#### RECEIVED



1:49 pm, Mar 10, 2008

Alameda County Environmental Health

March 6, 2008 Trinity Project: 103.001.001

Ms. Lisa Tse Plan Check Engineer City of Alameda - Planning and Building Department 2263 Santa Clara Avenue, Room 190 Alameda, California 94501

Re: Plan Check Review – Description of Scope of Work Active Sub-Slab Depressurization System Searway Property 649 Pacific Avenue Alameda, California

Dear Ms. Tse:

This letter, prepared by Trinity Source Group, Inc. (Trinity) on behalf of Timber Del Properties, L.L.C., provides a description of the scope of work to construct a sub-slab depressurization system at the above mentioned subject property. The work is being directed at the request of the Alameda County Environmental Health Services (ACEHS). Presented in Attachment A, are equipment specification cut sheets, and drawing plans. Please review permit application and associated check for application fees presented in Attachment B. Attachment C presents the requested *Sub - Slab Vapor Mitigation Report*, *December 7, 2007*.

The following sheets provide details of the work to be performed:

- Sheet 1 Title Sheet, showing property location and property boundary, and a drawing index.
- Sheet 2 System Layout, which shows the location of extraction wells, pipe runs and fan within the subject property.
- Sheet 3 Section A-A', which shows a cross- section through the subject property indicating how the pipe runs will align beneath the property slab, along walls, above the ceiling to the fan and from the fan to the exterior of the building.

www.trinitysourcegroup.com

Plan Check Review – Description of Scope of Work Active Sub – Slab Depressurization System 649 Pacific Avenue Alameda, California March 6, 2008

- Sheet 4 Extraction Well Detail, which shows the construction elements of the vapor extraction well beneath the floor slab.
- Sheet 5 Miscellaneous Details which provides details of signage and typical detail for wall penetrations.

The subject building (pictured below) is a two-story commercial building at the intersection of Pacific Avenue and Webster Street in Alameda, California. The project site building is currently used as a Kelley-Moore Paints store. The tenants of adjacent portions of the building include the East Ocean Seafood Restaurant at 1713 Webster Street, a martial arts school, and a tailoring/cleaners shop. The general land use in the site vicinity is commercial and residential.



The sub-slab air to be captured and mitigated contains low concentrations of volatile organic compounds (VOCs), primarily dry cleaning products, Stoddard solvent and tetrachloroethylene and its break down compounds, and carbon tetrachloride. A

Plan Check Review – Description of Scope of Work Active Sub – Slab Depressurization System 649 Pacific Avenue Alameda, California March 6, 2008

description of the source of these compounds is provided in the Sub-Slab Vapor Mitigation Report.

#### Description of Sub-Slab Depressurization System

The purpose of the sub-slab depressurization system is to mitigate for the potential of VOCs from entering the work space of the current buildings occupying the Site. Trinity has performed extensive testing of the air flow patterns beneath the floor slabs and determined the engineering design criteria to mitigate potential environmental exposure risk. Trinity presented these finding to the ACEHS in their *Sub-Slab Vapor Mitigation Report*, dated December 6, 2007, and a copy is provided for ACPBD review (Attachment C). ACEHS approved the findings and in a letter dated September 21, 2007 and December 28, 2007, requested that an appropriate sub-slab depressurization system be installed.

The fundamental principle of the system design is to create a low negative pressure (vacuum) beneath the existing concrete floor slab. Previous work performed by Trinity, was to seal penetrations in the floor slab to prevent potential leaks from the interior of the building into the sub-slab. This work was deemed successful due the positive results obtained in the vapor mitigation testing.

Hence, upon creating a negative pressure at the extraction well points, air flow beneath the floor slab will be directed into the extraction wells. Two extraction wells will be installed at the locations shown in Sheet 2. The construction details for each extraction well are provided in Sheet 4. Note, the replacement floor will be protected with a 60-mil HDPE vapor barrier, and joins between existing and new floor sealed with a concrete epoxy. The new floor will be finished to match existing grade to prevent any trip hazard.

The captured air will be drawn along the conveyance piping by the suction provided by a commercial grade air cleaning unit that creates the negative pressure beneath the floor slab, and has the added feature of VOC filters to further mitigate air discharge. Sheet 3 provides a cross-sectional view of the system from extraction point DPT-1, a similar piping run will be constructed from extraction point DPT-2. The specifications of the suction fan, a GCX VOC Series unit manufactured by IQAir, are provided in Attachment A. The GCX VOC unit is energized by a standard household, 115 VAC 50-60 Hz power supply and rated with a maximum power requirement of 195 Watts. The unit electric supply can be hardwired into an existing power outlet or wires fitted with a conventional plug and connect into an existing receptacle. The GCX VOC unit will be connected to

Plan Check Review – Description of Scope of Work Active Sub – Slab Depressurization System 649 Pacific Avenue Alameda, California March 6, 2008

the PVC conveyance piping with inlet and outlet ducting kits supplied by the manufacturer. The GCX VOC unit has a maximum operation noise level of 72 decibels, and may be enclosed in a purpose built cabinet, if required.

The air will pass through the GCX VOC unit and be discharged to the exterior of the building along the wall of the attic. Note, per City of Alameda PBD preliminary review of plans and comments, the discharge stack has been moved from the south west corner of the subject building to run along the attic wall.

If you have any questions regarding this transmittal letter, please call Trinity at (831)426-5600.

Sincerely,

TRINITY SOURCE GROUP, INC.

David A. Reinsma, PG President and Principal Geologist

Davidgen

Warren B. Chamberlain, PE Senior Engineer

Attachments:

Attachment A - Equipment specification cut sheets Sheets 1-5: Drawing Plans (4 Sets) Attachment B - Permit Application and Check for Fees Attachment C - Sub - Slab Vapor Mitigation Report (2 Copies)

Distribution List:

cc:

Mr. Don Lindsey, Timber Del Properties, L.L.C. (1 copy no Attachment C) Mr. James Garvisch, Castaway Construction. (1 copy no Attachment C)

# ATTACHMENT A

# **GCX VOC Unit Specifications**

# GCX VOC specifications.

#### Specifications



6 9 1. User Control Panel 2. Carrying Handle 3. No-Draft Diffuser 4. Particle Post-Filter Sleeves 5. Gas an Odor Filter Cartridges 6. Snap-Open Locking Arms 7. High-Performance Centrifugal Fan 8. Advanced Fan Control 9. Pre-Max Pre-Filter (Class H11L) 10. Dual Floor Air Intake

Customized Gas and Odor Control The GCX Series is IQAir's highest capacity air cleaner range with customized filters for specific gaseous contaminants and odors. Just like a professional gas mask, IQAir maximizes filter efficiency for different gases and odors by offering the right filter cartridge. And while gas and odor control are a particular strength of these systems, the GCX Series also offers excellent filtration efficiency for particles.

The main difference between the GCX and its smaller sibling the GC is, that the GCX contains 25 lbs. of gas phase media while the GC Series contains 12 lbs. In addition the GCX Series features larger pre- and post-particle filters. As a result the maximum air delivery of the GCX is about 20% higher than that of the GC.

### Gas Cartridge Technology

Each IQAir® GCX model contains four reusable filter cartridges with up to 25 lbs. of gas phase media. A wide range of differently formulated cartridges are available to maximize the filtration efficiency for different types of gaseous contaminants. Since IQAir® gas filter cartridges are reusable, replacing them is not only economical, but also environmentally friendly.

#### General

Number of Selectable Fan Speeds

Air Delivery (with new filters installed) per Speed

Maximum Coverage Area

System Efficiency for Particles

Power Requirements

Energy Consumption (Max) 195 W

Standby Energy Consumption 2.5 W

Power Cable

filters

separately.

5

1 - 40 cfm

2 - 60 cfm

3 - 90 cfm

4 - 140 cfm

5 - 270 cfm

and an 8.5 ft ceiling)

95 for smaller particles

99% or more at 0.3 microns

Dimensions H 40" W 15" D 16"

Net Weight (including filters)

# **Filters**

Number of Filter Stages Total Number of

Particulate Pre-Filter

**High-Efficiency Particulate** Filtration The particulate filtration GCX units complements the gaseous filtration process by removing over 97% of particles before they can reach the gas phase media. This increases the efficiency and life of the media by preventing its pores from clogging. The GXC units' overall filtration efficiency for particles is 97% at .3 microns. The post filter is electrostatically charged to trap particulate pollutants and microorganisms

#### For more critical filtration

contaminants, bacteria, and viruses see our Cleanroom Series or Dental Series

115 VAC 50-60 Hz The entire electrical system is UL certified.

1200 sq ft (based on maximum fan speed

Grounded Detachable 6 foot

80 lbs

Warranty Period

Casters

3 (particle pre-filtration, gas absorption and particle post-filtration)

9 (1 HEPA-type pre-filter, 4 gas cartridges **Replacement Filters** 

at .3 microns

and 4 post-filter sleeves)

Optional casters (Mobility 56) sold

Mini-pleat HEPA filter with efficiency of 98%

1 yr on unit including fan motor, excluding

of microbiological

(bacteria and viruses)

models.

Amount of Gas Phase Filter Media	Between 18 and 25 lbs. depending on media	
Cartridge Design	Galvanized, reusable metal cylinders	
Particulate Post-Filter	Four electrostatically charged fiber media sleeves	
Filter Life	Pre-Filter 6-18 months Sleeves 2-3 years Cartridges up to 3 years (filter life is dependant on the operating environment)	
Housing		
Number of Housing Modules	10	
Housing Material	PS-ABS and ABS(UV-stabilized)	
Color of Main Housing/Arms	Light Gray/Blue	
Air Intake	Two side openings at base of unit	
Air Outlet	Via diffuser with horizontal 320 degree opening on top of unit	
Fan		
Fan Type	Centrifugal fan, backward curved, single inlet	
Bearings	Maintenance-free steal ball bearings	
Speed Regulation	Voltage reductions via capacitor switching	
Electronic Control Panel		
Control Panel Finish	Polyester overlay panel	
Main Display	Liquid crystal display, 16 character x 2 line	
Status and Indicator LEDs	Timer Status LED, Filter Life Status LEDs, Fan Speed Indicator LEDs	
Display Languages	English, French, German, Italian, Spanish	

#### InFlow W125

#### **Product Summary**



The InFlow W125 ducting kit enables any IQAir filtration system to draw air through a wall or window vent into an indoor environment. Use of the InFlow W125 is advisable when the main pollution source is located in adjacent indoor environments or outdoors.

#### Enjoy controlled clean air ventilation

An IQAir filter system combined with an InFlow W125 can be installed to draw outdoor air into an indoor environment. In this setup, an IQAir serves as a ventilation system, bringing in oxygen-rich outdoor air and a filtration system, which removes undesirable outdoor pollutants such as pollen, mold spores, dust and exhaust soot. As a result, fresh and filtered outside air comes into the room.

#### Create clean positive pressure areas

An IQAir filter system combined with an InFlow W125, which draws air into a room will in most cases allow the creation of a positive pressure. This positive pressure helps to clean the air in a room by constantly flushing out air pollutants and by preventing outside pollutants from entering the room.

#### Application Examples

- Protection of allergy sufferers from pollen exposure in their home
- Protection of patients from microbiological exposure (e.g. aspergillus) in a hospital
- Creation of clean research or manufacturing areas (controlled environments)
- Protection of plant control rooms from corrosive contaminants
- Creation of a clean zone within a home or office which helps to prevent outdoor pollution from nature, factories, traffic, agriculture to enter

Using an InFlow W125 with an IQAir system can improve indoor air quality by:

- diluting polluted air with clean air
- flushing out air pollutants
- reducing influx of new outside pollutants due to a build-up of positive pressure
- by increasing oxygen content in indoor air (when outdoor air is being drawn in)
- Installation



The InFlow W125 kit can be easily added to any IQAir filtration unit in a matter of minutes. As regards the building,

the only modification required is a 5" hole in a window, wall or door which allows you to connect the InFlow W125 aluminum duct.

The duct may be freely flexed to allow control over the desired vent location. It is expandable in length, from 10" in its original compressed state, to 39" when fully extended.

# **IQAir Compatibility**

Compatible with all IQAir filtration devices. Not compatible with the accessories PF40, VMF, VM FlexVac, VM InFlow and FlexVac.

# **OutFlow W125**

#### **Product Summary**



The OutFlow W125 kit allows filtered air from any IQAir® filtration device to be directed through a wall or window vent. The OutFlow W125 kit can be used to:

- create clean areas
- deliver filtered air into cleanrooms or to the outside
- create negative pressure areas
- create positive pressure areas

#### **Clean Area and Cleanroom Use**

The supply of filtered air into an environment helps reduce air pollution in that environment by dilution and the creation of positive pressure, which reduces the infiltration of polluted air from outside the environment. With the OutFlow W125 kit, the filtration device is positioned outside the clean area or cleanroom, saving valuable space and reducing noise exposure. It also eliminates the danger of housing leakage, making it suitable even for certified cleanrooms.

#### Create clean positive pressure areas

An IQAir filter system combined with an InFlow W125, which draws air into a room will in most cases allow the creation of a positive pressure. This positive pressure helps to clean the air in a room by constantly flushing out air pollutants and by preventing outside pollutants from entering the room.

#### **Emission Control**

Legislation limits the emission of polluted air to the outdoors. The OutFlow W125 filters air before it is exhausted outdoors to help meet environmental emission standards.

#### **Isolation Areas**

Infection control (e.g. tuberculosis) in hospitals and similar facilities demands the creation of negative pressure environments to reduce the spread of airborne microorganisms. The OutFlow W125 permits operation of the filter unit from within the isolation area, eliminating the danger of housing leakage into the surrounding area.

The OutFlow W125 kit easily modifies any IQAir filtration unit. Simply replace the top module of any standard IQAir filtration unit with the TopFlow adapter. All that is needed to install the ducting, wall tube and vent is a 5.2" opening in a wall or window. The OutFlow W125 kit also includes a damper and a protective mesh grille which prevents backdrafts and entry of coarse particles when the system is not in use. The large 5" diameter of the ducting ensures

low air resistance.

The aluminum duct may be freely flexed to allow control over the desired vent location. It is expandable in length from 10" in its original compressed state to 39" when fully extended.

# **Creation of Pressure Differentials**



The OutFlow W125 lets you create pressure differentials between different indoor areas. Negative pressure serves to contain pollutants in an isolation area. Positive pressure protects a clean environment from uncontrolled infiltration of airborne contaminants from polluted areas.



#### **Emission Control**

With the OutFlow W125 your IQAir filtration device can be used for emission control. Air is filtered and expelled outdoors via a flexible ducting system. The negative pressure area that is created prevents unfiltered indoor air from leaking outdoors.

#### **IQAir Compatibility**

Compatible with all IQAir filtration devices and accessories.

# SUB-SLAB VAPOR MITIGATION SYSTEM INSTALLATION PLANS

SEARWAY PROPERTY

649 PACIFIC AVENUE ALAMEDA, CALIFORNIA

PREPARED BY: TRINITY SOURCE GROUP, INC.



NG

SHEET NO.	DRAW
1	TITLE
2	SYSTE
3	SECTI
4	EXTR/
5	MISCE

SEARWAY	PROPERTY
649 PACI	FIC AVENUE
ALAMEDA,	CALIFORNIA

# INDEX

<u>VING TITLE</u> SHEET, LOCATION MAP AND DRAWING INDEX EM LAYOUT ION A-A' ACTION WELL DETAIL ELANEOUS DETAILS



SUB-SLAB DEPRESSURIZATION	SYSTEM	SCALE NOT APPLICA	BLE
		PROJECT NO. 103.001.001	
TITLE SHEET, LOCATION MAP, AND DRAWING INDEX		SHEET NO.	¢ 5
DRAWING INDEX			Ŭ



REV.	DATE	DESCRIPTION	BY	CKD.	APP.	DESIGNED BY W.B. CHAMBERLAIN DRAWN BY TRINITY	ny series de la main de la series
						W.B. CHAMBERLAIN CHECKED BY D. REINSMA APPROVED BY Sapta Cruz, California, 95060	SEARWAY PROPERTY 649 PACIFIC AVENUE
						APPROVED BY D. REINSMA Santa Cruz, California 95060 DATE 3-5-08 (831) 426-5600 Fax: (831) 426-5602	ALAMEDA, CALIFORNIA





NEW CONCRETE 2500 psi COMPRESSIVE STRENGTH @ 28 DAYS

JOINT SEALANT (POLYURETHANE OR EQUIVALENT, @ JOINTS BETWEEN NEW AND EXISTING CONCRETE)

60-MIL HDPE VAPOR BARRIER

EXISTING SUBGRADE (BASEROCK)

NATIVE SOIL



SUB-SLAB DEPRESSURIZATION SYSTEM	SCALE 1"=2"		ing offer
	PROJECT NO. 103.001.00	1	
EXTRACTION WELL DETAIL	SHEET NO.	OF	
	4	5	



VENT RISER GUARD (Optional)



# CONVEYANCE PIPE SUPPORT ALONG CEILING

(Spaced every 10 feet along ceiling) NOTE: THIS DETAIL APPLIES ONLY TO SECTION A-A' PIPE RUN. PIPE RUNS FROM DPT2 CLAMP TO EXISTING JOISTS.



REV.	DATE	DESCRIPTION	BY	00	1 100			
				uiu.	APP.	BY W.B. CHAMBER		
						DRAWN BY		
	-					W.B. CHAMBERI	AIN	
						CHECKED BY	500 Chestnut Street, Suite 225	
					a state of the second	D. REINSMA		SEARWAY PROPERTY
						APPROVED BY D. REINSMA	Santa Cruz, California 95060	649 PACIFIC AVENUE
						DATE		
						3-5-08	(831) 426-5600 Fax: (831) 426-5602	ALAMEDA, CALIFORNIA



# ATTACHMENT B

# Permit Application and Check for Fees

03/05/08

City of Alameda

Permit fees for 649 Pacific Ave.

\$2,400.00

MARZED SIGNATURE

TSG, Inc. Project #: 103.001.001

	<b>TRINITY SOURCE GROUP, INC.</b> 500 CHESTNUT STREET, SUITE 225 SANTA CRUZ, CA 95060		SANTA CRUZ COUNTY BANK SANTA CRUZ , CA 95062 90-4373/1211	снеск 1646
•	PH. (831) 426-5600 FAX (831) 426-5602		DATE	DOLLARS
14 - 4 - 4 1			03/05/08	*** \$2,400.00
PAY	***Two Thousand Four Hundred & 00/	100 Dollars		
TO THE ORDER	City of Alameda			
OF		· .		$\langle n \rangle$
		. •	Buill	// c

Permit fees for 649 Pacific Ave.

ŧŧ.

"OO1646" :121143736: 013007380#

.

STRACH WINE LILLUF	ALAMEDA - KRONTTECT /DESENTER CENTER STAMP & WETSIGN 60
KENNIKEMENT PERMIT	CENTER STAMP & WET SIGNED AVENUE, ROOM 190 - KENUM AGA RAW SHEET
	501 510-747-0000 = 6 + 66 + 6 + 6 + 6 + 6 + 6 + 6 + 6 +
PLANNING & BUILDING PERMIT APPLICA	<b><u><b>LION WORKSHEET</b></u></b>
ATTLIED DATE	
V	DRMATION IN BLACK OR BLUE INK ONLY
TYPE OF PERMIT: (check all that apply) DESIGN REVIEW BUILDING Permit No Approve	/PLANNING
Approve	dDate
ELECTRICAL Permit No.     Approve     CONCRETE Permit No.     Approve	d Date
CONCRETE Permit No. Approve     OTHER Permit No. Approve     GRADING/SITE IMPROVEMENTS Power No.	a Date
	Approved
TYPE OF WORK:INEW CONSTRUCTION (# sq.)IREPAIRINEW CONSTRUCTION (# sq.)	ft)
UREPAIR     DALTERATION       DEMOLITION     DCHANGE OF USE	CERTIFICATE OF OCCUPANCY
Searway Property 649 Pacific Avenue	MEOWNERS' ASSOCIATION: DYES DNO Alamida, (A
DESCRIPTION OF PROPOSED WORK	
sub slab fan/ventillation system	THE KELLY MOORE PAINTS
VALUATION OF PROPOSED WORK	EXISTING # OF UNITS COM M # OF
\$_35,000-	PROPOSED # OF UNITS COM A STORIES:
OWNER'S NAME	
Don Lindsey	OWNER'S TELEPHONE NUMBER $(510)520-3453$
OWNER'S ADDRESS (street, city and zip code)	
2424 Central Ave, Alameda, C	A 94501
APPLICANT'S NAME (if different from OWNER)	APPLICANT'S TELEPHONE NUMBER:
Trinity Source Group (David Reinsma)	(831) 426-5600
APPLICANT'S ADDRESS (street, city and zip code):	
500 CHESTNUT Street, Suite 225, Santa	CMZ, CA, 95060
CITY BUSINESS LICENSE # (if applicable)	STATE LICENSE # (if applicable)
022.564 EXPIRED 6/30/05 !!	779059
CONTRACTOR'S NAME (if different from Applicant)	CONTRACTOR'S TELEPHONE NUMBER:
James Garvisch CASTAWAY CUNSTRUCT	(510) 864-7221
CONTRACTOR'S ADDRESS (street, city, & zip code):	
1801 Versailles Ave, Alameda, (A. REVISIED 8/27/2004	
FOR OFFICE USE ONLY	G:\CENPERM.BI\FORMS\PERMITW1.WPD
FIRE P/F SCHOOL UNIT T	MIPDRITMF
SEWERA/HCDFPUBLIC ART	AXCPFTRACKING CDDEBMUDADDRESS

#### (/ BUILDER:

.by affirm that I am exempt from the Contractor's License law for following reason (Sec. 7031.5, Business and Professional Code: Any city or Junty which requires a permit to construct, alter, improve, demolish or repair any structure prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provision of the Contractors License Law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to civil penalty of not more that five hundred dollars (\$500).

□ I, as owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professions Code. The Contractor's License Law does not apply to an Owner of a property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of the completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).

 $\Box$  I, as owner of the property, am exempt from the sale requirements of the above due to: 1) I am improving my principal place of resident or appurtenances thereto; 2) the work will be performed prior to sale; 3) I have resided in the residence for the 12 months prior to the completion of the work, and 4) I have not claimed exemption in the subdivision on more that two structures more than once during any three-year period (Sec. 7044, Business and Professions Code).

I, as owner of the property, an exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors' License Law).

□I, as owner of the property, am exempt under P&PC for this reason	r Sec
	· ·
Signature of Owner or Authorized Agent	Date

#### **APPLICANT:**

I CERTIFY THAT I HAVE READ THE APPLICATION AND STATE THAT THE INFORMATION GIVEN IS TRUE AND CORRECT. I AGREE TO COMPLY WITH ALL LOCAL ORDINANCES AND STATE LAWS RELATING TO BUILDING CONSTRUCTION AND I MAKE THIS STATEMENT UNDER PENALTY OF LAW. I HEREBY AUTHORIZE REPRESENTATIVES OF THIS CITY TO ENTER UPON THE ABOVE-MENTIONED PROPERTY FOR INSPECTION PURPOSES, EXCEPT IN THOSE CONSTRUTION PROJECTS WHERE THE BUILDING OFFICIAL, DUE TO THE NATURE OF THE PROJECT, DEEMS THESE LIMITATIONS TO BE UNREASONABLE. EVERY PERMIT ISSUED BY THE BUILDING OFFICIAL UNDER THE PROVISIONS OF THIS CODE SHALL EXPIRE BY LIMITATION AND BECOME NULL AND VOID IF THE BUILDING OR WORK AUTHORIZED BY SUCH PERMIT DOES NOT RECEIVE AN APPROVAL OF A MAJOR INSPECTION WITHIN 180 DAYS FOLLOWING THE ISSUANCE DATE OF SUCH PERMIT OR FOLLOWING THE APPROVAL DATE OF A PREVIOUS MAJOR INSPECTION. DO NOT CONCEAL OR COVER ANY CONSTRUCTION UNITS UNTIL THE WORK IS INSPECTED AND THE INSPECTION IS RECORDED ON THE BUILDING INSPECTION 'HARD CARD'.

