water level rose to 22.1' below grade after reaching total depth.

TT GEO WM-LIVERMORE.GPJ LAEWNN01.GDT 2/6/12

Name of Geologist

Name of Reviewer

TETRA TECH GEO

BORING LOG

PROJECT NUMBER 117-2402099.01
PROJECT NAME WM-Livermore
LOCATION 6175 Southfront Road, Livermore, CA
DRILLING METHOD Direct Push
SAMPLING METHOD Dual-Tube Continous Core
DEPTH TO SATURATED SOIL (ft)
LOGGED BY K. Hoofard

BORING/WELL NUMBER SB-3
DATE DRILLING BEGAN 1/5/2012
DATE DRILLING ENDED 1/5/2012
NORTHING
EASTING
GROUND SURFACE ELEVATION (ft, MSL)
REMARKS No free-water encountered in soil cores during drilling.

PID (ppm)	BLOW COUNTS	RECOVERY (ft)	SAMPLE ID.	SAMPLE DEPTH	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION (Percent Gravel, Sand, Silt, Clay)
								0 - 0.2' ASPHALT.
								0.2' - 0.5' ROAD BASE FILL.
								0.5' - 7.5' SILTY CLAY (CL): Yellowish brown (10YR 5/4); stiff; slight plasticity; slightly moist.
0.0					5	CL		
								7.5' - 11' CLAYEY SANDY GRAVEL (GC): Dark greenish gray (4/10Y); loose; fine, subangular gravel; fine to coarse, subangular, sand; moist.
0.0					10	GC		
								11' - 19' SILTY CLAY (CL): Brown (10YR 5/3); stiff; low plasticity; moist.
0.0					15	CL		
								19' - 21' SAND (SP): Brown (10YR 5/3); loose; fine sand; minor silt; moist to very moist.
0.0					20	SP		
								21' - 35' SILTY CLAY (CL): Yellowish brown (10YR 5/4); soft; low plasticity; moist.
0.0					25	CL		@ 27'-29' - 2" to 3" thick silt stringers.
								@ 29' - return to firm to stiff silty clay.
0.0					30	CL		
								Water level rose to 11' below grade after reaching total depth.
0.0					35			

TT GEO WM-LIVERMORE.GPJ LAEWNN01.GDT 2/6/12

Name of Geologist

Name of Reviewer

APPENDIX C

Drilling Permit

ZONE 7 WATER AGENCY

100 NORTH CANYONS PARKWAY, LIVERMORE, CALIFORNIA 94551 VOICE (925) 454-5000 FAX (925) 245-9306
E-MAIL whong@zone7water.com

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 6175 SOUTH FRONT RD. LIVERMORE, CA

Coordinates Source GOOGLE MAPS ft. Accuracy± 125 ft.
LAT: 37.708919 ft. LONG: -121.721398 ft.
APN 099B-5875-017-06

CLIENT
Name WASTE MANAGEMENT
Address 10840 ALTAMONT PASS RD Phone (925) 455-7300
City LIVERMORE Zip 94551

APPLICANT
Name TETRA TECH GEO (KEITH HOOFARD)
Email keith.hoofard@tetratech.com Fax 916-853-1860
Address 2969 PROSPECT PARK DR. #100 Phone 916-853-1800
City RANCHO CORDOVA, CA Zip 95670

TYPE OF PROJECT:

Well Construction	__	Geotechnical Investigation	__
Well Destruction	__	Contamination Investigation	X
Cathodic Protection	__	Other	__

PROPOSED WELL USE:

Domestic	__	Irrigation	__
Municipal	__	Remediation	__
Industrial	__	Groundwater Monitoring	__
Dewatering	__	Other VAPOR MONITORING POINT (VMP) - TEMPORARY (5 days)	

DRILLING METHOD:

Mud Rotary	__	Air Rotary	__	Hollow Stem Auger	__
Cable Tool	__	Direct Push	X	Other	__

DRILLING COMPANY VANNUCCI TECHNOLOGIES
PO BOX 791 WOODLAND, CA 95776
DRILLER'S LICENSE NO. C57 B1470D

WELL SPECIFICATIONS: VMP-SV-13 THRU-SV-17
Drill Hole Diameter 2 in. Maximum
S.S. Casing Diameter 0.25 in. Depth 5 ft.
Surface Seal Depth 4 ft. Number 5

SOIL BORINGS: SB-1, SB-2, SB-3
Number of Borings 3 Maximum
Hole Diameter 2 in. Depth 20 ft.

ESTIMATED STARTING DATE JAN 5, 2012 (DRILL)
ESTIMATED COMPLETION DATE JAN 9, 2012 (ABANDON VMPs)

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Keith Hoofard Date 12-9-11
(916) 709-4732 Kel

ATTACH SITE PLAN OR SKETCH

FOR OFFICE USE

PERMIT NUMBER 2011136
WELL NUMBER
APN 099B-5875-017-06

PERMIT CONDITIONS
(Circled Permit Requirements Apply)

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to your proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original **Department of Water Resources Water Well Drillers Report (DWR Form 188), signed by the driller.**
3. Permit is void if project not begun within 90 days of approval date.
4. **Notify Zone 7 at least 24 hours before the start of work.**

B. WATER SUPPLY WELLS
1. Minimum surface seal diameter is four inches greater than the well casing diameter.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
3. Grout placed by tremie.
4. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
5. A sample port is required on the discharge pipe near the wellhead.

(C.) GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal diameter is four inches greater than the well or piezometer casing diameter.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
3. Grout placed by tremie.

D. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

E. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

F. WELL DESTRUCTION. See attached.

G. SPECIAL CONDITIONS. Submit to Zone 7 within 60 days after completion of permitted work the well installation report **including all soil and water laboratory analysis results.**

Approved Wyman Hong Date 12/21/11
Wyman Hong

Revised: January 4, 2010

SOURCE: maps.google.com, 2011.

Legend:

- SCS Limited Phase II Sampling Location (soil vapor, soil and/or groundwater sample), July 27-28, 2010.
- Sanitary Sewer Line (with direction of flow).
- MW-1: Former groundwater monitoring well location (approximate).
- SB-1: Proposed soil and groundwater sample location for TPH-diesel and TPH-motor oil. SB-3 is groundwater only.
- SV-13: Proposed soil vapor sample location for Vinyl Chloride.

N

0 feet 50

TITLE:	**Plot Plan, Previous Sample Locations and Proposed Supplemental Sample Locations**
LOCATION:	6175 Southfront Road Livermore, California

TETRA TECH GEO

CHECKED:	TC	FIGURE: 1
DRAFTED:	KH	
FILE:	117-2402091.01	
DATE:	10-21-11	

APPENDIX D

Laboratory Analytical Data Sheets and Chain of Custody Forms

Air Toxics LTD.
Laboratory Services Since 1989

1/23/2012
Mr. Keith Hoofard
Tetra Tech - GEO
2969 Prospect Park
Suite 100
Rancho Cordova CA 95670

Project Name: WM-LIVERMORE
Project #:
Workorder #: 1201135A

Dear Mr. Keith Hoofard

The following report includes the data for the above referenced project for sample(s) received on 1/10/2012 at Air Toxics Ltd.

