

# VARNI, FRASER, HARTWELL & RODGERS

ATTORNEYS AT LAW

650 A STREET

P.O. BOX 570

HAYWARD, CALIFORNIA 94543-0570

PHONE: (510) 886-5000 FAX (510) 538-8797

WEBSITE: VARNIFRASER.COM

**RECEIVED**

1:45 pm, Sep 02, 2009

Alameda County  
Environmental Health

OF COUNSEL:

MAURICE E. HUGUET, JR.  
JONATHAN DANIEL ADAMS  
P. CECILIA STORR

August 31, 2009

Mr. Paresh C. Khatri  
Alameda County Health Agency  
1131 Harbor Bay Parkway  
Alameda, CA 94502

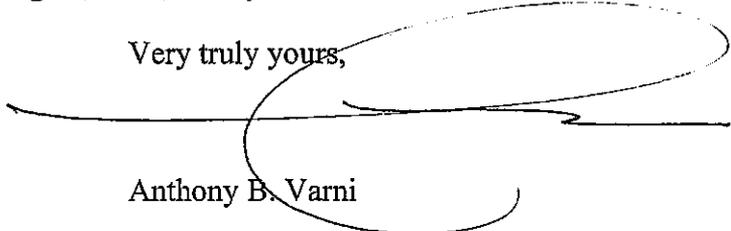
Dear Mr. Khatri:

Re: July 2009 Crawlspace Air Quality Evaluation  
Prepared by Cornerstone Earth Group dated August 18, 2009  
2691 Castro Valley Boulevard, Castro Valley, California

I have reviewed the above-referenced Evaluation; and I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Executed this 31<sup>ST</sup> day of August, 2009, at Hayward, California.

Very truly yours,

  
Anthony B. Varni

ABV/chz/14  
khatri.ltr

<b>Type of Services</b>	July 2009 Crawlspace Air Quality Evaluation
<b>Location</b>	2691 Castro Valley Boulevard Castro Valley, California
<b>Client</b>	Mr. Anthony Varni
<b>Client Address</b>	650 A Street Hayward, California 94543
<b>Project Number</b>	267-1-2
<b>Date</b>	August 18, 2009



**Peter M. Langtry, P.G., C.E.G.**  
Principal Geologist



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**FIGURE 1 – VICINITY MAP**

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<b>Type of Services</b>	<b>July 2009 Crawlspace Air Quality Evaluation</b>
<b>Location</b>	<b>2691 Castro Valley Boulevard Castro Valley, California</b>

## **SECTION 1: INTRODUCTION**

This report presents the results of the July 2009 crawlspace air quality evaluation performed at 2691 Castro Valley Boulevard in Castro Valley, California (Site) as shown on Figures 1 and 2. This work was performed for Mr. Anthony Varni in accordance with our January 14, 2009 Agreement (Agreement).

### **1.1 SITE DESCRIPTION**

The approximately ½-acre Site is occupied by an approximately 3,500 square foot, single story office building and paved parking lot. A concrete-lined creek channel extends through the Site; the office building is located on an approximately 6,500 square foot portion of the property on the east side of the creek channel. The office building was constructed in 1988 and has a perimeter foundation and a raised wood floor.

The Site is located in a predominantly commercial area and is bordered to the north by Castro Valley Boulevard and to the east and south by Lake Chabot Road. To the north of Castro Valley Boulevard are retail and commercial business. A restaurant and commercial property are located to the east and south, and a commercial property is located to the west.

### **1.2 BACKGROUND**

#### **1.2.1 Site History**

In June 1988, prior to the construction of the building, a 1,000-gallon underground storage tank (UST) was removed. The approximate location of the former UST is shown on Figure 2, based on an approximate sketch of the tank location obtained from the Alameda County Health Care Services Agency (County Health) web-site. The former UST was reportedly used for storing diesel. No UST removal report appears to have been submitted to the County Health. However, limited information available on the County Health web-site indicates that laboratory analyses of two soil samples collected in 1988 by the tank removal contractor following removal of the UST reportedly detected low concentrations of petroleum hydrocarbons (maximum of 6 parts per million (ppm)). The depth and location of the soil samples was not reported. Laboratory analyses of one water sample detected 5,500 parts per billion (ppb) total petroleum hydrocarbons in the gasoline range (TPHg), 6,200 ppb total petroleum hydrocarbons in the diesel range (TP Hd), 11 ppb benzene, 30 ppb toluene, 7.6 ppb ethylbenzene, and 620 ppb

xylene (County Health, 1996). There does not appear to be adequate documentation describing whether the water was collected from inside the tank or from the excavation.

