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TRANSMITTAL

DATE: April 11, 2012 REFERENCE NO.: 521000
PROJECT NAME: 1137-1167 65th Street, Oakland, CA
TO: Ms. Barbara Jakub ACEH No. RO0000082
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

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3:15 pm, Apr 11, 2012

Alameda County
Environmental Health

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QUANTITY	DESCRIPTION
1	Onsite Sub-Slab Vapor Probe Sampling Report

As Requested For Review and Comment
 For Your Use _____

COMMENTS:

Should you have any questions regarding the content of this document, please contact Robert Foss at (510) 420-3348.

Copy to: Mr. Frederic Schrag (*electronic & hard copy*)
Mr. Dennis Parfitt

Completed by: Robert Foss
[Please Print]

Signed: *Robert Foss*

Filing: **Correspondence File**



ONSITE SUB-SLAB VAPOR PROBE SAMPLING REPORT

1137-1167 65th STREET
OAKLAND, CALIFORNIA
ACEH Case No. RO 0000082

APRIL 11, 2012

REF. NO. 521000 (20)

This report is printed on recycled paper

**Prepared by:
Conestoga-Rovers
& Associates**

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1.0 INTRODUCTION

On behalf of Mr. John Nady, Conestoga-Rovers and Associates (CRA) is submitting this document titled *Onsite Sub-Slab Vapor Sampling Report*. Based on reported results of the May 2011 sampling and analysis of the nine sub-slab vapor probes constructed in the four onsite buildings and guidance provided in the California Department of Toxic Substance Control (DTSC) document titled, *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance), Appendix G (October 2011)*, Alameda County Environmental Health (ACEH) requested an additional sampling of the nine probes to confirm initial results and document any changes in reported concentrations. Figure 1 is a site vicinity map showing the location of the subject site at 1137-1167 65th Street in Oakland, California. Figure 2 is an extended site plan showing pertinent features of the subject site and nearby properties. Correspondence requesting this second sampling event is included in Appendix A. The site background and historical chemical usage is included in Appendix B.

1.1 SITE INFORMATION

Site Address	1137-1167 65 th Street, Oakland, CA
Site Use	Various Commercial Operations
Client and Contact	John Nady, Trustee of the Nady Trust
Consultant and Contact	CRA, Robert Foss, P.G.
Lead Agency and Contact	ACEH, Ms. Barbara Jakub
ACEH Case No.	RO0000082

2.0 SECOND SAMPLING AND ANALYSIS OF ONSITE SUB-SLAB SOIL VAPOR PROBES

The DTSC document titled, *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance), Appendix G (October 2011)*, recommends more than a single sampling event of sub-slab vapors to assess potential risks from the presence of sub-slab contaminant vapors beneath a building. Multiple sampling events can account for changing conditions based on seasonal and spatial variability. Following the DTSC guidelines, along with the EPA document *Standard Operating Procedure for Installation of Sub-Slab Vapor Probes and Sampling Using EPA*

Method TO-15 to Support Vapor Intrusion Investigations, CRA collected vapor samples from SSVP-1 through SSVP-9 on February 17, February 21 and February 29, 2012. A duplicate sample from SSVP-1 was collected to confirm the reported results. A copy of each guidance document referenced above is included in Appendix C. The analytical results for each of the ten samples are presented on the accompanying table, which includes the initial May 4-5, 2011 analytical results and results of offsite sub-slab vapor probes SSVP-10 and SSVP-11. These two offsite probes were installed beneath the building on the north end of the property at 1164 Ocean Avenue, and samples were analyzed to evaluate the presence and potential risk from vapors in the shallow subsurface beneath that building. Analytic results of the ten onsite probe samples are presented on Figure 3. Samples were collected in 1-liter 100% certified summa canisters provided by the laboratory. The sampling apparatus included a shroud with an atmosphere of helium as a leak check gas. The samples were labeled, logged on a chain-of-custody form, stored at ambient temperature, and shipped to Air Toxics LTD. of Folsom, California for analysis.

3.0 LABORATORY ANALYSES AND RESULTS

3.1 SAMPLE ANALYSES

The ten vapor samples were analyzed for the following constituents:

- Total Petroleum Hydrocarbons as Stoddard Solvent (TPHss) by EPA Method TO-3 (GC/FID)
- Total Petroleum Hydrocarbons as gasoline (TPHg), Benzene, Toluene, Ethylbenzene, Xylenes (BTEX), and halogenated volatile organic compounds (HVOCs) Tetrachloroethene (PCE), Trichloroethene (TCE), cis-1,2-Dichloroethene (cis-1,2-DCE), trans-1,2-Dichloroethene (trans-1,2-DCE) and Vinyl Chloride by EPA Method TO-15 (GC/MS)
- Oxygen, Carbon Dioxide, Methane and Helium by Modified ASTM D-1946

3.2 ANALYTIC RESULTS

No hydrocarbon analytes were detected in sub-slab vapor samples from SSVP-3 through SSVP-7, or in duplicate sample SSVP-1-Dup, above the laboratory reporting limits. The initial February 2012 SSVP-1 sample reportedly contained 850°µg/m³ TPHss. However, a duplicate sample taken that date was below the reporting limit of 300°µg/m³, similar

to the $<320^{\circ}\mu\text{g}/\text{m}^3$ SSVP-1 sample result from May 2011. The laboratory report indicated SSVP-2 contained $2,400^{\circ}\mu\text{g}/\text{m}^3$ TPHss, a decrease from the May 2011 sample concentration of $3,800^{\circ}\mu\text{g}/\text{m}^3$. TPHg was reported at $4,200^{\circ}\mu\text{g}/\text{m}^3$ TPHg. This is increased from the May 2011 result of less than the reporting limit of $990^{\circ}\mu\text{g}/\text{m}^3$. These concentrations are considerably below the RWQCB Commercial/Industrial Environmental Screening Levels (ESLs) of $29,000^{\circ}\mu\text{g}/\text{m}^3$ for both TPHss and TPHg. SSVP-8 and SSVP-9 contained reported TPHss concentrations of 320 and $630^{\circ}\mu\text{g}/\text{m}^3$, respectively. These are both decreased concentrations from the May 2011 results, and are well below the commercial/industrial ESLs. SSVP-9 contained $350^{\circ}\mu\text{g}/\text{m}^3$ TPHg, a significant decrease from the May result of $2,400^{\circ}\mu\text{g}/\text{m}^3$. All ten samples contained reported concentrations of PCE, ranging from $7.2^{\circ}\mu\text{g}/\text{m}^3$ in SSVP-4 to $5,900^{\circ}\mu\text{g}/\text{m}^3$ in SSVP-2. All reported PCE concentrations were below the appropriate ESL, except SSVP-2 located within the building at 1167 65th Street. PCE decreased in SSVP-2 from the May 2011 level of $9,700^{\circ}\mu\text{g}/\text{m}^3$, but still exceeded the commercial/industrial ESL of $1,400^{\circ}\mu\text{g}/\text{m}^3$. No other sample results exceeded the commercial/industrial ESL for PCE. TCE in samples collected from SSVP-2, SSVP-8 and SSVP-9, ranging from 6.3 to $100^{\circ}\mu\text{g}/\text{m}^3$. The commercial/industrial ESL for TCE is established as $4,100^{\circ}\mu\text{g}/\text{m}^3$. Sub-slab vapor probe sampling analytic results are included in Table 1 and on Figure 2. The laboratory reports of vapor sample analyses are included in Appendix D. Table 1 references the ESLs for reported compounds. These ESLs are listed on Table E from the document titled, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, Interim Final - November 2007 (Revised May 2008), produced by the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB-SFBR). A copy of Table E is included as Appendix E.

Helium was used to detect leaks in the sampling apparatus or in the vapor probes themselves. The entire vapor sampling apparatus is covered with a shroud and helium is released into the atmosphere within the shroud. The presence of helium in an analyzed sample indicates either a slightly loose fitting connection in the sampling apparatus or a breach of the SSVP seal. ASTM D-1946 analysis of samples collected from SSVP-4 and SSVP-7 reported minor concentrations of helium. No helium was detected in any of the other samples. SSVP-4 reported helium of 0.41% and SSVP-7 contained 0.26%. Vapor intrusion investigation guidelines indicate that any sample containing less than 0.5% helium constitutes insignificant dilution and that the is valid and representative of subsurface conditions.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

The following conclusions are drawn from results of the second sampling of the nine onsite sub-slab vapor probes:

- Petroleum hydrocarbon vapors beneath the four buildings were reported at less than 10% of the established commercial/industrial ESLs for all petroleum constituents.
- Analysis of HVOCs reported PCE in all nine sub-slab probes. Only SSVP-2 exceeded the established commercial/industrial ESL for PCE.
- Despite SSVP-2 continuing to exceed the commercial ESL for PCE, this condition would not appear to represent a significant human health risk to the occupants of 1167 65th Street for the following reasons:
 - Activities within the building at 1167 65th Street consist of artist studios and an art gallery. Though not specifically identified, the nature of the commercial operations in the building suggests that oil-based paints, solvents and, likely, resins are commonly used. The potential for these materials to impact indoor air quality is much more likely than the possibility of minor concentrations of vapors entering the atmosphere through the concrete foundation.
 - The building is constructed as a warehouse with high, open-beam ceilings and almost total open space.
 - The west side of the building is constructed almost entirely of windows, many of which open to provide extensive ventilation.
 - A forced air ventilation system operates within the building as well.
 - In addition to the degree of ventilation, constantly circulating air, the art gallery is open to the public only four days a week. Regarding tenants, it has been CRA's experience that it is rare that any tenants are working in the building on the days that the gallery is closed.
 - As a result of these mitigating factors, increased risk to human health from the presence of vapor-phase PCE below the building foundation would appear negligible.
- TCE, a degradation product of PCE, was reported in three probes at low concentrations, substantially below the established commercial/industrial ESL.
- No benzene, ethylbenzene, xylenes, cis-1,2-DCE, trans-1,2-DCE or vinyl chloride has been detected in any of the nine SSVPs in either May 2011 or February 2012.

- The detection of very minor helium in two of the nine probe samples indicates that all samples are valid and representative of sub-slab conditions.
- Concentrations of reported compounds, with only two exceptions, were lower than the first sampling analytic results of May 2011. The greater of these two increased concentrations, a detection of TPHg in SSVP-2, is still reported at less than 15% of the commercial/industrial ESL.
- PCE beneath the concrete foundation exceeding the commercial/industrial ESL in the SSVP-2 appears to pose no additional health risks due to the limited duration of occupancy of 1167 65th Street and the high degree of ventilation. This results from the building construction, the forced air ventilation system and the large number of opening windows along the western side of this building.
- Sub-slab vapors reported in the other eight SSVPs suggest that no significant risk to human health exists from the potential intrusion of vapors into the buildings where these probes are located.

4.2 RECOMMENDATIONS

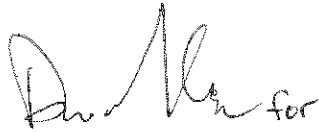
Analytic results of sub-slab soil vapor samples indicate continued low and decreasing levels of all constituents except in SSVP-2. While SSVP-2 concentrations have decreased since May 2011, PCE still remains at levels above the ESL. Chemicals of concern are reported in groundwater at stable to decreasing concentrations and the recent sub-slab soil vapor investigation beneath the building on the adjacent off-site property indicate no increased risk to human health. No water production wells are located within ½ mile of the site and the area is serviced by a municipal water supply. Based on these data, and the mitigating factors mentioned in the conclusions above regarding the building at 1167 65th Street, CRA recommends that ACEH review the site for case closure.

4.3 REQUEST FOR RAPID EVALUATION AND RESPONSE

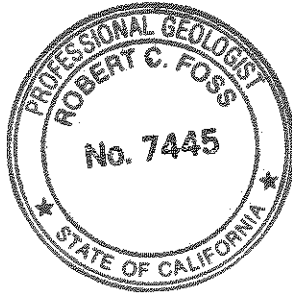
The CA USTCF will determine the fiscal year 2012-2013 budget for this site sometime in May 2012. If the site's corrective action (and USTCF budget category) should be changed to site closure (SC) or remediation (CAP/REM) at any time during the period July 2012-June 2013 from the existing investigation (SWI) category, ACEH must approve that change before the USTCF determines the budget in May. We request that you give priority to your review and comments on the data presented in this report and the recommendations in Section 4.2. Receipt of your concurrence with the recommendations or your suggested alternative corrective action as soon as possible in April would be

greatly appreciated. Please review the attached data and contact Robert Foss at (510) 420-3348 if you have any questions or comments regarding this information.

Respectfully Submitted,
CONESTOGA-ROVERS & ASSOCIATES



Tarah Kirnan

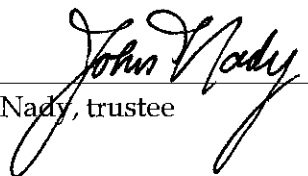


Robert Foss, P.G,

Conestoga-Rovers & Associates, Inc. (CRA) prepared this document for use by our client and appropriate regulatory agencies. It is based partially on information available to CRA from outside sources and/or in the public domain, and partially on information supplied by CRA and its subcontractors. CRA makes no warranty or guarantee, expressed or implied, included or intended in this document, with respect to the accuracy of information obtained from these outside sources or the public domain, or any conclusions or recommendations based on information that was not independently verified by CRA. This document represents the best professional judgment of CRA. None of the work performed hereunder constitutes or shall be represented as a legal opinion of any kind or nature.

I declare under penalty of perjury that the information and/or recommendations contained in this document are true and correct to the best of my knowledge.