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

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

Regards,

Kelly Buettner

Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1201135A

Work Order Summary

CLIENT:	Mr. Keith Hoofard Tetra Tech - GEO 2969 Prospect Park Suite 100 Rancho Cordova, CA 95670	**BILL TO:**	Mr. Keith Hoofard Tetra Tech - GEO 2969 Prospect Park Suite 100 Rancho Cordova, CA 95670
PHONE:	916-853-1800	**P.O. #**	117-2402099.01
FAX:	916-853-1860	**PROJECT #**	WM-LIVERMORE
DATE RECEIVED:	01/10/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	01/23/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SV-13	Modified TO-15	17.5 "Hg	5 psi
02A	SV-14	Modified TO-15	24.5 "Hg	5 psi
03A	SV-15	Modified TO-15	2.5 "Hg	5 psi
04A	SV-16	Modified TO-15	4.0 "Hg	5 psi
05A	SV-17	Modified TO-15	23.0 "Hg	5 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: Linda D. Frumarn DATE: 01/23/12

Laboratory Director

Certfication numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089, NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP -CA009332011-1, WA NELAP - C935
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/11 , Expiration date: 06/30/12.
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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

LABORATORY NARRATIVE
EPA Method TO-15
Tetra Tech - GEO
Workorder# 1201135A

Five 1 Liter Summa Canister samples were received on January 10, 2012. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

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

Receiving Notes

Samples SV-13, SV-14 and SV-17 were received with significant vacuum remaining in the canister. The residual canister vacuum resulted in elevated reporting limits.

Analytical Notes

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

Dilution was performed on sample SV-14 due to the presence of high level target species.

The reported result for 4-Ethyltoluene in samples SV-13, SV-14, SV-15, SV-16 and SV-17 may be biased high due to co-elution with a non target compound with similar characteristic ions. Both the primary and secondary ion for 4-Ethyltoluene exhibited potential interference.

Definition of Data Qualifying Flags

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

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV and/or LCS.
N - The identification is based on presumptive evidence.

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

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

Air Toxics LTD.
Laboratory Services Since 1989

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

Client Sample ID: SV-13

Lab ID#: 1201135A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.6	280	4.1	730
Bromomethane	1.6	4.6 J	6.2	18 J
Ethanol	6.4	9.2	12	17
Acetone	6.4	120	15	290
Carbon Disulfide	6.4	59	20	180
Methylene Chloride	1.6	2.3	5.6	7.9
Methyl tert-butyl ether	1.6	35	5.8	130
trans-1,2-Dichloroethene	1.6	2.3	6.4	9.2
Hexane	1.6	99	5.7	350
2-Butanone (Methyl Ethyl Ketone)	6.4	14	19	41
cis-1,2-Dichloroethene	1.6	69	6.4	270
Chloroform	1.6	7.7	7.9	38
Cyclohexane	1.6	15	5.5	52
2,2,4-Trimethylpentane	1.6	40	7.5	190
Benzene	1.6	76	5.1	240
1,2-Dichloroethane	1.6	6.7	6.5	27
Heptane	1.6	20	6.6	82
Trichloroethene	1.6	2.2	8.6	12
Toluene	1.6	38	6.1	140
Tetrachloroethene	1.6	6.0	11	41
Ethyl Benzene	1.6	22	7.0	94
m,p-Xylene	1.6	120	7.0	500
o-Xylene	1.6	41	7.0	180
Cumene	1.6	58	7.9	280
Propylbenzene	1.6	11	7.9	55
4-Ethyltoluene	1.6	68	7.9	330
1,3,5-Trimethylbenzene	1.6	38	7.9	190
1,2,4-Trimethylbenzene	1.6	78	7.9	380

Client Sample ID: SV-14

Lab ID#: 1201135A-02A

Air Toxics LTD.
Laboratory Services Since 1989

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

Client Sample ID: SV-14

Lab ID#: 1201135A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	20	6500	51	17000
Acetone	80	94	190	220
Methyl tert-butyl ether	20	54	72	200
trans-1,2-Dichloroethene	20	34	79	130
Hexane	20	23	70	83
cis-1,2-Dichloroethene	20	370	79	1400
2,2,4-Trimethylpentane	20	36	93	170
Benzene	20	75	64	240
Toluene	20	44	75	170
Tetrachloroethene	20	59	130	400
Ethyl Benzene	20	37	86	160
m,p-Xylene	20	220	86	940
o-Xylene	20	70	86	300
Cumene	20	38	98	190
Propylbenzene	20	21	98	100
4-Ethyltoluene	20	150	98	730
1,3,5-Trimethylbenzene	20	91	98	450
1,2,4-Trimethylbenzene	20	180	98	860

Client Sample ID: SV-15

Lab ID#: 1201135A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	4.1	13	9.8	32
Carbon Disulfide	4.1	7.3	13	23
Hexane	1.0	1.6	3.6	5.5
2,2,4-Trimethylpentane	1.0	1.3	4.8	5.9
Benzene	1.0	1.9	3.3	6.0
Heptane	1.0	2.9	4.2	12
Toluene	1.0	4.3	3.9	16
Ethyl Benzene	1.0	2.1	4.5	9.0

Air Toxics LTD.
Laboratory Services Since 1989

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

Client Sample ID: SV-15

Lab ID#: 1201135A-03A

m,p-Xylene	1.0	11	4.5	48
o-Xylene	1.0	3.7	4.5	16
Cumene	1.0	6.4	5.1	32
Propylbenzene	1.0	1.3	5.1	6.2
4-Ethyltoluene	1.0	9.0	5.1	44
1,3,5-Trimethylbenzene	1.0	6.5	5.1	32
1,2,4-Trimethylbenzene	1.0	12	5.1	60

Client Sample ID: SV-16

Lab ID#: 1201135A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Bromomethane	1.1	11 J	4.4	42 J
Acetone	4.5	38	11	91
Methylene Chloride	1.1	2.3	3.9	8.0
Hexane	1.1	5.2	4.0	18
2-Butanone (Methyl Ethyl Ketone)	4.5	6.8	13	20
Chloroform	1.1	2.9	5.5	14
Cyclohexane	1.1	2.0	3.9	6.9
2,2,4-Trimethylpentane	1.1	1.8	5.3	8.6
Benzene	1.1	14	3.6	43
Heptane	1.1	2.8	4.6	12
4-Methyl-2-pentanone	1.1	2.6	4.6	10
Toluene	1.1	8.6	4.2	32
Ethyl Benzene	1.1	11	4.9	48
m,p-Xylene	1.1	67	4.9	290
o-Xylene	1.1	27	4.9	120
Cumene	1.1	18	5.6	86
Propylbenzene	1.1	9.7	5.6	48
4-Ethyltoluene	1.1	73	5.6	360
1,3,5-Trimethylbenzene	1.1	49	5.6	240
1,2,4-Trimethylbenzene	1.1	110	5.6	560