Based on correspondence from County Health and our July 17, 2008 meeting with County Health staff, an evaluation of ground water quality beneath the property and possible vapor intrusion into the on-Site office building was required in order to finalize case closure. An August 12, 2008 work plan for ground water sampling and crawl-space air sampling was submitted to the County Health. The County Health staff approved the work plan on September 4, 2008 but requested the addition of a soil vapor sample outside the building near the former UST (County Health, 2008).

Ground water grab sampling was performed on October 1, 2008. Two ground water grab samples, GW-1 and GW-2, were collected within approximately 20 feet southwest (anticipated down-gradient direction in terms of ground water flow) of the former UST. Laboratory analyses of the ground water grab samples did not detect petroleum fuel hydrocarbons above laboratory detection limits, with the exception of 0.63 ppb toluene detected in sample GW-2. The environmental screening level<sup>1</sup> (ESL) for toluene is 40 ppb (Cornerstone Earth Group, 2008).

Soil vapor sample SV-1 was collected on October 1, 2008 approximately 2 feet from the building exterior at a depth of approximately 5 feet. Laboratory analyses of the soil vapor sample detected 190,000  $\mu\text{g}/\text{m}^3$  TPHg, 28,000  $\mu\text{g}/\text{m}^3$  toluene, 520  $\mu\text{g}/\text{m}^3$  ethylbenzene, and 1,980  $\mu\text{g}/\text{m}^3$  total xylenes. Benzene was not detected. The residential and commercial ESLs for these compounds in soil vapor are 10,000  $\mu\text{g}/\text{m}^3$  and 29,000  $\mu\text{g}/\text{m}^3$  (TPHg), 63,000  $\mu\text{g}/\text{m}^3$  and 180,000  $\mu\text{g}/\text{m}^3$  (toluene), 980  $\mu\text{g}/\text{m}^3$  and 3,300  $\mu\text{g}/\text{m}^3$  (ethylbenzene), and 21,000  $\mu\text{g}/\text{m}^3$  and 58,000  $\mu\text{g}/\text{m}^3$  (xylene) (Cornerstone Earth Group, 2008).

Initial sampling of the crawlspace air quality was performed on October 13, 2008. Laboratory analysis of the air sample did not detect TPHg above the laboratory screening limit (200  $\mu\text{g}/\text{m}^3$ ). The residential and commercial ESLs for TPHg are 10  $\mu\text{g}/\text{m}^3$  and 14  $\mu\text{g}/\text{m}^3$ , respectively. Benzene was detected in the crawl-space air sample at 2.0  $\mu\text{g}/\text{m}^3$ , which is above the residential and commercial ESLs of 0.084  $\mu\text{g}/\text{m}^3$  and 0.14  $\mu\text{g}/\text{m}^3$ , respectively. Toluene, and xylene were detected at levels below their residential and commercial ESLs; ethylbenzene was detected at 1.4  $\mu\text{g}/\text{m}^3$ , between the commercial ESL of 1.6  $\mu\text{g}/\text{m}^3$  and the residential ESL of 0.98  $\mu\text{g}/\text{m}^3$ . However, laboratory analyses of an ambient air sample collected adjacent to the building on October 13, 2008 detected benzene at a greater concentration than detected in the crawlspace samples and TPHg was detected at a concentration greater than the laboratory detection limit for the crawlspace air sample. The concentrations of petroleum hydrocarbons detected in the outdoor ambient air sample appeared to be from vehicle traffic on Castro Valley Boulevard (Cornerstone Earth Group, 2008).

Based on the results from the October 2008 sampling the County Health issued a letter dated December 5, 2008 that required additional crawl-space air samples to evaluate the potential risk to the building occupants. Cornerstone Earth Group prepared the January 22, 2009 work plan for the additional sampling; the work plan was approved by the County Health on March 16, 2009.

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<sup>1</sup> ESLs (May, 2008) were established by the California Regional Water Quality Control Board. ESLs are used to screen sites for potential human health concerns where releases of chemicals to soil have occurred. Under most circumstances, the presence of a chemical in soil below the corresponding ESL can be assumed not to pose a significant risk to human health. A chemical exceeding the ESL does not indicate that adverse impacts to human health are occurring or will occur but suggests that further evaluation of potential health concerns is warranted.

Additional sampling of the crawl-space air quality was performed on April 17, 2009. Laboratory analyses of two crawlspace air samples detected benzene at  $0.91 \mu\text{g}/\text{m}^3$  and  $1.4 \mu\text{g}/\text{m}^3$ . The residential and commercial ESLs for benzene are  $0.084 \mu\text{g}/\text{m}^3$  and  $0.14 \mu\text{g}/\text{m}^3$ , respectively. Toluene, ethylbenzene and total xylene were detected below the residential and commercial ESLs. The concentrations of the BTEX compounds detected in the crawlspace air were similar to the concentrations detected in the ambient air sample collected outside the building at the same time. Based on the detection of BTEX compounds at similar concentrations in the crawlspace air as the outdoor ambient air, the crawlspace air did not appear to be significantly impacted by soil vapor intrusion.