I hereby agree to save, defend, indemnify and keep harmless the City of Alameda and its officers, employees, agents and volunteers from all actions, claims, demands, litigation, or proceedings, including those for attorney's fees, against the City in consequence of the granting of this permit or from the use or occupancy of any sidewalk, street, or subsidewalk or otherwise by virtue thereof, and will in all things strictly comply with the civilia to the use or occupancy of any sidewalk street.

aditions under which this permit is granted License UΥ Signature of Contractor, Owner, or Architect Date nd Print Name 9405 State

#### WORKER'S COMPENSATION:

I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Workers Compensation Insurance, or a certified copy thereof (Sec. 3700, Lab.c.)

astrican Construction Company Name Policy # 002 O

Certified copy is hereby furnished. Certificate is filed with the City Building Inspection Department Signature.

(This section need not be completed if the permit is for one hundred dollars [\$100] or less).

I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation laws of California

Signature

NOTICE TO APPLICANT: If, after making the Certificate of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with the provisions or this permit shall be deemed revoked.

Date

#### **CONTRACTOR:**

I hereby affirm that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

License # and Class 779037
City Business Tax #9787
Contractor's James Granvisch
Contractor's Phone (970) Ster = 114
Signature Jall Mund Date 2-27-08

#### LENDER:

I hereby affirm that there is a construction lending fee for the performance of the work for which this permit is issued (Sec. 3087, Civ. C).

Lender's Name

Lender's Address\_

City of Alameda 2263 Santa Clara Avenue Room 190 Alameda, CA 94501

.

PLANNING PERMIT APPLICATION		
Project Address: 649 Pacific	Ave, Alameda	CA 94501
Is the property subject to a Homeowners Association?  Yes XNo Association Name:		
Please check all applicable permits.		
Minor Design Review	Use Permit Variance Planned Development General Plan Amendment	<ul> <li>Zoning Text Amendment</li> <li>Subdivision *</li> <li>Rezoning</li> <li>Other</li> </ul>
Please describe the application request. (Please attach additional sheets if necessary).		
X Active sub-slab depressurization system - mitigate volatile organic compound vapor intrusion concerns for the site structure		
· · · · · · · · · · · · · · · · · · ·		
	<u> </u>	
Please read terms on reverse before proceeding.		
XProperty Owner(s): Don Linds	ey TIMBER	DELL PROPERTIES US
Andress. A THE CENTRAL MUE		Phone (w): (510) 520-3453
XCity: Alameda State: CA Zip: 94501		Phone (h):
Applicant (if different than property owner):		
X Address:		Phone (w):
Çity: State: Zip	:	Phone (h):
Agent (if different than applicant):		
Address:		Phone (w):
City: State: Zip	:	Phone (h):
To Be Completed By City Staff		
Case Planner:		APN:
Over the Counter? Yes Not Initial	Received By:	Zoning:
Application #: a)	Amount Paid:	GP:
~/		

# APPLICATION CERTIFICATION, AUTHORIZATION, AND AGREEMENT

# PROPERTY OWNER (Person(s) who own(s) the property).

I hereby certify under penalty of perjury, that I am the owner of record of the property described herein and that I consent to the action requested herein. Further, I hereby authorize City of Alameda employees and officers to enter upon the subject property, as necessary to inspect the premises and process this application.

\_\_\_\_\_ Date \_\_\_\_\_\_ Property Owner's Signature X 🧲 Nember Timber Delle Propertie LL APPLICANT (Person seeking the permit).

I hereby certify that I have read this application form and that to the best of my knowledge, the information in this application and all the exhibits are complete and correct. I understand that any misstatement or omission of the requested information or of any information subsequently requested may be grounds for rejecting the application, deeming the application incomplete, denying the application, suspending or revoking a permit issued on the basis of these or subsequent representations, or for the seeking of such other and further relief as may seem proper to the City of Alameda.

For applications subject to a time and materials charge, I hereby agree to pay the City of Alameda all incurred costs for staff time and materials associated with review and processing of the subject project even if the application is withdrawn or not approved. I understand that one or more deposits will be required to cover the cost noted herein at such time as required by the Planning Director to ensure there are adequate funds to cover anticipated time and materials costs. I expressly acknowledge and agree that failure to pay a written invoice for additional funds within 14 days of date of invoice shall constitute the applicant's withdrawal of the application.

Applicant's Signature X Nember Timber Dell Propertin LLS

AGENT (Person representing the applicant in the permit process).

I hereby certify that I am the designated representative of the applicant during the permit process.

Agent's Signature X \_\_\_\_\_ Date

#### **Please Note**

- If form is not completely filled out, application will be considered incomplete.
   Fees are not refundable and payment in no ways of the considered incomplete.
- Fees are not refundable and payment in no way guarantees approval of application.
   Please make checks payrable to the City of May guarantees approval of application.
- Please make checks payable to the City of Alameda.

G:\PLANNING\FORMS\COUNTER\PermitApplicationForm.doc Revised: December 24, 2003

# ATTACHMENT C

# Sub – Slab Vapor Mitigation Report



December 6, 2007 Trinity Project No. 103.005.005

Mr. Jerry Wickham Alameda County Health Care Services Agency Environmental Health Services, Environmental Protection 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577

Re: Sub-Slab Vapor Mitigation Report Searway Property (SLIC Case No. RO0002584) 649 Pacific Avenue Alameda, California

Dear Mr. Wickham:

This document, prepared by Trinity Source Group, Inc. (Trinity) on behalf of Timber Del Properties, L.L.C., c/o Mr. Donald Lindsey, presents a *Sub-Slab Vapor Mitigation Report* for the referenced site (Figures 1 and 2). This report follows the September 20, 2007 *Phase III Sub-Slab Vapor Investigation Report* and the July 11, 2007 *Sub-Slab Vapor Investigation Report* submitted by Trinity on behalf of Timber Del Properties. These reports summarized the results of sub-slab vapor sampling, and were completed at the request of Alameda County Health Care Services Agency (ACHCSA). Based on review of the *Phase III Sub-Slab Vapor Investigation Report*, the ACHCSA issued a letter dated September 21, 2007, requesting that the recommendations presented in the Phase III report be implemented. The ACHCSA letter is included in Attachment A to this report. This *Sub-Slab Vapor Mitigation Report* complies with the ACHCSA letter. This report presents the site description, a description of the scope of work completed in order to collect data for the sub-slab depressurization design, and the design drawings and details.

# SITE DESCRIPTION

The site is located in a two-story commercial building at the intersection of Pacific Avenue and Webster Street in Alameda, California. The site was formerly the location of a dry cleaning operation from the 1940's until at least 1979. The project site building is currently used as a Kelly-Moore Paints store. Tenants of adjacent portions of the building include the East Ocean

Seafood Restaurant at 1713 Webster Street, a martial arts school, and a tailoring/cleaners shop. The general land use in the site vicinity is commercial and residential.

# SUMMARY OF PREVIOUS SUB-SLAB VAPOR INVESTIGATIONS

# Phase I

In response to a request that the site be evaluated for low-risk closure, the ACHCSA requested submittal of a work plan to evaluate the potential for indoor air vapor intrusion of total volatile hydrocarbons due to Stoddard solvent impacts to soil and groundwater.

Trinity submitted the requested workplan on May 15, 2006, and proposed the installation and sampling of three semi-permanent soil vapor probes. The work was completed in October 2006. With the approval of ACHCSA, Trinity installed the sub-slab probes rather than semi-permanent soil gas probes in soil borings. In general, the sub-slab vapor probes (VS-1, VS-2, and VS-3) yielded elevated concentrations of Stoddard solvent as well as several chlorinated volatile organic compounds (VOCs) in the vadose zone immediately beneath the building foundation slab.

# Phase II

Trinity conducted a Phase II sub-slab vapor investigation to further delineate the extent of the Stoddard solvent and VOCs beneath the site building. This phase included installation and sampling of six additional sub-slab vapor probes (VS-4 through VS-9). These probes evaluated the concentrations of Stoddard solvent and VOCs in the vapor immediately beneath the foundation slab of the site building and beneath the adjacent parking lot.

The sub-slab vapor chemical of concern (COC) concentrations were compared to San Francisco Regional Water Quality Control Board (SFRWQCB) Environmental Screening Levels (ESLs) which are shallow soil gas screening levels for evaluation of potential vapor intrusion concerns (Table E-2) for commercial and industrial land use scenarios (SFRWQCB – February 2005). ESLs are presented in Table 1 along with the site analytical results. COCs in sub-slab vapor that exceeded a particular ESL for commercial or industrial land use are as follows:

- Chloroform as detected in Probes VS-1 and VS-5.
- Carbon tetrachloride as detected in Probes VS-1 through VS-7.
- PCE as detected in Probes VS-1 through VS-8.

Analytical results are summarized on Table 1. Other constituents that have been detected in sub-slab vapor samples but which are not a concern for the site based on ESLs for commercial

and industrial land use are Stoddard solvent, Trans-1,2-DCE, cis-1,2-DCE, TCE, acetone, Freon 11, carbon disulfide, chloroethane, and methyl ethyl ketone.

# Phase III

Based on the Phase II sub-slab vapor investigation results, Trinity performed a Phase III investigation to further delineate the extent of COCs in the sub-slab vapor.

The scope of work for the Phase III sub-slab vapor investigation included installation and sampling of five additional sub-slab vapor probes (VS-10 through VS-14) inside the site building. Sub-slab vapor probe locations are shown on Figure 2. The probes were installed on July 31 and August 1, 2007, and sampled on August 16, 2007.

Results of all sub-slab vapor sampling are presented in Table 1. Table 1 also includes current SFRWQCB ESLs, which were updated in November 2007. Chemical concentration maps showing the vapor concentrations in sub-slab samples for Stoddard solvent, chloroform, carbon tetrachloride, and PCE are presented as Figures 3 through 6, respectively. These figures also illustrate which concentrations exceed respective ESLs, using the data generated for the existing Phase I, Phase II and Phase III sub-slab vapor probes. The November 2007 ESL for carbon tetrachloride was revised from earlier versions; the current ESL is 63 micrograms per cubic meter ( $\mu$ g/m<sup>3</sup>). This new ESL results in a more extensive carbon tetrachloride plume than was shown in the Phase III report, as shown on Figure 5.

The Phase III sub-slab vapor investigation indicated that Stoddard solvent and VOCs are present locally beneath the concrete slab at the Kelly-Moore Paints store building located at 649 Pacific Avenue, and the adjacent East Ocean Seafood Restaurant at 1713 Webster Street. The Phase III investigation indicated only one sub-slab vapor probe (VS-11) where COCs have exceeded a particular ESL for commercial or industrial land use. At Probe VS-11, carbon tetrachloride and PCE exceeded their respective ESLs.

Other constituents that have been detected in the Phase III sub-slab vapor samples but which are not a concern for the site based on ESLs for commercial and industrial land use are Stoddard solvent, chloroform, acetone, Freon 11, ethanol, 1,1,1-trichloroethane, 1,2,4-trimethylbenzene, 2-butanone and m,p-xylene.

The detection of isopropyl alcohol in the sample collected from Probes VS-13 at the relatively high concentration of 24,000  $\mu$ g/m<sup>3</sup> may have indicated a low bias for the other analyses from this probe location. This probe was resampled as part of the work conducted in developing the sub-slab depressurization design.

# **SCOPE OF WORK**

The scope of work performed to complete this *Sub-Slab Vapor Mitigation Report* included the following tasks:

- Re-sampling Probes VS-13 and VS-11 to confirm the detections of COCs at these locations. Re-sampling Probe VS-13 was recommended because the detection of leak test compound indicated that the sample analysis performed for the Phase III sub-slab vapor investigation may not have been representative of sub-slab conditions. Probe VS-11 had concentrations of PCE and carbon tetrachloride higher than the applicable ESLs, and so re-sampling prior to system design was recommended to confirm these levels.
- Inspect the building foundation for all COC vapor entry points such as cracks in the slab or foundation, gaps in fieldstone walls, construction joints between walls and slabs, annulus space around utility pipes, open sumps, etc. Possible entry points were monitored with a part per billion range photo-ionization detector.
- Sealing off all possible entry routes to the extent possible, to prevent the entrance of sub-slab vapors and to enhance the sub-slab negative pressure field when a sub-slab depressurization (SSD) system is in operation.
- Perform diagnostic testing of the air flow characteristics and capacity of the material(s) beneath the slab for the purpose of designing a SSD system.
- Design a SSD using the results of the diagnostic testing, to mitigate VOC vapor intrusion concerns for the site structure.

# RESULTS

### **Resampling VS-11 and VS-13**

Probe VS-11 was resampled on October 17, 2007, and Probe VS-13 was resampled on October 18, 2007. The sampling procedure is described in Attachment B. The samples were collected into Summa canisters, and submitted under chain-of-custody protocol to Air Toxics, Inc., in Folsom, California. The samples were analyzed for VOCs using EPA Method TO-15 and Stoddard solvent using EPA Method TO-3. The analytical results are presented on Table 1, and summarized below. Certified analytical reports are included in Attachment C.

Probe VS-11 was reported with carbon tetrachloride at 970  $\mu$ g/m<sup>3</sup>, and PCE at 3,600  $\mu$ g/m<sup>3</sup>. These concentrations exceeded their respective ESLs. Other compounds, including Stoddard solvent, chloroform, acetone, and ethanol were also detected in Probe VS-11, at concentrations less than applicable ESLs.

Probe VS-13 was reported to contain Stoddard solvent, PCE, acetone, Freon 11, 2-butanone, all at concentrations less than ESLs.

The resampled analytical results are generally of similar magnitude to the original results; therefore, the delineation of the sub-slab VOC vapors presented in the *Phase III Sub-Slab Vapor Intrusion Investigation Report* is considered valid.

### **Inspecting and Sealing Foundation Vapor Entry Points**

On October 17, 2007, Trinity staff inspected the interiors of the Kelly-Moore Paints store and the East Ocean Seafood Restaurant, to identify locations where vapors may enter the building through the foundation. A number of slab penetrations were identified, including floor sinks, wall sinks, floor drains, toilets, and monitoring wells. All of the penetrations identified in the Kelly-Moore Paints store were sealed with caulk, and the penetrations in the restroom at the northwestern corner of the East Ocean Seafood Restaurant were also sealed. The remaining penetrations in the restaurant facility were not sealed. The sealed penetrations are generally located in the areas with the highest VOC concentrations in the sub-slab vapor.

# **Diagnostic Testing**

# SSD Diagnostic Test Field Procedures:

The SSD diagnostic tests were performed as described in the following text. The purpose of the SSD diagnostic tests was to evaluate the number and spacing of extraction points required to effectively depressurize the sub-slab area beneath the building, the vacuum required at each extraction point, and the vapor flow rate from each extraction point.

The scope of work for the diagnostic tests included the installation of two sub-slab depressurization points (Points DPT-1 and DPT-2) and eight additional observation/monitoring probes (VS-15 through VS-22), which were drilled through the slab utilizing the same design as the previously-installed Probes VS-1 through VS-14. The observation points were located at varying distances (e.g., 5, 10, 20, 30 feet) from the extraction points. Figure 2 shows the locations of extraction Points DPT-1, and DPT-2, and Probes VS-15 through VS-22.

A standard wet/dry vacuum (e.g., Shop-Vac) was used to extract soil vapor from the extraction point; the pressure drop and flow rate at the extraction point, along with the pressure drop in the observation points, was monitored and measurements recorded. The extraction point was fitted with a magnehelic gauge and sampling port to measure applied vacuum and collect vapor samples. Each observation point was fitted with a magnehelic gauge to measure the vacuum response created by the applied vacuum at the extraction point.

Three step tests were conducted at Point DPT-1 and three step tests were conducted at Point DPT-2, for a total of six step tests. In each case, Step 1 consisted of applied vacuum at low pressure (approximately 40 inches of water [in-H<sub>2</sub>O]. Step 2 consisted of applied vacuum increased to a medium pressure (at approximately 50 in-H<sub>2</sub>O), and Step 3 consisted of the maximum available pressure (at approximately 60 in-H<sub>2</sub>O). The duration of each step ranged from approximately 1 to 2 hours. Pressure responses at observations points were recorded at roughly 30-minute intervals.

To determine the approximate concentration of VOCs being extracted, periodic sampling of the extracted vapors were made using a photo-ionization detector (PID). Additionally, to speciate VOCs present and determine their relative concentrations in the vapor train, Tedlar bag vapor samples were collected during each test from Points DPT-1 and DPT-2.

# SSD Diagnostic Test Pressure Response Results

Two sub-slab depressurization tests were performed using extraction Points DPT-1 and DPT-2 (Figure 2). The applied vacuums ranged from 40 to 60 in-H<sub>2</sub>O and volumetric extraction air-flow rates ranging from 9 to 24 standard cubic feet per minute (scfm). For each test, the applied vacuum was increased in three steps (Step 1 at 40 in-H<sub>2</sub>O and 9 scfm, Step 2 at 50 in-H<sub>2</sub>O and 15 scfm, and Step 3 at 60 in-H<sub>2</sub>O and 19 or 24 scfm) and the sub-slab pressure response to the applied vacuum was observed at 20 observations wells (Figure 2).

The vapor pressure responses measured at each observation point are shown in Table 2 for Test DPT-1 and Table 3 for Test DPT-2. The maximum radius of influence (ROI) observed from the applied vacuum for each test is presented in Table 4, and illustrated in Figure 7 for Test DPT-1 and Figure 8 for Test DPT-2. The maximum ROI for the test is determined by the difference between the final measured pressure and the initial recorded pressure at each observation point.

For Test DPT-1, (Table 2, Figure 7) the highest response was recorded at Probe VS-3 at -0.14 in-H<sub>2</sub>O and the applied vacuum produced pressure responses to perimeter locations including Probes VS-11, VS-17, VS-16, VS-7 and VS-8. The distribution of the applied vacuum from Test DPT-1 was highest along an alignment that generally follows the sanitary sewer line. Pressure response at perimeter locations including Probes VS-11 (73 feet from DPT-1), VS-17 (56 feet from DPT-1), and VS-16 (46 feet from DPT-1) indicate that the applied vacuum was capable of inducing sub-slab air flow into the Kelly-Moore Paints portion of the building from the adjoining East Ocean Seafood Restaurant building at 1713 Webster Street.

For Test DPT-2, (Table 3, Figure 8) the highest response was recorded at Probe VS-5 at -0.52 in-H<sub>2</sub>O and the applied vacuum produced pressure responses to perimeter locations including Probes VS-17, VS-16, VS-15, VS-4, VS-7 and VS-8. Pressure response at perimeter Probes VS-8 (100 feet from DPT-2), VS-7 (64 feet from DPT-2), and VS-15 (47 feet from DPT-1) indicate that the applied vacuum was capable of inducing sub-slab air flow into the

Kelly-Moore Paints portion of the building from the adjoining East Ocean Seafood Restaurant building. Note, also that a positive pressure increase (0.01 in- $H_2O$ ) was observed at distant Probes VS-12 and VS-9 at the completion of the test. The distribution of the applied vacuum from Test DPT-2 generally mirrors the distribution of the sub-slab vapor plume presented in Figures 3 through 6; this observation suggests that the vapor plume accumulates within and flows along the more permeable air pathways beneath the building floor.

In both tests, a pressure response was observed at the lower applied vacuum of 40 in-H<sub>2</sub>O which was observed to increase in areas when the higher applied vacuum of 60 in-H<sub>2</sub>O was applied. During Test DPT-1, a total of 3,204 cubic feet of air is estimated to have been evacuated; and for Test DPT-2, a total of 3,747 cubic feet of air is estimated to have been evacuated. If the area of the vapor plume is assumed to be 8,400 square feet (140 feet by 60 feet) and the permeable sub-slab material is 6-inches thick with a porosity of 0.35, then the vapor plume occupies a volume of approximately 1,470 cubic feet. Based on the above assumptions, Test DPT-1 evacuated approximately 2.1 pore volumes and Test DPT-2 evacuated approximately 2.5 pore volumes of sub-slab air. Based on these sub-slab volume assumptions and observed pressure drops in tests, collectively, both tests effectively swept the area of concern.

The observed pressure responses from the diagnostic tests indicate that sub-slab depressurization, sub-slab air-flow and vapor plume capture is achievable from the applied vacuums used in Tests DPT-1 and DPT-2. An effective capture radius of up to 100 feet from Point DPT-2 was observed, and the results from Test DPT-1 indicate that effective capture occurs along the alignment of the sanitary sewer where high concentrations of sub-slab vapor have been historically observed.

### SSD Diagnostic Test Analytical Results

To determine the concentrations of VOCs captured during the diagnostic tests, sub-slab air was screened with a PID during the performance of the test and sub-slab vapor samples were collected in Tedlar bags for laboratory analysis. The samples were collected into 1-liter Tedlar bags, and submitted to Torrent Laboratory, under chain-of-custody protocol. Two samples from each test location were submitted for analysis, one sample from the first step test, and one sample from the third (final) step test. The samples were analyzed for VOCs by EPA Method TO-15, and for Stoddard solvent by EPA Method TO-3. Analytical results are presented on Table 5, and certified analytical reports are included in Attachment C.

PID readings collected during Test DPT-2 indicate that initial concentrations of VOCs at the beginning of each step were highest and then reduced as Test DPT-2 continued (Table 3). However, analytical results from the Tedlar bag samples collected during Step 1 and Step 3 was essentially the same in value indicating that sub-slab air concentrations extracted during the entire Test DPT-2 were relatively uniform. The concentration of carbon tetrachloride was 1,800

and 1,700 micrograms per cubic meter of air  $(\mu g/m^3)$  during Step 1 and Step 3, respectively. The diagnostic test extracted VOC concentrations when compared to the "grab" results presented in *Phase III Sub-Slab Vapor Intrusion Investigation Report*, are lower than surrounding "grab" air samples would indicate, suggesting that the broader sweep of sub-slab air obtained during the diagnostic test dilutes areas of high concentration located near the extraction points.

PID readings collected during Test DPT-1 were all non-detect, indicating that the meter was likely malfunctioning (Table 2). The analytical results from the Tedlar bag samples collected during Step 1 and Step 3 were essentially the same in value indicating that sub-slab air extracted during the entire test was relatively uniform. During Test DPT-1 for example, carbon tetrachloride was 120  $\mu$ g/m<sup>3</sup> during Step 1, and 100  $\mu$ g/m<sup>3</sup> during Step 3, respectively. Similarly to Test DPT-2, The diagnostic test extracted VOC concentrations when compared to the "grab" results presented in *Phase III Sub-Slab Vapor Intrusion Investigation Report*, are lower than surrounding "grab" air samples would indicate, suggesting that the broader sweep of sub-slab air obtained during the diagnostic test dilutes areas of high concentration located near the extraction points.