Air Toxics LTD.
Laboratory Services Since 1989

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

Client Sample ID: SV-17

Lab ID#: 1201135A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloromethane	14	28	30	57
Acetone	14	97	34	230
Carbon Disulfide	14	49	45	150
Hexane	3.6	12	13	41
Chloroform	3.6	42	18	210
Cyclohexane	3.6	16	12	54
2,2,4-Trimethylpentane	3.6	9.7	17	45
Benzene	3.6	24	11	75
Heptane	3.6	20	15	80
Toluene	3.6	75	14	280
Tetrachloroethene	3.6	8.6	24	58
Ethyl Benzene	3.6	54	16	230
m,p-Xylene	3.6	310	16	1300
o-Xylene	3.6	110	16	490
Cumene	3.6	13	18	65
Propylbenzene	3.6	44	18	220
4-Ethyltoluene	3.6	300	18	1500
1,3,5-Trimethylbenzene	3.6	200	18	1000
1,2,4-Trimethylbenzene	3.6	420	18	2000

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: SV-13

Lab ID#: 1201135A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011227**	**Date of Collection: 1/9/12 12:25:00 PM**	
Dil. Factor:	**3.22**	**Date of Analysis: 1/13/12 09:32 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.6	Not Detected	8.0	Not Detected
Freon 114	1.6	Not Detected	11	Not Detected
Chloromethane	6.4	Not Detected	13	Not Detected
Vinyl Chloride	1.6	280	4.1	730
1,3-Butadiene	1.6	Not Detected	3.6	Not Detected
Bromomethane	1.6	4.6 J	6.2	18 J
Chloroethane	6.4	Not Detected	17	Not Detected
Freon 11	1.6	Not Detected	9.0	Not Detected
Ethanol	6.4	9.2	12	17
Freon 113	1.6	Not Detected	12	Not Detected
1,1-Dichloroethene	1.6	Not Detected	6.4	Not Detected
Acetone	6.4	120	15	290
2-Propanol	6.4	Not Detected	16	Not Detected
Carbon Disulfide	6.4	59	20	180
3-Chloropropene	6.4	Not Detected	20	Not Detected
Methylene Chloride	1.6	2.3	5.6	7.9
Methyl tert-butyl ether	1.6	35	5.8	130
trans-1,2-Dichloroethene	1.6	2.3	6.4	9.2
Hexane	1.6	99	5.7	350
1,1-Dichloroethane	1.6	Not Detected	6.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	6.4	14	19	41
cis-1,2-Dichloroethene	1.6	69	6.4	270
Tetrahydrofuran	1.6	Not Detected	4.7	Not Detected
Chloroform	1.6	7.7	7.9	38
1,1,1-Trichloroethane	1.6	Not Detected	8.8	Not Detected
Cyclohexane	1.6	15	5.5	52
Carbon Tetrachloride	1.6	Not Detected	10	Not Detected
2,2,4-Trimethylpentane	1.6	40	7.5	190
Benzene	1.6	76	5.1	240
1,2-Dichloroethane	1.6	6.7	6.5	27
Heptane	1.6	20	6.6	82
Trichloroethene	1.6	2.2	8.6	12
1,2-Dichloropropane	1.6	Not Detected	7.4	Not Detected
1,4-Dioxane	6.4	Not Detected	23	Not Detected
Bromodichloromethane	1.6	Not Detected	11	Not Detected
cis-1,3-Dichloropropene	1.6	Not Detected	7.3	Not Detected
4-Methyl-2-pentanone	1.6	Not Detected	6.6	Not Detected
Toluene	1.6	38	6.1	140
trans-1,3-Dichloropropene	1.6	Not Detected	7.3	Not Detected
1,1,2-Trichloroethane	1.6	Not Detected	8.8	Not Detected
Tetrachloroethene	1.6	6.0	11	41

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: SV-13

Lab ID#: 1201135A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011227**	**Date of Collection: 1/9/12 12:25:00 PM**	
Dil. Factor:	**3.22**	**Date of Analysis: 1/13/12 09:32 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	6.4	Not Detected	26	Not Detected
Dibromochloromethane	1.6	Not Detected	14	Not Detected
1,2-Dibromoethane (EDB)	1.6	Not Detected	12	Not Detected
Chlorobenzene	1.6	Not Detected	7.4	Not Detected
Ethyl Benzene	1.6	22	7.0	94
m,p-Xylene	1.6	120	7.0	500
o-Xylene	1.6	41	7.0	180
Styrene	1.6	Not Detected	6.8	Not Detected
Bromoform	1.6	Not Detected	17	Not Detected
Cumene	1.6	58	7.9	280
1,1,2,2-Tetrachloroethane	1.6	Not Detected	11	Not Detected
Propylbenzene	1.6	11	7.9	55
4-Ethyltoluene	1.6	68	7.9	330
1,3,5-Trimethylbenzene	1.6	38	7.9	190
1,2,4-Trimethylbenzene	1.6	78	7.9	380
1,3-Dichlorobenzene	1.6	Not Detected	9.7	Not Detected
1,4-Dichlorobenzene	1.6	Not Detected	9.7	Not Detected
alpha-Chlorotoluene	1.6	Not Detected	8.3	Not Detected
1,2-Dichlorobenzene	1.6	Not Detected	9.7	Not Detected
1,2,4-Trichlorobenzene	6.4	Not Detected	48	Not Detected
Hexachlorobutadiene	6.4	Not Detected	69	Not Detected

J = Estimated value due to bias in the CCV.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	112	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: SV-14