### 1.3 SCOPE OF WORK

As presented in our Agreement, the scope of work performed for this investigation included the following:

- Collection and laboratory analyses of two air samples from the building crawlspace and one ambient air sample outside of the building

The limitations for this investigation are presented in Section 4.

## SECTION 2: CRAWLSPACE AIR QUALITY EVALUATION

### 2.1 CRAWLSPACE AIR SAMPLE COLLECTION

To evaluate the presence of volatile petroleum hydrocarbons in the air beneath the floor of the on-Site building, two air samples were collected from the crawlspace on July 22, 2009. The air samples were collected using 6-liter SUMA canisters. Polyethylene tubing was inserted through exterior vents on the southwest (CS-1) and northeast (CS-2) sides of the building (Figure 2). The CS-1 sample location was selected because the former UST was reported in the southwest portion of the building. The CS-2 air sample was collected from the opposite side of the building to help evaluate the distribution of volatile petroleum hydrocarbons in the crawlspace air beneath the building.

To help interpret the analytical data, an 8-hour ambient air sample was collected outside the building at the same time. The ambient air sample was collected outside the southwest corner of the building approximately 5 feet from the air vent where crawl-space sample CS-1 was collected. At the time of the sampling there was a gentle breeze generally toward the south to southeast.

Eight-hour SUMA certified flow regulators provided by Air Toxics were used on each canister. The beginning and ending vacuum in the canisters were recorded in the field. The ending vacuum for sample CS-1 was higher than the CS-2 and ambient air canisters, resulting in a lower sample volume and higher detection limit for TPHg. This is discussed further in Section 3.

### 2.2 LABORATORY ANALYSES

The crawlspace and ambient air samples were analyzed for TPHg plus benzene, toluene, ethylbenzene and xylene (BTEX) (EPA Method TO-15). Analytical results are presented in Table 1 and the complete analytical results are presented in Appendix A. Air sample analytical results from October 2008 and April 21, 2009 are also presented for comparison.

**Table 1. Laboratory Analytical Results of Crawlspace and Ambient Air Samples**  
 (Concentrations in  $\mu\text{g}/\text{m}^3$ )

Sample ID	Date	TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes
Crawlspace	10/13/2008	<200	2.0	7.2	1.4	5.6
CS-1 (crawlspace)	4/17/2009	<26	1.4	3.0	0.46	1.8
<b>CS-1 (crawlspace)</b>	<b>7/22/2009</b>	<b>100</b>	<b>0.48</b>	<b>2.1</b>	<b>0.23</b>	<b>1.08</b>
CS-2 (crawlspace)	4/17/2009	<14	0.91	2.8	0.44	1.94
<b>CS-2 (crawlspace)</b>	<b>7/22/2009</b>	<b>53</b>	<b>0.48</b>	<b>2.0</b>	<b>0.24</b>	<b>0.96</b>
Ambient (outdoor)	10/13/2008	370	5.4	19	3.9	19.9
Ambient (outdoor)	4/17/2009	<14	1.0	2.8	0.50	2.22
<b>Ambient (outdoor)</b>	<b>7/22/2009</b>	<b>&lt;12</b>	<b>0.55</b>	<b>2.1</b>	<b>0.24</b>	<b>0.96</b>
Residential ESL <sup>a</sup>		10	0.084	63	0.98	21
Commercial ESL <sup>a</sup>		14	0.14	88	1.6	29

a. Environmental Screening Level, California Regional Water Quality Control Board, SF Bay Region, May 2008  
 < Indicates that constituent was not detected above the laboratory detection limit  
**Bold** Indicates results from current sampling event

## SECTION 3: CONCLUSIONS AND RECOMMENDATIONS

### 3.1 CRAWLSPACE AIR QUALITY EVALUATION

Laboratory analyses of the two crawlspace air samples detected benzene at  $0.48 \mu\text{g}/\text{m}^3$  and  $0.91 \mu\text{g}/\text{m}^3$ ;  $0.55 \mu\text{g}/\text{m}^3$  benzene was detected in the outdoor air sample. Toluene, ethylbenzene and total xylenes were detected in the crawlspace air samples below the residential and commercial ESLs and were detected at nearly the same concentrations as in the outdoor air. Based on the analytical data, the BTEX compounds detected in the crawlspace air appear to be background from exhaust/fumes associated with vehicle traffic on Castro Valley Boulevard, which is a congested street with significant automobile, bus and truck traffic. In addition, the Site is located at an intersection, resulting in frequent idling of vehicles in front of the Site.