Nady Trust U/D/T dated 1/21/1997



John Nady, trustee

FIGURES

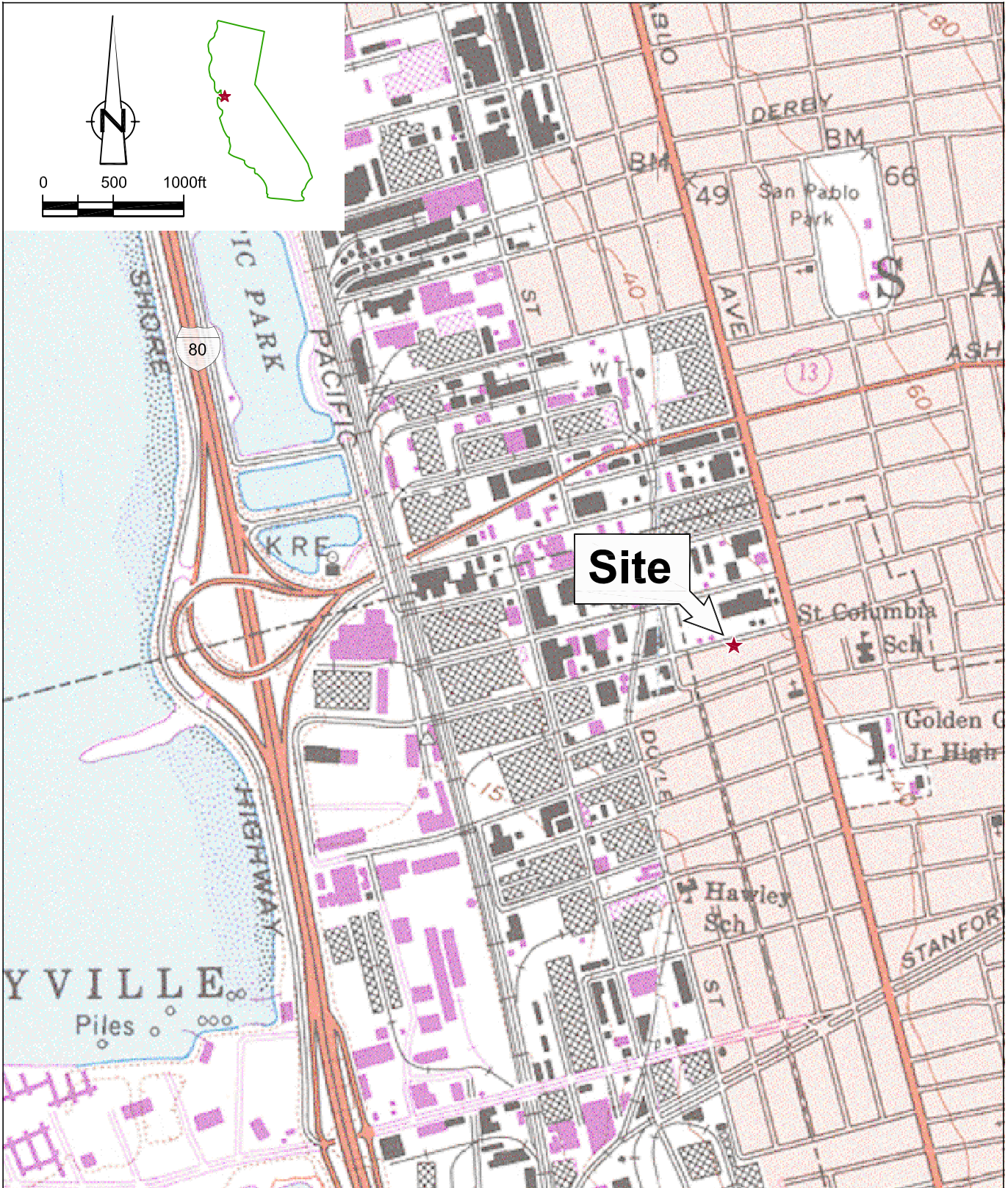


Figure 1
VICINITY MAP

1137-1167 65th STREET
Oakland, California



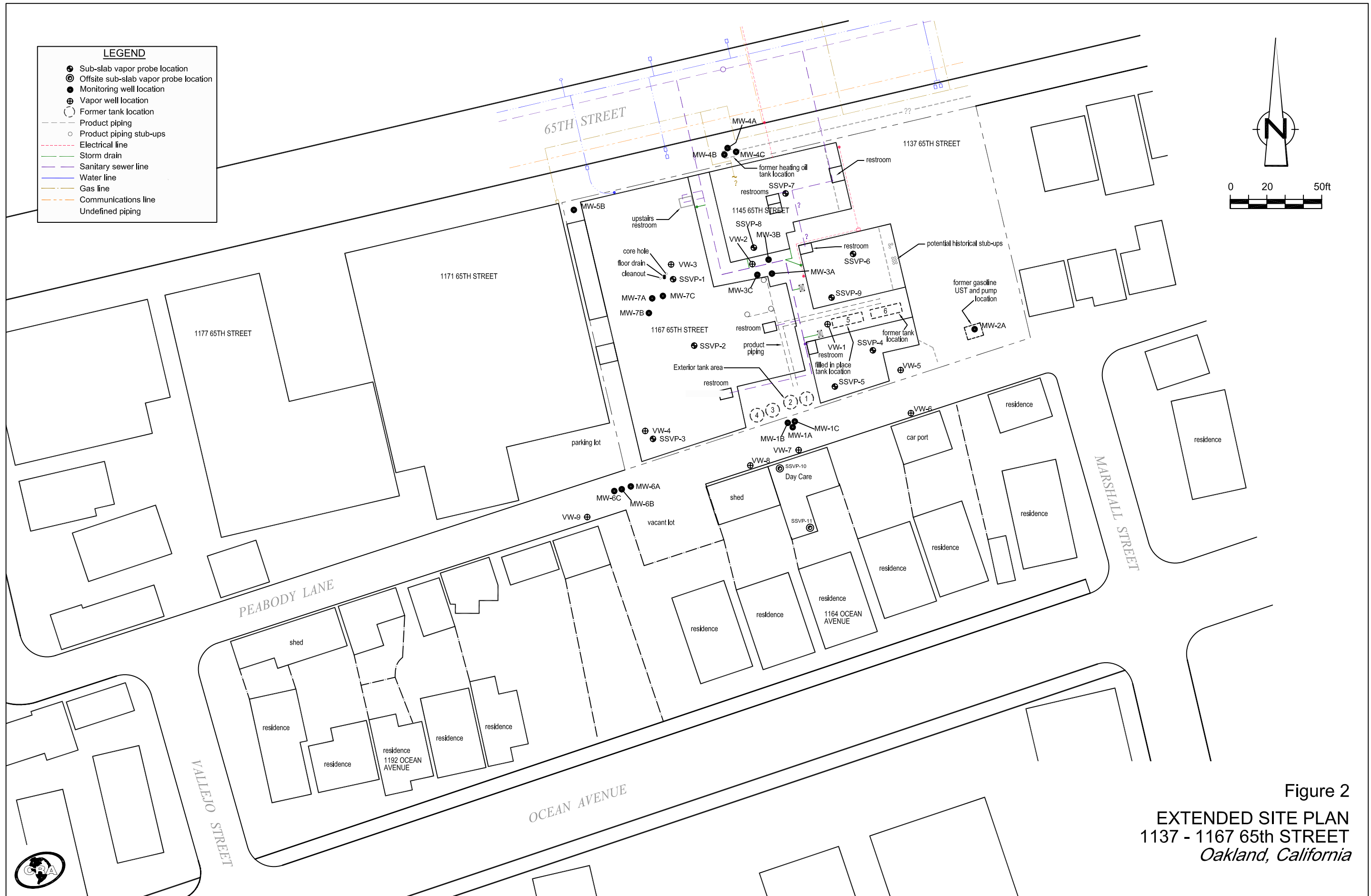


Figure 2
 EXTENDED SITE PLAN
 1137 - 1167 65th STREET
 Oakland, California

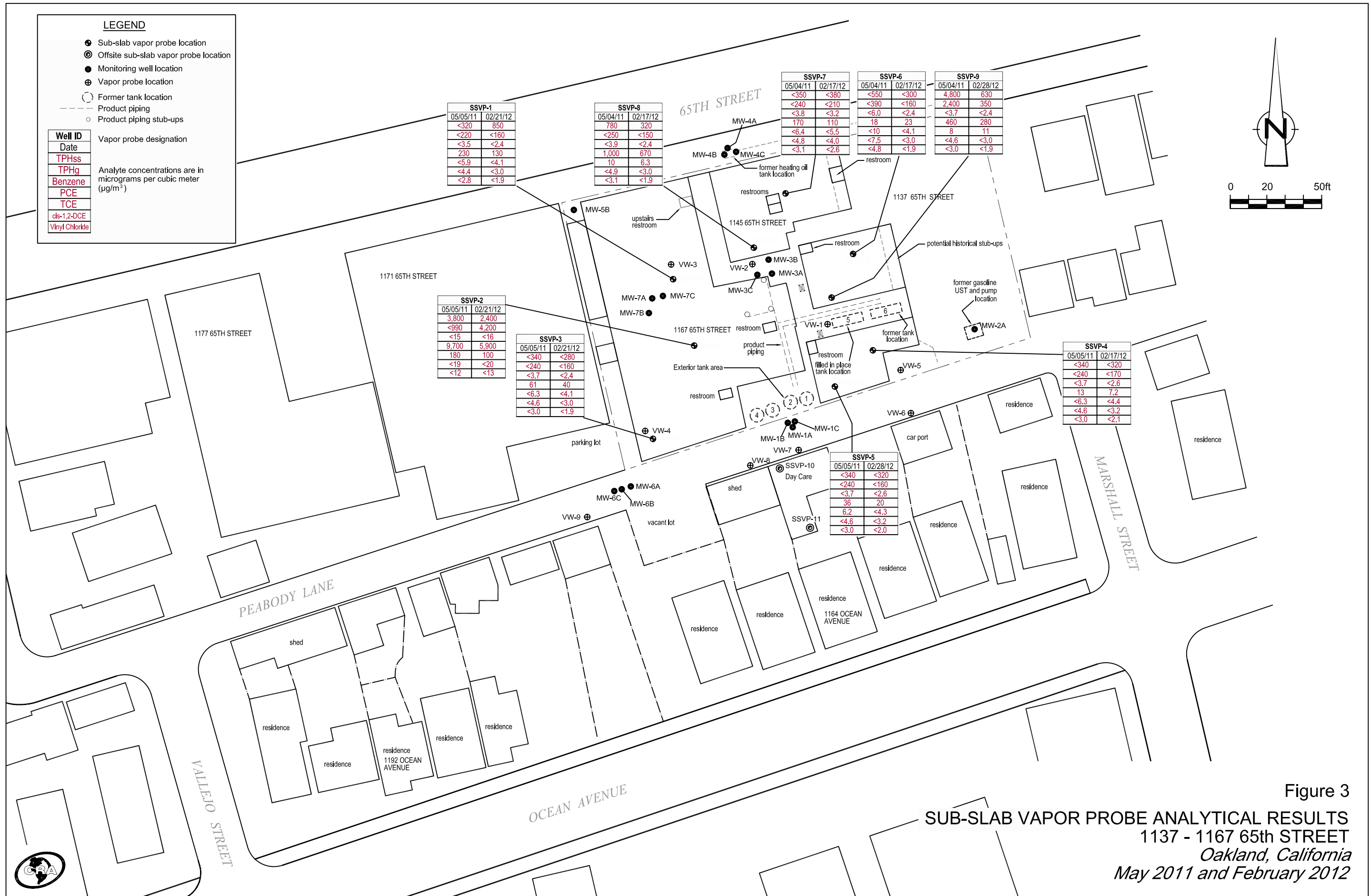


Figure 3
 SUB-SLAB VAPOR PROBE ANALYTICAL RESULTS
 1137 - 1167 65th STREET
 Oakland, California
 May 2011 and February 2012

TABLE

TABLE 1

SUB-SLAB SOIL VAPOR ANALYTICAL DATA
JOHN NADY
1137-1167 65TH STREET
OAKLAND, CALIFORNIA

Sample ID	Date Sampled	Sample Interval (fbg)	PCE (ug/m ³)	TCE (ug/m ³)	TPHss (ug/m ³)	TPHg (ug/m ³)	Benzene (ug/m ³)	Toluene (ug/m ³)	Ethylbenzene (ug/m ³)	m,p-Xylene (ug/m ³)	o-Xylene (ug/m ³)	cis-1,2-DCE (ug/m ³)	trans-1,2-DCE (ug/m ³)	Vinyl Chloride (ug/m ³)	Oxygen (%)	Methane (%)	Carbon Dioxide (%)	Helium (%)
RWQCB-Reg 2 Environmental Screening Level for Shallow Soil Gas (Commercial/Industrial Land Use) - Table E ¹			1,400	4,100	29,000	29,000	280	180,000	3,300	58,000	58,000	20,000	41,000	100				
RWQCB-Reg 2 Environmental Screening Level for Shallow Soil Gas (Residential Land Use) - Table E ¹			410	1,200	10,000	10,000	84	63,000	980	21,000	21,000	7,300	15,000	31				
SSVP-1	5/4/2011	0.16	230	<5.9	<320	<220	<3.5	<4.2	<4.8	<4.8	<4.8	<4.4	<4.4	<2.8	18	<0.00022	2.8	0.69
	2/21/2012		130	<4.1	850	<160	<2.4	<2.9	<3.3	<3.3	<3.3	<3.0	<3.0	<1.9	19	<0.00020	2.7	<0.099
SSVP-1-Dup (field)	2/21/2012		130	<4.2	<300	<160	<2.5	<2.9	<3.4	<3.4	<3.4	<3.1	<3.1	<2.0	19	<0.00020	2.8	<0.10
SSVP-2	5/4/2011	0.16	9,700	180	3,800	<990	<15	<18	<21	<21	<21	<19	<19	<12	15	<0.00050	6.8	<0.25
	2/21/2012		5,900	100	2,400	4200	<16	23	<22	<22	<22	<20	<20	<13	15	<0.00017	6.9	<0.086
SSVP-3	5/5/2011	0.29	61	<6.3	<340	<240	<3.7	<4.4	<5.0	<5.0	<5.0	<4.6	<4.6	<3.0	18	<0.00023	2.4	<0.12
	2/21/2012		40	<4.1	<280	<160	<2.4	<2.9	<3.3	<3.3	<3.3	<3.0	<3.0	<1.9	18	<0.00020	2.6	<0.098
SSVP-4	5/5/2011	0.33	13	<6.3	<340	<240	<3.7	4.7	<5.0	<5.0	<5.0	<4.6	<4.6	<3.0	19	<0.00023	1.6	1.3
	2/17/2012		7.2	<4.4	<320	<170	<2.6	<3.1	<3.6	<3.6	<3.6	<3.2	<3.2	<2.1	19	0.00024	1.6	0.41
SSVP-5	5/5/2011	0.33	36	6.2	<340	<240	<3.7	<4.4	<5.0	<5.0	<5.0	<4.6	<4.6	<3.0	19	0.00026	2.2	<0.12
	2/29/2012		20	<4.3	<320	<160	<2.6	<3.0	<3.5	<3.5	<3.5	<3.2	<3.2	<2.0	20	0.00031	1.8	<0.14
SSVP-6	5/4/2011	0.33	18	<10	<550	<390	<6.0	7.3	<8.2	<8.2	<8.2	<7.5	<7.5	<4.8	35	<0.00088	1.8	<0.44
	2/17/2012		23	<4.1	<300	<160	<2.4	<2.9	<3.3	<3.3	<3.3	<3.0	<3.0	<1.9	18	<0.00015	2.8	<0.076
SSVP-7	5/4/2011	0.33	170	<6.4	<350	<240	<3.8	<4.5	<5.2	<5.2	<5.2	<4.8	<4.8	<3.1	20	<0.00024	1.7	<0.12
SSVP-7-Dup (field)	5/4/2011		170	<6.4	<350	<240	<3.8	<4.5	<5.2	<5.2	<5.2	<4.7	<4.7	<3.0	20.0	<0.00024	1.7	<0.12
	2/17/2012		110	<5.5	<380	<210	<3.2	<3.8	<4.4	<4.4	<4.4	<4.0	<4.0	<2.6	20	<0.00015	1.4	0.26
SSVP-8	5/4/2011	0.75	1,000	10	780	<250	<3.9	<4.6	<5.3	<5.3	<5.3	<4.9	<4.9	<3.1	19	<0.00025	2.4	<0.12
	2/17/2012		670	6.3	320	<150	<2.4	<2.8	<3.2	<3.2	<3.2	<3.0	<3.0	<1.9	19	0.00023	2.3	<0.074
SSVP-9	5/4/2011	0.33	460	8	4,800	2,400	<3.7	<4.4	<5.0	<5.0	<5.0	<4.6	<4.6	<3.0	9.9	0.00035	9.1	0.43
	2/29/2012		280	11	630	350	<2.4	<2.9	<3.3	<3.3	<3.3	<3.0	<3.0	<1.9	12.0	<0.00026	8.3	<0.13
SSVP-10	2/11/2012	0.75	20	<4.2	490	940	8.3	15	<3.4	7.7	3.6	<3.1	<3.1	<2.0	20.0	<0.00017	0.031	<0.084
SSVP-10-Dup (field)	2/11/2012		20	<4.2	320	400	4.8	3.9	<3.4	4.4	<3.4	<3.1	<3.1	<2.0	21.0	<0.00016	0.061	<0.078
SSVP-11	2/11/2012	0.75	<5.0	<4.0	<220	280	5.1	<2.8	<3.2	<3.2	<3.2	<3.0	<3.0	<1.9	21.0	<0.00015	0.10	<0.074