Lab ID#: 1201135A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011422**	**Date of Collection: 1/9/12 12:47:00 PM**	
Dil. Factor:	**39.8**	**Date of Analysis: 1/14/12 08:07 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	20	Not Detected	98	Not Detected
Freon 114	20	Not Detected	140	Not Detected
Chloromethane	80	Not Detected	160	Not Detected
Vinyl Chloride	20	6500	51	17000
1,3-Butadiene	20	Not Detected	44	Not Detected
Bromomethane	20	Not Detected	77	Not Detected
Chloroethane	80	Not Detected	210	Not Detected
Freon 11	20	Not Detected	110	Not Detected
Ethanol	80	Not Detected	150	Not Detected
Freon 113	20	Not Detected	150	Not Detected
1,1-Dichloroethene	20	Not Detected	79	Not Detected
Acetone	80	94	190	220
2-Propanol	80	Not Detected	200	Not Detected
Carbon Disulfide	80	Not Detected	250	Not Detected
3-Chloropropene	80	Not Detected	250	Not Detected
Methylene Chloride	20	Not Detected	69	Not Detected
Methyl tert-butyl ether	20	54	72	200
trans-1,2-Dichloroethene	20	34	79	130
Hexane	20	23	70	83
1,1-Dichloroethane	20	Not Detected	80	Not Detected
2-Butanone (Methyl Ethyl Ketone)	80	Not Detected	230	Not Detected
cis-1,2-Dichloroethene	20	370	79	1400
Tetrahydrofuran	20	Not Detected	59	Not Detected
Chloroform	20	Not Detected	97	Not Detected
1,1,1-Trichloroethane	20	Not Detected	110	Not Detected
Cyclohexane	20	Not Detected	68	Not Detected
Carbon Tetrachloride	20	Not Detected	120	Not Detected
2,2,4-Trimethylpentane	20	36	93	170
Benzene	20	75	64	240
1,2-Dichloroethane	20	Not Detected	80	Not Detected
Heptane	20	Not Detected	82	Not Detected
Trichloroethene	20	Not Detected	110	Not Detected
1,2-Dichloropropane	20	Not Detected	92	Not Detected
1,4-Dioxane	80	Not Detected	290	Not Detected
Bromodichloromethane	20	Not Detected	130	Not Detected
cis-1,3-Dichloropropene	20	Not Detected	90	Not Detected
4-Methyl-2-pentanone	20	Not Detected	82	Not Detected
Toluene	20	44	75	170
trans-1,3-Dichloropropene	20	Not Detected	90	Not Detected
1,1,2-Trichloroethane	20	Not Detected	110	Not Detected
Tetrachloroethene	20	59	130	400

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: SV-14

Lab ID#: 1201135A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011422**	**Date of Collection:**	**1/9/12 12:47:00 PM**
Dil. Factor:	**39.8**	**Date of Analysis:**	**1/14/12 08:07 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	80	Not Detected	330	Not Detected
Dibromochloromethane	20	Not Detected	170	Not Detected
1,2-Dibromoethane (EDB)	20	Not Detected	150	Not Detected
Chlorobenzene	20	Not Detected	92	Not Detected
Ethyl Benzene	20	37	86	160
m,p-Xylene	20	220	86	940
o-Xylene	20	70	86	300
Styrene	20	Not Detected	85	Not Detected
Bromoform	20	Not Detected	200	Not Detected
Cumene	20	38	98	190
1,1,2,2-Tetrachloroethane	20	Not Detected	140	Not Detected
Propylbenzene	20	21	98	100
4-Ethyltoluene	20	150	98	730
1,3,5-Trimethylbenzene	20	91	98	450
1,2,4-Trimethylbenzene	20	180	98	860
1,3-Dichlorobenzene	20	Not Detected	120	Not Detected
1,4-Dichlorobenzene	20	Not Detected	120	Not Detected
alpha-Chlorotoluene	20	Not Detected	100	Not Detected
1,2-Dichlorobenzene	20	Not Detected	120	Not Detected
1,2,4-Trichlorobenzene	80	Not Detected	590	Not Detected
Hexachlorobutadiene	80	Not Detected	850	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	109	70-130
4-Bromofluorobenzene	102	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: SV-15

Lab ID#: 1201135A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011236**	**Date of Collection: 1/9/12 1:29:00 PM**	
Dil. Factor:	**2.06**	**Date of Analysis: 1/13/12 02:52 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.0	Not Detected	5.1	Not Detected
Freon 114	1.0	Not Detected	7.2	Not Detected
Chloromethane	4.1	Not Detected	8.5	Not Detected
Vinyl Chloride	1.0	Not Detected	2.6	Not Detected
1,3-Butadiene	1.0	Not Detected	2.3	Not Detected
Bromomethane	1.0	Not Detected	4.0	Not Detected
Chloroethane	4.1	Not Detected	11	Not Detected
Freon 11	1.0	Not Detected	5.8	Not Detected
Ethanol	4.1	Not Detected	7.8	Not Detected
Freon 113	1.0	Not Detected	7.9	Not Detected
1,1-Dichloroethene	1.0	Not Detected	4.1	Not Detected
Acetone	4.1	13	9.8	32
2-Propanol	4.1	Not Detected	10	Not Detected
Carbon Disulfide	4.1	7.3	13	23
3-Chloropropene	4.1	Not Detected	13	Not Detected
Methylene Chloride	1.0	Not Detected	3.6	Not Detected
Methyl tert-butyl ether	1.0	Not Detected	3.7	Not Detected
trans-1,2-Dichloroethene	1.0	Not Detected	4.1	Not Detected
Hexane	1.0	1.6	3.6	5.5
1,1-Dichloroethane	1.0	Not Detected	4.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.1	Not Detected	12	Not Detected
cis-1,2-Dichloroethene	1.0	Not Detected	4.1	Not Detected
Tetrahydrofuran	1.0	Not Detected	3.0	Not Detected
Chloroform	1.0	Not Detected	5.0	Not Detected
1,1,1-Trichloroethane	1.0	Not Detected	5.6	Not Detected
Cyclohexane	1.0	Not Detected	3.5	Not Detected
Carbon Tetrachloride	1.0	Not Detected	6.5	Not Detected
2,2,4-Trimethylpentane	1.0	1.3	4.8	5.9
Benzene	1.0	1.9	3.3	6.0
1,2-Dichloroethane	1.0	Not Detected	4.2	Not Detected
Heptane	1.0	2.9	4.2	12
Trichloroethene	1.0	Not Detected	5.5	Not Detected
1,2-Dichloropropane	1.0	Not Detected	4.8	Not Detected
1,4-Dioxane	4.1	Not Detected	15	Not Detected
Bromodichloromethane	1.0	Not Detected	6.9	Not Detected
cis-1,3-Dichloropropene	1.0	Not Detected	4.7	Not Detected
4-Methyl-2-pentanone	1.0	Not Detected	4.2	Not Detected
Toluene	1.0	4.3	3.9	16
trans-1,3-Dichloropropene	1.0	Not Detected	4.7	Not Detected
1,1,2-Trichloroethane	1.0	Not Detected	5.6	Not Detected
Tetrachloroethene	1.0	Not Detected	7.0	Not Detected