Laboratory analysis of the crawlspace air samples detected TPHg at  $100 \mu\text{g}/\text{m}^3$  and  $53 \mu\text{g}/\text{m}^3$  respectively. TPHg was not detected in the outdoor air sample above the laboratory reporting limit of  $12 \mu\text{g}/\text{m}^3$ . Previous outdoor air sampling detected up to  $370 \mu\text{g}/\text{m}^3$  TPHg; the concentration of the gasoline in outdoor air likely is variable due to fluctuations in traffic on Castro Valley Boulevard. Because TPHg was not detected in the previous crawlspace air monitoring events, the TPHg detected in the crawlspace air during this event also appears to be background from vehicle exhaust/fumes.

To evaluate whether the ambient air results appear consistent with typical background conditions, the results of the Bay Area Air Quality Management District (BAAQMD) Toxic Air Contaminant Control Program available on-line were reviewed (<http://www.baaqmd.gov>). The BAAQMD monitored ambient air quality at 20 locations in the San Francisco Bay Area through the end of 2003. The monitoring station closest to the Site was located at 15400 Foothill Boulevard in San Leandro. Air samples were collected over 24 hour periods on 12-day cycles. Laboratory analyses of the ambient air samples collected at the San Leandro station detected benzene at up to  $1.28 \mu\text{g}/\text{m}^3$ , ethylbenzene at up to  $0.87 \mu\text{g}/\text{m}^3$ , toluene up to  $8.67 \mu\text{g}/\text{m}^3$ , and

total xylenes up to 3.91  $\mu\text{g}/\text{m}^3$  (BAAQMD, 2007). The BAAQMD air monitoring results appear generally consistent with the ambient air sample collected from the Site.

### 3.2 CASE CLOSURE REQUEST

The December 5, 2008 letter from the County Health stated that two seasonal crawlspace air sampling events were required prior to their consideration of the Site for case closure. This report presents the completion of these two additional sampling events. Based on the analytical results, the crawlspace air does not appear to be significantly impacted by soil vapor intrusion. In addition, based on the results of the previous ground water quality investigation, ground water beneath the Site has not been significantly impacted by petroleum hydrocarbons (Cornerstone Earth Group, 2008). Therefore, on behalf of Mr. Anthony Varni, we request case closure from the County Health.

## SECTION 4: LIMITATIONS

Cornerstone performed this investigation to support Mr. Anthony Varni in evaluation of crawlspace air, soil vapor, and ground water quality beneath the Site. The extent of ambient air, soil vapor and ground water data obtained is based on the reasonable limits of time and budgetary constraints. In addition, the chemical information presented in this report can change over time and is only valid at the time of this investigation and for the locations sampled.

This report, an instrument of professional service, was prepared for the sole use of Mr. Varni and the County Health and may not be reproduced or distributed without written authorization from Cornerstone. Cornerstone makes no warranty, expressed or implied, except that our services have been performed in accordance with the environmental principles generally accepted at this time and location.

## SECTION 5: REFERENCES

ACHCSA. October 31, 1995. Case Closure Summary form for 2724 Castro Valley Boulevard

ACHCSA. September 4, 2008. Fuel Leak Case No. RO0000322 and Geotracker Global ID T0600101435, Varni Property, 2691 Castro Valley Boulevard, Castro Valley, CA 94546

ACHCSA. December 5, 2008. Fuel Leak Case No. RO0000322 and Geotracker Global ID T0600101435, Varni Property, 2691 Castro Valley Boulevard, Castro Valley, CA 94546

ACHCSA. March 16, 2009. Fuel Leak Case No. RO0000322 and Geotracker Global ID T0600101435, Varni Property, 2691 Castro Valley Boulevard, Castro Valley, CA 94546