SUB-SLAB SOIL VAPOR ANALYTICAL DATA
JOHN NADY
1137-1167 65TH STREET
OAKLAND, CALIFORNIA

Sample ID	Date Sampled	Sample Interval (fbg)	PCE (ug/m ³)	TCE (ug/m ³)	TPHss (ug/m ³)	TPHg (ug/m ³)	Benzene (ug/m ³)	Toluene (ug/m ³)	Ethylbenzene (ug/m ³)	m,p-Xylene (ug/m ³)	o-Xylene (ug/m ³)	cis-1,2-DCE (ug/m3)	trans-1,2-DCE (ug/m3)	Vinyl Chloride (ug/m3)	Oxygen (%)	Methane (%)	Carbon Dioxide (%)	Helium (%)
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Abbreviations and Analyses:

1 = Table E, *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, RWQCB-SFBR, INTERIM FINAL - November 2007 (Revised May 2008)

<n = Not detected (ND) above laboratory detection limit, n.

>n = Compound present at concentrations exceeding instrument calibration range, n.

ug/m³ = Microgram per cubic meter.

% = Percent

-- = Not Analyzed, Not Available

ft = Measured in feet

TPHss by EPA Method TO-3

TPHg by EPA Method TO-15 GC/MS

Benzene, Toluene, Ethylbenzene, m,p&o-Xylenes and five HVOCs by modified EPA Method TO-15 GC/MS

Oxygen, Methane, Carbon Dioxide, Helium by ASTM D-1946

APPENDIX A

REGULATORY CORRESPONDENCE



ENVIRONMENTAL HEALTH DEPARTMENT
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

December 14, 2011

Mr. John Nady
Nady Systems
11 Glen Alpine Road
Piedmont, CA 94611

Subject: Work Plan Approval for Fuel Leak Case No. RO0000082 and Geotracker Global ID T0600138389, Nady System Inc., 1137 65th St., Oakland, CA 94608

Dear Mr. Nady:

Thank you for the recently submitted documents entitled, *Workplan for Sub-Slab Vapor Probe Installation and Sampling at 1164 Ocean Avenue, Oakland, California* dated June 9, 2011, *Site Conceptual Model, Sub-Slab Vapor Probe Installation and Additional Site Characterization Report* dated June 17, 2011, *Addendum to Workplan for Sub-Slab Vapor Probe Installation and Sampling* dated July 29, 2011, and *Proposed Locations of Sub-Slab Vapor Probes at 1164 Ocean Avenue, Oakland, California* dated December 5, 2011 which were prepared by Conestoga-Rovers & Associates (CRA) for the subject site. Alameda County Environmental Health (ACEH) staff has reviewed the case file including the above-mentioned report and work plans. The work plan proposes sub-slab sampling at 1164 Ocean Avenue and the Addendum proposes resampling sub-slab vapor probe, SSVP-2 since analytical results for tetrachloroethylene (PCE) are above the environmental screening level for commercial land use.

ACEH generally concurs with the proposed scope of work and requests that you address the following technical comments, perform the proposed work, and send us the technical reports described below.

TECHNICAL COMMENTS

1. **Sub-Slab Soil Vapor Sampling at 1164 Ocean Avenue** – ACEH concurs with the proposed modified location SSVP-10 but would prefer the location of SSVP-11B rather than SSVP-11A for the sub-slab sampling at the daycare facility at 1164 Ocean Avenue. Report the results by the date requested below.
2. **Sub-Slab Soil Vapor Sampling** – In accordance with established protocols for soil vapor sampling, ACEH requests that you perform an additional sub-slab vapor sampling event from all of the installed sub-slab vapor points. Concentrations can vary due to depths to water, atmospheric pressures, and a number of other variables that can occur throughout the year

Mr. Nady
RO0000082
December 14, 2011, Page 2

and the current Environmental Protection Agency recommendation to gather multiple lines of evidence includes vapor sampling at various times throughout the year. Since you collected samples at the beginning of May, please collect a second round at each point in the winter months. Please report the results in the report requested below.

NOTIFICATION OF FIELDWORK ACTIVITIES

Please schedule the fieldwork activities and provide ACEH with at least three (3) business days notification (preferably by e-mail) prior to conducting the fieldwork.

TECHNICAL REPORT REQUEST

Please submit technical reports to ACEH (Attention: Barbara Jakub), according to the following schedule:

- **March 15, 2012** – Soil Vapor Investigation Report

Thank you for your cooperation. Should you have any questions or concerns regarding this correspondence or your case, please call me at (510) 639-1287 or send me an electronic mail message at barbara.jakub@acgov.org.

Sincerely,



Digitally signed by Barbara J. Jakub
DN: cn=Barbara J. Jakub, o, ou,
email=barbara.jakub@acgov.org, c=US
Date: 2011.12.14 15:32:46 -08'00'

Barbara J. Jakub, P.G.
Hazardous Materials Specialist

Enclosure: Responsible Party(ies) Legal Requirements/Obligations
 ACEH Electronic Report Upload (ftp) Instructions

cc: Bob Foss, Conestoga-Rovers & Associates, 5900 Hollis St, Suite A, Emeryville, CA (via e-mail: bfoss@croworld.com)
 Frederick Shrag, 6701 Shellmound Street, Emeryville, CA 94608 (via e-mail: schrag@nady.com)
 Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612-2032 (Sent via E-mail to: lgriffin@oaklandnet.com)
 Donna Drogos, ACEH (Sent via E-mail to: donna.drogos@acgov.org)
 Barbara Jakub, ACEH (Sent via E-mail to: barbara.jakub@acgov.org)
 GeoTracker, File

Responsible Party(ies) Legal Requirements/Obligations

REPORT REQUESTS

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) GeoTracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the GeoTracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in GeoTracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/electronic_submittal/report_rqmts.shtml).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "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." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)	REVISION DATE: July 20, 2010
	ISSUE DATE: July 5, 2005
	PREVIOUS REVISIONS: October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010
SECTION: Miscellaneous Administrative Topics & Procedures	SUBJECT: Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

REQUIREMENTS

- **Please do not submit reports as attachments to electronic mail.**
- Entire report including cover letter must be submitted to the ftp site as a **single portable document format (PDF) with no password protection.**
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- **Signature pages and perjury statements must be included and have either original or electronic signature.**
- **Do not password protect the document.** Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted.**
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:
RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

Submission Instructions

- 1) Obtain User Name and Password:
 - a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
 - i) Send an e-mail to deh.loptoxic@acgov.org
 - b) In the subject line of your request, be sure to include "**ftp PASSWORD REQUEST**" and in the body of your request, include the **Contact Information, Site Addresses, and the Case Numbers (RO# available in Geotracker) you will be posting for.**

- 2) Upload Files to the ftp Site
 - a) Using Internet Explorer (IE4+), go to <ftp://alcoftp1.acgov.org>
 - (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site.
 - b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
 - c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
 - d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
 - e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.

- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
 - a) Send email to deh.loptoxic@acgov.org notify us that you have placed a report on our ftp site.
 - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
 - c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
 - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

APPENDIX B

SITE BACKGROUND, GEOLOGIC SETTING, AND HISTORICAL CHEMICAL USAGE

SITE BACKGROUND, GEOLOGIC SETTING AND HISTORICAL CHEMICAL USAGE

SITE BACKGROUND INFORMATION

Site Description

The subject site consists of a group of four buildings separated by narrow walkways and an outside parking area. The site includes the addresses 1137, 1145 and 1167 65th Street in Oakland. The building spaces are rented to artists and musicians. The surrounding area includes mixed residential, commercial and light industrial uses. A gasoline underground storage tank (UST) had been installed and operated in the southeastern section of the property and a heating-oil UST was located beneath the sidewalk in front of the site along 65th Street. The installation dates of these USTs are unknown, but they were removed in 1982 and 1998, respectively. Additionally, the facility was historically used for dry cleaning operations from approximately 1935 to 1978. Investigation results suggest that stoddard solvent was the primary chemical used for this operation, along with the halogenated volatile organic compound (HVOC) Tetrachloroethene (PCE). Stoddard solvent is composed of a suite of hydrocarbon chemicals ranging from C₇ through C₁₂.

The adjacent downgradient property is located at 1164 Ocean Avenue. This property is developed with a house facing Ocean Avenue and a two story building on its northern end, immediately adjacent to Peabody Lane. Peabody Lane is a small paved street separating the subject site from 1164 Ocean Avenue, running parallel to both 65th Street and Ocean Avenue, between the two. The two story structure is constructed with a slab-on-grade concrete foundation.

Site Ownership and Leasing

The subject property is owned by the Nady Trust. Individual units within the four buildings are rented or leased to individuals or companies. The Ocean Avenue property is owned by Ms. Gloria Lyons.

Current Site Use

The various units within the four buildings are used by musicians, artists and other artisans. The different spaces are used as studios, workshops, and galleries. The property at 1164 Ocean Avenue is developed with two buildings. A house is located on the south end of the property adjacent to Ocean Avenue. A second building, located on the north end of the property, adjacent to Peabody Lane, operates as a daycare center on the first floor with a residential unit above.

GEOLOGIC SETTING

The site is located in the Coast Ranges Geomorphic Province of California. The origin of the local geology appears to be alluvial fan deposits interfacing with marine estuarine deposits.

Beneath surface materials (concrete or asphalt) and fill, investigations to date have shown subsurface soils to generally consist of interbedded layers of low permeability silts and clays; moderately permeable mixtures of sandy silt and clay; and higher permeable silty sand. The site is approximately 35 feet above mean sea level (ft msl) and local topography is generally flat. Groundwater flow is typically calculated toward the southwest, in the general direction of San Francisco Bay.

HISTORICAL CHEMICAL USE

On the subject site at 1137-1167 65th Street, a gasoline UST and overlying dispenser was located beneath the paved area east of the buildings. This UST appears to have stored and dispensed fuel for delivery vehicles operating from the site. This tank was removed in 1982. A heating oil tank located beneath the sidewalk just north of the building at 1145 65th Street was removed in 1998. Six underground storage tanks (USTs) and conveyance piping associated with Stoddard solvent storage were previously in use at the subject site. Four of these six USTs are shown on Figure 2, and these are the four closest to the property at 1164 Ocean Avenue. In addition to Stoddard solvent, two of these tanks contained PCE, another dry cleaning chemical. A liquid sample from each tank was collected and analyzed in September 2001 to profile the residual fluids for removal and disposal. Five of the six tanks were removed in February 2002, while the sixth, UST #5, was abandoned in place with agency approval. Each sample contained varying ranges of petroleum hydrocarbons, with detections in the ranges of gasoline, naphtha and diesel. This hydrocarbon mix suggests primarily Stoddard solvent, the common dry cleaning fluid referenced above. PCE, along with its degradation products were also reported in the some of the samples collected from these USTs.

APPENDIX C

STANDARD FIELD PROCEDURES

Draft

**Standard Operating Procedure (SOP) for Installation of
Sub-Slab Vapor Probes and Sampling Using
EPA Method TO-15 to Support Vapor Intrusion
Investigations**

Dominic DiGiulio, Ph.D.
U.S. Environmental Protection Agency
Office of Research and Development
National Risk Management Research Laboratory
Ground-Water and Ecosystem Restoration Division
Ada, Oklahoma

phone: 580-436-8605
e-mail: digiulio.dominic@epa.gov

Background

Vapor intrusion is defined as vapor phase migration of volatile organic and/or inorganic compounds into occupied buildings from underlying contaminated ground water and/or soil. Until recently, this transport pathway was not routinely considered in RCRA, CERCLA, or UST investigations. Therefore the number of buildings or homes where vapor intrusion has occurred or is occurring is undefined. However, considering the vast number of current and former industrial, commercial, and waste processing facilities in the United States capable of causing volatile organic or inorganic ground-water or soil contamination, contaminant exposure via vapor intrusion could pose a significant risk to the public. Also, consideration of this transport pathway may necessitate review of remedial decisions at RCRA and CERCLA sites as well as implementation of risk-reduction technologies at Brownsfield sites where future development and subsequent potential exposure may occur. EPA's Office of Solid Waste and Emergency Response (OSWER) recently (2002) developed guidance to facilitate assessment of vapor intrusion at sites regulated by RCRA and CERCLA where halogenated organic compounds constitute the bulk of risk to human health. EPA's Office of Underground Storage Tanks (OUST) is considering modifying this guidance to include underground storage tank sites where petroleum compounds primarily determine risk and biodegradation in subsurface media may be a dominant fate process.

The OSWER guidance recommends indoor air and sub-slab gas sampling in potentially affected buildings at sites containing elevated levels of soil-gas and ground-water contamination. To support the guidance and improve site-characterization and data interpretation methods to assess vapor intrusion, EPA's Office of Research and Development is developing a protocol for sub-slab gas sampling. When used in conjunction with indoor air, outdoor air, and soil gas and/or ground-water sampling, sub-slab gas sampling can be used to differentiate indoor and outdoor sources of volatile organic and/or inorganic compounds from compounds emanating from contaminated subsurface media. This information can then be used to assess the need for sub-slab depressurization or other risk-reduction technologies to reduce present or potential future indoor air contamination due to vapor intrusion.