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: SV-15

Lab ID#: 1201135A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011236**	**Date of Collection:**	**1/9/12 1:29:00 PM**
Dil. Factor:	**2.06**	**Date of Analysis:**	**1/13/12 02:52 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	4.1	Not Detected	17	Not Detected
Dibromochloromethane	1.0	Not Detected	8.8	Not Detected
1,2-Dibromoethane (EDB)	1.0	Not Detected	7.9	Not Detected
Chlorobenzene	1.0	Not Detected	4.7	Not Detected
Ethyl Benzene	1.0	2.1	4.5	9.0
m,p-Xylene	1.0	11	4.5	48
o-Xylene	1.0	3.7	4.5	16
Styrene	1.0	Not Detected	4.4	Not Detected
Bromoform	1.0	Not Detected	11	Not Detected
Cumene	1.0	6.4	5.1	32
1,1,2,2-Tetrachloroethane	1.0	Not Detected	7.1	Not Detected
Propylbenzene	1.0	1.3	5.1	6.2
4-Ethyltoluene	1.0	9.0	5.1	44
1,3,5-Trimethylbenzene	1.0	6.5	5.1	32
1,2,4-Trimethylbenzene	1.0	12	5.1	60
1,3-Dichlorobenzene	1.0	Not Detected	6.2	Not Detected
1,4-Dichlorobenzene	1.0	Not Detected	6.2	Not Detected
alpha-Chlorotoluene	1.0	Not Detected	5.3	Not Detected
1,2-Dichlorobenzene	1.0	Not Detected	6.2	Not Detected
1,2,4-Trichlorobenzene	4.1	Not Detected	30	Not Detected
Hexachlorobutadiene	4.1	Not Detected	44	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	106	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: SV-16

Lab ID#: 1201135A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011235**	**Date of Collection:**	**1/9/12 1:57:00 PM**
Dil. Factor:	**2.26**	**Date of Analysis:**	**1/13/12 02:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.1	Not Detected	5.6	Not Detected
Freon 114	1.1	Not Detected	7.9	Not Detected
Chloromethane	4.5	Not Detected	9.3	Not Detected
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,3-Butadiene	1.1	Not Detected	2.5	Not Detected
Bromomethane	1.1	11 J	4.4	42 J
Chloroethane	4.5	Not Detected	12	Not Detected
Freon 11	1.1	Not Detected	6.3	Not Detected
Ethanol	4.5	Not Detected	8.5	Not Detected
Freon 113	1.1	Not Detected	8.7	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Acetone	4.5	38	11	91
2-Propanol	4.5	Not Detected	11	Not Detected
Carbon Disulfide	4.5	Not Detected	14	Not Detected
3-Chloropropene	4.5	Not Detected	14	Not Detected
Methylene Chloride	1.1	2.3	3.9	8.0
Methyl tert-butyl ether	1.1	Not Detected	4.1	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Hexane	1.1	5.2	4.0	18
1,1-Dichloroethane	1.1	Not Detected	4.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.5	6.8	13	20
cis-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Tetrahydrofuran	1.1	Not Detected	3.3	Not Detected
Chloroform	1.1	2.9	5.5	14
1,1,1-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Cyclohexane	1.1	2.0	3.9	6.9
Carbon Tetrachloride	1.1	Not Detected	7.1	Not Detected
2,2,4-Trimethylpentane	1.1	1.8	5.3	8.6
Benzene	1.1	14	3.6	43
1,2-Dichloroethane	1.1	Not Detected	4.6	Not Detected
Heptane	1.1	2.8	4.6	12
Trichloroethene	1.1	Not Detected	6.1	Not Detected
1,2-Dichloropropane	1.1	Not Detected	5.2	Not Detected
1,4-Dioxane	4.5	Not Detected	16	Not Detected
Bromodichloromethane	1.1	Not Detected	7.6	Not Detected
cis-1,3-Dichloropropene	1.1	Not Detected	5.1	Not Detected
4-Methyl-2-pentanone	1.1	2.6	4.6	10
Toluene	1.1	8.6	4.2	32
trans-1,3-Dichloropropene	1.1	Not Detected	5.1	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Tetrachloroethene	1.1	Not Detected	7.7	Not Detected

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: SV-16

Lab ID#: 1201135A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011235**	**Date of Collection: 1/9/12 1:57:00 PM**	
Dil. Factor:	**2.26**	**Date of Analysis: 1/13/12 02:08 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	4.5	Not Detected	18	Not Detected
Dibromochloromethane	1.1	Not Detected	9.6	Not Detected
1,2-Dibromoethane (EDB)	1.1	Not Detected	8.7	Not Detected
Chlorobenzene	1.1	Not Detected	5.2	Not Detected
Ethyl Benzene	1.1	11	4.9	48
m,p-Xylene	1.1	67	4.9	290
o-Xylene	1.1	27	4.9	120
Styrene	1.1	Not Detected	4.8	Not Detected
Bromoform	1.1	Not Detected	12	Not Detected
Cumene	1.1	18	5.6	86
1,1,2,2-Tetrachloroethane	1.1	Not Detected	7.8	Not Detected
Propylbenzene	1.1	9.7	5.6	48
4-Ethyltoluene	1.1	73	5.6	360
1,3,5-Trimethylbenzene	1.1	49	5.6	240
1,2,4-Trimethylbenzene	1.1	110	5.6	560
1,3-Dichlorobenzene	1.1	Not Detected	6.8	Not Detected
1,4-Dichlorobenzene	1.1	Not Detected	6.8	Not Detected
alpha-Chlorotoluene	1.1	Not Detected	5.8	Not Detected
1,2-Dichlorobenzene	1.1	Not Detected	6.8	Not Detected
1,2,4-Trichlorobenzene	4.5	Not Detected	34	Not Detected
Hexachlorobutadiene	4.5	Not Detected	48	Not Detected

J = Estimated value due to bias in the CCV.