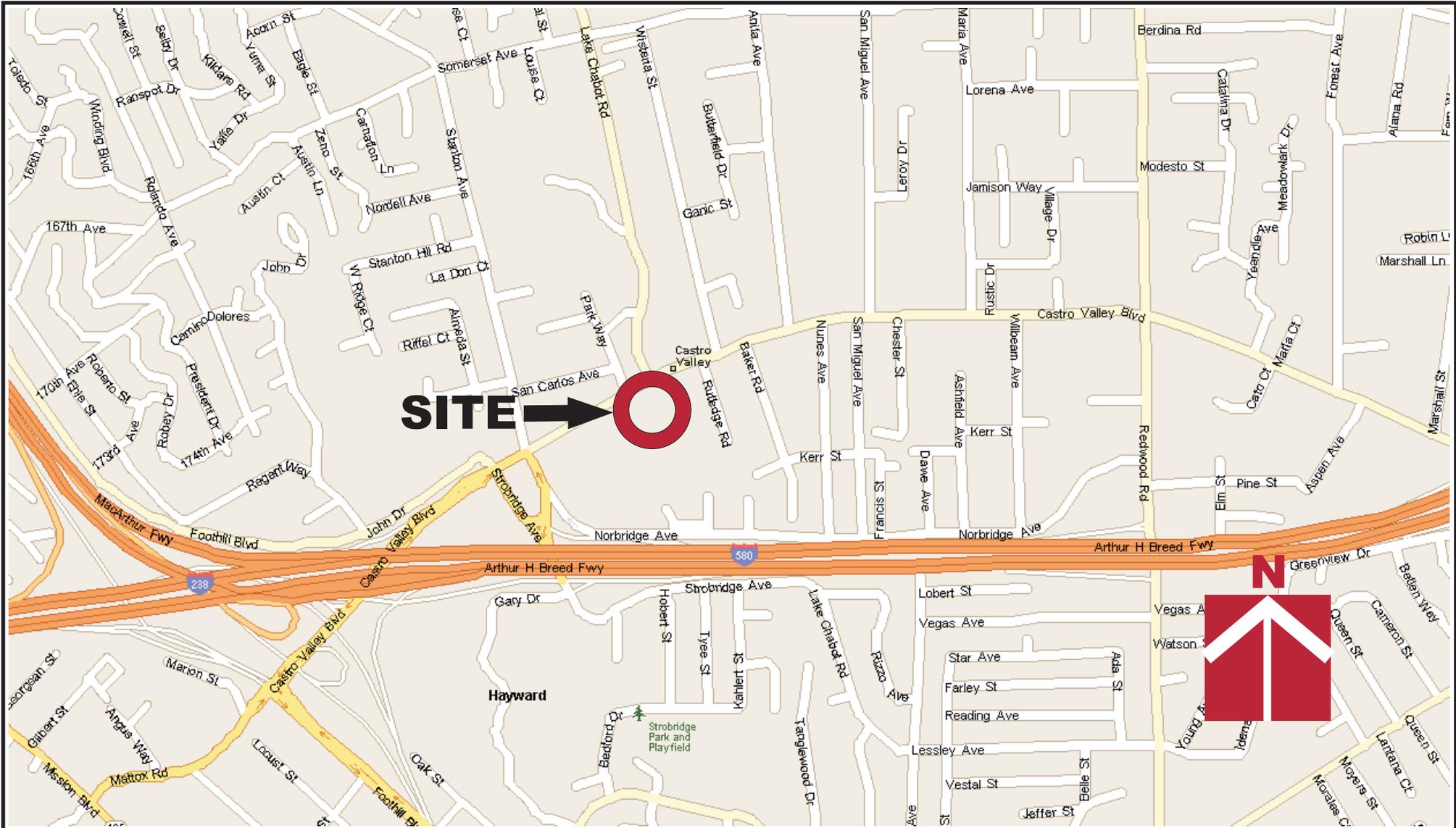
BAAQMD. August 2007. Toxic Air Contaminants Control Program, Annual Report, 2003, Volume 1.

Cornerstone Earth Group, Inc. August 12, 2008. Work Plan for Ground Water Quality Evaluation and Sub-Floor Air Sampling, 2691 Castro Valley Boulevard, Castro Valley, California

Cornerstone Earth Group, Inc. October 31, 2008. Crawlspace Air, Soil Vapor, Ground Water Quality Evaluation and Case Closure Request, 2691 Castro Valley Boulevard, Castro Valley, California

Cornerstone Earth Group, Inc. January 22, 2009. Work Plan for Crawlspace Air Sampling, 2691  
Castro Valley Boulevard, Castro Valley, California