### SSD Diagnostic Test Mass Removal Estimates

Trinity estimated the potential mass removed during the diagnostic test and compared the results with Bay Area Air Quality Management District (BAAQMD) permit requirements. Table 6 presents estimates of mass removal. Discharges to the atmosphere are screened against the BAAQMD's Chronic Trigger Levels, which are threshold concentrations for contaminants determined by the BAAQMD's Health Risk Screening Analysis (HRSA). Concentrations of contaminants of concern or their total yearly mass above trigger levels require abatement prior to discharge to the atmosphere.

The volumetric air flow rate used in Table 6 represents the maximum rated capacity of the Shop-Vac test fan at 180 cfm (per manufacturer's specifications) and assumes 24-hour per day, 365 days per year continuous operation. However, measured volumetric extraction rates did not exceed 24 cfm in either test. The difference between the rated volumetric air flow of the Shop-Vac and measured flow rates is due to pressures losses within the Shop-Vac system (that is, pressure losses through the HEPA filter, etc.) and frictional losses through the piping.

As presented on Table 6, two of the contaminants of concern, chloroform and PCE, do not exceed the BAAQMD Chronic Trigger Levels for estimated mass removed in pounds per year (lbm/year); a trigger level has not been established for Stoddard solvent. Carbon tetrachloride exceeds its BAAQMD Chronic Trigger Levels of 4.3 lbm/year. However, based on the field results, no contaminant exceeded its (1-hour) Acute Trigger Level concentration.

At the maximum observed extraction rate of 24 cfm during the diagnostic test, the estimated mass of carbon tetrachloride would be 1.77 lbm/year, which is well below its chronic trigger

level. Based on the BAAQMD Chronic Trigger Levels as criteria to establish unabated discharge, a maximum allowable extraction rate of 72 cfm could be achieved if influent concentrations stay at or below concentrations measured during the diagnostic test. Over time, it is likely that VOC concentrations would decline.

In all scenarios presented in Table 6, less than 1-pound per day of total organics would be extracted and discharged to the atmosphere. Per BAAQMD Regulation 8-47-402, an extraction system that produces less than 1-pound per day may qualify for an exemption of BAAQMD permitting requirements.

# PRELIMINARY DESIGN PARAMETERS FOR SUB-SLAB DEPRESSURIZATION SYSTEM

The pressure responses observed in the diagnostic tests described above have provided field measurements to assist design parameters for the site SSD mitigation system. The vacuum responses measured showed that areas with elevated sub-slab VOC vapor concentrations can be influenced by application of an applied suction at relatively low-flow to the sub-slab floor. The SSD design parameters reflect test parameters and are as follows:

- An applied suction force of 60 in-H<sub>2</sub>O and up to 72 cfm air flow rate.
- Install two extraction wells at locations near DPT-1 and DPT-2 to provide the required sweep of sub-slab air.
- Petition BAAQMD for Regulation 8-47-402 exemption for discharges (i.e., no abatement required).

The preliminary design elements are shown in Sheets 1 to 4, as follows:

Sub-Slab System Layout (Figure 9) – two extraction wells are located near DPT-1 and DPT-2. Extraction well pipe runs will be trenched to nearby walls. The pipe runs will continue up to the first floor ceiling, where they will be manifolded together and connected to a suction fan located in the roof attic. The exhaust air would be piped the southwest corner of the roof and discharged through a 3-foot tall stack. This corner of the property is adjacent to a parking lot and street with open access to available wind, and therefore the low VOC mass discharged should not pose a risk of accumulating or concentrating. The electric fan blower will be equipped with a pressure indicator and flow meter to monitor performance.

Sub-Slab System Process and Instrumentation Diagram (Figure 10) – The process flow for the extraction system is relatively simple; sub-slab air will be withdrawn from the sub-slab material by application of an applied vacuum. The extracted air will be routed through piping and discharged to the atmosphere unabated. Wellheads will be fitted with ball valves to regulate flow, if required, and sample ports to allow for sample collection and flow measurements.

Sub-Slab System Extraction Well Detail (Figure 11) – The extraction a 3-foot long ' 4-inch diameter slotted PVC connected to 4-inch diameter PVC blank pipe runs. The slotted pipe will be set in the middle of the sub base material. PVC will extend across the sub-base material. The pipe runs are increased to 4-inch diameter from the 2-inch pipe diameter used in the diagnostic tests to reduce frictional losses and increase air flow rates.

Sub-Slab System Monitoring Point Detail (Figure 12) – The monitoring points (VS-1 through VS-22) are already installed and were constructed in accordance with the design specifications presented in the EPA document, "Assessment of Vapor Intrusion in Homes Near the Raymark Superfund Site using Basement and Sub-Slab Air Samples" (EPA 600 R-05/147, March 2006). These monitoring points have proven to be effective in sample collection and measuring the pressure field established by an applied vacuum.

Trinity has consulted with the BAAQMD, and believes that a permit exemption will likely be granted for the proposed system. However, the BAAQMD is required to perform its Health Risk Screening Analysis (HRSA) prior to granting an exemption. Additional permits, as required, will be obtained from the City of Alameda Building Department for construction of the SSD system.

# DISTRIBUTION

A copy of this report has been forwarded to the following:

Mr. Don Lindsey Timber Del Properties, L.L.C. 2424 Central Avenue Alameda, California 94501 Ms. Georgia Turner The Mechanics Bank 1999 Harrison St., Suite 100 Oakland, California 94612

If you have any questions regarding this investigation and preliminary design report, please call Trinity at (831) 426-5600.

# Sincerely, TRINITY SOURCE GROUP, INC.



- Vanid (

David A. Reinsma, PG President and Principal Geologist

Warren B. Chamberlain

Warren Chamberlain, PE Senior Engineer, No. C 60853

Attachments Table 1 – Sub-Slab Vapor Probe Sample Analytical Data (Stoddard Solvent and Volatile Organic Compounds)

- Table 2 Sub-Slab Vapor Depressurization Test DPT-1
- Table 3 Sub-Slab Vapor Depressurization Test DPT-2
- Table 4 Sub-Slab Vapor Depressurization Test Radius of Influence Determination
- Table 5 Sub-Slab Vacuum Test Analytical Data (Stoddard Solvent and Volatile Organic Compounds)
- Table 6 Sub-Slab Depressurization Test Mass Removal Estimate
- Figure 1 Site Location Map
- Figure 2 Sub-Slab Vapor Probe Location Map
- Figure 3 Stoddard Solvent in Sub-Slab Vapor Concentration Map
- Figure 4 Chloroform in Sub-Slab Vapor Concentration Map
- Figure 5 Carbon Tetrachloride in Sub-Slab Vapor Concentration Map
- Figure 6 PCE in Sub-Slab Vapor Concentration Map
- Figure 7 DPT-1 Vacuum Pressure Relative Influence Map
- Figure 8 DPT-2 Vacuum Pressure Relative Influence Map
- Figure 9 Sub-Slab Depressurization System Layout
- Figure 10 Sub-Slab Depressurization System Layout Process and Instrumentation Diagram
- Figure 11 Sub-Slab Depressurization System Extraction Well Detail
- Figure 12 Sub-Slab Vapor Monitoring Point Detail

- Attachment A ACHCSA Letter Dated September 21, 2007
- Attachment B Sub-Slab Vapor Point Sampling Procedures and Field Data Sheets
- Attachment C Certified Analytical Reports and Chain-of-Custody Documentation
## TABLES

## Table 1Sub-Slab Vapor Probe Sample Analytical Data(Stoddard Solvent and Volatile Organic Compounds)

Searway Property 649 Pacific Avenue Alameda, California

						Modifie	ed EPA A	nalytical	Test Met	hods			
		TO-3						TO-1	15				-
Sample ID	Sample Date	Stoddard	Chloroform (μg/m <sup>3</sup> )	Carbon Tetra- chloride (µg/m <sup>3</sup> )	PCE (µg/m <sup>3</sup> )	Trans-1,2- Dichloro- ethene (μg/m <sup>3</sup> )	cis-1,2- Dichloro- ethene (μg/m <sup>3</sup> )	TCE (µg/m <sup>3</sup> )	Acetone (μg/m³)	Freon 11 (μg/m <sup>3</sup> )	Carbon Di- sulfide (µg/m <sup>3</sup> )	Chloro- ethane (μg/m <sup>3</sup> )	Leak Test Compounds 2-propanol (µg/m <sup>3</sup> )
Sub-Slab Soil	Vapor Probe S	Samples											
VS-1	10/25/2006	4,100	2,500	42,000	6,700	< 87	< 87	< 120	<210	<120	<68	<58	<220
VS-1 DUP	10/25/2006	4,100	2,400	40,000	7,000	< 170	< 170	< 240	<420	<250	<140	<120	<430
VS-2	10/25/2006	1,600	740	8,400	5,800	< 17	< 17	< 23	<41	<24	<13	<11	<42
VS-3	10/25/2006	9,100	490	1,400	11,000	70	47	98	<56	<33	<18	<16	<58
VS-3	5/7/2007		430	1,500	9,500	51	47	88	41	<24	<13	<11	<42
VS-3	6/4/2007	21,000											36,000
VS-3 DUP	6/4/2007	21,000											36,000
VS-4	5/7/2007		93	15,000	1,600	<34	<34	<46	<82	<49	<27	<23	<85
VS-4	6/4/2007	980											<28
VS-5	5/7/2007		1,600	5,300	1,700	<12	<12	<16	30	<17	<9.3	<7.9	<29
VS-5	6/4/2007	870											160
VS-5 DUP	6/4/2007												140
VS-6	5/7/2007	*	420	7,500	2,500	< 17	< 17	<23	<41	<24	<13	<11	<42
VS-6	6/4/2007	920											42
VS-7	5/7/2007		8.3	550	1,900	<4.4	<4.4	<5.9	16	20	6.8	<2.9	<11
VS-7	6/4/2007	8,800											15,000
VS-8	5/7/2007		44	94	1,500	<4.4	<4.4	<6.0	18	<6.3	<3.5	<3.0	<11
VS-8	6/4/2007	2,800											4,600
VS-9 <sup>a</sup>	5/7/2007		590	<7.0	42	<4.4	<4.4	<6.0	160	<6.3	73	4.1	<11
VS-9 <sup>a</sup>	6/4/2007	<310											200

## Table 1Sub-Slab Vapor Probe Sample Analytical Data(Stoddard Solvent and Volatile Organic Compounds)

Searway Property 649 Pacific Avenue Alameda, California

						Modifie	ed EPA A	nalytical	Test Met	hods			
		TO-3						T0-′	15				
Sample ID	Sample Date	Stoddard Solvent (μg/m <sup>3</sup> )	Chloroform (µg/m <sup>3</sup> )	Carbon Tetra- chloride (μg/m <sup>3</sup> )	PCE (µg/m <sup>3</sup> )	Trans-1,2- Dichloro- ethene (μg/m <sup>3</sup> )	cis-1,2- Dichloro- ethene (µg/m <sup>3</sup> )	TCE (µg/m <sup>3</sup> )	Acetone (μg/m³)	Freon 11 (μg/m <sup>3</sup> )	Carbon Di- sulfide (μg/m³)	Chloro- ethane (µg/m <sup>3</sup> )	Leak Test Compounds 2-propanol (µg/m <sup>3</sup> )
Shroud Atmos	phere Sample	es for Leak	Test Comp	ound Con	firmation	1							
VS-7QC	5/7/2007												99,000
VS-7-QC	6/4/2007												150,000
VS-8QC	5/7/2007												530,000 E
			SFRWQC	B ESLs (µ	g/m³) C	ommercial/	Industrial I	Property U	se (Februa	ry 2005)			
		26,000	1,500	190	1,400	41,000	20,000	4,100	1,800,000	NA	NA	9,900	NA
Sub-Slab Vapo	or Probe Samp	ole Analyti	cal Data										
VS-11 <sup>b</sup>	10/17/2007	3,800	32	970	3,600	ND<7.2	ND<7.2	ND<9.8	39	ND<10	ND<5.7	ND<4.8	ND<18
VS-11 DUP	10/17/2007	3,700											
VS-13 <sup>c</sup>	10/18/2007	5,600	ND<5.6	ND<7.2	26	ND<4.5	ND<4.5	ND<6.2	47	55	ND<3.6	ND<3.0	ND<11

	SFRWQCB ESLs (μg/m <sup>3</sup> ) Commercial/Industrial Property Use (November 2007)												
26,0	00 1,500	63	1,400	41,000	20,000	4,100	1,800,000	NA	NA	58,000	NA		
SFRWQCB ESLs (ug/m <sup>3</sup> ) Residential Exposure (November 2007)													
10,0	00 460	19	410	15,000	7,300	1,200	660,000	NA	NA	21,000	NA		

## Table 1 Sub-Slab Vapor Probe Sample Analytical Data (Stoddard Solvent and Volatile Organic Compounds)

Searway Property 649 Pacific Avenue Alameda, California

						Modifie	ed EPA A	nalytical	Test Met	hods			
		TO-3						<b>TO-</b> 1	15				
Sample ID	Sample Date	Stoddard		Carbon Tetra-		Trans-1,2- Dichloro-	cis-1,2- Dichloro-				Carbon Di-	Chloro-	Leak Test Compounds
		Solvent (µg/m <sup>3</sup> )	Chloroform (µg/m <sup>3</sup> )	chloride (µg/m <sup>3</sup> )	PCE (µg/m <sup>3</sup> )	ethene (µg/m³)	ethene (µg/m <sup>3</sup> )	TCE (µg/m <sup>3</sup> )	Acetone (µg/m <sup>3</sup> )	Freon 11 (µg/m <sup>3</sup> )	sulfide (µg/m <sup>3</sup> )	ethane (µg/m <sup>3</sup> )	2-propanol (µg/m <sup>3</sup> )

DUF	P = Duplicate sample	NA = not available or applicable
EPA	<ul> <li>Environmental Protection Agency</li> </ul>	= not analyzed
PCE	= Tetrachloroethene	E = exceeds instrument calibration range
TCE	= Trichloroethene	a = 2-Butanone (Methyl Ethyl Ketone) at 12 µg/m <sup>3</sup>
μg/m <sup>3</sup>	<sup>3</sup> = micrograms per cubic meter	b = Ethanol at 58 μg/m <sup>3</sup>
<	= not detected at or above value shown	c = 2-Butanone (Methyl Ethyl Ketone) at 6.4 µg/m <sup>3</sup> and Tetra Hydrofuran at 4.1 ug/m <sup>3</sup>
	- Con Francisco Designal Water Ovality Control Desad Fry	en en tel Cenera in el evele (ECLe), el ellevene e en en in el levele fen

SFRWQCB ESLs = San Francisco Regional Water Quality Control Board Environmental Screening Levels (ESLs), shallow gas screening levels for

evaluation of potential vapor intrusion concerns (Table E-2), Commercial/Industrial Land use, - February 2005

SFRWQCB ESLs = San Francisco Regional Water Quality Control Board Environmental Screening Levels (ESLs), shallow gas screening levels for

evaluation of potential vapor intrusion concerns (Table E), Commercial/Industrial Land use and Residnetial Exposure, - November 2007

**BOLD** = chemical exceeds its respective ESL

The leak test compound, Isopropyl Alcohol (2-propanol), was not dected in any sub-slab probe sample analyzed

#### Table 3 Sub-Slab Vapor Depressuraization Test DPT-2

Searway Property 649 Pacific Avenue Alameda, California

		Extra	ction Well DPT-	2		1											Observa	tion Wells									
	Ex	traction Po	oint Operation Pa	rameters		VS-1	VS-2	VS-3	VS-4	VS-5	VS-6	VS-7	VS-8	VS-9	VS-10	VS-11	VS-12	VS-13	VS-14	VS-15	VS-16	VS-17	VS-18	VS-19	VS-20	VS-21	VS-22
						Dist to DPT-2	Dist to DPT-2		Dist to DPT-2																		
		Flow	Air-flow Valoaity thru 2"	Volume of Air		51 ft	48 ft	58 ft	32 ft	3 ft	23 ft	64 ft	100 ft	69ft	54 ft	22 ft	33 ft	60 ft	104 ft	47 ft	32 ft	19 ft	10 ft	22 ft	31 ft	68 ft	57 ft
Time	Test	Rate	ID PVC	Evacuated	PID	Vacuum	Vacuum																				
(24 hour)	Level	(scfm)	(fpm)	(cf)	(ppm)	(in. H <sub>2</sub> O)																					
9:33	Backround	0.0	0.0			0.00		+0.04	-0.02	-0.03	0.00	-0.01	-0.01	-0.01		0.00	-0.04	0.00	-0.03		-0.02	-0.01	0.00	-0.04	+0.07	+0.03	0.00
10:00	Start	9.2	420	247	0.312	-0.02		-0.02	-0.02	-0.12	-0.03	-0.02	-0.02	0.00		0.00	-0.03	0.00	-0.02		-0.03	-0.03	-0.06	-0.01	-0.02	-0.04	0.00
10:30	Step 1	9.4	430	275	0.083	-0.02		0.00	-0.03	-0.14	-0.02	-0.02	-0.02	0.00		0.00	-0.02	0.00	-0.03		-0.03	0.00	-0.06	-0.04	-0.02	-0.03	0.00
11.00	0, 1	0.4	120	201	0.002	0.02		0.02	0.04	0.20	0.02	0.02	0.02	0.00		0.00	0.02	0.00	0.02		0.02	0.00	0.12	0.04	0.02	0.02	0.00
11:00	Step 1	9.4	430	281	0.002	-0.03		-0.02	-0.04	-0.28	-0.03	-0.03	-0.02	0.00		0.00	-0.02	0.00	-0.03		-0.02	0.00	-0.13	-0.04	-0.02	-0.02	0.00
11:10	Step 2	15.3	700	94	0.014																		-0.15	-0.06	-0.03		-0.01
11110	Step 2	1010	,		0.011																		0110	0.00	0.00		0.01
11:30	Step 2	15.3	700	305	NM	-0.03		-0.03	-0.02	-0.33	-0.03	-0.03	-0.01	0.00		0.00	-0.02	0.00	-0.03		-0.02	0.00	-0.16	-0.06	-0.03	-0.02	-0.01
12:00	Step 2	15.3	700	458	NM	-0.03		-0.04	-0.02	-0.35	-0.03	-0.03	-0.03	0.00		0.00	-0.02	0.00	-0.03	-0.03	-0.02	0.00	-0.16	-0.07	-0.03	-0.03	-0.01
12:30	Step 2	15.3	700	458	0.028	-0.04		-0.04	-0.04	-0.38	-0.05	-0.03	-0.03	0.00		0.00	-0.03	0.00	-0.03	-0.03	-0.02	0.00	-0.16	-0.08	-0.03	-0.03	0.00
13:00	Store 2	15.3	700	458	0.005	-0.04		-0.04	-0.04	-0.40	-0.06	-0.03	-0.03	0.00		0.00	-0.03	0.00	-0.03	-0.03	-0.02	-0.01	-0.17	-0.09	-0.03	-0.03	0.00
15:00	Step 2	13.3	/00	438	0.005	-0.04		-0.04	-0.04	-0.40	-0.00	-0.05	-0.05	0.00		0.00	-0.05	0.00	-0.05	-0.05	-0.02	-0.01	-0.17	-0.09	-0.05	-0.03	0.00
13:02	Step 3	19.6	900	31	0.002																						
				-																							
13:05	MAX	19.6	900	59	< 0.001	-0.03		-0.04	-0.04	-0.51	-0.06	-0.03	-0.03	0.00		0.00	-0.03	0.00	-0.03	-0.03	-0.03	-0.02	-0.19	-0.08	-0.04	-0.03	0.00
13:30	MAX	19.6	900	491	< 0.001	-0.04		-0.04	-0.05	-0.55	-0.08	-0.03	-0.03	0.00		0.00	-0.03	0.00	-0.03	-0.04	-0.04	-0.03	-0.22	-0.10	-0.04	-0.03	0.00
																											<u> </u>
14:00	Stop Test			589																							<u> </u>
Fotal air volu	ume extracted	1		3,747																							

Notes:

Dist. = Distance in feet

= feet

in.  $H_2O$  = Vacuum pressure measured in inches of water

ft

scfm = standard cubic feet per minute

fpm = feet per minute

(--) or NM = not measured

 $H_20$ = water

ppm pid = parts per million

= photoionization detector

cf = cubic feet ID = Internal diameter

PVC = Poly Vinyl Chloride pipe

0.0218 = cross-sectional area of 2-inch diameter PVC pipe in fee<sup>2</sup>

#### Table 3 Sub-Slab Vapor Depressuraization Test DPT-2

Searway Property 649 Pacific Avenue Alameda, California

		Extra	ction Well DPT-	2		1											Observa	tion Wells									
	Ex	traction Po	oint Operation Pa	rameters		VS-1	VS-2	VS-3	VS-4	VS-5	VS-6	VS-7	VS-8	VS-9	VS-10	VS-11	VS-12	VS-13	VS-14	VS-15	VS-16	VS-17	VS-18	VS-19	VS-20	VS-21	VS-22
						Dist to DPT-2	Dist to DPT-2		Dist to DPT-2																		
		Flow	Air-flow Valoaity thru 2"	Volume of Air		51 ft	48 ft	58 ft	32 ft	3 ft	23 ft	64 ft	100 ft	69ft	54 ft	22 ft	33 ft	60 ft	104 ft	47 ft	32 ft	19 ft	10 ft	22 ft	31 ft	68 ft	57 ft
Time	Test	Rate	ID PVC	Evacuated	PID	Vacuum	Vacuum																				
(24 hour)	Level	(scfm)	(fpm)	(cf)	(ppm)	(in. H <sub>2</sub> O)																					
9:33	Backround	0.0	0.0			0.00		+0.04	-0.02	-0.03	0.00	-0.01	-0.01	-0.01		0.00	-0.04	0.00	-0.03		-0.02	-0.01	0.00	-0.04	+0.07	+0.03	0.00
10:00	Start	9.2	420	247	0.312	-0.02		-0.02	-0.02	-0.12	-0.03	-0.02	-0.02	0.00		0.00	-0.03	0.00	-0.02		-0.03	-0.03	-0.06	-0.01	-0.02	-0.04	0.00
10:30	Step 1	9.4	430	275	0.083	-0.02		0.00	-0.03	-0.14	-0.02	-0.02	-0.02	0.00		0.00	-0.02	0.00	-0.03		-0.03	0.00	-0.06	-0.04	-0.02	-0.03	0.00
11.00	0, 1	0.4	120	201	0.002	0.02		0.02	0.04	0.20	0.02	0.02	0.02	0.00		0.00	0.02	0.00	0.02		0.02	0.00	0.12	0.04	0.02	0.02	0.00
11:00	Step 1	9.4	430	281	0.002	-0.03		-0.02	-0.04	-0.28	-0.03	-0.03	-0.02	0.00		0.00	-0.02	0.00	-0.03		-0.02	0.00	-0.13	-0.04	-0.02	-0.02	0.00
11:10	Step 2	15.3	700	94	0.014																		-0.15	-0.06	-0.03		-0.01
11110	Step 2	1010	,		0.011																		0110	0.00	0.00		0.01
11:30	Step 2	15.3	700	305	NM	-0.03		-0.03	-0.02	-0.33	-0.03	-0.03	-0.01	0.00		0.00	-0.02	0.00	-0.03		-0.02	0.00	-0.16	-0.06	-0.03	-0.02	-0.01
12:00	Step 2	15.3	700	458	NM	-0.03		-0.04	-0.02	-0.35	-0.03	-0.03	-0.03	0.00		0.00	-0.02	0.00	-0.03	-0.03	-0.02	0.00	-0.16	-0.07	-0.03	-0.03	-0.01
12:30	Step 2	15.3	700	458	0.028	-0.04		-0.04	-0.04	-0.38	-0.05	-0.03	-0.03	0.00		0.00	-0.03	0.00	-0.03	-0.03	-0.02	0.00	-0.16	-0.08	-0.03	-0.03	0.00
13:00	Store 2	15.3	700	458	0.005	-0.04		-0.04	-0.04	-0.40	-0.06	-0.03	-0.03	0.00		0.00	-0.03	0.00	-0.03	-0.03	-0.02	-0.01	-0.17	-0.09	-0.03	-0.03	0.00
15:00	Step 2	13.3	/00	438	0.005	-0.04		-0.04	-0.04	-0.40	-0.00	-0.05	-0.05	0.00		0.00	-0.05	0.00	-0.05	-0.05	-0.02	-0.01	-0.17	-0.09	-0.05	-0.03	0.00
13:02	Step 3	19.6	900	31	0.002																						
				-																							
13:05	MAX	19.6	900	59	< 0.001	-0.03		-0.04	-0.04	-0.51	-0.06	-0.03	-0.03	0.00		0.00	-0.03	0.00	-0.03	-0.03	-0.03	-0.02	-0.19	-0.08	-0.04	-0.03	0.00
13:30	MAX	19.6	900	491	< 0.001	-0.04		-0.04	-0.05	-0.55	-0.08	-0.03	-0.03	0.00		0.00	-0.03	0.00	-0.03	-0.04	-0.04	-0.03	-0.22	-0.10	-0.04	-0.03	0.00
																											<u> </u>
14:00	Stop Test			589																							<u> </u>
Fotal air volu	ume extracted	1		3,747																							