Sub-Slab Vapor Probe Construction and Installation

1. Prior to drilling holes in a foundation or slab, contact local utility companies to identify and mark utilities coming into the building from the outside (e.g., gas, water, sewer, refrigerant, and electrical lines). Consult with a local electrician and plumber to identify the location of utilities inside the building.
2. Prior to fabrication of sub-slab vapor probes, drill a pilot hole to assess the thickness of a slab. As illustrated in **Figure 1**, use a rotary hammer drill to create a "shallow" (e.g., 2.5 cm or 1 in) "outer" hole (e.g., 2.2 cm or 7/8 in diameter) that partially penetrates the slab. Use a small portable vacuum cleaner to remove cuttings from the hole if penetration has not occurred. Removal of cuttings in this manner in a competent slab will not compromise sampling because of lack of pneumatic communication between sub-slab material and the source of vacuum.
3. Then use the rotary hammer drill to create a smaller diameter "inner" hole (e.g., 0.8 cm or 5/16 in) through the remainder of the slab and some depth (e.g., 7 to 8 cm or 3 in) into sub-slab material. **Figure 2** illustrates the appearance of "inner" and "outer" holes. Drilling into sub-slab material will create an open cavity which will prevent obstruction of

probes during sampling by small pieces of gravel.

4. The basic design of a sub-slab vapor probe is illustrated in **Figure 3**. Once the thickness of the slab is known, tubing should be cut to ensure that probes "float" in the slab to avoid obstruction of the probe with sub-slab material. Construct sub-slab vapor probes from small diameter (e.g., 0.64 cm or 1/4 in OD x 0.46 cm or 0.18 in ID) chromatography grade 316 stainless steel tubing and stainless-steel compression to thread fittings (e.g., 0.64 cm or 1/4 in OD x 0.32 cm or 1/8 in NPT Swagelok female thread connectors) as illustrated in **Figure 4**. Use of stainless-steel materials to ensure that construction materials are not a source of VOCs.
5. Set sub-slab vapor probes in holes. As illustrated in **Figure 5**, the top of the probes should be completed flush with the slab and have recessed stainless steel or brass plugs so as not interfere with day-to-day use of buildings. Mix a quick-drying portland cement which expands upon drying (to ensure a tight seal) with water to form a slurry and inject or push into the annular space between the probe and outside of the "outer" hole. Allow cement to cure for at least 24 hours prior to sampling.
6. Install at least 3 sub-slab vapor probes in each residence. As illustrated in **Figure 6**, create a schematic identifying the location of each sub-slab probe.

Sub-Slab Sampling

1. Connect dedicated a stainless-steel fitting and tubing (e.g., 1/8 in NPT to 1/4 in tube Swagelok fitting and 30 cm or 1 ft of 1/4 in I.D. Teflon tubing to a sub-slab vapor probe as illustrated in **Figure 7**. Use of dedicated fitting and tubing will avoid cross-contamination issues.
2. Connect the Teflon tubing to 1/4" ID Masterflex (e.g., 1.4 in ID high performance Tygon LFL) tubing and a peristaltic pump and 1-L Tedlar bag as illustrated in **Figure 8**. Use of a peristaltic pump will ensure that sampled air does not circulate through a pump causing potential cross contamination and leakage.
3. Purge vapor probe by filling two dedicated 1-L Tedlar bags. The internal volume of sub-slab probes is insignificant ($< 5 \text{ cm}^3$). A purge volume of 2 L was chosen based on the assumption of a 0.64 cm (1/4") air space beneath a slab and an affected sample diameter of 0.61 m (2 ft).
4. Use a portable landfill gas meter to analyze for O_2 , CO_2 and CH_4 in Tedlar bags as illustrated in **Figure 9**.
5. Collect sub-slab vapor samples in evacuated 10% or 100% certified 1-L Summa polished canisters and dedicated particulate filters as illustrated in **Figure 10**. Check vacuum in canisters prior to sampling. Sampling will cease when canister pressure reaches atmospheric pressure. Submit canisters to a commercial laboratory for analysis by EPA Method TO-15.
6. Collect at least one duplicate sub-slab sample per building using dedicated stainless-steel tubing as illustrated in **Figure 11**.



Figure 1. Drilling through a slab



Figure 2. "inner and "outer

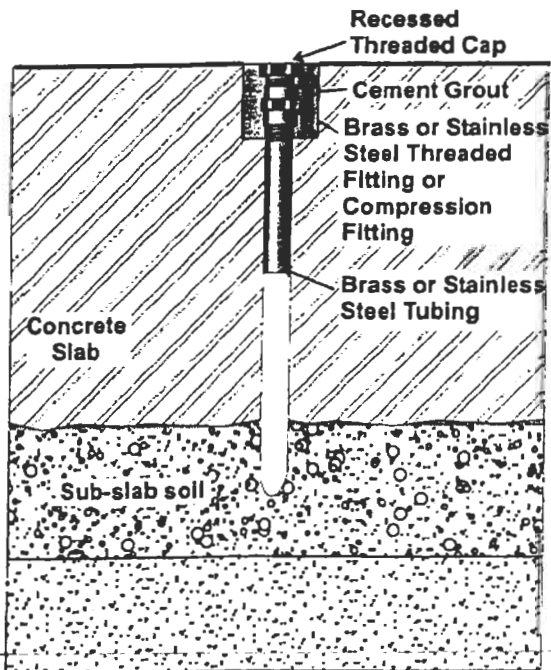


Figure 3. General schematic of sub-slab vapor probe

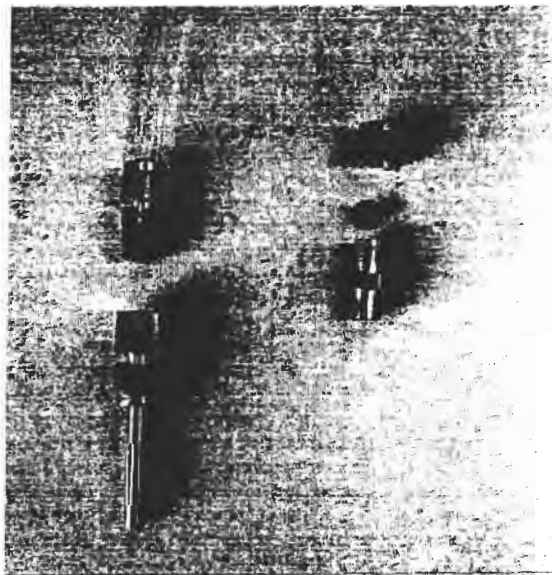


Figure 4. Stainless steel sub-slab vapor probe components

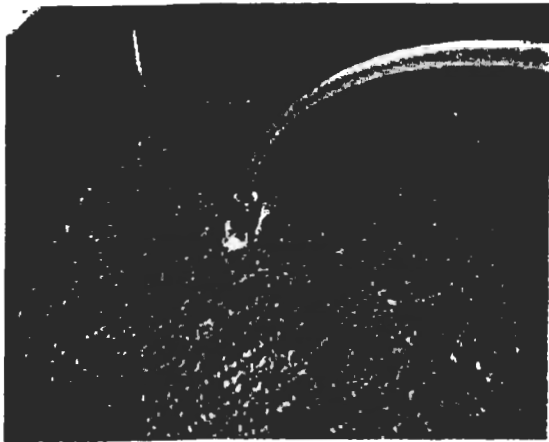


Figure 7. Compression fitting to probe



Figure 8. Purge prior to sampling



Figure 9. Analysis of O₂, CO₂, and CH₄



Figure 10. Sampling in 1-L evacuated canister for TO-15 analysis



Figure 11. Collection of duplicate sample



Figure 5. Completed vapor probe installation

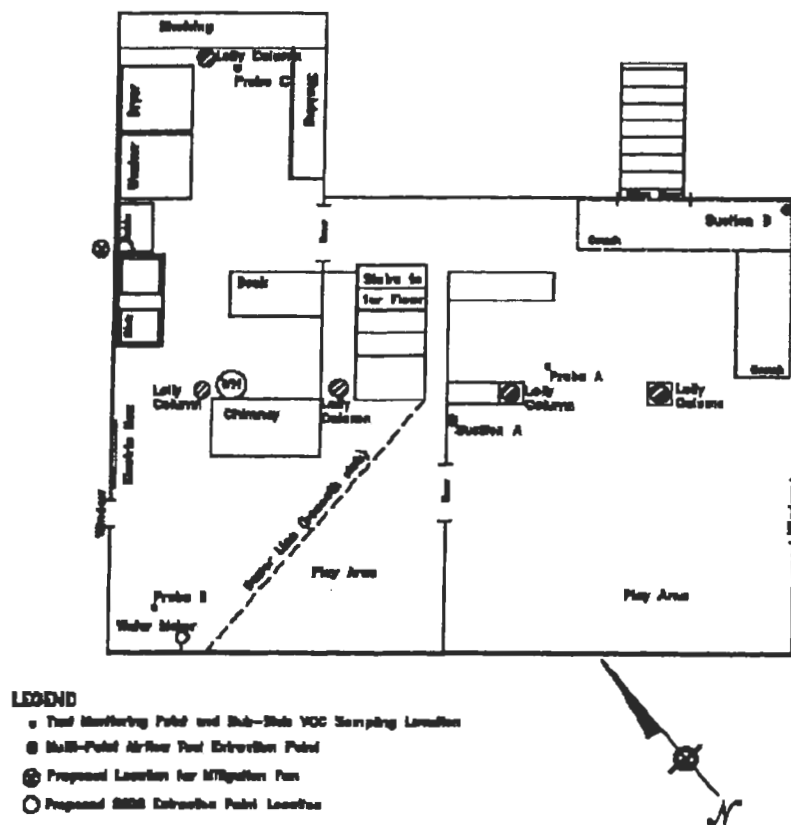


Figure 6. Schematic illustration location of vapor probes in a basement

APPENDIX G - SOIL GAS SAMPLING DIRECTLY UNDER BUILDING FOUNDATIONS (SUBSLAB SAMPLING)

For sites that fail a preliminary evaluation pursuant to Step 5, a site-specific evaluation of vapor intrusion can be done, which may include the sampling of soil gas beneath a building's foundation. The number and locations of subslab samples should be determined based on information collected during the building survey, an understanding of the building foundation, and the results from nearby soil gas sampling. At least two subslab samples should be taken at a minimum, with one sample taken in the center of the building's foundation, if possible. The subslab data will determine if vapors are collecting directly under the building's foundation and will demonstrate which contaminants potentially represent a threat to human health. If a building is determined to have a vapor barrier and/or a tension slab, special care should be given when hand-drilling through the concrete slab. In particular, for a tension foundation slab, the tension cables within the slab should be located prior to drilling either through visual observation or through remote-sensing with either a metal detector or ground penetrating radar. The cutting of a tension cable within a slab during drilling could disrupt the integrity of the slab and potentially cause injury to the field crew.

When evaluating subslab soil gas concentrations for a building, DTSC recommends that permanent sampling points be installed so that repeated sampling can be conducted, as necessary, to evaluate seasonal or temporal variations.

The following guidelines for subslab testing are derived, with modifications, from the state of Massachusetts' Indoor Air Sampling and Evaluation Guide, WSC Policy #02-430 (Massachusetts Department of Environmental Protection, 2002).

- 1) After removal of the floor covering, small-diameter holes should be drilled through the concrete of the foundation slab. Typically, holes are 1.0 to 1.25 inches in diameter. Either an electric hand drill or concrete corer is used to drill the holes. All subslab utilities should be located and clearly marked on the slab prior to drilling. Subslab holes should be advanced 3 to 4 inches into the subslab material. The sampling probe should be constructed with the following specifications:
 - Vapor probes are typically constructed of 1/8 inch or 1/4 inch diameter brass or stainless steel pipe, with a permeable probe tip. A Teflon™ sealing disk should be placed between the probe tip and the blank pipe.
 - Bentonite chips should be used to fill the borehole annular space between the probe pipe and subslab gravel from the Teflon sealing disk to the base of the concrete foundation. Sufficient water should be added to hydrate the bentonite to insure proper sealing, and care should be used in placement of the bentonite to prevent post-emplacment expansion which might compromise both the probe and cement seal. If needed, the vapor probe tip can be covered with sand.
 - The probe pipe should be tightly sealed to the foundation slab with quick-setting contaminant-free Portland cement.

- Each probe should be constructed with a recessed threaded cap with a brass or stainless steel threaded fitting or compression fitting so the probe completion is flush with the foundation slab to reduce the tripping hazard.
- At least 30 minutes of time should elapse following installation of a probe to allow the cement to cure and allow for the subsurface conditions to equilibrate prior to sampling.

An example of a sampling probe is shown in the attached schematic diagram.

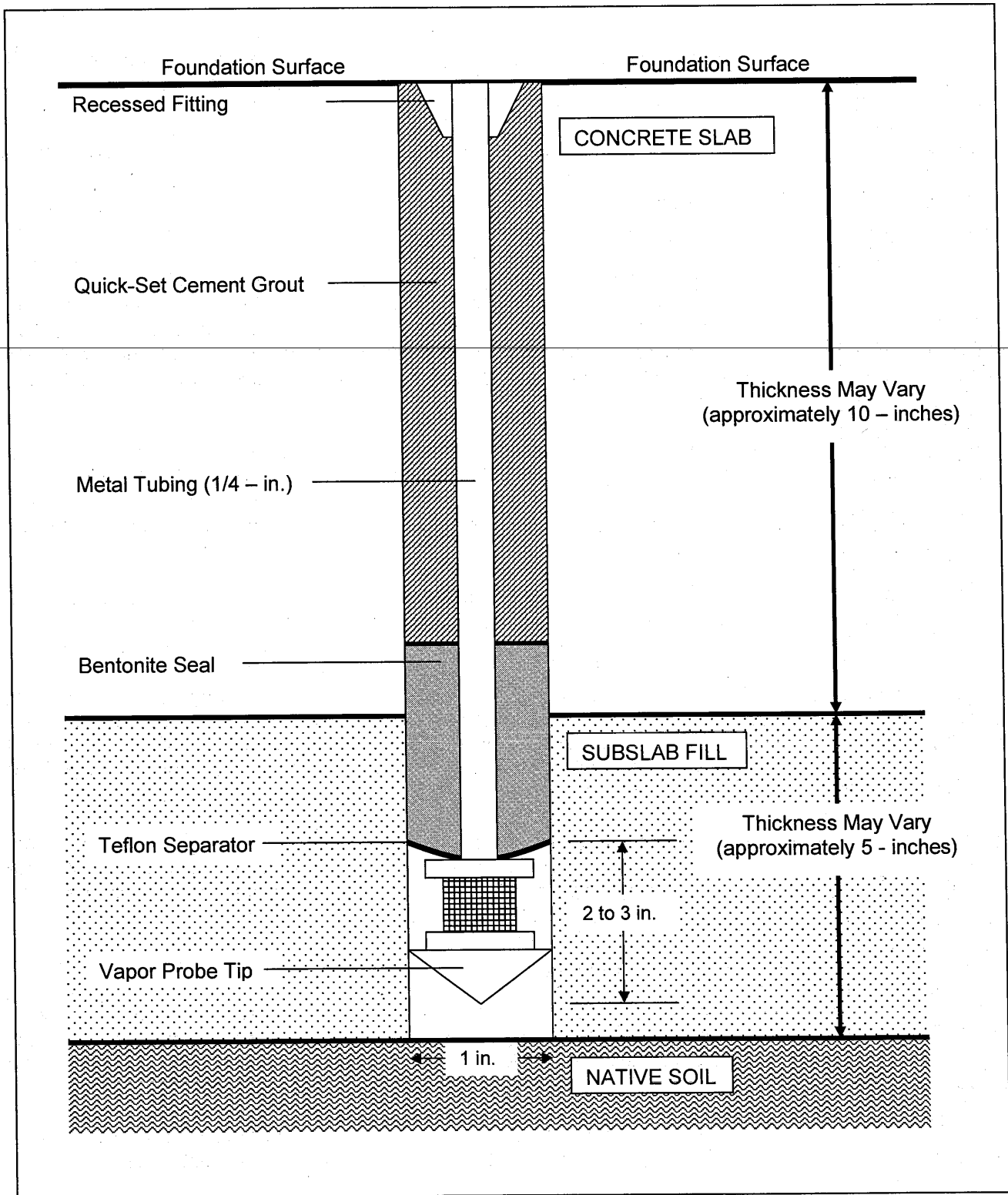
- 2) The collection of subslab samples should follow the procedures in Cal-EPA (2003), which recommends purge volume testing, leak testing, and the use of surface seals to insure sample integrity, as appropriate for field conditions. Samples should be collected in gas-tight, opaque/dark containers so that light-sensitive or halogenated VOCs will not degrade. The use of Tedlar bags for collection of soil gas samples is not recommended. If a Summa™ canister is used, a flow regulator should be placed between the probe and the canister to ensure that the canister is filled at the appropriate flow rate. Flow rates should not exceed 200 ml/min. Care should be taken during sampling to avoid sample break-through from the surface of the slab.
- 3) Subslab soil gas sampling should be performed using analytical methods in Cal-EPA (2003). These methods include USEPA Methods 8260B, 8021B, and 8015B. Other methods that may be used include USEPA Methods TO-14A, TO-15, and other methods that meet the site-specific data quality objectives and the analytical method detection limits for risk determination.
- 4) A sufficient number of subslab sampling events should be conducted to account for seasonal and temporal transience. Therefore, a minimum of two subslab sampling events are warranted before a final risk determination is made.
- 5) Upon completion of all the sampling, the foundation probes should be properly decommissioned. The probe tip, probe piping, bentonite, and grout should be removed by re-drilling. The borehole should be filled with grout and concrete patch material. Surface restoration should include a follow-up visit for final sanding and finish work to restore the floor slab to its original condition.