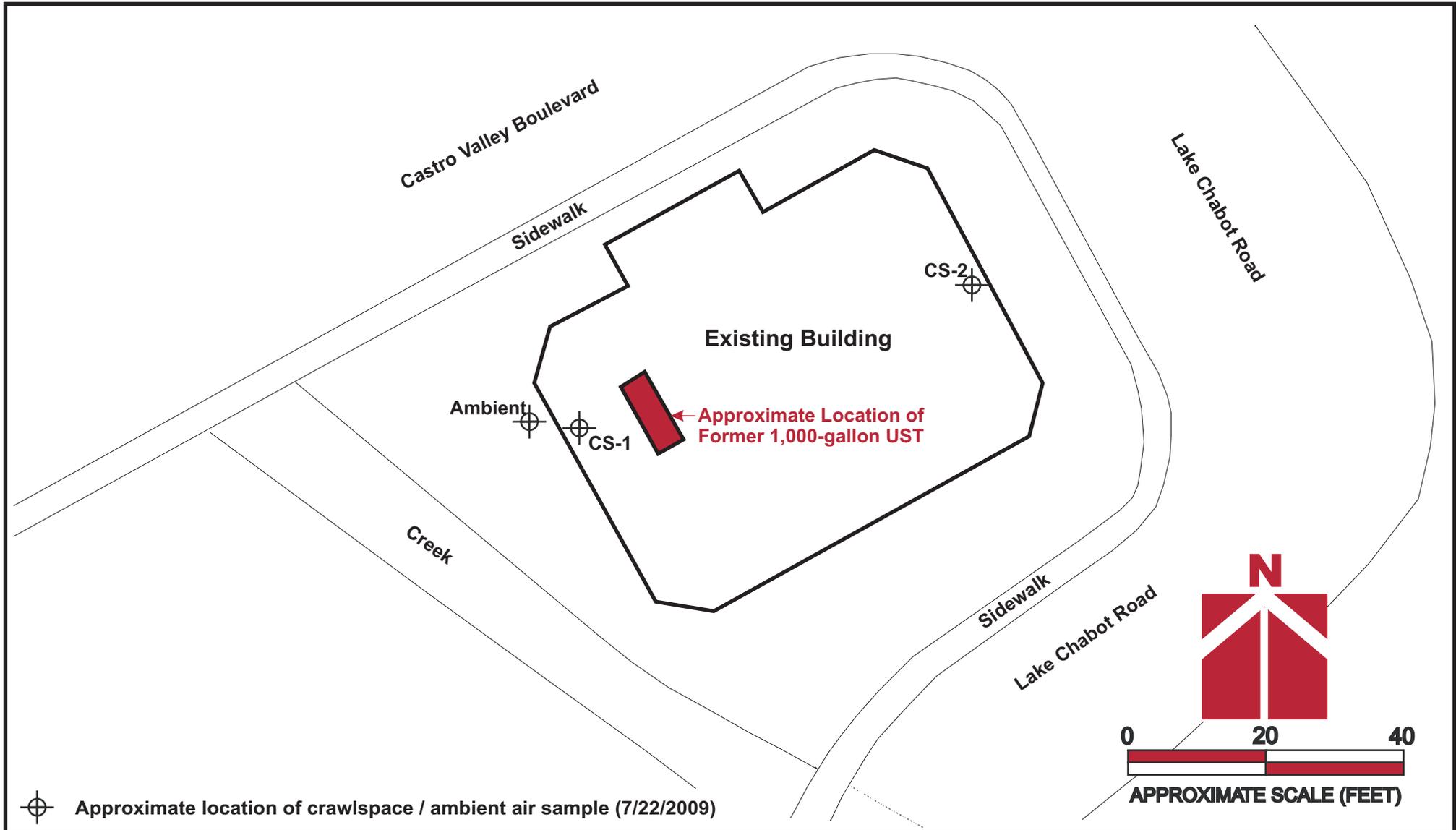
Cornerstone Earth Group, Inc. May 5, 2009. Crawlspace Air Quality Evaluation, 2691 Castro  
Valley Boulevard, Castro Valley, California



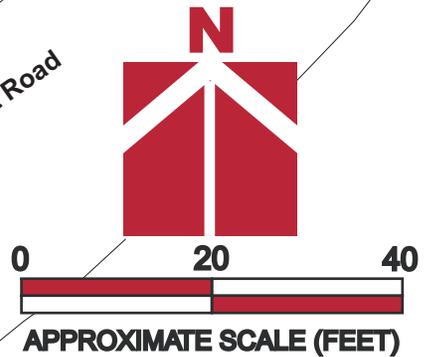
**Vicinity Map**

**2691 Castro Valley Boulevard  
Castro Valley, CA**

Project Number		267-1-2
Figure Number		Figure 1
Date	May 2009	Drawn By
		FLL



⊕ Approximate location of crawlspace / ambient air sample (7/22/2009)



**Site Plan**

**2691 Castro Valley Boulevard**  
**Castro Valley, CA**

Project Number		267-1-2
Figure Number		Figure 2
Date	August 2009	Drawn By
		FLL

## APPENDIX A – LABORATORY ANALYTICAL REPORT

8/4/2009

Mr. Peter Langtry  
Cornerstone Earth Group  
2737 North Main St.  
Suite 10  
Walnut Creek CA 94597

Project Name: Castro Valley Blvd.  
Project #: 267-1-2  
Workorder #: 0907539

Dear Mr. Peter Langtry

The following report includes the data for the above referenced project for sample(s) received on 7/24/2009 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: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