Container Type: 1 Liter Summa Canister

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

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: SV-17

Lab ID#: 1201135A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011234**	**Date of Collection:**	**1/9/12 3:27:00 PM**
Dil. Factor:	**7.18**	**Date of Analysis:**	**1/13/12 01:43 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	3.6	Not Detected	18	Not Detected
Freon 114	3.6	Not Detected	25	Not Detected
Chloromethane	14	28	30	57
Vinyl Chloride	3.6	Not Detected	9.2	Not Detected
1,3-Butadiene	3.6	Not Detected	7.9	Not Detected
Bromomethane	3.6	Not Detected	14	Not Detected
Chloroethane	14	Not Detected	38	Not Detected
Freon 11	3.6	Not Detected	20	Not Detected
Ethanol	14	Not Detected	27	Not Detected
Freon 113	3.6	Not Detected	28	Not Detected
1,1-Dichloroethene	3.6	Not Detected	14	Not Detected
Acetone	14	97	34	230
2-Propanol	14	Not Detected	35	Not Detected
Carbon Disulfide	14	49	45	150
3-Chloropropene	14	Not Detected	45	Not Detected
Methylene Chloride	3.6	Not Detected	12	Not Detected
Methyl tert-butyl ether	3.6	Not Detected	13	Not Detected
trans-1,2-Dichloroethene	3.6	Not Detected	14	Not Detected
Hexane	3.6	12	13	41
1,1-Dichloroethane	3.6	Not Detected	14	Not Detected
2-Butanone (Methyl Ethyl Ketone)	14	Not Detected	42	Not Detected
cis-1,2-Dichloroethene	3.6	Not Detected	14	Not Detected
Tetrahydrofuran	3.6	Not Detected	10	Not Detected
Chloroform	3.6	42	18	210
1,1,1-Trichloroethane	3.6	Not Detected	20	Not Detected
Cyclohexane	3.6	16	12	54
Carbon Tetrachloride	3.6	Not Detected	22	Not Detected
2,2,4-Trimethylpentane	3.6	9.7	17	45
Benzene	3.6	24	11	75
1,2-Dichloroethane	3.6	Not Detected	14	Not Detected
Heptane	3.6	20	15	80
Trichloroethene	3.6	Not Detected	19	Not Detected
1,2-Dichloropropane	3.6	Not Detected	16	Not Detected
1,4-Dioxane	14	Not Detected	52	Not Detected
Bromodichloromethane	3.6	Not Detected	24	Not Detected
cis-1,3-Dichloropropene	3.6	Not Detected	16	Not Detected
4-Methyl-2-pentanone	3.6	Not Detected	15	Not Detected
Toluene	3.6	75	14	280
trans-1,3-Dichloropropene	3.6	Not Detected	16	Not Detected
1,1,2-Trichloroethane	3.6	Not Detected	20	Not Detected
Tetrachloroethene	3.6	8.6	24	58

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: SV-17

Lab ID#: 1201135A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011234**	**Date of Collection:**	**1/9/12 3:27:00 PM**
Dil. Factor:	**7.18**	**Date of Analysis:**	**1/13/12 01:43 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	14	Not Detected	59	Not Detected
Dibromochloromethane	3.6	Not Detected	30	Not Detected
1,2-Dibromoethane (EDB)	3.6	Not Detected	28	Not Detected
Chlorobenzene	3.6	Not Detected	16	Not Detected
Ethyl Benzene	3.6	54	16	230
m,p-Xylene	3.6	310	16	1300
o-Xylene	3.6	110	16	490
Styrene	3.6	Not Detected	15	Not Detected
Bromoform	3.6	Not Detected	37	Not Detected
Cumene	3.6	13	18	65
1,1,2,2-Tetrachloroethane	3.6	Not Detected	25	Not Detected
Propylbenzene	3.6	44	18	220
4-Ethyltoluene	3.6	300	18	1500
1,3,5-Trimethylbenzene	3.6	200	18	1000
1,2,4-Trimethylbenzene	3.6	420	18	2000
1,3-Dichlorobenzene	3.6	Not Detected	22	Not Detected
1,4-Dichlorobenzene	3.6	Not Detected	22	Not Detected
alpha-Chlorotoluene	3.6	Not Detected	18	Not Detected
1,2-Dichlorobenzene	3.6	Not Detected	22	Not Detected
1,2,4-Trichlorobenzene	14	Not Detected	110	Not Detected
Hexachlorobutadiene	14	Not Detected	150	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	107	70-130
1,2-Dichloroethane-d4	110	70-130
4-Bromofluorobenzene	102	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1201135A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011221**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/12/12 09:15 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	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	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	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)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	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

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1201135A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011221**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/12/12 09:15 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	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	102	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1201135A-06B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011407**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/14/12 11:29 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	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)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	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

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1201135A-06B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011407**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/14/12 11:29 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	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	108	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1201135A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011216**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/12/12 06:33 PM**	

Compound	%Recovery
Freon 12	131 Q
Freon 114	127
Chloromethane	107
Vinyl Chloride	128
1,3-Butadiene	120
Bromomethane	134 Q
Chloroethane	115
Freon 11	114
Ethanol	101
Freon 113	102
1,1-Dichloroethene	104
Acetone	108
2-Propanol	103
Carbon Disulfide	102
3-Chloropropene	103
Methylene Chloride	105
Methyl tert-butyl ether	112
trans-1,2-Dichloroethene	106
Hexane	108
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	106
cis-1,2-Dichloroethene	102
Tetrahydrofuran	104
Chloroform	107
1,1,1-Trichloroethane	108
Cyclohexane	110
Carbon Tetrachloride	114
2,2,4-Trimethylpentane	106
Benzene	104
1,2-Dichloroethane	112
Heptane	113
Trichloroethene	105
1,2-Dichloropropane	105
1,4-Dioxane	100
Bromodichloromethane	112
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	107
Toluene	103
trans-1,3-Dichloropropene	110
1,1,2-Trichloroethane	106
Tetrachloroethene	103

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1201135A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011216**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/12/12 06:33 PM**	

Compound	%Recovery
2-Hexanone	110
Dibromochloromethane	112
1,2-Dibromoethane (EDB)	106
Chlorobenzene	102
Ethyl Benzene	104
m,p-Xylene	104
o-Xylene	108
Styrene	107
Bromoform	107
Cumene	113
1,1,2,2-Tetrachloroethane	99
Propylbenzene	109
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	110
1,2,4-Trimethylbenzene	108
1,3-Dichlorobenzene	99
1,4-Dichlorobenzene	97
alpha-Chlorotoluene	102
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	85
Hexachlorobutadiene	95

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	101	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1201135A-07B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/14/12 09:24 AM**	

Compound	%Recovery
Freon 12	124
Freon 114	122
Chloromethane	100
Vinyl Chloride	121
1,3-Butadiene	114
Bromomethane	130
Chloroethane	116
Freon 11	127
Ethanol	116
Freon 113	118
1,1-Dichloroethene	118
Acetone	105
2-Propanol	98
Carbon Disulfide	100
3-Chloropropene	99
Methylene Chloride	101
Methyl tert-butyl ether	108
trans-1,2-Dichloroethene	103
Hexane	107
1,1-Dichloroethane	102
2-Butanone (Methyl Ethyl Ketone)	101
cis-1,2-Dichloroethene	99
Tetrahydrofuran	103
Chloroform	105
1,1,1-Trichloroethane	105
Cyclohexane	106
Carbon Tetrachloride	112
2,2,4-Trimethylpentane	102
Benzene	101
1,2-Dichloroethane	106
Heptane	110
Trichloroethene	103
1,2-Dichloropropane	100
1,4-Dioxane	100
Bromodichloromethane	107
cis-1,3-Dichloropropene	104
4-Methyl-2-pentanone	105
Toluene	100
trans-1,3-Dichloropropene	109
1,1,2-Trichloroethane	105
Tetrachloroethene	104

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1201135A-07B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/14/12 09:24 AM**	