The use of passive soil gas methods for subslab sampling are not recommended for risk determination. Passive soil gas sampling should only be considered to identify subsurface contaminants, preferential pathways for vapor movement, and to reduce uncertainty caused by temporal variations.

REFERENCES

- California Environmental Protection Agency. 2003. Advisory – Active Soil Gas Investigation. Jointly issued by the Regional Water Quality Control Board, Los Angeles Region and the Department of Toxic Substances Control. January 28, 2003. [www.dtsc.ca.gov/Publications/Forms/index.html]
- Massachusetts Department of Environmental Protection. April 2002. Indoor Air Sampling and Evaluation Guide, WSC Policy #02-430. Massachusetts Department of Environmental Protection.

SCHEMATIC DIAGRAM OF A SUBSLAB SAMPLING PROBE



APPENDIX D

LABORATORY ANALYTICAL REPORTS

3/12/2012

Mr. Bob Foss

Conestoga-Rovers Associates (CRA)

5900 Hollis Street

Suite A

Emeryville CA 94608

Project Name: NADY PROPERTY

Project #: 521000

Workorder #: 1203107A

Dear Mr. Bob Foss

The following report includes the data for the above referenced project for sample(s) received on 3/5/2012 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: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kyle Vagadori


Project Manager

WORK ORDER #: 1203107A

Work Order Summary

CLIENT:	Mr. Bob Foss Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608	BILL TO:	Belew Yifru Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608
PHONE:	510-420-0700	P.O. #	521000-356
FAX:	510-420-9170	PROJECT #	521000 NADY PROPERTY
DATE RECEIVED:	03/05/2012	CONTACT:	Kyle Vagadori
DATE COMPLETED:	03/12/2012		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SSVP-1	Modified TO-15	3.5 "Hg	5 psi
02A	SSVP-1-DUP	Modified TO-15	4.0 "Hg	5 psi
03A	SSVP-2	Modified TO-15	3.5 "Hg	5 psi
04A	SSVP-3	Modified TO-15	3.5 "Hg	5 psi
05A	Lab Blank	Modified TO-15	NA	NA
06A	CCV	Modified TO-15	NA	NA
07A	LCS	Modified TO-15	NA	NA
07AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: 
 Laboratory Director

DATE: 03/12/12

Certification 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
 This report shall not be reproduced, except in full, without the written approval of Eurofins | Air Toxics, Inc.

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

LABORATORY NARRATIVE
EPA Method TO-15
Conestoga-Rovers Associates (CRA)
Workorder# 1203107A

Four 1 Liter Summa Canister (100% Certified) samples were received on March 05, 2012. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

A single point calibration for TPH referenced to Gasoline was performed for each daily analytical batch. Recovery is reported as 100% in the associated results for each CCV.

Dilution was performed on sample SSVP-2 due to the presence of high level target species.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: SSV-1

Lab ID#: 1203107A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.76	19	5.2	130

Client Sample ID: SSV-1-DUP

Lab ID#: 1203107A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.78	20	5.2	130

Client Sample ID: SSV-2

Lab ID#: 1203107A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	5.0	18	27	100
Toluene	5.0	6.1	19	23
Tetrachloroethene	5.0	870	34	5900
TPH ref. to Gasoline (MW=100)	250	1000	1000	4200

Client Sample ID: SSV-3

Lab ID#: 1203107A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.76	5.9	5.2	40

Client Sample ID: SSVP-1

Lab ID#: 1203107A-01A

EPA METHOD TO-15 GC/MS

File Name:	p030736	Date of Collection:	2/21/12 11:00:00 AM
Dil. Factor:	1.52	Date of Analysis:	3/8/12 03:07 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.76	Not Detected	1.9	Not Detected
cis-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Benzene	0.76	Not Detected	2.4	Not Detected
Trichloroethene	0.76	Not Detected	4.1	Not Detected
Toluene	0.76	Not Detected	2.9	Not Detected
Tetrachloroethene	0.76	19	5.2	130
trans-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Ethyl Benzene	0.76	Not Detected	3.3	Not Detected
m,p-Xylene	0.76	Not Detected	3.3	Not Detected
o-Xylene	0.76	Not Detected	3.3	Not Detected
TPH ref. to Gasoline (MW=100)	38	Not Detected	160	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	112	70-130

Client Sample ID: SSVP-1-DUP

Lab ID#: 1203107A-02A

EPA METHOD TO-15 GC/MS

File Name:	p030737	Date of Collection:	2/21/12 11:00:00 AM
Dil. Factor:	1.55	Date of Analysis:	3/8/12 03:37 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.78	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.78	Not Detected	3.1	Not Detected
Benzene	0.78	Not Detected	2.5	Not Detected
Trichloroethene	0.78	Not Detected	4.2	Not Detected
Toluene	0.78	Not Detected	2.9	Not Detected
Tetrachloroethene	0.78	20	5.2	130
trans-1,2-Dichloroethene	0.78	Not Detected	3.1	Not Detected
Ethyl Benzene	0.78	Not Detected	3.4	Not Detected
m,p-Xylene	0.78	Not Detected	3.4	Not Detected
o-Xylene	0.78	Not Detected	3.4	Not Detected
TPH ref. to Gasoline (MW=100)	39	Not Detected	160	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	111	70-130



Client Sample ID: SSVP-2

Lab ID#: 1203107A-03A

EPA METHOD TO-15 GC/MS

File Name:	p030739	Date of Collection:	2/21/12 12:30:00 PM
Dil. Factor:	10.1	Date of Analysis:	3/8/12 04:57 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	5.0	Not Detected	13	Not Detected
cis-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Benzene	5.0	Not Detected	16	Not Detected
Trichloroethene	5.0	18	27	100
Toluene	5.0	6.1	19	23
Tetrachloroethene	5.0	870	34	5900
trans-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Ethyl Benzene	5.0	Not Detected	22	Not Detected
m,p-Xylene	5.0	Not Detected	22	Not Detected
o-Xylene	5.0	Not Detected	22	Not Detected
TPH ref. to Gasoline (MW=100)	250	1000	1000	4200

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	116	70-130



Air Toxics

Client Sample ID: SSVP-3

Lab ID#: 1203107A-04A

EPA METHOD TO-15 GC/MS

File Name:	p030738	Date of Collection:	2/21/12 2:20:00 PM
Dil. Factor:	1.52	Date of Analysis:	3/8/12 04:25 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.76	Not Detected	1.9	Not Detected
cis-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Benzene	0.76	Not Detected	2.4	Not Detected
Trichloroethene	0.76	Not Detected	4.1	Not Detected
Toluene	0.76	Not Detected	2.9	Not Detected
Tetrachloroethene	0.76	5.9	5.2	40
trans-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Ethyl Benzene	0.76	Not Detected	3.3	Not Detected
m,p-Xylene	0.76	Not Detected	3.3	Not Detected
o-Xylene	0.76	Not Detected	3.3	Not Detected
TPH ref. to Gasoline (MW=100)	38	Not Detected	160	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	108	70-130

Client Sample ID: Lab Blank

Lab ID#: 1203107A-05A

EPA METHOD TO-15 GC/MS

File Name:	p030709	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/7/12 11:00 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	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
TPH ref. to Gasoline (MW=100)	25	Not Detected	100	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	103	70-130

Client Sample ID: CCV

Lab ID#: 1203107A-06A

EPA METHOD TO-15 GC/MS

File Name:	p030704	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/7/12 09:07 AM

Compound	%Recovery
Vinyl Chloride	93
cis-1,2-Dichloroethene	96
Benzene	95
Trichloroethene	96
Toluene	94
Tetrachloroethene	98
trans-1,2-Dichloroethene	97
Ethyl Benzene	96
m,p-Xylene	102
o-Xylene	102
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	112	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1203107A-07A

EPA METHOD TO-15 GC/MS

File Name:	p030705	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/7/12 09:39 AM

Compound	%Recovery
Vinyl Chloride	100
cis-1,2-Dichloroethene	102
Benzene	102
Trichloroethene	103
Toluene	99
Tetrachloroethene	104
trans-1,2-Dichloroethene	114
Ethyl Benzene	104
m,p-Xylene	108
o-Xylene	110
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	105	70-130

Client Sample ID: LCSD

Lab ID#: 1203107A-07AA

EPA METHOD TO-15 GC/MS

File Name:	p030706	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/7/12 09:56 AM

Compound	%Recovery
Vinyl Chloride	101
cis-1,2-Dichloroethene	104
Benzene	103
Trichloroethene	105
Toluene	102
Tetrachloroethene	105
trans-1,2-Dichloroethene	118
Ethyl Benzene	105
m,p-Xylene	110
o-Xylene	111
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	110	70-130

3/12/2012

Mr. Bob Foss

Conestoga-Rovers Associates (CRA)

5900 Hollis Street

Suite A

Emeryville CA 94608

Project Name: NADY PROPERTY

Project #: 521000

Workorder #: 1203107B

Dear Mr. Bob Foss

The following report includes the data for the above referenced project for sample(s) received on 3/5/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-3 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 #: 1203107B

Work Order Summary

CLIENT:	Mr. Bob Foss Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608	BILL TO:	Belew Yifru Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608
PHONE:	510-420-0700	P.O. #	521000-356
FAX:	510-420-9170	PROJECT #	521000 NADY PROPERTY
DATE RECEIVED:	03/05/2012	CONTACT:	Kyle Vagadori
DATE COMPLETED:	03/12/2012		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SSVP-1	Modified TO-3	3.5 "Hg	5 psi
02A	SSVP-1-DUP	Modified TO-3	4.0 "Hg	5 psi
03A	SSVP-2	Modified TO-3	3.5 "Hg	5 psi
04A	SSVP-3	Modified TO-3	3.5 "Hg	5 psi
05A	Lab Blank	Modified TO-3	NA	NA
06A	LCS	Modified TO-3	NA	NA
06AA	LCSD	Modified TO-3	NA	NA

CERTIFIED BY: 
 Laboratory Director

DATE: 03/12/12

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

LABORATORY NARRATIVE
Modified TO-3
Conestoga-Rovers Associates (CRA)
Workorder# 1203107B

Four 1 Liter Summa Canister (100% Certified) samples were received on March 05, 2012. The laboratory performed analysis for volatile organic compounds in air via modified EPA Method TO-3 using gas chromatography with flame ionization detection. The method involves concentrating up to 200 mL of sample. The concentrated aliquot is then dry purged to remove water vapor prior to entering the chromatographic system.

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-3</i>	<i>ATL Modifications</i>
Daily Calibration Standard Frequency	Prior to sample analysis and every 4 - 6 hrs	Prior to sample analysis and after the analytical batch ≤ 20 samples.
Initial Calibration Calculation	4-point calibration using a linear regression model	5-point calibration using average Response Factor
Initial Calibration Frequency	Weekly	When daily calibration standard recovery is outside 75 - 125 %, or upon significant changes to procedure or instrumentation
Moisture Control	Nafion system	Sorbent system
Minimum Detection Limit (MDL)	Calculated using the equation $DL = A + 3.3S$, where A is intercept of calibration line and S is the standard deviation of at least 3 reps of low level standard	40 CFR Pt. 136 App. B
Preparation of Standards	Levels achieved through dilution of gas mixture	Levels achieved through loading various volumes of the gas mixture

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The hydrocarbon profile present in sample SSVP-2 did not resemble that of Stoddard Solvent.

Definition of Data Qualifying Flags

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

- B - Compound present in laboratory blank greater than reporting limit.
- J - Estimated value.
- E - Exceeds instrument calibration range.
- S - Saturated peak.
- Q - Exceeds quality control limits.
- U - Compound analyzed for but not detected above the detection limit.
- M - Reported value may be biased due to apparent matrix interferences.

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

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

**Summary of Detected Compounds
MODIFIED EPA METHOD TO-3 GC/FID**

Client Sample ID: SSV-1

Lab ID#: 1203107B-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Stoddard Solvent	50	140	290	850

Client Sample ID: SSV-1-DUP

Lab ID#: 1203107B-02A

No Detections Were Found.

Client Sample ID: SSV-2

Lab ID#: 1203107B-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Stoddard Solvent	44	410	250	2400

Client Sample ID: SSV-3

Lab ID#: 1203107B-04A

No Detections Were Found.