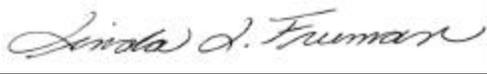
Kyle Vagadori  
Project Manager

**WORK ORDER #: 0907539**

Work Order Summary

<b>CLIENT:</b>	Mr. Peter Langtry Cornerstone Earth Group 2737 North Main St. Suite 10 Walnut Creek, CA 94597	<b>BILL TO:</b>	Accounts Payable Cornerstone Earth Group 1259 Oakmead Parkway Sunnyvale, CA 94085
<b>PHONE:</b>	925-988-9500	<b>P.O. #</b>	
<b>FAX:</b>		<b>PROJECT #</b>	267-1-2 Castro Valley Blvd.
<b>DATE RECEIVED:</b>	07/24/2009	<b>CONTACT:</b>	Kyle Vagadori
<b>DATE COMPLETED:</b>	08/04/2009		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	CRAWLSPACE 1 (CS-1)	Modified TO-15	5.5 "Hg	5 psi
02A	CRAWLSPACE 2 (CS-2)	Modified TO-15	4.0 "Hg	5 psi
03A	AMBIENT	Modified TO-15	3.5 "Hg	5 psi
04A	Lab Blank	Modified TO-15	NA	NA
05A	CCV	Modified TO-15	NA	NA
06A	LCS	Modified TO-15	NA	NA

CERTIFIED BY: 

DATE: 08/04/09

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004  
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,  
Accreditation number: E87680, Effective date: 07/01/08, Expiration date: 06/30/09

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

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

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

**LABORATORY NARRATIVE  
Modified TO-15 Full Scan/SIM  
Cornerstone Earth Group  
Workorder# 0907539**

Three 6 Liter Summa Canister (SIM Certified) samples were received on July 24, 2009. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

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

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

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
ICAL %RSD acceptance criteria	$\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD	For Full Scan: 30% RSD with 4 compounds allowed out to $< 40\%$ RSD  For SIM: Project specific; default criteria is $\leq 30\%$ RSD with 10% of compounds allowed out to $< 40\%$ RSD
Daily Calibration	$\pm 30\%$ Difference	For Full Scan: $\leq 30\%$ Difference with four allowed out up to $\leq 40\%$ .; flag and narrate outliers  For SIM: Project specific; default criteria is $\leq 30\%$ Difference with 10% of compounds allowed out up to $\leq 40\%$ .; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

There were no analytical discrepancies.

### **Definition of Data Qualifying Flags**

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



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

**Client Sample ID: CRAWLSPACE 1 (CS-1)**

**Lab ID#: 0907539-01A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Benzene	0.082	0.15	0.26	0.48
Toluene	0.033	0.57	0.12	2.1
Ethyl Benzene	0.033	0.054	0.14	0.23
m,p-Xylene	0.066	0.17	0.28	0.75
o-Xylene	0.033	0.075	0.14	0.32
TPH ref. to Gasoline (MW=100)	3.3	25	13	100

**Client Sample ID: CRAWLSPACE 2 (CS-2)**

**Lab ID#: 0907539-02A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Benzene	0.078	0.15	0.25	0.48
Toluene	0.031	0.54	0.12	2.0
Ethyl Benzene	0.031	0.054	0.13	0.24
m,p-Xylene	0.062	0.17	0.27	0.72
o-Xylene	0.031	0.055	0.13	0.24
TPH ref. to Gasoline (MW=100)	3.1	13	13	53

**Client Sample ID: AMBIENT**

**Lab ID#: 0907539-03A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Benzene	0.076	0.17	0.24	0.55
Toluene	0.030	0.57	0.11	2.1
Ethyl Benzene	0.030	0.056	0.13	0.24
m,p-Xylene	0.061	0.16	0.26	0.69
o-Xylene	0.030	0.062	0.13	0.27



Client Sample ID: CRAWLSPACE 1 (CS-1)

Lab ID#: 0907539-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	z080320sim	Date of Collection: 7/22/09 4:21:00 AM
Dil. Factor:	1.64	Date of Analysis: 8/4/09 12:19 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.082	0.15	0.26	0.48
Toluene	0.033	0.57	0.12	2.1
Ethyl Benzene	0.033	0.054	0.14	0.23
m,p-Xylene	0.066	0.17	0.28	0.75
o-Xylene	0.033	0.075	0.14	0.32
TPH ref. to Gasoline (MW=100)	3.3	25	13	100

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	101	70-130



Client Sample ID: CRAWLSPACE 2 (CS-2)