Notes:

Dist. = Distance in feet

= feet

in.  $H_2O$  = Vacuum pressure measured in inches of water

ft

scfm = standard cubic feet per minute

fpm = feet per minute

(--) or NM = not measured

 $H_20$ = water

ppm pid = parts per million

= photoionization detector

cf = cubic feet ID = Internal diameter

PVC = Poly Vinyl Chloride pipe

0.0218 = cross-sectional area of 2-inch diameter PVC pipe in fee<sup>2</sup>

# Table 4Sub-Slab Vapor Depressurization TestRadius of Influence Determination

#### Searway Property 649 Pacific Avenue Alameda, California

#### Sub Slab Test DPT-1

Obs Point	Distance (feet)	Start Pressure (in. H <sub>2</sub> O)	End Pressure (in. H <sub>2</sub> O)	Pressure Difference (in. H <sub>2</sub> O)
VS-3	6	-0.03	-0.17	-0.14
VS-1	8	-0.04	-0.11	-0.07
VS-4	38	0.00	-0.05	-0.05
VS-20	20	-0.03	-0.07	-0.04
VS-19	29	-0.02	-0.06	-0.04
VS-21	18	-0.03	-0.06	-0.03
VS-6	36	-0.03	-0.05	-0.02
VS-7	35	-0.02	-0.04	-0.02
VS-18	41	-0.03	-0.04	-0.01
VS-11	73	0.00	-0.01	-0.01
VS-8	51	-0.02	-0.03	-0.01
VS-16	46	-0.02	-0.03	-0.01
VS-17	56	-0.02	-0.03	-0.01
VS-5	53	-0.03	-0.03	0.00
VS-9	24	0.00	0.00	0.00
VS-12	68	-0.03	-0.03	0.00
VS-13	66	0.00	0.00	0.00
VS-14	85	-0.03	-0.03	0.00
VS-15	70	-0.03	-0.03	0.00
VS-22	21	0.00	0.00	0.00

#### Sub Slab Test DPT-2

Obs Point	Dist (feet)	Start Pressure (in. H <sub>2</sub> O)	End Pressure (in. H <sub>2</sub> O)	Pressure Difference (in. H <sub>2</sub> O)
VS-5	3	-0.03	-0.55	-0.52
VS-18	10	0.00	-0.22	-0.22
VS-20	31	0.07	-0.04	-0.11
VS-3	58	0.04	-0.04	-0.08
VS-6	23	0.00	-0.08	-0.08
VS-19	22	-0.04	-0.10	-0.06
VS-21	68	0.03	-0.03	-0.06
VS-1	51	0.00	-0.04	-0.04
VS-15	47	0.00	-0.04	-0.04
VS-4	32	-0.02	-0.05	-0.03
VS-16	32	-0.02	-0.04	-0.02
VS-7	64	-0.01	-0.03	-0.02
VS-8	100	-0.01	-0.03	-0.02
VS-17	19	-0.01	-0.03	-0.02
VS-11	22	0.00	0.00	0.00
VS-13	60	0.00	0.00	0.00
VS-14	104	-0.03	-0.03	0.00
VS-22	57	0.00	0.00	0.00
VS-9	69	-0.01	0.00	0.01
VS-12	33	-0.04	-0.03	0.01

## Table 5Sub-Slab Vacuum Test Analytical Data(Stoddard Solvent and Volatile Organic Compounds)

#### Searway Property 649 Pacific Avenue Alameda, California

					M	odified E	PA Anal	ytical Te	st Method	ls				
		TO-3						TO-15						
Sample ID	Sample Date	Stoddard Solvent (µg/m³)	Chloroform (µg/m <sup>3</sup> )	Carbon Tetra- chloride (µg/m <sup>3</sup> )	PCE (µg/m <sup>3</sup> )	1,2,4-Tri- methyl benzene (μg/m <sup>3</sup> )	lso- propanol (µg/m <sup>3</sup> )	Total Xylenes (µg/m³)	Acetone (μg/m <sup>3</sup> )	Styrene (µg/m³)	Carbon Di- sulfide (µg/m³)	Toluene (μg/m³)	Ethyl acetate (μg/m <sup>3</sup> )	Other compounds (µg/m³)
DPT-1-STEP1	10/31/2007	ND<1,600 <sup>a</sup>	23	120	120	13	53	34.8	52	6.6	12	65	22	b,c
DPT-1-STEP3	10/31/2007	ND<1,600	17	100	95	7.9	40	46.7	42	6.1	8.5	43	13	b
DPT-2-STEP1	10/31/2007	2,200	300	1,800	450	10	75	50	83	6.8	8.8	64	ND<3.6	С
DPT-2-STEP3	10/31/2007	3,000	270	1,700	610	10	230	43.9	67	5.9	11	70	ND<3.6	d
			SFRW		s (µg/m³)	Commerc	cial/Indust	rial Prope	rty Use					
		72,000	1,500	63	1,400	NA	NA	NA	1,800,000	53,000	NA	180,000	NA	
				SFRWQC	B ESLs (ı	ug/m³) Res	idential Ex	cposure						
		26,000	460	19	410	NA	NA	NA	660,000	19,000	NA	63,000	NA	

NA = not available or applicable

-- = not analyzed

Notes:

DUP = Duplicate sample

EPA = Environmental Protection Agency

PCE = Tetrachloroethene

 $\mu g/m^3$  = micrograms per cubic meter

ND< = not detected at or above value shown

SFRWQCB ESLs = San Francisco Regional Water Quality Control Board Environmental Screening Levels (ESLs), shallow gas screening levels for

evaluation of potential vapor intrusion concerns (Table E-2), Commercial/Industrial Land use, - February 2005

BOLD = chemical exceeds its respective ESL

a = Hydrocarbons present in the gasoline range quantified as Stoddard Solvent. Chromatogram does not resemble that of Stoddard Solvent pattern.

b = 2-Butanone (MEK), (15  $\mu$ g/m<sup>3</sup> in DPT-1-STEP1) and (12  $\mu$ g/m<sup>3</sup> in DPT-1-STEP3)

c = 4-Ethyl Toluene (10 $\mu$ g/m<sup>3</sup> in DPT-1-STEP1) and (9.8  $\mu$ g/m<sup>3</sup> in DPT-2-STEP1)

## Table 5Sub-Slab Vacuum Test Analytical Data(Stoddard Solvent and Volatile Organic Compounds)

Searway Property 649 Pacific Avenue Alameda, California

d = Benzene (4.8  $\mu$ g/m<sup>3</sup> in DPT-2-STEP3)

### Table 6 Sub-Slab Depressurization Test - Mass Removal Estimate

#### Searway Property 649 Pacific Avenue Alameda, California

			Influent	Pounds of	BAAQMD		Pounds of	Total	BAAQMD
		Extracted Air	Total	VOCs	(1-hr max) Acute	Operation	VOCs	Pounds of	Chronic Trigger
Compound	Flow Rate	Volume	VOCs	Extracted	Trigger Level	Hour	Extracted	VOCs Extracted	Level
	(cfm)	(m <sup>3</sup> /hr)	$\mu g/m^3$	(lbm/hour)	(lbm/hour)	(hr)	(lbm/day)	(lbm/yr)	(lbm/yr)
At maximum ra	ted volumeteric flo	ow rate for Shop-Va	e air-flow						
Stoddard	180	306	3,000	2.02E-03		24.0	4.86E-02	17.73	
СТ	180	306	1,800	1.21E-03	4.20E+00	24.0	2.91E-02	10.64	4.3
Chloroform	180	306	300	2.02E-04	3.30E-01	24.0	4.86E-03	1.77	34.0
TCE	180	306	0	6.61E-08		24.0	1.59E-06	0.00	91.0
PCE	180	306	650	4.38E-04	4.40E+01	24.0	1.05E-02	3.84	30.0
Total Mass				3.88E-03			0.093	33.98	
At maximum allo	owable volumeteri	c flow rate per BAA	QMD Trigger L	evels					
Stoddard	72	122	3,000	8.10E-04		24.0	1.94E-02	7.09	
СТ	72	122	1,800	4.86E-04	4.20E+00	24.0	1.17E-02	4.25	4.3
Chloroform	72	122	300	8.10E-05	3.30E-01	24.0	1.94E-03	0.71	34.0
TCE	72	122	0	2.64E-08		24.0	6.35E-07	0.00	91.0
PCE	72	122	650	1.75E-04	4.40E+01	24.0	4.21E-03	1.54	30.0
Total Mass				1.55E-03			0.037	13.59	
At maximum obs	served diagnostic t	test volumeteric flow	rate						
Stoddard	24	41	3,000	2.70E-04		24.0	6.48E-03	2.36	
СТ	24	41	1,800	1.62E-04	4.20E+00	24.0	3.89E-03	1.42	4.3
Chloroform	24	41	300	2.70E-05	3.30E-01	24.0	6.48E-04	0.24	34.0
TCE	24	41	0	8.81E-09		24.0	2.12E-07	0.00	91.0
PCE	24	41	650	5.85E-05	4.40E+01	24.0	1.40E-03	0.51	30.0
Total Mass				5.17E-04			0.012	4.53	

Notes:

CT = Carbon Tetrachloride PCE = Tetrachloroethane

TCE = Trichloroethene

- vocs = volatile organic compounds
- cfm = cubic feet per minute

lbm/day = pound mass per day

lbm/yr = pound mass per year

lbm/hour= pound mass per hour

hr = hour

-- = BAAQMD Trigger Level Not Established (per table 2-5-1) BAAQMD = Bay Area Air Quality Management District

 $\label{eq:conversion factors} \frac{\text{Conversion factors}}{1 \ \text{ft}^3 = 0.02832 \ \text{m}^3} \\ 1 \ \text{cfm} = 1.699 \ (1.700) \ \text{m}^3/\text{hr} \\ 1 \ \text{pound (lbm)} = 453.6 \ \text{grams}$ 

### Table 6 Sub-Slab Depressurization Test - Mass Removal Estimate

Searway Property 649 Pacific Avenue Alameda, California

### FIGURES























12 FIGURE: 103.005.005 РКОЈЕСТ:	SUB-SLAB VAPOR MONITORING POINT DETAIL Searway Property 649 Pacific Avenue Alameda, California	
		TION (TYPICAL)
	VAPOR MONITORING POINT DETAIL	AADS-BUS ONA R
	- NATIVE SOIL	
	<ul> <li>EXISTING CONCRETE FLOOR</li> <li>EXISTING CONCRETE FLOOR</li> <li>EXISTING CONCRETE FLOOR</li> <li>EXISTING SUBBASE</li> <li>EXISTING SUBBASE</li> <li>Thickness may vary</li> <li>Sub-Slab (SS) Threaded Swagelok Fitting</li> <li>Sub-Slab (SS) Threaded Swagelok Fitting</li> </ul>	
	ritoring Point Detail جمع المنابعة منابعة المنابعة المنابعة المنابعة المنابعة المنابعة المن منابعة المنابعة منابعة المنابعة المنابعة منابعة منابع	See Vapor Mor



### CONSTRUCTI

### EXISTING FLOOR



### ATTACHMENT A

### ACHCSA LETTER DATED SEPTEMBER 21, 2007

### **ATTACHMENT B**

### SUB-SLAB VAPOR PROBE SAMPLING PROTOCOL AND FIELD DATA SHEETS

### ATTACHMENT B SUB-SLAB VAPOR PROBE SAMPLING PROTOCOL

#### **Sub-Slab Vapor Sampling**

All sub-slab soil gas probes were installed to float in the concrete slab. The installation procedure was consistent with that described by USEPA<sup>1</sup>. Sampling and analysis procedure generally followed the guidelines contained in San Mateo County's "Using a Geoprobe to Collect Subsurface Vapor Samples for Human Health Risk Evaluation" (GPP Guidelines, Draft GPP Staff Guidance updated 3/9/06)<sup>2</sup>, San Mateo County's Draft "Subsurface Vapor Sampling for Human Health Risk Evaluation" (Revised 11/14/06) and the California Department of Toxic Substances Control (DTSC) Advisory for Active Soil Gas Investigations dated January 28, 2003<sup>3</sup>.

The probe installation and sub-slab vapor sample collection procedures are summarized below:

Previous investigation indicated that the concrete slab is 4 to 5 inches thick. Therefore, to install a sub-slab probe, a one-inch diameter hole in the concrete slab was drilled to a depth of approximately 2 to 3 inches using a rotary drill. Prior to penetrating the concrete slab, the drill hole was vacuumed out to remove cuttings. The drill bit was then changed to 5/16-inch, and the hole was advanced approximately an additional 2 to 3 inches through the slab and into the underlying sub-slab material. The sub-slab soil gas probe was assembled using a 2-inch long by 1/4-inch inner-diameter (ID) stainless steel or copper tube attached to a stainless steel threaded fitting and Swagelok cap or plug. This assembly was placed into the drilled hole, and grouted into place using non-shrink, quick-setting cement. The cement installation was recessed so that the plug was accessible. The top of the plug was set flush with the top of the concrete slab.

<sup>&</sup>lt;sup>1</sup> United States Environmental Protection Agency (2006), Assessment of Vapor Intrusion in Homes Near the Raymark Superfund Site Using Basement and Sub-Slab Air Samples, and

United States Environmental Protection Agency, Draft Standard Operating Procedure for Installation of Sub-Slab Vapor Probes and Sampling Using EPA Method TO-15 to Support Vapor Intrusion Investigations.

<sup>&</sup>lt;sup>2</sup> San Mateo County (2006), Using a Geoprobe to Collect Subsurface Vapor Samples for Human Health Risk Evaluation (GPP Guidelines).

<sup>&</sup>lt;sup>3</sup> California Environmental Protection Agency, Department of Toxic Substances Control (2003), Advisory – Active Soil Gas Investigations.

The slab venting probes were allowed to equilibrate for a minimum of one week prior to sample collection.

Mobilization for sub-slab sampling was not conducted if measurable precipitation or site irrigation near the sampling locations occurred in the previous 5 days.

**Sampling Set-up:** Prior to sampling, the plug on the sub-slab vapor probe was removed and quickly replaced with a closed Swagelok valve. A tee fitting was connected to two one-liter Summa canisters with a pressure gauge installed on top of each of these fittings. Trinity used one-liter purge and sample canisters for this application, in order to collect a sub-slab sample that was most representative of the local area penetrated.

The two Summa canisters were connected by less then 1 foot of copper tubing and a third tee fitting. The vacuum reading on each canister was confirmed and recorded before proceeding. The initial vacuum reading was between 26 to 35 inches mercury (Hg). On the downhole side of the third tee fitting, a 100 to 200 milliliter per minute (ml/min) flow regulator followed by a laboratory supplied particulate filter was installed. On the downhole side of the particulate filter, a vapor-tight valve was installed to connect the sampling equipment with the sub-slab probe tube.

**Vacuum Leak Testing:** A vacuum test was conducted on the connections between the Summa canisters and the valve on the downhole side of the regulator for 10 minutes by opening and closing the purge canister valve to place a test vacuum on the assembly.

**Purging:** If the vacuum test was successful, purging followed. The purge canister valve and the valve on the downhole side of the particulate filter was opened and the time was recorded. The purge canister valve was closed after three volumes of air were purged from the sample apparatus and drilled probe hole. The purge volume was calculated based on the internal volume of the drilled hole, tubing and probe apparatus. The amount of air purged was measured based on the time that the flow-control orifice was opened, with a flow rate of 100-ml/minute, and based on a discernable vacuum drop on the purge canister pressure gauge. The time at which purging was terminated was recorded on field data sheets included in this Attachment.

**Soil Gas Sampling:** After a successful vacuum test, purging began. The purge canister valve and the valve on the downhole side of the particulate filter were opened and the time was recorded on field data sheets. The purge canister valve was closed after three volumes of air were purged from the sample apparatus and vapor probe. The purge volume was calculated based on the volume of the probe tip and the internal volume of the tubing. The amount of air purged was determined by the incremental drop in vacuum readings on the purge Summa canister. The time at which purging terminated was recorded.

Following purging, the sample Summa canister valve was opened to begin sample collection. The time at which sample collection began was recorded. Once the sample Summa canister pressure gauge indicated approximately 5 inches of mercury, the sample canister valve was closed and the time recorded. The tee fitting on the sample canister was replaced with a

laboratory supplied brass plug. The sample canister was labeled and chain-of-custody maintained by recording: sample name, sample date, sample time, final vacuum, canister and flow controller serial numbers, initials of sample collector, and the compounds to be analyzed by the certified laboratory. The sample canisters were stored in a container that blocks sunlight to the opaque canisters. None of the Summa canisters were subject to changes in pressure and temperature. The sample canisters were delivered to the analytical laboratory via ground transportation under chain-of-custody documentation.

The flow-control orifice was maintained at 100 to 200 ml/min, and was kept open until the sample Summa canister pressure gauge indicated approximately 5 inches Hg. Once 5 inches of Hg was achieved, the sample canister valve was closed and the time recorded. The tee fitting on the sample canister was replaced with a laboratory supplied brass plug.

During sampling, a leak testing procedure was performed by placing a shroud over the sampling assembly, and maintaining an isopropyl alcohol-enriched atmosphere under the shroud. The shroud was emplaced after purging the vapor probe, but before the sub-slab vapor sample was collected. Isopropyl alcohol-saturated wipes were placed under the shroud. A photoionization detector (PID) was used to monitor the atmosphere beneath the shroud during sampling. Shroud PID field readings for isopropyl alcohol for each probe location are noted on the field data sheets presented in this Attachment.

### ATTACHMENT C

### CERTIFIED ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOUCMENTATION

### ALAMEDA COUNTY HEALTH CARE SERVICES



AGENCY DAVID J. KEARS, Agency Director

December 28, 2007

Mr. Donald Lindsey Timber Del Properties, LLC 2424 Central Avenue Alameda, CA 94501

Mr. Carl Searway 3032 Dakota Street Oakland, Ca 94602 ENVIRONMENTAL HEALTH SERVICES ENVIRONMENTAL PROTECTION 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577 (510) 567-6700 FAX (510) 337-9335

THE PARTY

Subject: SLIC Case No. RO0002584 and Geotracker Global ID SL0600150413, Searway Property, 649 Pacific Avenue, Alameda, CA 94501

Dear Mr. Lindsey and Mr. Searway:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the abovereferenced site including the recently submitted document entitled, "Sub-Slab Vapor Mitigation Report," dated December 6, 2007 and prepared on your behalf by Trinity Source Group, Inc. The report presents the results from diagnostic testing and design parameters for a sub-slab depressurization (SSD) system. The SSD system is required to mitigate elevated concentrations of volatile organic compounds (VOCs) detected in soil vapor beneath the building slab. The design parameters are acceptable and permitting and installation of the system may be implemented.

We request that you address the following technical comments, perform the proposed work, and send us the reports described below.

#### **TECHNICAL COMMENTS**

- 1. Monitoring of Sub-slab Depressurization System. We request that you submit a monitoring plan for collection of data during SSD system operation. The purposes of the system monitoring are to confirm that the system is operating effectively to prevent intrusion of VOCs to indoor air and to provide data to evaluate long-term system performance and estimate mass removal. As discussed in technical comment 2 below, sufficient system performance data must be collected over a two-year period flowing system start-up to conduct a feasibility study for site remediation. Please present plans for monitoring of the SSD-system in the Monitoring Plan requested below.
- 2. Site Remediation. The purpose of the SSD system is to prevent VOCs in soil vapor beneath the building slab from migrating into indoor air. Although the SSD system is expected to mitigate potential exposure of building occupants to VOCs in soil vapor beneath the building, the SSD system is not a remedial system that is expected to cleanup the site and lead to case closure. We have no objection to operating the SSD system for a period of

ţ

3

Don Lindsey Carl Searway December 28, 2007 Page 2

up to two years in order to obtain information on system performance and estimate contaminant mass beneath the building. However, monitoring data from operation of the SSD system must be reviewed within a period of two years from the start of system operations in order to evaluate the feasibility of site remediation. During installation of the SSD system, you may wish to consider the addition of potential vapor extraction wells and/or piping while the floor trenches are open in anticipation of possible future use.

#### TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- January 30, 2008 Submittal of All Permit Applications for SSD System
- February 15, 2008 Semiannual Monitoring Report for Third to Fourth Quarter 2007
- March 7, 2008 Monitoring Plan for Sub-Slab Depressurization System
- August 15, 2008 Semiannual Monitoring Report for First to Second Quarter 2008
- Two Years following Sub-Slab Depressurization System Start-Up -- Feasibility Study

#### ELECTRONIC SUBMITTAL OF REPORTS

÷

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. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program ftp site are provided on the attached "Electronic Report Upload (ftp) Instructions." Please do not submit reports as attachments to electronic mail.

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. Submission of reports to the Geotracker website does not fulfill the requirement to submit documents to the Alameda County ftp site. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for 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 monitor wells, and <u>other</u> data to the Geotracker database over the Internet. Beginning July 1, 2005, electronic submittal of a complete copy of all necessary reports was required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/cleanup/electronic\_reporting).

Ţ

Don Lindsey Carl Searway December 28, 2007 Page 3

#### 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.

#### 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.

If you have any questions, please call me at (510) 567-6791 or send me an electronic mail message at jerry.wickham@acgov.org.