Air Toxics

Client Sample ID: SSVP-1

Lab ID#: 1203107B-01A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d030914	Date of Collection:	2/21/12 11:00:00 AM	
Dil. Factor:	1.98	Date of Analysis:	3/9/12 12:48 PM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Stoddard Solvent	50	140	290	850

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

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	109	75-150



Air Toxics

Client Sample ID: SSVP-1-DUP

Lab ID#: 1203107B-02A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d030915	Date of Collection:	2/21/12 11:00:00 AM	
Dil. Factor:	2.04	Date of Analysis:	3/9/12 01:48 PM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Stoddard Solvent	51	Not Detected	300	Not Detected

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

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	107	75-150



Air Toxics

Client Sample ID: SSVP-2

Lab ID#: 1203107B-03A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d030916	Date of Collection:	2/21/12 12:30:00 PM	
Dil. Factor:	1.74	Date of Analysis:	3/9/12 02:20 PM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Stoddard Solvent	44	410	250	2400

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

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	109	75-150



Air Toxics

Client Sample ID: SSVP-3

Lab ID#: 1203107B-04A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d030917	Date of Collection:	2/21/12 2:20:00 PM	
Dil. Factor:	1.96	Date of Analysis:	3/9/12 02:56 PM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Stoddard Solvent	49	Not Detected	280	Not Detected

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

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	110	75-150



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1203107B-05A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d030907	Date of Collection:	NA	
Dil. Factor:	1.00	Date of Analysis:	3/9/12 02:43 AM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Stoddard Solvent	25	Not Detected	140	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	105	75-150



Air Toxics

Client Sample ID: LCS

Lab ID#: 1203107B-06A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d030906	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/9/12 01:44 AM

Compound	%Recovery
Stoddard Solvent	111

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	92	75-150



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1203107B-06AA

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d030918	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/9/12 03:45 PM

Compound	%Recovery
Stoddard Solvent	134

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	101	75-150

3/12/2012
Mr. Bob Foss
Conestoga-Rovers Associates (CRA)
5900 Hollis Street
Suite A
Emeryville CA 94608

Project Name: NADY PROPERTY
Project #: 521000
Workorder #: 1203107C

Dear Mr. Bob Foss

The following report includes the data for the above referenced project for sample(s) received on 3/5/2012 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: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,




Kyle Vagadori
Project Manager

WORK ORDER #: 1203107C

Work Order Summary

CLIENT:	Mr. Bob Foss Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608	BILL TO:	Belew Yifru Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608
PHONE:	510-420-0700	P.O. #	521000-356
FAX:	510-420-9170	PROJECT #	521000 NADY PROPERTY
DATE RECEIVED:	03/05/2012	CONTACT:	Kyle Vagadori
DATE COMPLETED:	03/12/2012		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SSVP-1	Modified ASTM D-1946	3.5 "Hg	5 psi
02A	SSVP-1-DUP	Modified ASTM D-1946	4.0 "Hg	5 psi
03A	SSVP-2	Modified ASTM D-1946	3.5 "Hg	5 psi
04A	SSVP-3	Modified ASTM D-1946	3.5 "Hg	5 psi
05A	Lab Blank	Modified ASTM D-1946	NA	NA
05B	Lab Blank	Modified ASTM D-1946	NA	NA
06A	LCS	Modified ASTM D-1946	NA	NA
06AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: 
 Laboratory Director

DATE: 03/12/12

Certification 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.

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LABORATORY NARRATIVE
Modified ASTM D-1946
Conestoga-Rovers Associates (CRA)
Workorder# 1203107C

Four 1 Liter Summa Canister (100% Certified) samples were received on March 05, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

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

Client Sample ID: SSVP-1

Lab ID#: 1203107C-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	19
Carbon Dioxide	0.020	2.7

Client Sample ID: SSVP-1-DUP

Lab ID#: 1203107C-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	19
Carbon Dioxide	0.020	2.8

Client Sample ID: SSVP-2

Lab ID#: 1203107C-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.17	15
Carbon Dioxide	0.017	6.9

Client Sample ID: SSVP-3

Lab ID#: 1203107C-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	18
Carbon Dioxide	0.020	2.6



Air Toxics

Client Sample ID: SSVP-1

Lab ID#: 1203107C-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030912	Date of Collection: 2/21/12 11:00:00 AM
Dil. Factor:	1.98	Date of Analysis: 3/9/12 12:16 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	19
Methane	0.00020	Not Detected
Carbon Dioxide	0.020	2.7
Helium	0.099	Not Detected

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



Air Toxics

Client Sample ID: SSVP-1-DUP

Lab ID#: 1203107C-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030913	Date of Collection: 2/21/12 11:00:00 AM
Dil. Factor:	2.03	Date of Analysis: 3/9/12 12:40 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	19
Methane	0.00020	Not Detected
Carbon Dioxide	0.020	2.8
Helium	0.10	Not Detected

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



Air Toxics

Client Sample ID: SSVP-2

Lab ID#: 1203107C-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030914	Date of Collection:	2/21/12 12:30:00 PM
Dil. Factor:	1.73	Date of Analysis:	3/9/12 01:32 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.17	15
Methane	0.00017	Not Detected
Carbon Dioxide	0.017	6.9
Helium	0.086	Not Detected

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



Air Toxics

Client Sample ID: SSVP-3

Lab ID#: 1203107C-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030915	Date of Collection:	2/21/12 2:20:00 PM
Dil. Factor:	1.96	Date of Analysis:	3/9/12 01:54 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.20	18
Methane	0.00020	Not Detected
Carbon Dioxide	0.020	2.6
Helium	0.098	Not Detected

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



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1203107C-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030905	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/9/12 09:37 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1203107C-05B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030904b	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/9/12 09:14 AM

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

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCS

Lab ID#: 1203107C-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/9/12 08:22 AM

Compound	%Recovery
Oxygen	100
Methane	99
Carbon Dioxide	102
Helium	94

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1203107C-06AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030923	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/9/12 05:28 PM

Compound	%Recovery
Oxygen	100
Methane	99
Carbon Dioxide	101
Helium	94

Container Type: NA - Not Applicable

3/12/2012

Mr. Bob Foss

Conestoga-Rovers Associates (CRA)

5900 Hollis Street

Suite A

Emeryville CA 94608

Project Name: Nady

Project #: 521000

Workorder #: 1203109A

Dear Mr. Bob Foss

The following report includes the data for the above referenced project for sample(s) received on 3/5/2012 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: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kyle Vagadori


Project Manager

WORK ORDER #: 1203109A

Work Order Summary

CLIENT:	Mr. Bob Foss Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608	BILL TO:	Belew Yifru Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608
PHONE:	510-420-0700	P.O. #	521000-356
FAX:	510-420-9170	PROJECT #	521000 Nady
DATE RECEIVED:	03/05/2012	CONTACT:	Kyle Vagadori
DATE COMPLETED:	03/12/2012		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SSVP-8	Modified TO-15	3.0 "Hg	5 psi
02A	SSVP-7	Modified TO-15	3.5 "Hg	5 psi
03A	SSVP-6	Modified TO-15	3.5 "Hg	5 psi
04A	SSVP-4	Modified TO-15	5.5 "Hg	5 psi
05A	Lab Blank	Modified TO-15	NA	NA
06A	CCV	Modified TO-15	NA	NA
07A	LCS	Modified TO-15	NA	NA
07AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: 
 Laboratory Director

DATE: 03/12/12

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

LABORATORY NARRATIVE
EPA Method TO-15
Conestoga-Rovers Associates (CRA)
Workorder# 1203109A

Four 1 Liter Summa Canister (100% Certified) samples were received on March 05, 2012. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

A single point calibration for TPH referenced to Gasoline was performed for each daily analytical batch. Recovery is reported as 100% in the associated results for each CCV.

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

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

Client Sample ID: SSV-8

Lab ID#: 1203109A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.74	1.2	4.0	6.3
Tetrachloroethene	0.74	98	5.0	670

Client Sample ID: SSV-7

Lab ID#: 1203109A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	1.0	16	6.9	110

Client Sample ID: SSV-6

Lab ID#: 1203109A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.76	3.4	5.2	23

Client Sample ID: SSV-4

Lab ID#: 1203109A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.82	1.1	5.6	7.2



Client Sample ID: SSVP-8

Lab ID#: 1203109A-01A

EPA METHOD TO-15 GC/MS

File Name:	p030725	Date of Collection:	2/17/12 11:54:00 AM
Dil. Factor:	1.49	Date of Analysis:	3/7/12 08:25 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.74	Not Detected	1.9	Not Detected
cis-1,2-Dichloroethene	0.74	Not Detected	3.0	Not Detected
Benzene	0.74	Not Detected	2.4	Not Detected
Trichloroethene	0.74	1.2	4.0	6.3
Toluene	0.74	Not Detected	2.8	Not Detected
Tetrachloroethene	0.74	98	5.0	670
trans-1,2-Dichloroethene	0.74	Not Detected	3.0	Not Detected
Ethyl Benzene	0.74	Not Detected	3.2	Not Detected
m,p-Xylene	0.74	Not Detected	3.2	Not Detected
o-Xylene	0.74	Not Detected	3.2	Not Detected
TPH ref. to Gasoline (MW=100)	37	Not Detected	150	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	108	70-130



Air Toxics

Client Sample ID: SSVP-7

Lab ID#: 1203109A-02A

EPA METHOD TO-15 GC/MS

File Name:	p030735	Date of Collection:	2/17/12 11:26:00 AM
Dil. Factor:	2.04	Date of Analysis:	3/8/12 02:37 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.0	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	1.0	Not Detected	4.0	Not Detected
Benzene	1.0	Not Detected	3.2	Not Detected
Trichloroethene	1.0	Not Detected	5.5	Not Detected
Toluene	1.0	Not Detected	3.8	Not Detected
Tetrachloroethene	1.0	16	6.9	110
trans-1,2-Dichloroethene	1.0	Not Detected	4.0	Not Detected
Ethyl Benzene	1.0	Not Detected	4.4	Not Detected
m,p-Xylene	1.0	Not Detected	4.4	Not Detected
o-Xylene	1.0	Not Detected	4.4	Not Detected
TPH ref. to Gasoline (MW=100)	51	Not Detected	210	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	109	70-130



Client Sample ID: SSVP-6

Lab ID#: 1203109A-03A

EPA METHOD TO-15 GC/MS

File Name:	p030727	Date of Collection:	2/17/12 3:23:00 PM
Dil. Factor:	1.52	Date of Analysis:	3/7/12 09:37 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.76	Not Detected	1.9	Not Detected
cis-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Benzene	0.76	Not Detected	2.4	Not Detected
Trichloroethene	0.76	Not Detected	4.1	Not Detected
Toluene	0.76	Not Detected	2.9	Not Detected
Tetrachloroethene	0.76	3.4	5.2	23
trans-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Ethyl Benzene	0.76	Not Detected	3.3	Not Detected
m,p-Xylene	0.76	Not Detected	3.3	Not Detected
o-Xylene	0.76	Not Detected	3.3	Not Detected
TPH ref. to Gasoline (MW=100)	38	Not Detected	160	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	119	70-130



Air Toxics

Client Sample ID: SSVP-4

Lab ID#: 1203109A-04A

EPA METHOD TO-15 GC/MS

File Name:	p030728	Date of Collection:	2/17/12 2:12:00 PM
Dil. Factor:	1.64	Date of Analysis:	3/7/12 10:01 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.82	Not Detected	2.1	Not Detected
cis-1,2-Dichloroethene	0.82	Not Detected	3.2	Not Detected
Benzene	0.82	Not Detected	2.6	Not Detected
Trichloroethene	0.82	Not Detected	4.4	Not Detected
Toluene	0.82	Not Detected	3.1	Not Detected
Tetrachloroethene	0.82	1.1	5.6	7.2
trans-1,2-Dichloroethene	0.82	Not Detected	3.2	Not Detected
Ethyl Benzene	0.82	Not Detected	3.6	Not Detected
m,p-Xylene	0.82	Not Detected	3.6	Not Detected
o-Xylene	0.82	Not Detected	3.6	Not Detected
TPH ref. to Gasoline (MW=100)	41	Not Detected	170	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	108	70-130

Client Sample ID: Lab Blank

Lab ID#: 1203109A-05A

EPA METHOD TO-15 GC/MS

File Name:	p030709	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/7/12 11:00 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	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
TPH ref. to Gasoline (MW=100)	25	Not Detected	100	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1203109A-06A

EPA METHOD TO-15 GC/MS

File Name:	p030704	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/7/12 09:07 AM

Compound	%Recovery
Vinyl Chloride	93
cis-1,2-Dichloroethene	96
Benzene	95
Trichloroethene	96
Toluene	94
Tetrachloroethene	98
trans-1,2-Dichloroethene	97
Ethyl Benzene	96
m,p-Xylene	102
o-Xylene	102
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	112	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1203109A-07A

EPA METHOD TO-15 GC/MS

File Name:	p030705	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/7/12 09:39 AM

Compound	%Recovery
Vinyl Chloride	100
cis-1,2-Dichloroethene	102
Benzene	102
Trichloroethene	103
Toluene	99
Tetrachloroethene	104
trans-1,2-Dichloroethene	114
Ethyl Benzene	104
m,p-Xylene	108
o-Xylene	110
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	105	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1203109A-07AA

EPA METHOD TO-15 GC/MS

File Name:	p030706	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/7/12 09:56 AM

Compound	%Recovery
Vinyl Chloride	101
cis-1,2-Dichloroethene	104
Benzene	103
Trichloroethene	105
Toluene	102
Tetrachloroethene	105
trans-1,2-Dichloroethene	118
Ethyl Benzene	105
m,p-Xylene	110
o-Xylene	111
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	110	70-130

3/13/2012

Mr. Bob Foss

Conestoga-Rovers Associates (CRA)

5900 Hollis Street

Suite A

Emeryville CA 94608

Project Name: Nady

Project #: 521000

Workorder #: 1203109B

Dear Mr. Bob Foss

The following report includes the data for the above referenced project for sample(s) received on 3/5/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-3 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 #: 1203109B

Work Order Summary

CLIENT:	Mr. Bob Foss Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608	BILL TO:	Belew Yifru Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608
PHONE:	510-420-0700	P.O. #	521000-356
FAX:	510-420-9170	PROJECT #	521000 Nady
DATE RECEIVED:	03/05/2012	CONTACT:	Kyle Vagadori
DATE COMPLETED:	03/12/2012		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SSVP-8	Modified TO-3	3.0 "Hg	5 psi
02A	SSVP-7	Modified TO-3	3.5 "Hg	5 psi
03A	SSVP-6	Modified TO-3	3.5 "Hg	5 psi
04A	SSVP-4	Modified TO-3	5.5 "Hg	5 psi
05A	Lab Blank	Modified TO-3	NA	NA
06A	LCS	Modified TO-3	NA	NA
06AA	LCSD	Modified TO-3	NA	NA

CERTIFIED BY: 
 Laboratory Director

DATE: 03/13/12

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

LABORATORY NARRATIVE
Modified TO-3
Conestoga-Rovers Associates (CRA)
Workorder# 1203109B

Four 1 Liter Summa Canister (100% Certified) samples were received on March 05, 2012. The laboratory performed analysis for volatile organic compounds in air via modified EPA Method TO-3 using gas chromatography with flame ionization detection. The method involves concentrating up to 200 mL of sample. The concentrated aliquot is then dry purged to remove water vapor prior to entering the chromatographic system.