Lab ID#: 0907539-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	z080321sim	Date of Collection: 7/22/09 4:25:00 AM
Dil. Factor:	1.55	Date of Analysis: 8/4/09 12:50 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Benzene	0.078	0.15	0.25	0.48
Toluene	0.031	0.54	0.12	2.0
Ethyl Benzene	0.031	0.054	0.13	0.24
m,p-Xylene	0.062	0.17	0.27	0.72
o-Xylene	0.031	0.055	0.13	0.24
TPH ref. to Gasoline (MW=100)	3.1	13	13	53

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: AMBIENT

Lab ID#: 0907539-03A

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

<b>File Name:</b>	<b>z080322sim</b>	<b>Date of Collection:</b> 7/22/09 4:25:00 AM
<b>Dil. Factor:</b>	<b>1.52</b>	<b>Date of Analysis:</b> 8/4/09 05:50 AM

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Benzene	0.076	0.17	0.24	0.55
Toluene	0.030	0.57	0.11	2.1
Ethyl Benzene	0.030	0.056	0.13	0.24
m,p-Xylene	0.061	0.16	0.26	0.69
o-Xylene	0.030	0.062	0.13	0.27
TPH ref. to Gasoline (MW=100)	3.0	Not Detected	12	Not Detected

**Container Type: 6 Liter Summa Canister (SIM Certified)**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: Lab Blank

Lab ID#: 0907539-04A

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

<b>File Name:</b>	<b>z080319sim</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 8/3/09 11:40 PM

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Benzene	0.050	Not Detected	0.16	Not Detected
Toluene	0.020	Not Detected	0.075	Not Detected
Ethyl Benzene	0.020	Not Detected	0.087	Not Detected
m,p-Xylene	0.040	Not Detected	0.17	Not Detected
o-Xylene	0.020	Not Detected	0.087	Not Detected
TPH ref. to Gasoline (MW=100)	2.0	Not Detected	8.2	Not Detected

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: CCV

Lab ID#: 0907539-05A

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

<b>File Name:</b>	<b>z080307sim</b>	<b>Date of Collection: NA</b>
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis: 8/3/09 02:11 PM</b>

<b>Compound</b>	<b>%Recovery</b>
Benzene	102
Toluene	109
Ethyl Benzene	118
m,p-Xylene	124
o-Xylene	130
TPH ref. to Gasoline (MW=100)	99

**Container Type: NA - Not Applicable**

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

Client Sample ID: LCS

Lab ID#: 0907539-06A

**MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN**

<b>File Name:</b>	<b>z080308sim</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 8/3/09 03:08 PM

<b>Compound</b>	<b>%Recovery</b>
Benzene	102
Toluene	113
Ethyl Benzene	112
m,p-Xylene	117
o-Xylene	123
TPH ref. to Gasoline (MW=100)	Not Spiked

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	97	70-130





**CHAIN-OF-CUSTODY RECORD**

**Sample Transportation Notice**

Relinquishing signature on this document indicates that samples being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4522

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Page \_\_\_ of \_\_\_

Project Manager PETER LANGTRY  
 Collected by: (Print and Sign) James Lee Fink  
 Company CONCRESTONE Email \_\_\_\_\_  
 Address 2737 N. Main Street City Walnut Creek State CA Zip 94597  
 Phone 925-988-9500 Fax 925-988-9501

<b>Project Info:</b> P.O. # _____ Project # <u>267-1-2</u> Project Name <u>Castro Valley Blvd.</u>	<b>Turn Around Time:</b> <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush <small>specify</small>	<small>Lab Use Only</small> Pressurized by: _____ Date: _____ Pressurization Gas: <input type="checkbox"/> N <sub>2</sub> <input type="checkbox"/> He
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Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum			
						Initial	Final	Receipt	Final (psid)
01AB	CRAWLSPACE 1 (CS-1)	12075	7/22/09	7:49-4:21	TPHg, BTEX	-28	-4		
02AB	CRAWLSPACE 2 (CS-2)	10779	7/22/09	7:56-4:25	↓	-28	-5		
03AB	AMBIENT	13670	7/22/09	7:58-4:25		-30	-5		

Relinquished by: (signature) <u>James Lee Fink</u> Date/Time <u>7/23/09 7:40</u>	Received by: (signature) <u>R. Khan</u> Date/Time <u>7/23/09 7:40</u>	Notes:
Relinquished by: (signature) <u>R. Khan</u> Date/Time <u>7/23/09 7:45</u>	Received by: (signature) <u>A. Q...</u> Date/Time <u>7/24/09 ATC 0845</u>	
Relinquished by: (signature) _____ Date/Time _____	Received by: (signature) _____ Date/Time _____	

Lab Use Only	Shipper Name <u>CSO</u>	Air Bill # _____	Temp. (°C) <u>N/A</u>	Condition <u>Good</u>	Custody Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> None	Work Order # <u>0907539</u>
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