Sincerely,

Jerry Wickham, California PG 3766, CEG 1177, and CHG 297 Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: David Reinsma, Trinity Source Group, 500 Chestnut Street, Suite 225, Santa Cruz, CA 95060

Ł

ł

Donna Drogos, ACEH Jerry Wickham, ACEH File

Ţ

### ATTACHMENT B

### SUB-SLAB VAPOR PROBE SAMPLING PROTOCOL AND FIELD DATA SHEETS

### ATTACHMENT B SUB-SLAB VAPOR PROBE SAMPLING PROTOCOL

#### Sub-Slab Vapor Sampling

All sub-slab soil gas probes were installed to float in the concrete slab. The installation procedure was consistent with that described by USEPA<sup>1</sup>. Sampling and analysis procedure generally followed the guidelines contained in San Mateo County's "Using a Geoprobe to Collect Subsurface Vapor Samples for Human Health Risk Evaluation" (GPP Guidelines, Draft GPP Staff Guidance updated 3/9/06)<sup>2</sup>, San Mateo County's Draft "Subsurface Vapor Sampling for Human Health Risk Evaluation" (Revised 11/14/06) and the California Department of Toxic Substances Control (DTSC) Advisory for Active Soil Gas Investigations dated January 28, 2003<sup>3</sup>.

The probe installation and sub-slab vapor sample collection procedures are summarized below:

Previous investigation indicated that the concrete slab is 4 to 5 inches thick. Therefore, to install a sub-slab probe, a one-inch diameter hole in the concrete slab was drilled to a depth of approximately 2 to 3 inches using a rotary drill. Prior to penetrating the concrete slab, the drill hole was vacuumed out to remove cuttings. The drill bit was then changed to 5/16-inch, and the hole was advanced approximately an additional 2 to 3 inches through the slab and into the underlying sub-slab material. The sub-slab soil gas probe was assembled using a 2-inch long by ¼-inch inner-diameter (ID) stainless steel or copper tube attached to a stainless steel threaded fitting and Swagelok cap or plug. This assembly was placed into the drilled hole, and grouted

<sup>&</sup>lt;sup>1</sup> United States Environmental Protection Agency (2006), Assessment of Vapor Intrusion in Homes Near the Raymark Superfund Site Using Basement and Sub-Slab Air Samples, and

United States Environmental Protection Agency, Draft Standard Operating Procedure for Installation of Sub-Slab Vapor Probes and Sampling Using EPA Method TO-15 to Support Vapor Intrusion Investigations.

<sup>&</sup>lt;sup>2</sup> San Mateo County (2006), Using a Geoprobe to Collect Subsurface Vapor Samples for Human Health Risk Evaluation (GPP Guidelines).

<sup>&</sup>lt;sup>3</sup> California Environmental Protection Agency, Department of Toxic Substances Control (2003), Advisory – Active Soil Gas Investigations.

into place using non-shrink, quick-setting cement. The cement installation was recessed so that the plug was accessible. The top of the plug was set flush with the top of the concrete slab.

The slab venting probes were allowed to equilibrate for a minimum of one week prior to sample collection.

Mobilization for sub-slab sampling was not conducted if measurable precipitation or site irrigation near the sampling locations occurred in the previous 5 days.

**Sampling Set-up:** Prior to sampling, the plug on the sub-slab vapor probe was removed and quickly replaced with a closed Swagelok valve. A tee fitting was connected to two one-liter Summa canisters with a pressure gauge installed on top of each of these fittings. Trinity used one-liter purge and sample canisters for this application, in order to collect a sub-slab sample that was most representative of the local area penetrated.

The two Summa canisters were connected by less then 1 foot of copper tubing and a third tee fitting. The vacuum reading on each canister was confirmed and recorded before proceeding. The initial vacuum reading was between 26 to 35 inches mercury (Hg). On the downhole side of the third tee fitting, a 100 to 200 milliliter per minute (ml/min) flow regulator followed by a laboratory supplied particulate filter was installed. On the downhole side of the particulate filter, a vapor-tight valve was installed to connect the sampling equipment with the sub-slab probe tube.

**Vacuum Leak Testing:** A vacuum test was conducted on the connections between the Summa canisters and the valve on the downhole side of the regulator for 10 minutes by opening and closing the purge canister valve to place a test vacuum on the assembly.

**Purging:** If the vacuum test was successful, purging followed. The purge canister valve and the valve on the downhole side of the particulate filter was opened and the time was recorded. The purge canister valve was closed after three volumes of air were purged from the sample apparatus and drilled probe hole. The purge volume was calculated based on the internal volume of the drilled hole, tubing and probe apparatus. The amount of air purged was measured based on the time that the flow-control orifice was opened, with a flow rate of 100-ml/minute, and based on a discernable vacuum drop on the purge canister pressure gauge. The time at which purging was terminated was recorded on field data sheets included in this Attachment.

**Soil Gas Sampling:** After a successful vacuum test, purging began. The purge canister valve and the valve on the downhole side of the particulate filter were opened and the time was recorded on field data sheets. The purge canister valve was closed after three volumes of air were purged from the sample apparatus and vapor probe. The purge volume was calculated based on the volume of the probe tip and the internal volume of the tubing. The amount of air purged was determined by the incremental drop in vacuum readings on the purge Summa canister. The time at which purging terminated was recorded.
Following purging, the sample Summa canister valve was opened to begin sample collection. The time at which sample collection began was recorded. Once the sample Summa canister pressure gauge indicated approximately 5 inches of mercury, the sample canister valve was closed and the time recorded. The tee fitting on the sample canister was replaced with a laboratory supplied brass plug. The sample canister was labeled and chain-of-custody maintained by recording: sample name, sample date, sample time, final vacuum, canister and flow controller serial numbers, initials of sample collector, and the compounds to be analyzed by the certified laboratory. The sample canisters were stored in a container that blocks sunlight to the opaque canisters. None of the Summa canisters were subject to changes in pressure and temperature. The sample canisters were delivered to the analytical laboratory via ground transportation under chain-of-custody documentation.

The flow-control orifice was maintained at 100 to 200 ml/min, and was kept open until the sample Summa canister pressure gauge indicated approximately 5 inches Hg. Once 5 inches of Hg was achieved, the sample canister valve was closed and the time recorded. The tee fitting on the sample canister was replaced with a laboratory supplied brass plug.

During sampling, a leak testing procedure was performed by placing a shroud over the sampling assembly, and maintaining an isopropyl alcohol-enriched atmosphere under the shroud. The shroud was emplaced after purging the vapor probe, but before the sub-slab vapor sample was collected. Isopropyl alcohol-saturated wipes were placed under the shroud. A photoionization detector (PID) was used to monitor the atmosphere beneath the shroud during sampling. Shroud PID field readings for isopropyl alcohol for each probe location are noted on the field data sheets presented in this Attachment.

# **ATTACHMENT C**

## CERTIFIED ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOUCMENTATION



## Air Toxics Ltd. Introduces the Electronic Report

Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

This electronic report includes the following:

- · Work order Summary;
- · Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 .FAX (916) 985-1020 Hours 8:00 A.M to 6:00 P.M. Pacific



#### WORK ORDER #: 0710535A

Work Order Summary

CLIENT:	Mr. Dan Birch Trinity Source Group 500 Chestnut St. Suite 225 Santa Cruz, CA 95060	BILL TO:	Mr. Dan Birch Trinity Source Group 500 Chestnut St. Suite 225 Santa Cruz, CA 95060
PHONE:	831-426-5600	<b>P.O.</b> #	103.005.003
FAX:		PROJECT #	649 Pacific Ave Searway Property
DATE RECEIVED: DATE COMPLETED:	10/22/2007 11/01/2007	CONTACT:	Kyle Vagadori

FRACTION # 01A 02A	<u>NAME</u> VS-11 VS-13	<u>TEST</u> Modified TO-15 Modified TO-15	<b>RECEIPT</b> <u>VAC./PRES.</u> 3.5 "Hg 3.5 "Hg
03A	Lab Blank	Modified TO-15	NA
04A	CCV	Modified TO-15	NA
05A	LCS	Modified TO-15	NA

Sinda d. Frieman

DATE: 11/01/07

Laboratory Director

CERTIFIED BY:

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

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

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

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

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

Page 1 of 14



#### LABORATORY NARRATIVE Modified TO-15 Trinity Source Group Workorder# 0710535A



Two 1 Liter Summa Canister samples were received on October 22, 2007. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

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

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

Requirement	TO-15	ATL Modifications
Daily CCV	+- 30% Difference	<pre><!--= 30% Difference with two allowed out up to </=40%.; flag and narrate outliers</pre--></pre>
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

#### **Receiving Notes**

There were no receiving discrepancies.

#### Analytical Notes

There were no analytical discrepancies.

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

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

B - Compound present in laboratory blank greater than reporting limit (background subtraction no performed).

- J Estimated value.
- E Exceeds instrument calibration range.
- S Saturated peak.
- Q Exceeds quality control limits.



- U Compound analyzed for but not detected above the reporting limit.
- UJ- Non-detected compound associated with low bias in the CCV
- N The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



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

### Client Sample ID: VS-11

#### Lab ID#: 0710535A-01A

Compound	Rpt. Limit (ppmv)	Amount (ppmv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Ethanol	0.0073	0.031		
Acetone	0.0073	0.016	17	58
Chloroform	0.0018	0.0064	8.9	39
Carbon Tetrachloride	0.0018	0.15	12	32
Tetrachloroethene	0.0018	0.53	12	970
			12	3600

### Client Sample ID: VS-13

#### Lab ID#: 0710535A-02A

Compound	Rot. Limit (ppmv)	Amount (ppmv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 11	0.0011	0.0098	6.4	
Acetone	0.0046	0.020	11	55
2-Butanone (Methyl Ethyl Ketone)	0.0011	0.0022	3.4	47
Tetrahydrofuran	0.0011	0.0014	3.4	6.4
Tetrachloroethene	0.0011	0.0039	7.8	4.1 26



### Client Sample ID: VS-11

Lab ID#: 0710535A-01A

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

Compound	Rpt. Limit	Amount	Rpt. Limit	Amount
	(ppmv)	(ppmv)	(uG/m3)	(uG/m3)
Freon 12	0.0018	Not Detected	9.0	Not Detected
Freon 114	0.0018	Not Detected	13	Not Detected
Chloromethane	0.0073	Not Detected	15	Not Detected
Vinyl Chloride	0.0018	Not Detected	4.7	Not Detected
1,3-Butadiene	0.0018	Not Detected	4.0	Not Detected
Bromomethane	0.0018	Not Detected	7.1	Not Detected
Chloroethane	0.0018	Not Detected	4.8	Not Detected
Freon 11	0.0018	Not Detected	10	Not Detected
Ethanol	0.0073	0.031	14	58
Freon 113	0.0018	Not Detected	14	Not Detected
1,1-Dichloroethene	0.0018	Not Detected	7.2	Not Detected
Acetone	0.0073	0.016	17	39
2-Propanol	0.0073	Not Detected	18	Not Detected
Carbon Disulfide	0.0018	Not Detected	5.7	Not Detected
3-Chloropropene	0.0073	Not Detected	23	Not Detected
Methylene Chloride	0.0018	Not Detected	6.4	Not Detected
Methyl tert-butyl ether	0.0018	Not Detected	6.6	Not Detected
trans-1,2-Dichioroethene	0.0018	Not Detected	7.2	Not Detected
Hexane	0.0018	Not Detected	6.4	Not Detected
1,1-Dichloroethane	0.0018	Not Detected	7.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.0018	Not Detected	5.4	Not Detected
cis-1,2-Dichloroethene	0.0018	Not Detected	7.2	Not Detected
Tetrahydrofuran	0.0018	Not Detected	5.4	Not Detected
Chloroform	0.0018	0.0064	8.9	32
1,1,1-Trichloroethane	0.0018	Not Detected	10	Not Detected
Cyclohexane	0.0018	Not Detected	6.3	Not Detected
Carbon Tetrachloride	0.0018	0.15	12	970
2,2,4-Trimethylpentane	0.0018	Not Detected	8.5	Not Detected
Benzene	0.0018	Not Detected	5.8	Not Detected
1,2-Dichloroethane	0.0018	Not Detected	7.4	Not Detected
Heptane	0.0018	Not Detected	7.5	Not Detected
Trichloroethene	0.0018	Not Detected	9.8	Not Detected
1,2-Dichloropropane	0.0018	Not Detected	8.4	Not Detected
1,4-Dioxane	0.0073	Not Detected	26	Not Detected
Bromodichloromethane	0.0018	Not Detected	12	Not Detected
cis-1,3-Dichloropropene	0.0018	Not Detected	8.3	Not Detected
4-Methyl-2-pentanone	0.0018	Not Detected	7.5	Not Detected
Toluene	0.0018	Not Detected	6.9	Not Detected
trans-1,3-Dichloropropene	0.0018	Not Detected	8.3	Not Detected
4 J	• •		<b>v</b> . <b>v</b>	



192

.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

#### Client Sample ID: VS-11

#### Lab ID#: 0710535A-01A

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

Compound	Rpt. Limit (ppmv)	Amount (ppmv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	0.0018	Not Detected	10	Not Detected
Tetrachloroethene	0.0018	0.53	12	3600
2-Hexanone	0.0073	Not Detected	30	Not Detected
Dibromochloromethane	0.0018	Not Detected	16	Not Detected
1,2-Dibromoethane (EDB)	0.0018	Not Detected	14	Not Detected
Chlorobenzene	0.0018	Not Detected	8.4	Not Detected
Ethyl Benzene	0.0018	Not Detected	7.9	Not Detected
n,p-Xylene	0.0018	Not Detected	7.9	Not Detected
o-Xylene	0.0018	Not Detected	7.9	Not Detected
Styrene	0.0018	Not Detected	7.8	Not Detected
Bromoform	0.0018	Not Detected	19	Not Detected
Cumene	0.0018	Not Detected	9.0	Not Detected
,1,2,2-Tetrachloroethane	0.0018	Not Detected	12	Not Detected
Propylbenzene	0.0018	Not Detected	9.0	Not Detected
-Ethyltoluene	0.0018	Not Detected	9.0	Not Detected
,3,5-Trimethylbenzene	0.0018	Not Detected	9.0	Not Detected
,2,4-Trimethylbenzene	0.0018	Not Detected	9.0	Not Detected
,3-Dichlorobenzene	0.0018	Not Detected	11	Not Detected
,4-Dichlorobenzene	0.0018	Not Detected	11	Not Detected
Ipha-Chlorotoluene	0.0018	Not Detected	9.5	Not Detected
,2-Dichlorobenzene	0.0018	Not Detected	11	Not Detected
,2,4-Trichlorobenzene	0.0073	Not Detected	54	Not Detected
lexachlorobutadiene	0.0073	Not Detected	78	Not Detected

#### Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130
1,2-Dichloroethane-d4	109	70-130
4-Bromofluorobenzene	100	70-130



المراج مسة مرور حلا التالية الانتخارة الالت

AN ENVIRONMENTAL ANALYTICAL LABORATORY

#### Client Sample ID: VS-13

#### Lab ID#: 0710535A-02A

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

鐵鐵 机制作 医结婚 医结婚 医结核 化化化 路线路梯板 法保守保证 法法法的法法 的现在分词 化丁基乙酰乙烯 化乙酰乙烯 化乙酰乙酰乙酰乙酰乙酰乙酰乙酰乙酰乙酰乙酰乙酰乙酰

Compound	Rot. Limit (ppmv)	Amount (ppmv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.0011	Not Detected	5.7	Not Detected
Freon 114	0.0011	Not Detected	8.0	Not Detected
Chloromethane	0.0046	Not Detected	9.4	Not Detected
Vinyl Chloride	0.0011	Not Detected	2.9	Not Detected
1,3-Butadiene	0.0011	Not Detected	2.5	Not Detected
Bromomethane	0.0011	Not Detected	4.4	Not Detected
Chloroethane	0.0011	Not Detected	3.0	Not Detected
Freon 11	0.0011	0.0098	6.4	55
Ethanol	0.0046	Not Detected	8.6	Not Detected
Freon 113	0.0011	Not Detected	8.8	Not Detected
1,1-Dichloroethene	0.0011	Not Detected	4.5	Not Detected
Acetone	0.0046	0.020	11	47
2-Propanol	0.0046	Not Detected	11	
Carbon Disulfide	0.0011	Not Detected	3.6	Not Detected
3-Chloropropene	0.0046	Not Detected	5.0 14	Not Detected
Methylene Chloride	0.0011	Not Detected	4.0	Not Detected
Methyl tert-butyl ether	0.0011	Not Detected		Not Detected
irans-1,2-Dichloroethene	0.0011		4.1	Not Detected
Hexane	0.0011	Not Detected	4.5	Not Detected
1,1-Dichloroethane	0.0011	Not Detected	4.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.0011	Not Detected	4.6	Not Detected
cis-1,2-Dichloroethene	0.0011	0.0022	3.4	6.4
Tetrahydrofuran		Not Detected	4.5	Not Detected
Chloroform	0.0011	0.0014	3.4	4.1
1,1,1-Trichloroethane	0.0011	Not Detected	5.6	Not Detected
Cyclohexane	0.0011	Not Detected	6.2	Not Detected
Carbon Tetrachloride	0.0011	Not Detected	3.9	Not Detected
2,2,4-Trimethylpentane	0.0011	Not Detected	7.2	Not Detected
Benzene	0.0011	Not Detected	5.3	Not Detected
	0.0011	Not Detected	3.6	Not Detected
,2-Dichloroethane	0.0011	Not Detected	4.6	Not Detected
leptane	0.0011	Not Detected	4.7	Not Detected
richloroethene	0.0011	Not Detected	6.2	Not Detected
,2-Dichloropropane	0.0011	Not Detected	5.3	Not Detected
,4-Dioxane	0.0046	Not Detected	16	Not Detected
Bromodichloromethane	0.0011	Not Detected	7.7	Not Detected
is-1,3-Dichloropropene	0.0011	Not Detected	5.2	Not Detected
-Methyl-2-pentanone	0.0011	Not Detected	4.7	Not Detected
oluene	0.0011	Not Detected	4.3	Not Detected
ans-1,3-Dichloropropene	0.0011	Not Detected	5.2	Not Detected



### Client Sample ID: VS-13

Lab ID#: 0710535A-02A

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

an a				
Compound	Rpt. Limit (ppmv)	Amount (ppmv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	0.0011	Not Detected	6.2	Not Detected
Tetrachioroethene	0.0011	0.0039	7.8	26
2-Hexanone	0.0046	Not Detected	19	Not Detected
Dibromochloromethane	0.0011	Not Detected	9.8	Not Detected
1,2-Dibromoethane (EDB)	0.0011	Not Detected	8.8	Not Detected
Chlorobenzene	0.0011	Not Detected	5.3	Not Detected
Ethyl Benzene	0.0011	Not Detected	5.0	Not Detected
m,p-Xylene	0.0011	Not Detected	5.0	Not Detected
o-Xylene	0.0011	Not Detected	5.0	Not Detected
Styrene	0.0011	Not Detected	4.9	Not Detected
Bromoform	0.0011	Not Detected	12	Not Detected
Cumene	0.0011	Not Detected	5.6	Not Detected
1,1,2,2-Tetrachloroethane	0.0011	Not Detected	7.9	Not Detected
Propylbenzene	0.0011	Not Detected	5.6	Not Detected
4-Ethyltoluene	0.0011	Not Detected	5.6	Not Detected
1,3,5-Trimethylbenzene	0.0011	Not Detected	5.6	Not Detected
1,2,4-Trimethylbenzene	0.0011	Not Detected	5.6	Not Detected
1,3-Dichlorobenzene	0.0011	Not Detected	6.9	Not Detected
1,4-Dichlorobenzene	0.0011	Not Detected	6.9	Not Detected
alpha-Chlorotoluene	0.0011	Not Detected	5.9	Not Detected
1,2-Dichlorobenzene	0.0011	Not Detected	6.9	Not Detected
1,2,4-Trichlorobenzene	0.0046	Not Detected	34	Not Detected
Hexachlorobutadiene	0.0046	Not Detected	49	Not Detected

#### Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	89	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	105	70-130



#### Client Sample ID: Lab Blank Lab ID#: 0710535A-03A

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

	Rpt. Limit	Amount	Rpt. Limit	
Compound	(ppmv)	(ppmv)	(uG/m3)	Amount (uG/m3)
Freon 12	0.00050	Not Detected	2.5	Not Detected
Freon 114	0.00050	Not Detected	3.5	Not Detected
Chloromethane	0.0020	Not Detected	4.1	Not Detected
/inyl Chloride	0.00050	Not Detected	1.3	Not Detected
,3-Butadiene	0.00050	Not Detected	1.1	Not Detected
Bromomethane	0.00050	Not Detected	1.9	Not Detected
Chloroethane	0.00050	Not Detected	1.3	Not Detected
Freon 11	0.00050	Not Detected	2.8	Not Detected
Ethanol	0.0020	Not Detected	3.8	Not Detected
reon 113	0.00050	Not Detected	3.8	Not Detected
,1-Dichloroethene	0.00050	Not Detected	2.0	Not Detected
cetone	0.0020	Not Detected	4.8	Not Detected
-Propanol	0.0020	Not Detected	4.9	Not Detected
arbon Disulfide	0.00050	Not Detected	1.6	Not Detected
-Chloropropene	0.0020	Not Detected	6.3	Not Detected
lethylene Chloride	0.00050	Not Detected	1.7	Not Detected
lethyl tert-butyl ether	0.00050	Not Detected	1.8	Not Detected
ans-1,2-Dichloroethene	0.00050	Not Detected	2.0	Not Detected
lexane	0.00050	Not Detected	1.8	Not Detected
<u>,1-Dichloroethane</u>	0.00050	Not Detected	2.0	Not Detected
-Butanone (Methyl Ethyl Ketone)	0.00050	Not Detected	1.5	Not Detected
s-1,2-Dichloroethene	0.00050	Not Detected	2.0	Not Detected
etrahydrofuran	0.00050	Not Detected	1.5	
hloroform	0.00050	Not Detected	2.4	Not Detected Not Detected
1,1-Trichloroethane	0.00050	Not Detected	2.7	
yclohexane	0.00050	Not Detected	1.7	Not Detected Not Detected
arbon Tetrachloride	0.00050	Not Detected	3.1	Not Detected
2,4-Trimethylpentane	0.00050	Not Detected	2.3	Not Detected
enzene	0.00050	Not Detected	1.6	
2-Dichloroethane	0.00050	Not Detected	2.0	Not Detected
eptane	0.00050	Not Detected	2.0	Not Detected
ichloroethene	0.00050	Not Detected		Not Detected
2-Dichloropropane	0.00050	Not Detected	2.7	Not Detected
4-Dioxane	0.0020	Not Detected	2.3	Not Detected
omodichloromethane	0.00050	Not Detected	7.2	Not Detected
s-1,3-Dichloropropene	0.00050	······································	3.4	Not Detected
Methyl-2-pentanone	0.00050	Not Detected	2.3	Not Detected
bluene	0.00050	Not Detected Not Detected	2.0 1.9	Not Detected
				Not Detected



### Client Sample ID: Lab Blank

#### Lab ID#: 0710535A-03A

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

Commence	Rpt. Limit	Amount	Rpt. Limit	Amount
[17] 21] 문다는 18명에서 250 HTML 252 HTML 2010 HTML 2010 HTML				
		이야지 아니는 아이들은 아이들 않는다. 가지	under bein ficht im einerergingene ist gehen bei bei beit beit beit	A State of a second second second second