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-3</i>	<i>ATL Modifications</i>
Daily Calibration Standard Frequency	Prior to sample analysis and every 4 - 6 hrs	Prior to sample analysis and after the analytical batch ≤ 20 samples.
Initial Calibration Calculation	4-point calibration using a linear regression model	5-point calibration using average Response Factor
Initial Calibration Frequency	Weekly	When daily calibration standard recovery is outside 75 - 125 %, or upon significant changes to procedure or instrumentation
Moisture Control	Nafion system	Sorbent system
Minimum Detection Limit (MDL)	Calculated using the equation $DL = A + 3.3S$, where A is intercept of calibration line and S is the standard deviation of at least 3 reps of low level standard	40 CFR Pt. 136 App. B
Preparation of Standards	Levels achieved through dilution of gas mixture	Levels achieved through loading various volumes of the gas mixture

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The hydrocarbon profile present in sample SSVP-8 did not resemble that of Stoddard Solvent.

Definition of Data Qualifying Flags

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

- B - Compound present in laboratory blank greater than reporting limit.
- J - Estimated value.
- E - Exceeds instrument calibration range.
- S - Saturated peak.
- Q - Exceeds quality control limits.
- U - Compound analyzed for but not detected above the detection limit.
- M - Reported value may be biased due to apparent matrix interferences.

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

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

**Summary of Detected Compounds
MODIFIED EPA METHOD TO-3 GC/FID**

Client Sample ID: SSV-8

Lab ID#: 1203109B-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Stoddard Solvent	50	56	290	320

Client Sample ID: SSV-7

Lab ID#: 1203109B-02A

No Detections Were Found.

Client Sample ID: SSV-6

Lab ID#: 1203109B-03A

No Detections Were Found.

Client Sample ID: SSV-4

Lab ID#: 1203109B-04A

No Detections Were Found.



Air Toxics

Client Sample ID: SSVP-8

Lab ID#: 1203109B-01A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d030909	Date of Collection:	2/17/12 11:54:00 AM	
Dil. Factor:	2.00	Date of Analysis:	3/9/12 08:45 AM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Stoddard Solvent	50	56	290	320

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

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	104	75-150



Air Toxics

Client Sample ID: SSVP-7

Lab ID#: 1203109B-02A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d030910	Date of Collection:	2/17/12 11:26:00 AM	
Dil. Factor:	2.64	Date of Analysis:	3/9/12 09:21 AM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Stoddard Solvent	66	Not Detected	380	Not Detected

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

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	109	75-150



Air Toxics

Client Sample ID: SSVP-6

Lab ID#: 1203109B-03A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d030911	Date of Collection:	2/17/12 3:23:00 PM	
Dil. Factor:	2.04	Date of Analysis:	3/9/12 09:58 AM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Stoddard Solvent	51	Not Detected	300	Not Detected

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

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	109	75-150



Air Toxics

Client Sample ID: SSVP-4

Lab ID#: 1203109B-04A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d030912	Date of Collection:	2/17/12 2:12:00 PM	
Dil. Factor:	2.20	Date of Analysis:	3/9/12 11:07 AM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Stoddard Solvent	55	Not Detected	320	Not Detected

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

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	114	75-150

Client Sample ID: Lab Blank

Lab ID#: 1203109B-05A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d030907	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/9/12 02:43 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Stoddard Solvent	25	Not Detected	140	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	105	75-150



Air Toxics

Client Sample ID: LCS

Lab ID#: 1203109B-06A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d030906	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/9/12 01:44 AM

Compound	%Recovery
Stoddard Solvent	111

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	92	75-150



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1203109B-06AA

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d030918	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/9/12 03:45 PM

Compound	%Recovery
Stoddard Solvent	134

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	101	75-150

3/12/2012

Mr. Bob Foss

Conestoga-Rovers Associates (CRA)

5900 Hollis Street

Suite A

Emeryville CA 94608

Project Name: Nady

Project #: 521000

Workorder #: 1203109C

Dear Mr. Bob Foss

The following report includes the data for the above referenced project for sample(s) received on 3/5/2012 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: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kyle Vagadori


Project Manager

WORK ORDER #: 1203109C

Work Order Summary

CLIENT:	Mr. Bob Foss Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608	BILL TO:	Belew Yifru Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608
PHONE:	510-420-0700	P.O. #	521000-356
FAX:	510-420-9170	PROJECT #	521000 Nady
DATE RECEIVED:	03/05/2012	CONTACT:	Kyle Vagadori
DATE COMPLETED:	03/12/2012		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SSVP-8	Modified ASTM D-1946	3.0 "Hg	5 psi
02A	SSVP-7	Modified ASTM D-1946	3.5 "Hg	5 psi
03A	SSVP-6	Modified ASTM D-1946	3.5 "Hg	5 psi
04A	SSVP-4	Modified ASTM D-1946	5.5 "Hg	5 psi
05A	Lab Blank	Modified ASTM D-1946	NA	NA
05B	Lab Blank	Modified ASTM D-1946	NA	NA
06A	LCS	Modified ASTM D-1946	NA	NA
06AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: 
 Laboratory Director

DATE: 03/12/12

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

LABORATORY NARRATIVE
Modified ASTM D-1946
Conestoga-Rovers Associates (CRA)
Workorder# 1203109C

Four 1 Liter Summa Canister (100% Certified) samples were received on March 05, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

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

Client Sample ID: SSV-8

Lab ID#: 1203109C-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.15	19
Methane	0.00015	0.00023
Carbon Dioxide	0.015	2.3

Client Sample ID: SSV-7

Lab ID#: 1203109C-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.15	20
Carbon Dioxide	0.015	1.4
Helium	0.076	0.26

Client Sample ID: SSV-6

Lab ID#: 1203109C-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.15	18
Carbon Dioxide	0.015	2.8

Client Sample ID: SSV-4

Lab ID#: 1203109C-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.16	19
Methane	0.00016	0.00024
Carbon Dioxide	0.016	1.6
Helium	0.082	0.41



Air Toxics

Client Sample ID: SSVP-8

Lab ID#: 1203109C-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030618	Date of Collection: 2/17/12 11:54:00 AM
Dil. Factor:	1.49	Date of Analysis: 3/6/12 10:31 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.15	19
Methane	0.00015	0.00023
Carbon Dioxide	0.015	2.3
Helium	0.074	Not Detected

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



Air Toxics

Client Sample ID: SSVP-7

Lab ID#: 1203109C-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030619	Date of Collection:	2/17/12 11:26:00 AM
Dil. Factor:	1.52	Date of Analysis:	3/6/12 11:01 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.15	20
Methane	0.00015	Not Detected
Carbon Dioxide	0.015	1.4
Helium	0.076	0.26

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



Air Toxics

Client Sample ID: SSVP-6

Lab ID#: 1203109C-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030620	Date of Collection:	2/17/12 3:23:00 PM
Dil. Factor:	1.52	Date of Analysis:	3/6/12 11:27 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.15	18
Methane	0.00015	Not Detected
Carbon Dioxide	0.015	2.8
Helium	0.076	Not Detected

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



Air Toxics

Client Sample ID: SSVP-4

Lab ID#: 1203109C-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030621	Date of Collection:	2/17/12 2:12:00 PM
Dil. Factor:	1.64	Date of Analysis:	3/7/12 12:01 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.16	19
Methane	0.00016	0.00024
Carbon Dioxide	0.016	1.6
Helium	0.082	0.41

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



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1203109C-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030606	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/6/12 11:56 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1203109C-05B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030605b	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/6/12 11:31 AM

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

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCS

Lab ID#: 1203109C-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/6/12 10:06 AM

Compound	%Recovery
Oxygen	100
Methane	99
Carbon Dioxide	99
Helium	94

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1203109C-06AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030628	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/7/12 04:20 AM

Compound	%Recovery
Oxygen	100
Methane	99
Carbon Dioxide	101
Helium	93

Container Type: NA - Not Applicable

3/12/2012

Mr. Bob Foss

Conestoga-Rovers Associates (CRA)

5900 Hollis Street

Suite A

Emeryville CA 94608

Project Name: NADY

Project #: 521000

Workorder #: 1203108A

Dear Mr. Bob Foss

The following report includes the data for the above referenced project for sample(s) received on 3/5/2012 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: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kyle Vagadori


Project Manager

WORK ORDER #: 1203108A

Work Order Summary

CLIENT:	Mr. Bob Foss Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608	BILL TO:	Belew Yifru Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608
PHONE:	510-420-0700	P.O. #	521000-356
FAX:	510-420-9170	PROJECT #	521000 NADY
DATE RECEIVED:	03/05/2012	CONTACT:	Kyle Vagadori
DATE COMPLETED:	03/12/2012		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SSVP-9	Modified TO-15	3.5 "Hg	5 psi
02A	SSVP-5	Modified TO-15	5.0 "Hg	5 psi
03A	Lab Blank	Modified TO-15	NA	NA
04A	CCV	Modified TO-15	NA	NA
05A	LCS	Modified TO-15	NA	NA
05AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: 
 Laboratory Director

DATE: 03/12/12

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

LABORATORY NARRATIVE
EPA Method TO-15
Conestoga-Rovers Associates (CRA)
Workorder# 1203108A

Two 1 Liter Summa Canister (100% Certified) samples were received on March 05, 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

According to the Chain of Custody (COC), samples SSVP-9 and SSVP-5 were collected on 02/29/2011. However, the date on the sample tag reflects a collection date of 02/29/2012. Therefore the date on the sample tag was used to calculate the sample holding time.

Analytical Notes

A single point calibration for TPH referenced to Gasoline was performed for each daily analytical batch. Recovery is reported as 100% in the associated results for each CCV.

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

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

Client Sample ID: SSV-9

Lab ID#: 1203108A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.76	2.0	4.1	11
Tetrachloroethene	0.76	41	5.2	280
TPH ref. to Gasoline (MW=100)	38	86	160	350

Client Sample ID: SSV-5

Lab ID#: 1203108A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.80	3.0	5.5	20



Air Toxics

Client Sample ID: SSVP-9

Lab ID#: 1203108A-01A

EPA METHOD TO-15 GC/MS

File Name:	p030723	Date of Collection:	2/29/12 7:25:00 AM
Dil. Factor:	1.52	Date of Analysis:	3/7/12 07:27 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.76	Not Detected	1.9	Not Detected
cis-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Benzene	0.76	Not Detected	2.4	Not Detected
Trichloroethene	0.76	2.0	4.1	11
Toluene	0.76	Not Detected	2.9	Not Detected
Tetrachloroethene	0.76	41	5.2	280
trans-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Ethyl Benzene	0.76	Not Detected	3.3	Not Detected
m,p-Xylene	0.76	Not Detected	3.3	Not Detected
o-Xylene	0.76	Not Detected	3.3	Not Detected
TPH ref. to Gasoline (MW=100)	38	86	160	350

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	107	70-130

Client Sample ID: SSVP-5

Lab ID#: 1203108A-02A

EPA METHOD TO-15 GC/MS

File Name:	p030724	Date of Collection:	2/29/12 2:15:00 PM
Dil. Factor:	1.61	Date of Analysis:	3/7/12 08:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.80	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.80	Not Detected	3.2	Not Detected
Benzene	0.80	Not Detected	2.6	Not Detected
Trichloroethene	0.80	Not Detected	4.3	Not Detected
Toluene	0.80	Not Detected	3.0	Not Detected
Tetrachloroethene	0.80	3.0	5.5	20
trans-1,2-Dichloroethene	0.80	Not Detected	3.2	Not Detected
Ethyl Benzene	0.80	Not Detected	3.5	Not Detected
m,p-Xylene	0.80	Not Detected	3.5	Not Detected
o-Xylene	0.80	Not Detected	3.5	Not Detected
TPH ref. to Gasoline (MW=100)	40	Not Detected	160	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	108	70-130



Client Sample ID: Lab Blank

Lab ID#: 1203108A-03A

EPA METHOD TO-15 GC/MS

File Name:	p030709	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/7/12 11:00 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	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
TPH ref. to Gasoline (MW=100)	25	Not Detected	100	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1203108A-04A

EPA METHOD TO-15 GC/MS

File Name:	p030704	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/7/12 09:07 AM

Compound	%Recovery
Vinyl Chloride	93
cis-1,2-Dichloroethene	96
Benzene	95
Trichloroethene	96
Toluene	94
Tetrachloroethene	98
trans-1,2-Dichloroethene	97
Ethyl Benzene	96
m,p-Xylene	102
o-Xylene	102
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	112	70-130

Client Sample ID: LCS

Lab ID#: 1203108A-05A

EPA METHOD TO-15 GC/MS

File Name:	p030705	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/7/12 09:39 AM

Compound	%Recovery
Vinyl Chloride	100
cis-1,2-Dichloroethene	102
Benzene	102
Trichloroethene	103
Toluene	99
Tetrachloroethene	104
trans-1,2-Dichloroethene	114
Ethyl Benzene	104
m,p-Xylene	108
o-Xylene	110
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	105	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1203108A-05AA

EPA METHOD TO-15 GC/MS

File Name:	p030706	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/7/12 09:56 AM

Compound	%Recovery
Vinyl Chloride	101
cis-1,2-Dichloroethene	104
Benzene	103
Trichloroethene	105
Toluene	102
Tetrachloroethene	105
trans-1,2-Dichloroethene	118
Ethyl Benzene	105
m,p-Xylene	110
o-Xylene	111
TPH ref. to Gasoline (MW=100)	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	110	70-130

3/12/2012

Mr. Bob Foss

Conestoga-Rovers Associates (CRA)

5900 Hollis Street

Suite A

Emeryville CA 94608

Project Name: NADY

Project #: 521000

Workorder #: 1203108B

Dear Mr. Bob Foss

The following report includes the data for the above referenced project for sample(s) received on 3/5/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-3 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 #: 1203108B

Work Order Summary

CLIENT:	Mr. Bob Foss Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608	BILL TO:	Belew Yifru Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608
PHONE:	510-420-0700	P.O. #	521000-356
FAX:	510-420-9170	PROJECT #	521000 NADY
DATE RECEIVED:	03/05/2012	CONTACT:	Kyle Vagadori
DATE COMPLETED:	03/12/2012		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SSVP-9	Modified TO-3	3.5 "Hg	5 psi
02A	SSVP-5	Modified TO-3	5.0 "Hg	5 psi
03A	Lab Blank	Modified TO-3	NA	NA
04A	LCS	Modified TO-3	NA	NA
04AA	LCSD	Modified TO-3	NA	NA

CERTIFIED BY: 
 Laboratory Director

DATE: 03/12/12

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

LABORATORY NARRATIVE
Modified TO-3
Conestoga-Rovers Associates (CRA)
Workorder# 1203108B

Two 1 Liter Summa Canister (100% Certified) samples were received on March 05, 2012. The laboratory performed analysis for volatile organic compounds in air via modified EPA Method TO-3 using gas chromatography with flame ionization detection. The method involves concentrating up to 200 mL of sample. The concentrated aliquot is then dry purged to remove water vapor prior to entering the chromatographic system.