Compound	%Recovery
2-Hexanone	111
Dibromochloromethane	110
1,2-Dibromoethane (EDB)	104
Chlorobenzene	100
Ethyl Benzene	103
m,p-Xylene	101
o-Xylene	104
Styrene	106
Bromoform	107
Cumene	112
1,1,2,2-Tetrachloroethane	100
Propylbenzene	106
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	107
1,2,4-Trimethylbenzene	105
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	98
alpha-Chlorotoluene	103
1,2-Dichlorobenzene	95
1,2,4-Trichlorobenzene	91
Hexachlorobutadiene	99

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	101	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1201135A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011217**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/12/12 07:07 PM**	

Compound	%Recovery
Freon 12	120
Freon 114	115
Chloromethane	98
Vinyl Chloride	116
1,3-Butadiene	106
Bromomethane	120
Chloroethane	96
Freon 11	103
Ethanol	85
Freon 113	95
1,1-Dichloroethene	101
Acetone	101
2-Propanol	98
Carbon Disulfide	118
3-Chloropropene	108
Methylene Chloride	98
Methyl tert-butyl ether	102
trans-1,2-Dichloroethene	114
Hexane	100
1,1-Dichloroethane	98
2-Butanone (Methyl Ethyl Ketone)	99
cis-1,2-Dichloroethene	93
Tetrahydrofuran	94
Chloroform	103
1,1,1-Trichloroethane	102
Cyclohexane	103
Carbon Tetrachloride	106
2,2,4-Trimethylpentane	97
Benzene	96
1,2-Dichloroethane	104
Heptane	104
Trichloroethene	98
1,2-Dichloropropane	96
1,4-Dioxane	90
Bromodichloromethane	104
cis-1,3-Dichloropropene	101
4-Methyl-2-pentanone	99
Toluene	95
trans-1,3-Dichloropropene	106
1,1,2-Trichloroethane	99
Tetrachloroethene	97

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1201135A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011217**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/12/12 07:07 PM**	

Compound	%Recovery
2-Hexanone	106
Dibromochloromethane	106
1,2-Dibromoethane (EDB)	101
Chlorobenzene	99
Ethyl Benzene	99
m,p-Xylene	100
o-Xylene	101
Styrene	102
Bromoform	100
Cumene	108
1,1,2,2-Tetrachloroethane	96
Propylbenzene	105
4-Ethyltoluene	96
1,3,5-Trimethylbenzene	102
1,2,4-Trimethylbenzene	100
1,3-Dichlorobenzene	95
1,4-Dichlorobenzene	94
alpha-Chlorotoluene	100
1,2-Dichlorobenzene	94
1,2,4-Trichlorobenzene	91
Hexachlorobutadiene	95

Container Type: NA - Not Applicable

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

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1201135A-08AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011218**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/12/12 07:24 PM**	

Compound	%Recovery
Freon 12	122
Freon 114	115
Chloromethane	100
Vinyl Chloride	107
1,3-Butadiene	104
Bromomethane	119
Chloroethane	107
Freon 11	108
Ethanol	83
Freon 113	96
1,1-Dichloroethene	99
Acetone	101
2-Propanol	97
Carbon Disulfide	117
3-Chloropropene	107
Methylene Chloride	100
Methyl tert-butyl ether	100
trans-1,2-Dichloroethene	113
Hexane	100
1,1-Dichloroethane	98
2-Butanone (Methyl Ethyl Ketone)	96
cis-1,2-Dichloroethene	93
Tetrahydrofuran	93
Chloroform	103
1,1,1-Trichloroethane	101
Cyclohexane	101
Carbon Tetrachloride	106
2,2,4-Trimethylpentane	102
Benzene	98
1,2-Dichloroethane	106
Heptane	106
Trichloroethene	98
1,2-Dichloropropane	96
1,4-Dioxane	91
Bromodichloromethane	103
cis-1,3-Dichloropropene	98
4-Methyl-2-pentanone	98
Toluene	95
trans-1,3-Dichloropropene	101
1,1,2-Trichloroethane	99
Tetrachloroethene	95

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1201135A-08AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011218**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/12/12 07:24 PM**	

Compound	%Recovery
2-Hexanone	100
Dibromochloromethane	101
1,2-Dibromoethane (EDB)	99
Chlorobenzene	95
Ethyl Benzene	96
m,p-Xylene	95
o-Xylene	100
Styrene	102
Bromoform	99
Cumene	106
1,1,2,2-Tetrachloroethane	97
Propylbenzene	104
4-Ethyltoluene	94
1,3,5-Trimethylbenzene	104
1,2,4-Trimethylbenzene	100
1,3-Dichlorobenzene	94
1,4-Dichlorobenzene	95
alpha-Chlorotoluene	96
1,2-Dichlorobenzene	95
1,2,4-Trichlorobenzene	97
Hexachlorobutadiene	99

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	107	70-130
4-Bromofluorobenzene	102	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1201135A-08B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/14/12 09:59 AM**	

Compound	%Recovery
Freon 12	113
Freon 114	111
Chloromethane	96
Vinyl Chloride	112
1,3-Butadiene	106
Bromomethane	115
Chloroethane	105
Freon 11	117
Ethanol	83
Freon 113	94
1,1-Dichloroethene	100
Acetone	96
2-Propanol	92
Carbon Disulfide	115
3-Chloropropene	106
Methylene Chloride	94
Methyl tert-butyl ether	98
trans-1,2-Dichloroethene	109
Hexane	96
1,1-Dichloroethane	95
2-Butanone (Methyl Ethyl Ketone)	96
cis-1,2-Dichloroethene	94
Tetrahydrofuran	90
Chloroform	99
1,1,1-Trichloroethane	98
Cyclohexane	100
Carbon Tetrachloride	102
2,2,4-Trimethylpentane	94
Benzene	94
1,2-Dichloroethane	102
Heptane	101
Trichloroethene	96
1,2-Dichloropropane	96
1,4-Dioxane	93
Bromodichloromethane	100
cis-1,3-Dichloropropene	100
4-Methyl-2-pentanone	96
Toluene	93
trans-1,3-Dichloropropene	104
1,1,2-Trichloroethane	96
Tetrachloroethene	93

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1201135A-08B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/14/12 09:59 AM**	

Compound	%Recovery
2-Hexanone	102
Dibromochloromethane	101
1,2-Dibromoethane (EDB)	99
Chlorobenzene	96
Ethyl Benzene	97
m,p-Xylene	96
o-Xylene	99
Styrene	97
Bromoform	99
Cumene	104
1,1,2,2-Tetrachloroethane	94
Propylbenzene	101
4-Ethyltoluene	93
1,3,5-Trimethylbenzene	98
1,2,4-Trimethylbenzene	97
1,3-Dichlorobenzene	92
1,4-Dichlorobenzene	92
alpha-Chlorotoluene	97
1,2-Dichlorobenzene	91
1,2,4-Trichlorobenzene	92
Hexachlorobutadiene	95

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	106	70-130
4-Bromofluorobenzene	103	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1201135A-08BB