Compound	(ppmv)	(ppmv)	(uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	0.00050	Not Detected	2.7	Not Detected
Tetrachloroethene	0.00050	Not Detected	3.4	Not Detected
2-Hexanone	0.0020	Not Detected	8.2	Not Detected
Dibromochloromethane	0.00050	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.00050	Not Detected	3.8	Not Detected
Chlorobenzene	0.00050	Not Detected	2.3	Not Detected
Ethyl Benzene	0.00050	Not Detected	2.2	Not Detected
m,p-Xylene	0.00050	Not Detected	2.2	Not Detected
o-Xylene	0.00050	Not Detected	2.2	Not Detected
Styrene	0.00050	Not Detected	2.1	Not Detected
Bromoform	0.00050	Not Detected	5.2	Not Detected
Cumene	0.00050	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachioroethane	0.00050	Not Detected	3.4	Not Detected
Propylbenzene	0.00050	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.00050	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.00050	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.00050	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.00050	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.00050	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.00050	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.00050	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	0.0020	Not Detected	15	Not Detected
Hexachlorobutadiene	0.0020	Not Detected	21	Not Detected

#### Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	91	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	102	70-130



#### Client Sample ID: CCV

Lab ID#: 0710535A-04A

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

Compound	%Recovery
Freon 12	101
Freon 114	104
Chloromethane	97
Vinyl Chloride	95
1,3-Butadiene	101
Bromomethane	93
Chloroethane	96
Freon 11	101
Ethanol	99
Freon 113	101
1,1-Dichloroethene	99
Acetone	91
2-Propanol	104
Carbon Disulfide	88
3-Chloropropene	85
Methylene Chloride	
Methyl tert-butyl ether	85
trans-1,2-Dichloroethene	88
Hexane	89
1,1-Dichloroethane	93
2-Butanone (Methyl Ethyl Ketone)	87
cis-1,2-Dichloroethene	98
Tetrahydrofuran	106
Chloroform	102
1,1,1-Trichloroethane	110
Cyclohexane	93
Carbon Tetrachloride	118
2,2,4-Trimethylpentane	102
Benzene	94
1,2-Dichloroethane	112
Heptane	94
Trichloroethene	104
1,2-Dichloropropane	99
1,4-Dioxane	96
Bromodichloromethane	111
cis-1,3-Dichloropropene	100
4-Methyl-2-pentanone	111
Toluene	101
trans-1,3-Dichloropropene	102



AN ENVIRONMENTAL ANALYTICAL LABORATORY

### Client Sample ID: CCV

#### Lab ID#: 0710535A-04A

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

	•	
	. "T	
	2.5	
	- N	
,	. 1	
	μ.	
	2	
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	. 1	
	١.,	
	÷.,	
	1	
	۰.,	
1		
	11	
1		
4		
	1	
2 August		
1		
	٠.	
ł		
2 . S		
10. T. 10.		
11 U. 1		
1		
1		
	. 1	
	. 1	
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		
	27	
Contraction of the	7	
	į	

Compound	%Recovery
1,1,2-Trichloroethane	
Tetrachloroethene	101
2-Hexanone	113
Dibromochloromethane	100
1,2-Dibromoethane (EDB)	119
Chlorobenzene	
Ethyi Benzene	100
m,p-Xylene	102
o-Xylene	102
Styrene	102
Bromoform	114
Cumene	128
	109
1,1,2,2-Tetrachloroethane	99
Propylbenzene	104
4-Ethyltoluene	103
1,3,5-Trimethylbenzene	105
1,2,4-Trimethylbenzene	109
1,3-Dichlorobenzene	110
1,4-Dichlorobenzene	109
alpha-Chlorotoluene	99
1,2-Dichlorobenzene	106
1,2,4-Trichlorobenzene	103
lexachlorobutadiene	
	106

### Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	112	70-130
4-Bromofluorobenzene	110	70-130



#### Client Sample ID: LCS

Lab ID#: 0710535A-05A

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

an an ann an Anna Anna. Anna an Anna an

Compound	%Recovery
Freon 12	93
Freon 114	100
Chloromethane	93
Vinyl Chloride	91
1,3-Butadiene	95
Bromomethane	87
Chloroethane	91
Freon 11	99
Ethanol	107
Freon 113	112
1,1-Dichloroethene	109
Acetone	96
2-Propanol	106
Carbon Disulfide	88
<u>3-Chloropropene</u>	90
Methylene Chloride	104
Methyl tert-butyl ether	99
trans-1,2-Dichloroethene	97
Hexane	99
1,1-Dichloroethane	102
2-Butanone (Methyl Ethyl Ketone)	99
cis-1,2-Dichloroethene	104
Tetrahydrofuran	110
Chioroform	109
1,1,1-Trichloroethane	112
Cyclohexane	104
Carbon Tetrachloride	117
2,2,4-Trimethylpentane	108
Benzene	104
1,2-Dichloroethane	108
Heptane	105
Trichloroethene	109
1,2-Dichloropropane	106
1,4-Dioxane	105
Bromodichloromethane	
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	116
Toluene	112
rans-1,3-Dichloropropene	110



and the second sec

AN ENVIRONMENTAL ANALYTICAL LABORATORY

#### **Client Sample ID: LCS**

#### Lab ID#: 0710535A-05A

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

Compound	%Recovery
1,1,2-Trichloroethane	109
Tetrachloroethene	120
2-Hexanone	107
Dibromochloromethane	122
1,2-Dibromoethane (EDB)	112
Chlorobenzene	110
Ethyl Benzene	109
m,p-Xylene	109
o-Xylene	109
Styrene	116
Bromoform	128
Cumene	116
1,1,2,2-Tetrachloroethane	102
Propylbenzene	109
4-Ethyltoluene	106
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	108
1,3-Dichlorobenzene	109
1,4-Dichlorobenzene	107
alpha-Chlorotoluene	110
1,2-Dichlorobenzene	102
1,2,4-Trichlorobenzene	85
Hexachlorobutadiene	87

#### Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	108	70-130



#### Sample Transportation Notice

Settispic Transportation Nonce Relincuishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State. Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, detend, and indemnify Air Toxics Limited against any claim, demand. *m* action, of any kind, related to the collection, handling, er all ipping of samples. D.C.T. Heiling (60) 467-4322 Page \_\_\_\_\_ of \_\_\_\_\_

<sup>o</sup> roiec	t Mana	ger <u>DAVC R</u>	CIASMA	4			1000) 40/-43				age	. 01	-
		(Port and Sign) DAN		2+h	/	Project inf			Turn Areı Time:			10	1
CompanyTRINITY SOURCE CROUP Inc=mail davretsgcorp. net				P.O. # <u><i>(0.</i></u>	P.O. # (03.005.003 XNO								
kidres	s <u>500</u>	chestant st.	City Senta (Yo	Lestate Of	-Zirft SOLM	Project # _	249 Par	ibir Ave	⊐ Rush				]
hore	<u> 331-</u>	426-5600	Fax 42-6	-5602				ay Approly			SURIZATION		
					Date	Time		J Inder wy	specify		(N <sub>2</sub> ) +		ļ
Lab I		Field Sample I.D.	(Location)	Can #	of Collection	of Collection スマック	Ana	lyses Requested	j Initi		SSURE/Va		
DIA		<u>VS-11</u>		5169	10/17/07	1000	1	7-0360/7PH				i Qood	
<i>024</i>	<u>i</u>	<u>VS-13</u>	<u>}</u>				· · · · · · · · · · · · · · · · · · ·					4615	1925
	•.		1			1.00	<u> </u>	<u>Co-36017948</u>	5	<u>e -2</u>	وروت	<del>7</del> 4 V (	[
•												<u> </u>	
	· . [				<u> </u> ⊾		<b></b>				· · ·	<u>   </u>	
						·						· · · · ·	
		·		······································				·····	•			<u>ŀ.</u>	ĺ
·	· .						•				<del>.</del>		
					i			,,,,,,,,		!	<u> </u>	··· -	]
						[		<u> </u>			<u>.</u>		l
Relince	rishad in	W (signature) Date:T		Received by	/: (s'gnature)	Date/Time		Notes:					;
	ished b	L IO [ [9 / 0 y: (signature) Date/T						- Shipple	1 Cone				
		L. Million (1997)	11 [165	Heceived by	r: (aignature) (	Date/Time		Mippeo	ነ ሥራዎዓ	S			
talinqu	lished by	y: (signature) Date/Ti	ime		r: (signature)		Lat						
Lab	. Shi	ipper Name	Alr Bill #	<u>Ineria</u>	and a star and a star and a star a		2678	• • • • • • • • • • • • • • • • • • • •					
Use		averight BI	•		Temp.(°C		ndillon	Custody Seal		< Work (	Order #	· · · ·	
Only	· · ·	CALIGNET WIT	<u>417475/5/15/5/</u>	······································	NA	Gcac	<u> </u>	Yes No	(None)	<u>07</u>	1053	1.5	
											エマゼキ	(GT	



November 06, 2007

David Reinsma Trinity Source Group 500 Chestnut St,Suite 225 Santa Cruz, CA

TEL: (831) 685-1217 FAX (831) 685-1219

RE: 103.005.004

Dear David Reinsma:

Order No.: 0710213

Torrent Laboratory, Inc. received 5 samples on 10/31/2007 for the analyses presented in the following report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Torrent Laboratory, Inc, is certified by the State of California, ELAP #1991. If you have any questions regarding these tests results, please feel free to contact the Project Management Team at (408)263-5258;ext: 204.

Sincerely,

1<u>116167</u> Date



Torrent	Laboratory, Inc.	
	*	

Date: 06-Nov-07

CLIENT:Trinity Source GroupProject:103.005.004Lab Order:0710213

CASE NARRATIVE

Analytical Comment for EPA TO-15A, MBLK, Note: Although Methylene chloride was found in the preparation blank, all associated samples were ND for Methylene Chloride to below the MDL. No corrective action is required.

Page 1 of 1

.....



.

# TORRENT LABORATORY, INC.

483 Sinclair Frontage Road \* Milpitas, CA \* Phone: (408) 2635258 \* Fax: (408) 263-8293 Visit us ar www.torrentlab.com email: analysis@torrentlab.com

Report Prepaired For: David Reinsm Trinity Source		Received: Reported:	10/31/2007 11/6/2007		
	Sumr	nary Report			
DPT-2-STCP1	Toxic Organics in Air	Toxic Organics in Air by EPA TO-15			0710213-001A
Parameter	Preped	Analyzed	<u>Result</u>	RL U	pit
1,2,4-Trimethylbenzene	11/1/2007	11/1/2007	10		l/m³
4-Ethyl Toluene	11/1/2007	11/1/2007	9.8		/m³
Acetone	11/1/2007	11/1/2007	83		/m³
Carbon Disulfide	11/1/2007	11/1/2007	8.8		/m³
Carbon Tetrachloride	11/2/2007	11/2/2007	1800		/m³
Chloroform	11/1/2007	11/1/2007	300		/m³
isopropanol	11/1/2007	11/1/2007	75		/m³
m,p-Xylene	11/1/2007	11/1/2007	39		/m³
o-xylene	11/1/2007	11/1/2007	11	4.3 µg	
Styrene	11/1/2007	11/1/2007	6.8	4.3 µg	
Tetrachloroethene	11/1/2007	11/1/2007	450	4.0 µg, 6.8 µg,	
Toluene	11/1/2007	11/1/2007	64	3.8 µg/	
DPT-2-STCP1	TO-3 (Mod)Air Analysis	TO-3 (Mod)Air Analysis w/Gasoline			0710213-001A
<u>Parameter</u>	Preped	Analyzed	Result	<u>RL</u> <u>Uni</u>	
Stoddard Solvent (C7-C12)		11/2/2007	2200	1600 µg/	
PT-2-STCP3	Toxic Organics in Air k	Toxic Organics in Air by EPA TO-15			
Parameter				Lab ID:	0710213-003A
	Preped	<u>Analyzed</u>	<u>Result</u>	<u>RL Uni</u>	<u>t</u>
1,2,4-Trimethylbenzene	11/1/2007	11/1/2007	10	4.9 µg/	11 <sup>3</sup>
Acetone	11/1/2007	11/1/2007	67	19 µg/i	m <sup>s</sup>
Benzene	11/1/2007	11/1/2007	4.8	3.2 µg/i	n³
Carbon Disulfide	11/1/2007	11/1/2007	11	3.1 µg/i	n³
Carbon Tetrachloride	11/2/2007	11/2/2007	1700	32 µg/r	n <sup>s</sup>
Chloroform	11/1/2007	11/1/2007	270	4.9 µg/r	n³
Isopropanol	11/1/2007	11/1/2007	230	33 µg/r	n³
m,p-Xylene	11/1/2007	11/1/2007	35	4.1 μg/r	n <sup>a</sup>
o-xylene	11/1/2007	11/1/2007	8.9	4.3 µg/r	n <sup>a</sup>
Styrene	11/1/2007	11/1/2007	5.9	4.3 µg/n	1 <sup>3</sup>
Tetrachloroethene	11/1/2007	11/1/2007	610	6.8 μg/n	
Toluene	11/1/2007	11/1/2007	70	3.8 µg/n	



# TORRENT LABORATORY, INC.

483 Sinclair Frontage Road \* Milpitas, CA \* Phone: (408) 2635258 \* Fax: (408) 263-8293 Visit us ar www.torrentlab.com email: analysis@torrentlab.com

Report Prepaired For: David Reinsma Trinity Source Group				Date Received: Date Reported:		
	Summ	ary Report				
DPT-2-STCP3	TO-3 (Mod)Air Analysi	TO-3 (Mod)Air Analysis w/Gasoline			iD:	0710213-003A
Parameter	Preped	Analyzed	<u>Result</u>	<u>RL</u>	<u>Unit</u>	
Stoddard Solvent (C7-C12)		11/2/2007	3000	1600	µg/m	5
DPT-1-STCP1	Toxic Organics in Air	by EPA TO-15		Lab	ID:	0710213-004A
Parameter	Preped	Analyzed	<u>Result</u>	<u>RL</u>	<u>Unit</u>	
1,2,4-Trimethylbenzene	11/1/2007	11/1/2007	13	4.9	μg/m <sup>a</sup>	I
2-Butanone (MEK)	11/1/2007	11/1/2007	15	3.0	μg/m <sup>s</sup>	i
4-Ethyl Toluene	11/1/2007	11/1/2007	10	4.9	µg/m³	
Acetone	11/1/2007	11/1/2007	52	19	µg/mª	
Carbon Disulfide	11/1/2007	11/1/2007	12	3 <u>.</u> 1	µg/m³	
Carbon Tetrachloride	11/1/2007	11/1/2007	120	6.3	µg/m³	
Chloroform	11/1/2007	11/1/2007	23	4.9	µg/m³	
Ethyl Acetate	11/1/2007	11/1/2007	22	3.6	µg/m³	
isopropanol	11/1/2007	11/1/2007	53	33	µg/m⁵	
m,p-Xylene	11/1/2007	11/1/2007	26	4.1	µg/m³	
o-xylene	11/1/2007	11/1/2007	8.8	4.3	µg/m³	
Styrene	11/1/2007	11/1/2007	6.6	4.3	µg/m³	
Tetrachloroethene	11/1/2007	11/1/2007	120	6.8	µg/m³	
Toluene	11/1/2007	11/1/2007	65	3.8	µg/m³	
PT-1-STCP3	Toxic Organics in Air b	y EPA TO-15		Labi	ID:	0710213-005A
Parameter	Preped	Analyzed	<u>Result</u>	RL	<u>Unit</u>	
1,2,4-Trimethylbenzene	11/1/2007	11/1/2007	7.9	4.9	µg/m³	
2-Butanone (MEK)	11/1/2007	11/1/2007	12	3.0	µg/m³	
Acetone	11/1/2007	11/1/2007	42	19	µg/m³	
Carbon Disulfide	11/1/2007	11/1/2007	8.5	3.1	µg/m³	
Carbon Tetrachloride	11/1/2007	11/1/2007	100	6.3	µg/m³	
Chloroform	11/1/2007	11/1/2007	17	4.9	µg/m <sup>s</sup>	
Ethyl Acetate	11/1/2007	11/1/2007	13	3.6	µg/m³	
Isopropanol	11/1/2007	11/1/2007	40	33	µg/m³	
m,p-Xylene	11/1/2007	11/1/2007	37	4.1	µg/m³	
o-xylene	11/1/2007	1 <b>1/1/200</b> 7	9.7	4.3	µg/m³	
Styrene	11/1/2007	11/1/2007	6.1		µg/m³	



# TORRENT LABORATORY, INC.

483 Sinclair Frontage Road \* Milpitas, CA \* Phone: (408) 2635258 \* Fax: (408) 263-8293 Visit us ar www.torrentlab.com email: analysis@torrentlab.com

Report Prepaired For: David Reinsma Trinity Source Group					ite Received: 10/3 te Reported: 11/			
·····		Summ	ary Report					
DPT-1-STCP3		Toxic Organics in Air b		Lab	ID:	0710213-005A		
Parameter		Preped	Analyzed	<u>Result</u>	RL	<u>Unit</u>		
Tetrachloroethene		11/1/2007	11/1/2007	95	6.8	µg/m	3	
Toluene		11/1/2007	11/1/2007	43	3.8	µg/m	3	



# **TORRENT LABORATORY, INC.**

483 Sinclair Frontage Road • Milpitas, CA • Phone: (408) 263-5258 • Fax: (408) 263-8293

Visit us at www.torrentlab.com email: analysis@torrentlab.com

### Report prepared for: David Reinsma

Trinity Source Group

**Date Received:** 10/31/2007 **Date Reported:** 11/6/2007

Client Sample ID:	DPT-2-STCP1
Sample Location:	649 Pacific Ave, Alameda
Sample Matrix:	AIR
Date/Time Sampled	10/31/2007 10:37:00 AM

Lab Sample ID: 0710213-001 Date Prepared:

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytica Batch
,1 - Dichloroethene	TO-15	11/1/2007	1.99	2	4.0	ND	µg/mª	R14450
,1,1,2-Tetrachloroethane	TO-15	11/1/2007	3.44	2	6.9	ND	µg/m²	
,1,1-Trichloroethane	TO-15	11/1/2007	2.73	2	5.5	ND	µg/m³	R14450
,1,2,2-Tetrachloroethane	TO-15	11/1/2007	3.44	2	6.9	ND	µg/m²	R14450
,1,2-Trichloroethane	TO-15	11/1/2007	2.73	2	5.5	ND		R14450
,1-Dichloroethane	TO-15	11/1/2007	2.03	2	4.1	ND	µg/m³	R14450
,2,4-Trichlorobenzene	TO-15	11/1/2007	3.56	2	7.1	ND	µg/m³	R14450
,2,4-Trimethylbenzene	TO-15	11/1/2007	2.46	2	4.9	10	µg/mª	R14450
,2-Dibromoethane(Ethylene ibromide)	TO-15	11/1/2007	3.84	2	7.7	ND	µg/m³ µg/m³	R14450 R14450
,2-Dichlorobenzene	TO-15	11/1/2007	3.01	2	6.0	ND	µg/m³	<b>D144E0</b>
,2-Dichloroethane	TO-15	11/1/2007	2.03	2	4.1	ND	µg/m³	R14450
,2-Dichloropropane	TO-15	11/1/2007	2.31	2	4.6	ND	µg/m² µg/m³	R14450
2-	TO-15	11/1/2007	3.13	2	6.3	ND		R14450
chlorotetrafluoroethane(F114)			0.10	2	0.0	NO	µg/m³	R14450
3,5-Trimethylbenzene	TO-15	11/1/2007	2.46	2	4.9	ND	µg/m³	R14450
3-Butadiene	TO-15	11/1/2007	1.11	2	2.2	ND	µg/m³	R14450
3-Dichlorobenzene	TO-15	11/1/2007	3.01	2	6.0	ND	µg/m³	R14450
4-Dichlorobenzene	TO-15	11/1/2007	3.01	2	6.0	ND	µg/m³	R14450
4-Dioxane	TO-15	11/1/2007	1.8	2	3.6	ND	µg/m³	R14450
Butanone (MEK)	TO-15	11/1/2007	1.48	2	3.0	ND	µg/m³	R14450
Hexanone	TO-15	11/1/2007	2.05	2	4.1	ND	µg/m³	R14450
Ethyl Toluene	TO-15	11/1/2007	2.46	2	4.9	9.8	μg/m³	R14450
Methyl-2-Pentanone (MIBK)	TO-15	11/1/2007	2.05	2	4.1	ND	µg/m³	R14450
cetone	TO-15	11/1/2007	9.52	2	19	83	µg/m³	R14450
enzene	TO-15	11/1/2007	1.6	2	3.2	ND	µg/m³	R14450
enzyl Chloride	TO-15	11/1/2007	2.88	2	5.8	ND	µg/m³	R14450
omodichloromethane	TO-15	11/1/2007	3.35	2	6.7	ND	µg/m³	
omoform	TO-15	11/1/2007	5.17	2	10	ND	µg/m³	R14450 R14450
omomethane	TO-15	11/1/2007	1.94	2	3.9	ND	µg/m³	
arbon Disulfide	TO-15	11/1/2007	1.56	2	3.1	8.8	_	R14450
arbon Tetrachloride	TO-15	11/2/2007	3.15	10	32	1800	µg/m³ µg/m³	R14450
lorobenzene	TO-15	11/1/2007	2.3	2	4.6	ND	. –	R14450
loroethane	TO-15	11/1/2007	1.32	2	4.0 2.6	ND	µg/m³	R14450
loroform	TO-15	11/1/2007	2.44	2	2.0 4.9	300	µg/m³	R14450
loromethane	TO-15	11/1/2007	1.04	2	4. <del>9</del> 2.1	ND	µg/m³	R14450
-1,2-dichloroethene	TO-15	11/1/2007	1.98	2	2.1 4.0	ND	hð\w <sub>s</sub> hð\w <sub>s</sub>	R14450 R14450

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Page 1 of 9

Trinity Source Group

Client Sample ID:	DPT-2-STCP1
Sample Location:	649 Pacific Ave, Alameda
Sample Matrix:	AIR
Date/Time Sampled	10/31/2007 10:37:00 AM

**Date Received:** 10/31/2007 **Date Reported:** 11/6/2007

Lab Sample ID: 0710213-001 Date Prepared:

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
cis-1,3-Dichloropropene	TO-15	11/1/2007	2.27	2	4.5	ND	µg/m³	R14450
Dibromochloromethane	TO-15	11/1/2007	4.26	2	8.5	ND	µg/m³	R14450
Dichlorodifluoromethane	TO-15	11/1/2007	2.48	2	5.0	ND	µg/m³	R14450
Ethyl Acetate	TO-15	11/1/2007	1.8	2	3.6	ND	μg/m³	R14450
Ethyl Benzene	TO-15	11/1/2007	1.67	2	3.3	ND	µg/m³	R14450
Freon 113	TO-15	11/1/2007	3.83	2	7.7	ND	µg/m³	R14450
Hexachlorobutadiene	TO-15	11/1/2007	5.34	2	11	ND	µg/m³	R14450
Hexane	TO-15	11/1/2007	3.52	2	7.0	ND	µg/m³	R14450
Isopropanol	TO-15	11/1/2007	16.4	2	33	75	µg/m³	R14450
m,p-Xylene	TO-15	11/1/2007	2.05	2	4.1	39	µg/m³	R14450
Methylene Chloride	T <b>O-1</b> 5	11/1/2007	3.61	2	7.2	ND	µg/m³	R14450
MTBE	TO-15	11/1/2007	1.81	2	3.6	ND	µg/m³	R14450
Naphthalene	TO-15	11/1/2007	2.62	2	5.2	ND	µg/m³	R14450
o-xylene	TO-15	11/1/2007	2.17	2	4.3	11	hð\un	R14450 R14450
Styrene	TO-15	11/1/2007	2.13	2	4.3	6.8	µg/m³	R14450 R14450
Tetrachloroethene	TO-15	11/1/2007	3.39	2	6.8	450	µg/m³	R14450 R14450
Tetrahydrofuran	TO-15	11/1/2007	1.48	2	3.0	ND	µg/m³	R14450 R14450
Toluene	TO-15	11/1/2007	1.89	2	3.8	64	µg/m³	R14450
rans-1,2-Dichloroethene	TO-15	11/1/2007	1.98	2	4.0	ND	µg/m³	R14450
Trichloroethene	TO-15	11/1/2007	2.69	2	5.4	ND	µg/m³	R14450 R14450
Frichlorofluoromethane	TO-15	11/1/2007	2.48	2	5.0	ND	µg/m³	R14450 R14450
/inyl Acetate	TO-15	11/1/2007	1.76	2	3.5	ND	hð\w,	R14450 R14450
Vinyl Chloride	TO-15	11/1/2007	1.28	2	2.6	ND	µg/mª	R14450 R14450
Surr: 4-Bromofluorobenzene	TO-15	11/1/2007	0	2	50-150	102	%REC	R14450 R14450
Surr: 4-Bromofluorobenzene	TO-15	11/2/2007	0	10	50-150	93.8	%REC	R14450 R14450
Stoddard Solvent (C7-C12)	TO-3(MOD)	11/2/2007	400	4	1600	2200 x	µg/m³	M14450

Note: Hydrocarbons present in the gasoline range quantified as Stoddard solvent. Chromatogram does not resemble that of Stoddard Solvent pattern.