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-3</i>	<i>ATL Modifications</i>
Daily Calibration Standard Frequency	Prior to sample analysis and every 4 - 6 hrs	Prior to sample analysis and after the analytical batch ≤ 20 samples.
Initial Calibration Calculation	4-point calibration using a linear regression model	5-point calibration using average Response Factor
Initial Calibration Frequency	Weekly	When daily calibration standard recovery is outside 75 - 125 %, or upon significant changes to procedure or instrumentation
Moisture Control	Nafion system	Sorbent system
Minimum Detection Limit (MDL)	Calculated using the equation $DL = A + 3.3S$, where A is intercept of calibration line and S is the standard deviation of at least 3 reps of low level standard	40 CFR Pt. 136 App. B
Preparation of Standards	Levels achieved through dilution of gas mixture	Levels achieved through loading various volumes of the gas mixture

Receiving Notes

According to the Chain of Custody (COC), samples SSVP-9 and SSVP-5 was collected on 02/29/2011 However, the date on the sample tag reflects a collection date of 02/29/2012. Therefore the date on the sample tag was used to calculate the sample holding time.

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



Air Toxics

Summary of Detected Compounds MODIFIED EPA METHOD TO-3 GC/FID

Client Sample ID: SSVP-9

Lab ID#: 1203108B-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Stoddard Solvent	51	110	300	630

Client Sample ID: SSVP-5

Lab ID#: 1203108B-02A

No Detections Were Found.



Air Toxics

Client Sample ID: SSVP-9

Lab ID#: 1203108B-01A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d030908	Date of Collection:	2/29/12 7:25:00 AM	
Dil. Factor:	2.04	Date of Analysis:	3/9/12 08:12 AM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Stoddard Solvent	51	110	300	630

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

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	113	75-150



Air Toxics

Client Sample ID: SSVP-5

Lab ID#: 1203108B-02A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d030913	Date of Collection:	2/29/12 2:15:00 PM	
Dil. Factor:	2.22	Date of Analysis:	3/9/12 12:08 PM	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Stoddard Solvent	56	Not Detected	320	Not Detected

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

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	108	75-150

Client Sample ID: Lab Blank

Lab ID#: 1203108B-03A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d030907	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/9/12 02:43 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Stoddard Solvent	25	Not Detected	140	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	105	75-150



Air Toxics

Client Sample ID: LCS

Lab ID#: 1203108B-04A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d030906	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/9/12 01:44 AM

Compound	%Recovery
Stoddard Solvent	111

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	92	75-150



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1203108B-04AA

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d030918	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/9/12 03:45 PM

Compound	%Recovery
Stoddard Solvent	134

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	101	75-150

3/12/2012

Mr. Bob Foss

Conestoga-Rovers Associates (CRA)

5900 Hollis Street

Suite A

Emeryville CA 94608

Project Name: NADY

Project #: 521000

Workorder #: 1203108C

Dear Mr. Bob Foss

The following report includes the data for the above referenced project for sample(s) received on 3/5/2012 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: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kyle Vagadori


Project Manager

WORK ORDER #: 1203108C

Work Order Summary

CLIENT:	Mr. Bob Foss Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608	BILL TO:	Belew Yifru Conestoga-Rovers Associates (CRA) 5900 Hollis Street Suite A Emeryville, CA 94608
PHONE:	510-420-0700	P.O. #	521000-356
FAX:	510-420-9170	PROJECT #	521000 NADY
DATE RECEIVED:	03/05/2012	CONTACT:	Kyle Vagadori
DATE COMPLETED:	03/12/2012		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SSVP-9	Modified ASTM D-1946	3.5 "Hg	5 psi
02A	SSVP-5	Modified ASTM D-1946	5.0 "Hg	5 psi
03A	Lab Blank	Modified ASTM D-1946	NA	NA
03B	Lab Blank	Modified ASTM D-1946	NA	NA
04A	LCS	Modified ASTM D-1946	NA	NA
04AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: 
 Laboratory Director

DATE: 03/12/12

Certification 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
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LABORATORY NARRATIVE
Modified ASTM D-1946
Conestoga-Rovers Associates (CRA)
Workorder# 1203108C

Two 1 Liter Summa Canister (100% Certified) samples were received on March 05, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

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

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

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

Receiving Notes

According to the Chain of Custody (COC), samples SSVP-9 and SSVP-5 was collected on 02/29/2011. However, the date on the sample tag reflects a collection date of 02/29/2012. Therefore the date on

the sample tag was used to calculate the sample holding time.

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

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

Client Sample ID: SSVP-9

Lab ID#: 1203108C-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	12
Carbon Dioxide	0.026	8.3

Client Sample ID: SSVP-5

Lab ID#: 1203108C-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	20
Methane	0.00028	0.00031
Carbon Dioxide	0.028	1.8



Air Toxics

Client Sample ID: SSVP-9

Lab ID#: 1203108C-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030916	Date of Collection:	2/29/12 7:25:00 AM
Dil. Factor:	2.61	Date of Analysis:	3/9/12 02:23 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.26	12
Methane	0.00026	Not Detected
Carbon Dioxide	0.026	8.3
Helium	0.13	Not Detected

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



Air Toxics

Client Sample ID: SSVP-5

Lab ID#: 1203108C-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030917	Date of Collection:	2/29/12 2:15:00 PM
Dil. Factor:	2.84	Date of Analysis:	3/9/12 02:47 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	20
Methane	0.00028	0.00031
Carbon Dioxide	0.028	1.8
Helium	0.14	Not Detected

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



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1203108C-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030905	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/9/12 09:37 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1203108C-03B

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030904b	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/9/12 09:14 AM

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

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCS

Lab ID#: 1203108C-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/9/12 08:22 AM

Compound	%Recovery
Oxygen	100
Methane	99
Carbon Dioxide	102
Helium	94

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1203108C-04AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9030923	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/9/12 05:28 PM

Compound	%Recovery
Oxygen	100
Methane	99
Carbon Dioxide	101
Helium	94

Container Type: NA - Not Applicable

APPENDIX E

TABLE E - ENVIRONMENTAL SCREENING LEVELS FOR VAPOR INTRUSION CONCERNS
RWQCB-SFBR - SCREENING FOR ENVIRONMENTAL CONCERNS AT SITES WITH
CONTAMINATED SOIL AND GROUNDWATER, INTERIM FINAL -
NOVEMBER 2007 (REVISED MAY 2008)

**Table E. Environmental Screening Levels (ESLs)
Indoor Air and Soil Gas
(Vapor Intrusion Concerns)**

Chemical	Indoor Air Screening Levels		² Shallow Soil Gas Screening Levels	
	¹ Residential Land Use (µg/m ³)	Commercial/Industrial Land Use Only (µg/m ³)	¹ Residential Land Use (µg/m ³)	Commercial/Industrial Land Use Only (µg/m ³)
Acenaphthene	4.4E+01	6.1E+01	4.4E+04	1.2E+05
Acenaphthylene	2.2E+01	3.1E+01	2.2E+04	6.1E+04
Acetone	6.6E+02	9.2E+02	6.6E+05	1.8E+06
Aldrin				
Anthracene	2.2E+02	3.1E+02	2.2E+05	6.1E+05
Antimony				
Arsenic				
Barium				
Benzene	8.4E-02	1.4E-01	8.4E+01	2.8E+02
Benzo(a)anthracene				
Benzo(b)fluoranthene				
Benzo(k)fluoranthene				
Benzo(g,h,i)perylene				
Benzo(a)pyrene				
Beryllium				
1,1-Biphenyl				
Bis(2-chloroethyl) ether	7.4E-03	1.2E-02	7.4E+00	2.5E+01
Bis(2-chloroisopropyl) ether	3.4E-03	5.8E-03	3.4E+00	1.2E+01
Bis(2-ethylhexyl) phthalate				
Boron				
Bromodichloromethane	1.4E-01	2.3E-01	1.4E+02	4.6E+02
Bromoform (Tribromomethane)				
Bromomethane	1.0E+00	1.5E+00	1.0E+03	2.9E+03
Cadmium				
Carbon tetrachloride	1.9E-02	3.1E-02	1.9E+01	6.3E+01
Chlordane				
p-Chloroaniline				
Chlorobenzene	2.1E+02	2.9E+02	2.1E+05	5.8E+05
Chloroethane	2.1E+01	2.9E+01	2.1E+04	5.8E+04
Chloroform	4.6E-01	7.7E-01	4.6E+02	1.5E+03
Chloromethane	1.9E+01	2.6E+01	1.9E+04	5.3E+04
2-Chlorophenol	3.7E+00	5.1E+00	3.7E+03	1.0E+04
Chromium (total)				
Chromium III				
Chromium VI				
Chrysene				
Cobalt				
Copper				
Cyanide	1.5E+01	2.0E+01	1.5E+04	4.1E+04
Dibenz(a,h)anthracene				
Dibromochloromethane				
1,2-dibromo-3-chloropropane	1.3E-03	2.2E-03	1.3E+00	4.3E+00
1,2-Dibromoethane	4.1E-03	6.8E-03	4.1E+00	1.4E+01
1,2-Dichlorobenzene	4.2E+01	5.8E+01	4.2E+04	1.2E+05

**Table E. Environmental Screening Levels (ESLs)
Indoor Air and Soil Gas
(Vapor Intrusion Concerns)**

Chemical	Indoor Air Screening Levels		² Shallow Soil Gas Screening Levels	
	¹ Residential Land Use (µg/m ³)	Commercial/Industrial Land Use Only (µg/m ³)	¹ Residential Land Use (µg/m ³)	Commercial/Industrial Land Use Only (µg/m ³)
1,3-Dichlorobenzene	2.2E+01	3.1E+01	2.2E+04	6.1E+04
1,4-Dichlorobenzene	2.2E-01	3.7E-01	2.2E+02	7.4E+02
3,3-Dichlorobenzidine				
Dichlorodiphenyldichloroethane (DDD)				
Dichlorodiphenyldichloroethene (DDE)				
Dichlorodiphenyltrichloroethane (DDT)				
1,1-Dichloroethane	1.5E+00	2.6E+00	1.5E+03	5.1E+03
1,2-Dichloroethane	9.4E-02	1.6E-01	9.4E+01	3.1E+02
1,1-Dichloroethene	4.2E+01	5.8E+01	4.2E+04	1.2E+05
<i>cis</i> -1,2-Dichloroethene	7.3E+00	1.0E+01	7.3E+03	2.0E+04
<i>trans</i> -1,2-Dichloroethene	1.5E+01	2.0E+01	1.5E+04	4.1E+04
2,4-Dichlorophenol				
1,2-Dichloropropane	2.4E-01	4.1E-01	2.4E+02	8.2E+02
1,3-Dichloropropene	1.5E-01	2.6E-01	1.5E+02	5.1E+02
Dieldrin				
Diethyl phthalate				
Dimethyl phthalate				
2,4-Dimethylphenol				
2,4-Dinitrophenol				
2,4-Dinitrotoluene				
1,4-Dioxane				
Dioxin (2,3,7,8-TCDD)				
Endosulfan				
Endrin				
Ethylbenzene	9.8E-01	1.6E+00	9.8E+02	3.3E+03
Fluoranthene				
Fluorene	2.9E+01	4.1E+01	2.9E+04	8.2E+04
Heptachlor				
Heptachlor epoxide				
Hexachlorobenzene				
Hexachlorobutadiene				
γ-Hexachlorocyclohexane (Lindane)				
Hexachloroethane				
Indeno(1,2,3-c,d)pyrene				
Lead				
Mercury (elemental)	1.9E-02	2.6E-02	1.9E+01	5.3E+01
Methoxychlor				
Methylene chloride	5.2E+00	8.7E+00	5.2E+03	1.7E+04
Methyl ethyl ketone	1.0E+03	1.5E+03	1.0E+06	2.9E+06
Methyl isobutyl ketone	6.3E+02	8.8E+02	6.3E+05	1.8E+06
Methyl mercury				
2-Methylnaphthalene				
<i>tert</i> -Butyl methyl ether	9.4E+00	1.6E+01	9.4E+03	3.1E+04
Molybdenum				

**Table E. Environmental Screening Levels (ESLs)
Indoor Air and Soil Gas
(Vapor Intrusion Concerns)**

Chemical	Indoor Air Screening Levels		² Shallow Soil Gas Screening Levels	
	¹ Residential Land Use (µg/m ³)	Commercial/Industrial Land Use Only (µg/m ³)	¹ Residential Land Use (µg/m ³)	Commercial/Industrial Land Use Only (µg/m ³)
Naphthalene	7.2E-02	1.2E-01	7.2E+01	2.4E+02
Nickel				
Pentachlorophenol				
Perchlorate				
Phenanthrene	2.2E+01	3.1E+01	2.2E+04	6.1E+04
Phenol				
Polychlorinated biphenyls (PCBs)				
Pyrene	2.2E+01	3.1E+01	2.2E+04	6.1E+04
Selenium				
Silver				
Styrene	1.9E+02	2.6E+02	1.9E+05	5.3E+05
<i>tert</i> -Butyl alcohol				
1,1,1,2-Tetrachloroethane	3.2E-01	5.4E-01	3.2E+02	1.1E+03
1,1,2,2-Tetrachloroethane	4.2E-02	7.0E-02	4.2E+01	1.4E+02
Tetrachloroethene	4.1E-01	6.9E-01	4.1E+02	1.4E+03
Thallium				
Toluene	6.3E+01	8.8E+01	6.3E+04	1.8E+05
Toxaphene				
TPH (gasolines)	1.0E+01	1.4E+01	1.0E+04	2.9E+04
TPH (middle distillates)	1.0E+01	1.4E+01	1.0E+04	2.9E+04
TPH (residual fuels)				
1,2,4-Trichlorobenzene	8.3E-01	1.2E+00	8.3E+02	2.3E+03
1,1,1-Trichloroethane	4.6E+02	6.4E+02	4.6E+05	1.3E+06
1,1,2-Trichloroethane	1.5E-01	2.6E-01	1.5E+02	5.1E+02
Trichloroethene	1.2E+00	2.0E+00	1.2E+03	4.1E+03
2,4,5-Trichlorophenol	7.3E+01	1.0E+02	7.3E+04	2.0E+05
2,4,6-Trichlorophenol				
Vanadium				
Vinyl chloride	3.1E-02	5.2E-02	3.1E+01	1.0E+02
Xylenes	2.1E+01	2.9E+01	2.1E+04	5.8E+04
Zinc				

Notes:

1. Category "Residential Land Use" generally considered adequate for other sensitive uses (e.g., day-care centers, hospitals, etc.)
2. Soil Gas: Screening levels based on soil gas data collected below a building or the ground surface. Intended for evaluation of potential indoor-air impacts.

Soil gas data should be collected and evaluated at all sites with significant areas of VOC-contaminated soil. Screening levels also apply to areas over of contaminated groundwater.

TPH -Total Petroleum Hydrocarbons. TPH ESLs must be used in conjunction with ESLs for related chemicals (e.g., BTEX, PAHs, oxidizers, etc.).