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011405**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/14/12 10:16 AM**	

Compound	%Recovery
Freon 12	119
Freon 114	113
Chloromethane	98
Vinyl Chloride	105
1,3-Butadiene	104
Bromomethane	106
Chloroethane	97
Freon 11	112
Ethanol	86
Freon 113	97
1,1-Dichloroethene	101
Acetone	101
2-Propanol	98
Carbon Disulfide	118
3-Chloropropene	111
Methylene Chloride	99
Methyl tert-butyl ether	99
trans-1,2-Dichloroethene	114
Hexane	99
1,1-Dichloroethane	97
2-Butanone (Methyl Ethyl Ketone)	95
cis-1,2-Dichloroethene	95
Tetrahydrofuran	93
Chloroform	102
1,1,1-Trichloroethane	102
Cyclohexane	100
Carbon Tetrachloride	107
2,2,4-Trimethylpentane	100
Benzene	95
1,2-Dichloroethane	103
Heptane	102
Trichloroethene	96
1,2-Dichloropropane	95
1,4-Dioxane	88
Bromodichloromethane	100
cis-1,3-Dichloropropene	96
4-Methyl-2-pentanone	95
Toluene	92
trans-1,3-Dichloropropene	101
1,1,2-Trichloroethane	94
Tetrachloroethene	93

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1201135A-08BB

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3011405**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/14/12 10:16 AM**	

Compound	%Recovery
2-Hexanone	99
Dibromochloromethane	100
1,2-Dibromoethane (EDB)	97
Chlorobenzene	94
Ethyl Benzene	94
m,p-Xylene	95
o-Xylene	97
Styrene	98
Bromoform	96
Cumene	104
1,1,2,2-Tetrachloroethane	95
Propylbenzene	102
4-Ethyltoluene	92
1,3,5-Trimethylbenzene	102
1,2,4-Trimethylbenzene	96
1,3-Dichlorobenzene	95
1,4-Dichlorobenzene	92
alpha-Chlorotoluene	96
1,2-Dichlorobenzene	93
1,2,4-Trichlorobenzene	94
Hexachlorobutadiene	99

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	110	70-130
4-Bromofluorobenzene	103	70-130

Air Toxics LTD.
Laboratory Services Since 1989

1/16/2012
Mr. Keith Hoofard
Tetra Tech - GEO
2969 Prospect Park
Suite 100
Rancho Cordova CA 95670

Project Name: WM-LIVERMORE
Project #:
Workorder #: 1201135B

Dear Mr. Keith Hoofard

The following report includes the data for the above referenced project for sample(s) received on 1/10/2012 at Air Toxics Ltd.

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

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

Regards,

Kelly Buettner

Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1201135B

Work Order Summary

CLIENT:	Mr. Keith Hoofard Tetra Tech - GEO 2969 Prospect Park Suite 100 Rancho Cordova, CA 95670	**BILL TO:**	Mr. Keith Hoofard Tetra Tech - GEO 2969 Prospect Park Suite 100 Rancho Cordova, CA 95670
PHONE:	916-853-1800	**P.O. #**	117-2402099.01
FAX:	916-853-1860	**PROJECT #**	WM-LIVERMORE
DATE RECEIVED:	01/10/2012	**CONTACT:**	Kelly Buettner
DATE COMPLETED:	01/16/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SV-13	Modified ASTM D-1946	17.5 "Hg	5 psi
02A	SV-14	Modified ASTM D-1946	24.5 "Hg	5 psi
03A	SV-15	Modified ASTM D-1946	2.5 "Hg	5 psi
04A	SV-16	Modified ASTM D-1946	4.0 "Hg	5 psi
05A	SV-17	Modified ASTM D-1946	23.0 "Hg	5 psi
06A	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: Linda D. Frumarn DATE: 01/16/12

Laboratory Director

Certfication numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089,
NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP -CA009332011-1, WA NELAP - C935
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/11 , Expiration date: 06/30/12.
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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

LABORATORY NARRATIVE
Modified ASTM D-1946
Tetra Tech - GEO
Workorder# 1201135B

Five 1 Liter Summa Canister samples were received on January 10, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Helium gas in air using GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

Receiving Notes

Samples SV-13, SV-14 and SV-17 were received with significant vacuum remaining in the canister. The residual canister vacuum resulted in elevated reporting limits.

Analytical Notes

There were no analytical discrepancies.

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

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

Client Sample ID: SV-13

Lab ID#: 1201135B-01A

No Detections Were Found.

Client Sample ID: SV-14

Lab ID#: 1201135B-02A

No Detections Were Found.

Client Sample ID: SV-15

Lab ID#: 1201135B-03A

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.073	20

Client Sample ID: SV-16

Lab ID#: 1201135B-04A

No Detections Were Found.

Client Sample ID: SV-17

Lab ID#: 1201135B-05A

No Detections Were Found.

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Client Sample ID: SV-13

Lab ID#: 1201135B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9011030**	**Date of Collection: 1/9/12 12:25:00 PM**	
Dil. Factor:	**3.22**	**Date of Analysis: 1/10/12 09:14 PM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Helium	0.16	Not Detected

Container Type: 1 Liter Summa Canister

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Client Sample ID: SV-14

Lab ID#: 1201135B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9011031**	**Date of Collection: 1/9/12 12:47:00 PM**	
Dil. Factor:	**7.31**	**Date of Analysis: 1/10/12 09:20 PM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Helium	0.36	Not Detected

Container Type: 1 Liter Summa Canister

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Client Sample ID: SV-15

Lab ID#: 1201135B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9011032**	**Date of Collection: 1/9/12 1:29:00 PM**	
Dil. Factor:	**1.46**	**Date of Analysis: 1/10/12 09:26 PM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Helium	0.073	20

Container Type: 1 Liter Summa Canister

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Client Sample ID: SV-16

Lab ID#: 1201135B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9011033**	**Date of Collection: 1/9/12 1:57:00 PM**	
Dil. Factor:	**1.55**	**Date of Analysis: 1/10/12 09:33 PM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Helium	0.078	Not Detected

Container Type: 1 Liter Summa Canister

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: SV-17

Lab ID#: 1201135B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9011034**	**Date of Collection: 1/9/12 3:27:00 PM**	
Dil. Factor:	**5.74**	**Date of Analysis: 1/10/12 09:39 PM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Helium	0.29	Not Detected

Container Type: 1 Liter Summa Canister

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1201135B-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9011029**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/10/12 09:04 PM**	

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

Container Type: NA - Not Applicable

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1201135B-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9011028**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/10/12 08:56 PM**	

Compound	%Recovery
Helium	94

Container Type: NA - Not Applicable

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1201135B-07AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**9011035**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/10/12 09:46 PM**	

Compound	**%Recovery**
Helium	93

Container Type: NA - Not Applicable