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

F

Trinity Source Group

Client Sample ID:	DPT-2-STCP3
Sample Location:	649 Pacific Ave, Alameda
Sample Matrix:	AIR
<b>Date/Time Sampled</b>	10/31/2007 1:04:00 PM

**Date Received:** 10/31/2007 **Date Reported:** 11/6/2007

Lab Sample ID: 0710213-003 Date Prepared:

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
I,1 - Dichloroethene	TO-15	11/1/2007	1.99	2	4.0	ND	µg/m³	R14450
1,1,1,2-Tetrachloroethane	TO-15	11/1/2007	3.44	2	6.9	NĐ		
,1,1-Trichloroethane	TO-15	11/1/2007	2.73	2	5.5	ND	µg/m³	R14450
,1,2,2-Tetrachloroethane	TO-15	11/1/2007	3.44	2	6.9	ND	µg/m³	R14450
,1,2-Trichloroethane	TO-15	11/1/2007	2.73	2	5.5	ND	µg/m³	R14450
,1-Dichloroethane	TO-15	11/1/2007	2.03	2	4.1	ND	µg/m³	R14450
,2,4-Trichlorobenzene	TO-15	11/1/2007	3.56	2	7.1		µg/m³	R14450
,2,4-Trimethylbenzene	TO-15	11/1/2007	2.46	2	4.9	ND 10	µg/m³	R14450
,2-Dibromoethane(Ethylene libromide)	TO-15	11/1/2007	3.84	2	4.9 7.7	10 ND	µg/m³ µg/m³	R14450 R14450
,2-Dichlorobenzene	TO-15	11/1/2007	3.01	2	6.0	ND	110 1003	D44450
,2-Dichloroethane	TO-15	11/1/2007	2.03	2	4.1	ND	µg/m³	R14450
,2-Dichloropropane	TO-15	11/1/2007	2.31	2	4.6	ND	µg/m³	R14450
,2-	TO-15	11/1/2007	3.13	2	4.0 6.3	ND	µg/m³	R14450
ichlorotetrafiuoroethane(F114)			0.10	~	0.0		µg/m³	R14450
,3,5-Trimethylbenzene	TO-15	11/1/2007	2.46	2	4.9	ND	µg/m³	R14450
,3-Butadiene	TO-15	11/1/2007	1.11	2	2.2	ND	µg/m³	R14450
,3-Dichlorobenzene	TO-15	11/1/2007	3.01	2	6.0	ND	μg/m³	R14450
,4-Dichlorobenzene	TO-15	11/1/2007	3.01	2	6.0	ND	µg/m³	R14450
4-Dioxane	TO-15	11/1/2007	1.8	2	3.6	ND	µg/m³	R14450
-Butanone (MEK)	TO-15	11/1/2007	1.48	2	3.0	ND	µg/m³	R14450
-Hexanone	TO-15	11/1/2007	2.05	2	4.1	ND	µg/m³	R14450
-Ethyl Toluene	TO-15	11/1/2007	2.46	2	4.9	ND	µg/m³	R14450
Methyl-2-Pentanone (MIBK)	TO-15	11/1/2007	2.05	2	4.1	ND	µg/m³	R14450
cetone	TO-15	11/1/2007	9.52	2	19	67	µg/m³	R14450
enzene	TO-15	11/1/2007	1.6	2	3.2	4.8	µg/m³	R14450
enzyl Chloride	TO-15	11/1/2007	2.88	2	5.8	ND	µg/m³	R14450
romodichloromethane	TO-15	11/1/2007	3.35	2	6.7	ND	µg/m³	R14450
romoform	TO-15	11/1/2007	5.17	2	10	ND	µg/m³	R14450
romomethane	TO-15	11/1/2007	1.94	2	3.9	ND	µg/m³	R14450
arbon Disulfide	TO-15	11/1/2007	1.56	2	3.1	11	µg/m³	R14450
arbon Tetrachloride	TO-15	11/2/2007	3.15	- 10	32	1700	µg/m³	R14450
hlorobenzene	TO-15	11/1/2007	2.3	2	· 4.6	ND	µg/m³	R14450
hloroethane	TO-15	11/1/2007	1.32	2	2.6	ND	hð\u,, hð\u,	R14450
nloroform	TO-15	11/1/2007	2.44	2	4.9	270	µg/m³	
hloromethane	TO-15	11/1/2007	1.04	2	2.1	ND		R14450
s-1,2-dichloroethene	TO-15	11/1/2007	1.98	2	4.0	ND	µg/m³ ug/m³	R14450
s-1,3-Dichloropropene	TO-15	11/1/2007	2.27	2	4.5	ND	µg/m³	R14450
bromochloromethane	TO-15	11/1/2007	4.26	2	8.5	ND	µg/m³	R14450
chlorodifluoromethane	TO-15	11/1/2007	2.48	2	5.0	ND	µg/m³	R14450
hyl Acetate	TO-15	11/1/2007	1.8	2	3.6	ND	µg/m³	R14450
hyl Benzene	TO-15	11/1/2007	1.67	2	3.3	ND	µg/m³	R14450
eon 113	TO-15	11/1/2007	3,83	2	3.3 7.7		µg/m³	R14450
exachlorobutadiene	TO-15	11/1/2007	5.34	2	11	ND ND	µg/m³	R14450

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Page 3 of 9

Trinity Source Group

<b>Client Sample ID:</b>	DPT-2-STCP3
Sample Location:	649 Pacific Ave, Alameda
Sample Matrix:	AIR
Date/Time Sampled	10/31/2007 1:04:00 PM

**Date Received:** 10/31/2007 **Date Reported:** 11/6/2007

Lab Sample ID: 0710213-003 Date Prepared:

Parameters	Analysis Method	Date Analyzed	RL.	Dilution Factor	MRL	Result	Units	Analytical Batch
Hexane	TO-15	11/1/2007	3.52	2	7.0	ND	µg/m³	
Isopropanol	TO-15	11/1/2007	16.4	2	33	230	µg/m³	R14450
m,p-Xylene	TO-15	11/1/2007	2.05	2	4.1	35	µg/m³	R14450
Methylene Chloride	TO-15	11/1/2007	3.61	2	7.2	ND	µg/m³	R14450
MTBE	TO-15	11/1/2007	1.81	2	3.6	ND	µg/m³	R14450
Naphthalene	TO-15	11/1/2007	2.62	2	5.2	ND	µg/m³	R14450
o-xylene	TO-15	11/1/2007	2.17	2	4.3	8,9	µg/m³	R14450
Styrene	TO-15	11/1/2007	2.13	2	4.3	5.9	µg/m³	R14450
Tetrachloroethene	TO-15	11/1/2007	3.39	2	6.8	610	µg/m³	R14450
Tetrahydrofuran	TO-15	11/1/2007	1.48	2	3.0	ND	hð\w <sub>s</sub>	R14450
Toluene	TO-15	11/1/2007	1.89	2	3.8	70	µg/m³	R14450
rans-1,2-Dichloroethene	TO-15	11/1/2007	1.98	2	4.0	ND	µg/m³	R14450
Trichloroethene	TO-15	11/1/2007	2.69	2	5.4	ND	µg/m³	R14450
Trichlorofluoromethane	TO-15	11/1/2007	2.48	2	5.0	ND	µg/m³	R14450
Vinyl Acetate	TO-15	11/1/2007	1.76	2	3.5	ND	µg/m³	R14450
/inyl Chloride	TO-15	11/1/2007	1.28	2	2.6	ND	µg/m³	R14450
Surr: 4-Bromofluorobenzene	TO-15	11/1/2007	0	2	50-150	101	%REC	R14450
Surr: 4-Bromofluorobenzene	TO-15	11/2/2007	0	10	50-150	95.2	%REC	R14450
Stoddard Solvent (C7-C12)	TO-3(MOD)	11/2/2007	400	4	1600	3000 x	µg/m³	M14450

Note: Hydrocarbons present in the gasoline range quantified as Stoddard solvent. Chromatogram does not resemble that of Stoddard Solvent pattern.

Trinity Source Group

Client Sample ID:	DPT-1-STCP1
Sample Location:	649 Pacific Ave, Alameda
Sample Matrix:	AIR
Date/Time Sampled	10/31/2007 2:01:00 PM
······································	

Date Received: 10/31/2007 Date Reported: 11/6/2007

Lab Sample ID: 0710213-004 **Date Prepared:** 

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytica Batch
1,1 - Dichloroethene	TO-15	11/1/2007	1.99	2	4.0	ND		
1,1,1,2-Tetrachloroethane	TO-15	11/1/2007	3.44	2	6.9	ND	µg/m³	R14450
1,1,1-Trichloroethane	TO-15	11/1/2007	2.73	2	5.5	ND	µg/m³	R14450
1,1,2,2-Tetrachloroethane	TO-15	11/1/2007	3.44	2	5.5 6.9		µg/m³	R14450
1,1,2-Trichloroethane	TO-15	11/1/2007	2.73	2	5.5	ND	µg/m³	R14450
1,1-Dichloroethane	TO-15	11/1/2007	2.03	2	5.5 4.1	ND	µg/m³	R14450
1,2,4-Trichlorobenzene	TO-15	11/1/2007	3.56	2	7.1	ND	µg/m³	R14450
1,2,4-Trimethylbenzene	TO-15	11/1/2007	2.46	2	4.9	ND	µg/m³	R14450
1,2-Dibromoethane(Ethylene dibromide)	TO-15	11/1/2007	3.84	2	4.9 7.7	13 ND	µg/m³ µg/m³	R14450 R14450
1,2-Dichlorobenzene	TO-15	11/1/2007	3.01	2	6.0	ND	110/003	D44460
1,2-Dichloroethane	TO-15	11/1/2007	2.03	2	4.1	ND	µg/m³	R14450
1,2-Dichloropropane	TO-15	11/1/2007	2.31	2	4.6	ND	µg/m³	R14450
1,2-	TO-15	11/1/2007	3.13	2	4.0 6.3	ND	µg/m³	R14450
lichlorotetrafluoroethane(F114)			0.10	4	0.0	ND	hā/wa	R14450
,3,5-Trimethylbenzene	TO-15	11/1/2007	2.46	2	4.9	ND	µg/m³	R14450
,3-Butadiene	TO-15	11/1/2007	1.11	2	2.2	ND	µg/m³	R14450
,3-Dichlorobenzene	TO-15	11/1/2007	3.01	2	6.0	ND	µg/m³	R14450
,4-Dichlorobenzene	TO-15	11/1/2007	3.01	2	6.0	ND	µg/m³	R14450
,4-Dioxane	TO-15	11/1/2007	1.8	2	3.6	ND	μg/m³	R14450
-Butanone (MEK)	TO-15	11/1/2007	1.48	2	3.0	15	μg/m³	R14450
-Hexanone	TO-15	11/1/2007	2.05	2	4.1	ND	µg/m³	R14450
-Ethyl Toluene	TO-15	11/1/2007	2.46	2	4.9	10	µg/m³	R14450
-Methyl-2-Pentanone (MIBK)	TO-15	11/1/2007	2.05	2	4.1	ND	µg/m³	R14450
cetone	TO-15	11/1/2007	9.52	2	19	52	µg/m⁵	R14450
enzene	TO-15	11/1/2007	1.6	2	3.2	ND	µg/m³	R14450
enzyl Chloride	TO-15	11/1/2007	2.88	2	5.8	ND	µg/m³	R14450
romodichloromethane	TO-15	11/1/2007	3.35	2	6.7	ND	µg/m³	R14450
romoform	TO-15	11/1/2007	5.17	2	10	ND	µg/m³	R14450
romomethane	TO-15	11/1/2007	1.94	2	3.9	ND	µg/m³	R14450
arbon Disulfide	TO-15	11/1/2007	1.56	2	3.1	12	μg/m³	R14450
arbon Tetrachloride	TO-15	11/1/2007	3.15	2	6.3	120	µg/m³	R14450
hlorobenzene	TO-15	11/1/2007	2.3	2	4.6	ND	µg/m³	R14450
hloroethane	TO-15	11/1/2007	1.32	2	2.6	ND	µg/m³	R14450
hleroform	TO-15	11/1/2007	2.44	2	4.9	23	µg/m³	R14450
hloromethane	TO-15	11/1/2007	1.04	2	2.1	ND	µg/m³	
s-1,2-dichloroethene	TO-15	11/1/2007	1.98	2	4.0	ND	µg/m³	R14450
s-1,3-Dichloropropene	TO-15	11/1/2007	2.27	2	4.5	ND	µg/m³	R14450
bromochloromethane	TO-15	11/1/2007	4.26	2	8.5	ND	µg/m³	R14450
chlorodifluoromethane	TO-15	11/1/2007	2.48	2	5.0	ND	µg/m³	R14450
hyl Acetate	TO-15	11/1/2007	1.8	2	3.6	22	µg/m³	R14450
hyl Benzene	TO-15	11/1/2007	1.67	2	3.3	ND		R14450
eon 113	TO-15	11/1/2007	3.83	2	7. <b>7</b>	ND	µg/m³ µg/m³	R14450
exachlorobutadiene	TO-15	11/1/2007	5.34	2	11	ND	µg/m³ µg/m³	R14450 R14450

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Page 5 of 9

Trinity Source Group

Client Sample ID:	DPT-1-STCP1
Sample Location:	649 Pacific Ave, Alameda
Sample Matrix:	AIR
Date/Time Sampled	10/31/2007 2:01:00 PM

**Date Received:** 10/31/2007 **Date Reported:** 11/6/2007

Lab Sample ID: 0710213-004 Date Prepared:

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Hexane	TO-15	11/1/2007	3.52	2	7.0	ND	µg/m³	
Isopropanol	TO-15	11/1/2007	16.4	2	33	53	µg/m³	R14450
m,p-Xylene	T <b>O-1</b> 5	11/1/2007	2.05	2	4.1	26	µg/m²	
Methylene Chloride	TO-15	11/1/2007	3.61	2	7.2	ND	-	R14450
MTBE	TO-15	11/1/2007	1.81	2	3.6	ND	µg/m³	R14450
Naphthalene	TO-15	11/1/2007	2.62	2	5.2	ND	µg/m³	R14450
o-xylene	TO-15	11/1/2007	2.17	2	4.3		µg/m³	R14450
Styrene	TO-15	11/1/2007	2.13	2	4.3	8.8	µg/m³	R14450
Tetrachloroethene	TO-15	11/1/2007	3.39	2	4.3 6.8	6.6	µg/m³	R14450
Tetrahydrofuran	TO-15	11/1/2007	3.39 1.48	2		120	µg/m³	R14450
Toluene	TO-15	11/1/2007			3.0	ND	µg/m³	R14450
rans-1,2-Dichloroethene	TO-15	11/1/2007	1.89	2	3.8	65	hð\w <sub>3</sub>	R14450
Frichloroethene	TO-15	11/1/2007	1.98	2	4.0	ND	µg/m³	R14450
Frichlorofluoromethane	TO-15	11/1/2007	2.69	2	5.4	ND	µg/m³	R14450
/inyl Acetate	TO-15		2.48	2	5.0	ND	µg/m³	R14450
/inyl Chloride	TO-15	11/1/2007	1.76	2	3.5	ND	µg/m³	R14450
Surr: 4-Bromofluorobenzene		11/1/2007	1.28	2	2.6	ND	µg/m³	R14450
	TO-15	11/1/2007	0	2	50-150	102	%REC	R14450
Stoddard Solvent (C7-C12)	TO-3(MOD)	11/2/2007	400	4	1600	ND	µg/m³	M14450

Note: Hydrocarbons present in the gasoline range quantified as Stoddard solvent. Chromatogram does not resemble that of Stoddard Solvent pattern.

Trinity Source Group

Client Sample ID:	DPT-1-STCP3
Sample Location:	649 Pacific Ave, Alameda
Sample Matrix:	AIR
Date/Time Sampled	10/31/2007 4:04:00 PM

**Date Received:** 10/31/2007 **Date Reported:** 11/6/2007

Lab Sample ID: 0710213-005 Date Prepared:

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
1,1 - Dichloroethene	TO-15	11/1/2007	1.99	2	4.0	ND	μg/m³	
1,1,1,2-Tetrachloroethane	TO-15	11/1/2007	3.44	2	6.9	ND		R14450
1,1,1-Trichloroethane	TO-15	11/1/2007	2.73	2	5.5	ND	µg/m³	R14450
1,1,2,2-Tetrachloroethane	TO-15	11/1/2007	3.44	2	6.9	ND	µg/m³	R14450
1,1,2-Trichloroethane	<b>TO-</b> 15	11/1/2007	2.73	2	5.5	ND	µg/m³	R14450
1,1-Dichloroethane	TO-15	11/1/2007	2.03	2	4.1	ND	µg/m³	R14450
1,2,4-Trichlorobenzene	TO-15	11/1/2007	3.56	2	7.1	ND	µg/mª	R14450
1,2,4-Trimethylbenzene	TO-15	11/1/2007	2.46	2	4.9	7.9	µg/m³	R14450
1,2-Dibromoethane(Ethylene dibromide)	TO-15	11/1/2007	3.84	2	4.9 7.7	ND	µg/m³ µg/m³	R14450 R14450
1,2-Dichlorobenzene	TO-15	11/1/2007	3.01	2	6.0	ND	t in the 3	54450
1,2-Dichloroethane	TO-15	11/1/2007	2.03	2	4.1	ND	µg/m³	R14450
1,2-Dichloropropane	TO-15	11/1/2007	2.30	2	4.6	ND	µg/m³	R14450
1,2-	TO-15	11/1/2007	3.13	2	6.3	ND	µg/m³	R14450
dichlorotetrafluoroethane(F114)			0.10	Ĕ	0.5	ND	µg/m³	R14450
1,3,5-Trimethylbenzene	TO-15	11/1/2007	2.46	2	4.9	ND	µg/m³	R14450
1,3-Butadiene	TO-15	11/1/2007	1.11	2	2.2	ND	µg/m³	R14450
1,3-Dichlorobenzene	TO-15	11/1/2007	3.01	2	6.0	ND	µg/m³	R14450
,4-Dichlorobenzene	TO-15	11/1/2007	3.01	2	6.0	ND	µg/m³	R14450
I,4-Dioxane	TO-15	11/1/2007	1.8	2	3.6	ND	µg/m³	R14450
2-Butanone (MEK)	TO-15	11/1/2007	1.48	2	3.0	12	µg/m³	R14450
2-Hexanone	TO-15	11/1/2007	2.05	2	4.1	ND	μg/m³	R14450
I-Ethyl Toluene	TO-15	11/1/2007	2.46	2	4.9	ND	µg/m³	R14450
-Methyl-2-Pentanone (MIBK)	TO-15	11/1/2007	2.05	2	4.1	ND	µg/m³	R14450
Cetone	TO-15	11/1/2007	9.52	2	19	42	μg/m³	R14450
Benzene	TO-15	11/1/2007	1.6	2	3.2	ND	µg/m³	R14450
Benzyl Chloride	TO-15	11/1/2007	2.88	2	5.8	ND	µg/m³	R14450
Bromodichloromethane	TO-15	11/1/2007	3.35	2	6.7	ND	µg/m³	R14450
Bromoform	TO-15	11/1/2007	5.17	2	10	ND	µg/m³	R14450
Bromomethane	TO-15	11/1/2007	1.94	2	3.9	ND	µg/m³	
Carbon Disulfide	TO-15	11/1/2007	1.56	2	3.1	8.5	hð\uu <sub>a</sub>	R14450 R14450
Carbon Tetrachloride	TO-15	11/1/2007	3.15	2	6.3	100	hð\ur	R14450 R14450
hlorobenzene	TO-15	11/1/2007	2.3	2	4.6	ND	µg/m³	R14450
chloroethane	TO-15	11/1/2007	1.32	2	2.6	ND	µg/m³	
chloroform	TO-15	11/1/2007	2.44	2	4.9	17		R14450
hloromethane	TO-15	11/1/2007	1.04	2	2.1	ND	µg/m³ ug/m³	R14450
is-1,2-dichloroethene	TO-15	11/1/2007	1.98	2	4.0	ND	µg/m³	R14450
is-1,3-Dichloropropene	TO-15	11/1/2007	2.27	2	4.5	ND	µg/m³	R14450
ibromochloromethane	TO-15	11/1/2007	4.26	2	8.5	ND	µg/m³	R14450
ichlorodifluoromethane	TO-15	11/1/2007	2.48	2	5.0	ND	µg/m³	R14450
thyl Acetate	TO-15	11/1/2007	1.8	2	3.6	13	µg/m³	R14450
thyl Benzene	TO-15	11/1/2007	1.67	2	3.3	ND	µg/m³ µg/m³	R14450
reon 113	TO-15	11/1/2007	3.83	2	3.3 7.7		µg/m³	R14450
exachlorobutadiene	TO-15	11/1/2007	5.34	2	11	ND ND	µg/m³ µg/m³	R14450

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Page 7 of 9

F

Trinity Source Group

Client Sample ID:	DPT-1-STCP3
Sample Location:	649 Pacific Ave, Alameda
Sample Matrix:	AIR
Date/Time Sampled	10/31/2007 4:04:00 PM

**Date Received:** 10/31/2007 **Date Reported:** 11/6/2007

Lab Sample ID: 0710213-005 Date Prepared:

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Hexane	TO-15	11/1/2007	3.52	2	7.0	ND		
Isopropanol	TO-15	11/1/2007	16.4	2	33	40	µg/m³	R14450
m,p-Xylene Methylene Chloride MTBE	TO-15	11/1/2007	2.05	2	4.1	37	µg/m³	R14450
	TO-15	11/1/2007	3.61	2	7.2	ND	µg/m³	R14450
	TO-15	11/1/2007	1.81	2	3.6	ND	µg/m³	R14450
vaphthalene	TO-15	11/1/2007	2.62	2	5.2		µg/m³	R14450
o-xylene	TO-15	11/1/2007	2.17	2	5.Z 4.3	ND	µg/m³	R14450
Styrene	TO-15	11/1/2007	2.13	2	4.3	9.7	µg/m³	R14450
etrachloroethene	TO-15	11/1/2007	3.39	2	4.3 6.8	6.1	µg/m³	R14450
etrahydrofuran	TO-15	11/1/2007	1.48	2	3.0	95	µg/mª	R14450
oluene	TO-15	11/1/2007	1.40	2		ND	µg/m³	R14450
ans-1,2-Dichloroethene	TO-15	11/1/2007	1.89	2	3.8	43	µg/m³	R14450
richloroethene	TO-15	11/1/2007	2.69		4.0	ND	µg/m³	R14450
Trichlorofluoromethane Vinyl Acetate Vinyl Chloride	TO-15	11/1/2007	2.69	2	5.4	ND	µg/m³	R14450
	TO-15	11/1/2007		2	5.0	ND	µg/mª	R14450
	TO-15	11/1/2007	1.76	2	3.5	ND	µg/m³	R14450
Surr: 4-Bromofluorobenzene	TO-15	11/1/2007	1.28	2	2.6	ND	µg/m³	R14450
		1002007	0	2	50-150	103	%REC	R14450
toddard Solvent (C7-C12)	TO-3(MOD)	11/3/2007	400	4	1600	ND	µg/m³	M14450

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

### Definitions, legends and Notes

Note	A Description
ug/kg	Microgram per kilogram (ppb, part per billion).
ug/L	Microgram per liter (ppb, part per billion).
mg/kg	Milligram per kilogram (ppm, part per million).
mg/L	Milligram per liter (ppm, part per million).
LCS/LCSD	Laboratory control sample/laboratory control sample duplicate.
MDL	Method detection limit.
MRL	
MS/MSD	Modified reporting limit. When sample is subject to dilution, reporting limit times dilution factor yields MRL. Matrix spike/matrix spike duplicate.
N/A	Not applicable.
ND	Not detected at or above detection limit.
NR	Not reported.
QC	Quality Control.
٦L	Reporting limit.
% RPD	Percent relative difference.
	n electriciteiauve difference.
ub	pH was measured immediately upon the receipt of the sample, but it was still done outside the holding time.
<u></u>	Analyzed by subcontracting laboratory, Lab Certificate #

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

## Torrent Laboratory, Inc.

Date: 06-Nov-07

**CLIENT:** Trinity Source Group Work Order: 0710213 **Project:** 103.005.004

## ANALYTICAL QC SUMMARY REPORT

BatchID: R14450

	SampType:	MBLK	TestCo	de: TO-15	Units: ppbv		Prep Da	te: 10	0/31/2	007	RunNo: 1	4450	
Client ID: ZZZZZ	Batch ID:	R14450	Testi	No: TO-15			Analysis Da				SeqNo: 2		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC				RPD Ref Val	%RPD		0
1,1 - Dichloroethene		ND	0.50				······································				701 (1° L)	KE DEITIIL	Qua
1,1,1,2-Tetrachloroethane		ND	0.50										
1,1,1-Trichloroethane		ND	0.50										
1,1,2,2-Tetrachloroethane		ND	0.50										
1,1,2-Trichloroethane		ND	0.50										
1,1-Dichloroethane		ND	0.50										
1,2,4-Trichlorobenzene		ND	0.50										
1,2,4-Trimethylbenzene		ND	0.50										
1,2-Dibromoethane(Ethylene dibrom	ide	ND	0.50										
1,2-Dichlorobenzene		ND	0.50										
1,2-Dichloroethane		ND	0.50										
1,2-Dichloropropane		ND	0.50										
,2-dichlorotetrafluoroethane(F114)		ND	0.50										
,3,5-Trimethylbenzene		ND	0.50										
,3-Butadiene		ND	0.50										
1,3-Dichlorobenzene		ND	0.50										
1,4-Dichlorobenzene		ND	0.50										
I,4-Dioxane		ND	0.50										
2-Butanone (MEK)		ND	0.50										
2-Hexanone		ND	0.50										
I-Ethyl Toluene		ND.	0.50										
-Methyl-2-Pentanone (MIBK)		ND	0.50										
Acetone		ND	4.0										
ienzene		ND	0.50										
enzyl Chloride		ND	0.50										
romodichloromethane		ND	0.50										
romoform		ND	0.50										
romomethane		ND	0.50										
arbon Disulfide		ND	0.50										
arbon Tetrachloride		ND	0.50										

Qualifiers: Е

Value above quantitation range ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded Н

J Analyte detected below quantitation limits S

R RPD outside accepted recovery limits Analyte detected polor guardered recovery limits Spike Recovery outside accepted recovery limits Page 1 of 6

## ANALYTICAL QC SUMMARY REPORT

BatchID: R14450

Sample ID MB	SampType: MBLK	TestCo	de: <b>TO-15</b>	Units: ppbv		Prep Date	e: 10/31/	2007	RunNo: 14	450	
Client ID: ZZZZZ	Batch ID: R14450	Testi	No: T <b>O-15</b>		Analysis Date: 10/31/2007						
Analyte	Decult	Dou							SeqNo: 20	8425	
	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Chlorobenzene	ND	0.50									
Chloroethane	ND	0.50									
Chloroform	ND	0.50									
Chloromethane	ND	0.50									
cis-1,2-dichloroethene	ND	0.50									
cis-1,3-Dichloropropene	ND	0.50									
Dibromochloromethane	ND	0.50									
Dichlorodifluoromethane	ND	0.50									
Ethyl Acetate	ND	0.50									
Ethyl Benzene	ND	0.50									
Freon 113	ND	0.50									
lexachlorobutadiene	ND	0.50									
lexane	ND	1.0									
sopropanol	ND	4.0									
n,p-Xylene	ND	0.50									
lethylene Chloride	2.840	1.0									
ATBE	ND	0.50									В
laphthalene	ND	5.0									
-xylene	ND	0.50									
Styrene	ND	0.50									
etrachioroethene	0.4200	0.50									
Tetrahydrofuran	ND	0.50									J
oluene	ND	0.50									
rans-1,2-Dichloroethene	ND	0.50									
richloroethene	ND	0.50									
richlorofluoromethane	ND	0.50									
inyl Acetate	ND	0.50									
/inyi Chloride	ND	0.50									
Surr: 4-Bromofluorobenzene	36.64	0.50	40	0	91.6	50	455				
	/	~	υr	U	91.0	50	150				

Qualifiers:

Value above quantitation range Е

Holding times for preparation or analysis exceeded Н R

Analyte detected below quantitation limits J Analyte detected below quantum spike Recovery outside accepted recovery limits Page 2 of 6 S

## ANALYTICAL QC SUMMARY REPORT

BatchID: R14450

Sample ID LCS Client ID: ZZZZZ	SampType:		TestCode: TO-15		Units: ppbv		Prep Date	: 10/31/;	2007	RunNo: 14450		
	Batch ID:	R14450	Test	No: TO-15			Analysis Date:	10/31/2	2007	SeqNo: 208426		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
1,1 - Dichloroethene		18.65	0.50	20	0	93.3	50	150		, , , , , , , , , , , , , , , , , , ,		
1,1,1,2-Tetrachloroethane		22.02	0.50	20	0	110	50	150				
1,1,1-Trichloroethane		19.94	0.50	20	D D	99.7	50	150				
1,1,2,2-Tetrachloroethane		19.81	0.50	20	0	99.0	50	-				
1,1,2-Trichloroethane		20.71	0.50	20	0	104	50 50	150				
1,1-Dichloroethane		19.54	0.50	20	0	97.7	50	150				
1,2,4-Trichlorobenzene		18.42	0.50	20	0	92.1		150				
1,2,4-Trimethylbenzene		20.59	0.50	20	0 D	103	50	150				
1,2-Dibromoethane(Ethylene dibrom	ide	20.20	0.50	20	D		50 F 0	150				
1,2-Dichlorobenzene		19.82	0.50	20	0	101	50	150				
1,2-Dichloroethane		21.75	0.50	20	0	99.1	50	150				
1,2-Dichloropropane		22.37	0.50	20		109	50	150				
1,2-dichlorotetrafluoroethane(F114)		26.83	0.50	20	0	112	50	150				
1,3,5-Trimethylbenzene		21.38	0.50	20	0	134	50	150				
1,3-Butadiene		20.73	0.50	20	0	107	50	150				
1,3-Dichlorobenzene		19.87	0.50	20	0	104	50	150				
I,4-Dichlorobenzene		19.87	0.50	20	D	99.4	50	15D				
,4-Dioxane		23.67	0.50	20	0	99.4	50	150				
2-Butanone (MEK)		20.61	0.50	20 20	0	118	50	150				
2-Hexanone		21.32	0.50	20 20	0	103	50	150				
I-Ethyl Toluene		21.04	0.50	20 20	0	107	50	150				
I-Methyl-2-Pentanone (MIBK)		22.53	0.50	20 20	0	105	50	150				
Acetone		22.49	4.0		0	113	50	150				
Benzene		19.64	4.0 0.50	20	0	112	50	150				
Benzyl Chloride		20.18	0.50	20	0	98.2	50	150				
romodichloromethane		21.42	0.50	20	D	101	50	150				
Bromoform		21.42	0.50	20	0	107	50	150				
romomethane		19.08		20	0	106	50	150				
arbon Disulfide		19.08	0.50	20	0	95.4	50	150				
arbon Tetrachloride			0.50	20	0	97.3	50	150				
Shlorobenzene		18.78	0.50	20	0	93.9	50	150				
		21.68	0.50	20	D	108	50	150				

Qualifiers:

Е Value above quantitation range

Η Holding times for preparation or analysis exceeded

Analyte detected below quantitation limits J S

ND Not Detected at the Reporting Limit

RPD outside accepted recovery limits R

Analyte detected below quantum spike Recovery outside accepted recovery limits Page 3 of 6

## ANALYTICAL QC SUMMARY REPORT

BatchID: R14450

Sample ID LCS Client ID: ZZZZZ	SampType: LCS Batch ID: R14450		ode: <b>TO-15</b> tNo: <b>TO-15</b>	Units: ppbv		Prep Da		RunNo: 14450			
Analyte	D					Analysis Dat	ie: 10/31/2007	SeqNo: 208	8426		
Chloroethane	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref V	/al %RPD	RPDLimit	Qua	
Chloroform	20.01	0.50	20	0	100	50	150				
Chloromethane	18.41	0.50	20	0	92.0	50	150				
	21.39	0.50	20	0	107	50	150				
cis~1,2-dichloroethene	19.99	0.50	20	Ď	100	50	150				
cis-1,3-Dichloropropene	21.48	0.50	20	0	107	50	150				
Dibromochloromethane	20.64	0.50	20	0	103	50					
Ethyl Acetate	19.88	0.50	20	0	99.4		150				
Ethyl Benzene	20.66	0.50	20	0	103	50	150				
Freon 113	20.76	0.50	20	0	103	50	150				
Hexachlorobutadiene	17.99	0.50	20	0		50	150				
Hexane	19.37	1.0	20	0	90.0	50	150				
sopropanol	18.70	4.0	20	0	96.8	50	150				
n,p-Xylene	41.94	0.50	20 40	0	93.5	50	150				
Methylene Chloride	20.72	1.0	40 20	-	105	50	150				
MTBE	20.29	0.50	20	2.84	89.4	50	150			в	
Naphthalene	18.37	5.0	20	0	101	50	150				
)-xylene	20.77	0.50	20	0	91.8	50	150				
Styrene	20.71	0.50		0	104	50	150				
etrachloroethene	20.99	0.50	20	0	104	50	150				
oluene	21.30	0.50	20	0.42	103	50	150				
rans-1,2-Dichloroethene	19.10	0.50	20	D	106	50	150				
richloroethene	21.20		20	D	95.5	50	150				
richlorofluoromethane	20.53	0.50	20	0	106	50	150				
finyl Acetate	18.03	0.50 0.50	20	0	103	50	150				
inyl Chloride	20.20		20	0	90.2	50	150				
Surr: 4-Bromofluorobenzene	20.20	0.50	20	0	101	50	150				
	20.01	0	20	D	104	50	150				
ample ID LCSD	SampType: LCSD	TestCod	e: TO-15	Units: ppbv		Data Di 1					
lient ID: ZZZZZ	Batch ID: R14450	TestNo: TO-15		ound hhna		Prep Date:		RunNo: 1445	0		
		ICSUV	0. 10-15		A	nalysis Date:	10/31/2007	SeqNo: 2084	27		
nalyte	Result	PQL	SPK value	SPK Ref Val	%REC	Lowl imit	lighLimit RPD Ref Val		RPDLimit	Qual	

Value above quantitation range E

Holding times for preparation or analysis exceeded Н

Analyte detected below quantitation limits J Analyte detected period quantum control limits Spike Recovery outside accepted recovery limits Page 4 of 6 S

ND Not Detected at the Reporting Limit

RPD outside accepted recovery limits R

0-

## ANALYTICAL QC SUMMARY REPORT

BatchID: R14450

	SampType:		TestCo	de: TO-15	Units: ppbv	· · · · · · · · · · · · · · · · · · ·	Prep Da	te: 10/31/;	2007	RunNo: 14	450	
Client ID: ZZZZZ	Batch ID:	R14450	Testl	No: T <b>O-15</b>			Analysis Da			SeqNo: 208427		
Anaiyte		Resuit	PQL	SPK value	SPK Ref Val	%REC	LowLimit		RPD Ref Val			
1,1 - Dichloroethene		19,54	0.50	20	0				RPD Rei Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane		22.09	0.50	20	0	97.7	50	150	18.65	4.66	30	
1,1,1-Trichloroethane		20,12	0.50	20		110	50	150	22.02	0.317	30	
1,1,2,2-Tetrachloroethane		20.37	0.50	20	0	101	50	150	19.94	0.899	30	
1,1,2-Trichloroethane		20.63	0.50	20	_	102	50	150	19.81	2.79	30	
1,1-Dichloroethane		19.67	0.50	20	0	103	50	150	20.71	0.387	30	
1,2,4-Trichlorobenzene		18.11	0.50	20 20	D	98.4	50	150	19.54	0.663	30	
1,2,4-Trimethylbenzene		20.51	0.50		D	90.6	50	150	18.42	1.70	30	
1,2-Dibromoethane(Ethylene dibrom	ide	19.69	0.50	20	0	103	50	150	20.59	0.389	30	
,2-Dichlorobenzene		19.97	0.50	20	0	98.4	50	150	20.2	2.56	30	
,2-Dichloroethane		21.92	0.50	20	Û	99.8	50	150	19.82	0.754	30	
,2-Dichloropropane		21.86		20	D	110	50	150	21.75	0.779	30	
,2-dichlorotetrafluoroethane(F114)		25.64	0.50	20	Ð	109	50	150	22.37	2.31	30	
,3,5-Trimethylbenzene		21.42	0.50	20	0	128	50	150	26.83	4.54	30	
,3-Butadiene		20.99	0.50	20	0	107	50	150	21.38	0.187	30	
,3-Dichlorobenzene		20.99 19.88	0.50	20	0	105	50	150	20.73	1.25	30	
,4-Dichlorobenzene		19.88	0.50	20	0	99.4	50	150	19.87	0.0503	30	
.4-Dioxane		24.06	0.50	20	0	99.4	50	150	19.87	0.0503	30	
-Butanone (MEK)			0.50	20	0	120	50	150	23.67	1.63	30	
-Hexanone		21.39	0.50	20	0	107	50	150	20.61	3.71	30	
Ethyl Toluene		22.20	0.50	20	0	111	50	150	21.32	4,04	30	
Methyl-2-Pentanone (MIBK)		21.11	0.50	20	0	106	50	150	21.04	0.332		
cetone		21.65	0.50	20	0	108	50	150	22.53	3.98	30	
enzene		22.74	4.0	20	0	114	50	150	22.49	J.96 1.11	30	
enzyi Chloride		20.19	0.50	20	0	101	50	150	19.64	2.76	30	
romodichloromethane		19.92	0.50	20	0	99.6	50	150	20.18		30	
omoform		21.19	0.50	20	D	106	50	150	21.42	1.30	30	
omomethane		21.32	0.50	20	0	107	50	150	21.42	1.08	30	
arbon Disulfide		19.12	0.50	20	0	95. <b>6</b>	50	150		0.564	30	
		20.23	0.50	20	0	101	50	150	19.08	0.209	30	
arbon Tetrachloride		18.87	0.50	20	0	94,4	50 50		19.45	3.93	30	
lorobenzene	:	21.90	0.50	20	0	110	50 50	150 150	18.78 21.68	0.478 1.01	30	

Qualifiers:

Value above quantitation range Е

Holding times for preparation or analysis exceeded Н

Analyte detected below quantitation limits J

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

Analyte detected below quantum of the second provided accepted recovery limits Spike Recovery outside accepted recovery limits Page 5 of 6 S

# ANALYTICAL QC SUMMARY REPORT

BatchID: R14450

Sample ID LCSD	SampType:	LCSD	Terto							R14450		
Client ID: ZZZZZ	Batch ID:		TestCode: TO-15 TestNo: TO-15		Units: ppbv		Prep Date	: 10/31/2	2007	RunNo: 14450 SeqNo: 208427		
A	Editor ID.	1114400					Analysis Date	: 10/31/2	2007			
Anaiyte		Result	PQL	SPK value	SPK Ref Val	%REC	loudin-te t				842/	
Chloroethane		19.30	0.50	20	······			-lighLimit	RPD Ref Val	%RPD	RPDLimit	Qu
Chloroform		19.39	0.50		0	96.5	50	150	20.01	3.61	30	
Chioromethane		21.95	0.50	20	0	97.D	50	150	18.41	5.19		
is-1,2-dichloroethene		19.83	0.50	20	0	110	50	150	21.39	2.58	30	
is-1,3-Dichloropropene		21.18	0.50	20	0	99.2	50	150	19.99	0.804	30	
libromochloromethane		19.95	0.50	20	0	106	50	150	21,48	1,41	30	
thyi Acetate		20.86	0.50	20	D	99.8	50	150	20.64	3.40	30	
thyl Benzene		20.62	0.50	20	0	104	50	150	19,88	3.40 4.81	30	
reon 113		21.54	0.50	20	0	103	50	150	20.66	4.87 0.194	30	
lexachlorobutadiene		18.04	0.50	20	D	108	50	150	20.76	3.69	30	
lexane		20.01	1.0	20	0	90.2	50	150	17.99	0.278	30	
opropanol		17.50	4.0	20	0	100	50	150	19.37		30	
I,p-Xylene		42.10	4.0 0.50	20	0	87.5	50	15D	18.7	3.25	30	
ethylene Chloride		20.77		40	0	105	50	150	41.94	6.63	30	
TBE		20.94	1.0	20	2.84	89.7	50	150	20.72	0.381	30	
aphthalene		17.98	0.50	20	D	105	50	150	20.72	0.241	30	в
xylene		20.93	5.0	20	0	89.9	50	150	18.37	3.15	30	
yrene		20.93 20.70	0.50	20	0	105	50	150	20.77	2.15	30	
trachloroethene		20.70 21.51	0.50	20	O	104	50	150	20.77	0.767	30	
luene		21.51	0.50	20	0.42	105	50	150	20.71	0.0483	30	
ins-1,2-Dichloroethene		21.40 19.37	0.50	20	0	107	50	150	20.99	2.45	30	
ichloroethene		21.05	0.50	20	0	96.8	50	150	21.3 19.1	0.468	30	
chlorofluoromethane		20.74	0.50	20	0	105	50	150	21.2	1.40	30	
nyl Acetate		20.74 18.50	0.50	20	0	104	50	150		0.710	30	
vi Chioride			0.50	20	0	92.5	50	150	20.53	1.02	30	
Surr: 4-Bromofluorobenzene		18.62	0.50	20	0	93.1	50	150	18.03	2.57	30	
	Å	20.73	0	20	0	104	50	150	20.2	8.14	30	
								100	0	0	30	

Qualifiers: Е

Value above quantitation range

ND Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded Η R RPD outside accepted recovery limits

Ĵ Analyte detected below quantitation limits

Analyte detected below quantum of the second provided recovery limits Spike Recovery outside accepted recovery limits Page 6 of 6 S

ARENI LABORAIOHY, INC. 483 Sinclair Frontage Road, Milpitas, CA 95035

瓜

## **CHAIN OF CUSTODY**

LAB WORK ORDER NO

Phone: 408.263.5256 www.torrentlab.com	8 • FAX: 408,263.8293 n	•		NOTE: SI	ADED	AREA	SARE	FOR:	ÖRRE	VT LAB	USE ON	cy.)	0710213
Company Name: TRINITY S	BURCE GROUP	Inc	·							c Au			
Address: 500 Checty	•	Ste?	225	Pur	pose:		· · · · ·	<u>17 P</u>	acifi	c Au	e, A	lamea	2
City: Santa Cruz	SO Spe	D Special Instructions / Comments:											
Telephone: 831-426-56	05AX: 426-5		s										· · · · · · · · · · · · · · · · · · ·
REPORT TO: DAVE REINSM		AN B	ifit	- P.O	.#:	102	001	< 0	AU		d .	<u> </u>	
	REPOR	P.O. #: 103.005.004 EMAIL: dar@tsgco.p. Act REPORT FORMAT: ANALYSIS REQUESTED											
10 Working Days       3 Working Da         7 Working Days       2 Working Da         5 Working Days       24 Hours	ws 🗖 Other	Vaste Water Ground Water	Other			4	Jan y	ALL AND		NALYS			77
CLIENT'S SAMPLE LD.	DATE/TIME SAMPLED	SAMPLE TYPE	# OF CONT	CONT TYPE	-/x	3/15	\$7				./ /		TORRENT'S
1. DPT-2-STEP 1	10/31/07 1037	VAPOR	1	IL HER TEDLAR	X	X		<u>,</u>	<u> </u>	<{			SAMPLE I.D.
2 DPT-2-STCP 2	( 1130	1	1		X	X	4	· ;			;		
3. DPT-2-STEP 3	1304				X	X		3	1 . · ·				HOCD 9212
4. OPT-1-Step1	1401		V	4	X	X		2.	····		·		
5. DPT-1-STEP3	1604	4	1	I LIHR	X	X		• .	 ·				<u> </u>
6.				1 CLARK		~				<del>.</del> <u>.</u> .			
7.					· · · · · · · · · · · · · · · · · · ·								
8.	-		<u>+</u>					<del>.</del>					
9.													
10.			<u>├</u> ·	<u> </u>									
Relinquished By: Print	ti / / O Date:												
Relinquished By: Print	Relinquished By: Print: Date: Time: ABU BIRCH DATE: Time: DAW BIRCH DATE: Time: 1823 Relinquished By: Print: Date: Time:					Beceived By:					Date (0	131/07	Time: [f:23
2			Time:		Beceive	d By:	2		Print:		Date		Time:
Were Samples Received in Good Condition NOTE: Samples are discarded by the l	? Yes NO S	amples on Ice	? CYes	NO	Method	-		e	10		Sam	ple seals intact	1? Yes NO
Log in By:	Date:		a in Review	•	ments	are mad	8.		Date:	ſ		Page	+ ( jot_+_

