TRINITY
source group, inc.
Environmental Consultants

April 6, 2007
Trinity Project No. 103.003.001

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: *Soil Vapor Sampling Workplan Addendum*
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 an Addendum to Trinity's *Soil Vapor Sampling Workplan* dated May 15, 2006 for the referenced site (Figures 1 and 2). In a letter dated March 17, 2006, the Alameda County Health Care Services Agency (ACHCSA) requested submission of the subject Workplan to evaluate the potential for indoor air vapor intrusion of total volatile hydrocarbons due to the previously identified Stoddard solvent impacts to soil and groundwater beneath the site.

This Workplan Addendum was requested by the ACHCSA via email (Attachment A) to further evaluate the potential for indoor air vapor intrusion after initial testing indicated the detection of Carbon Tetrachloride and Tetra-Chloroethene beneath the building at concentrations up to 42,000 and 11,000 micrograms per cubic meter, respectively (Figure 2). The *Soil Vapor Sampling Workplan* dated May 15, 2006 includes comprehensive discussions of the site description and previous environmental investigation activities. This Workplan Addendum includes the expanded proposed scope of work, reporting, and an implementation schedule.

PROPOSED SCOPE OF WORK

In general, Trinity proposes the advancement of six additional sub-slab gas probes for the collection of soil vapor samples for laboratory analysis of stoddard solvent range total petroleum hydrocarbons (TpHss), benzene, toluene, ethyl benzene, and total xylenes (collectively BTEX), and methyl teriary butyl either (MtBE) and volatile organic compounds (VOCs).

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The following tasks detail the scope of work to complete the proposed soil vapor investigation.

Pre-Field Activities

Permitting

Prior to conducting the fieldwork, Trinity will obtain all the required permits.

Health and Safety Plan and Utility Clearance

Site safety procedures will involve the preparation of a site-specific health and safety plan identifying potential chemical and physical hazards which may be encountered during the course of field activities. All Trinity personnel involved in conducting the field activities will have met OSHA 40 Hour Hazardous Waste Operations and Emergency Response Training.

Before any drilling activity at the site, the site will cleared for underground utilities by notification of Underground Service Alert (USA), and available site plans will be reviewed.

As part of the health and safety plan, a borehole clearance review form will be completed prior to beginning work. As outlined in the health and safety plan, a communication stream will be maintained to address any and all safety and project related issues that may arise.

Soil Vapor Sampling Protocol

Preparation of Site Building for Interior Work

The 649 Pacific Avenue structure is currently being used as a paint store. Any obstructions and/or floor coverings will need to be cleared prior to initiation of drilling.

Sub-Slab Vapor Sampling

Trinity proposes to install six sub-slab soil gas probes (VS-4 through VS-9) at the locations shown on Figure 2. Soil gas samples will be collected from these six probes, and one existing probe VS-3. All but one of the probe locations are inside the active business; therefore, the work will be conducted on Sunday when the business is closed.

The six sub-slab soil gas probes will be installed to float in the concrete slab and asphalt parking area. The installation procedure will be consistent with that described by USEPA[1], sampling and analysis procedures will generally follow the guidelines contained in San Mateo County's "Using a Geoprobe to Collect Subsurface Vapor Samples for Human Health Risk Evaluation" (GPP

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[1] 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.

Guidelines, Draft GPP Staff Guidance updated 3/9/06)[2], 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[3].

The proposed installation and soil gas sample collection procedures are summarized below:

Previous investigation has 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 will be drilled to a depth of approximately 3 inches using a rotary drill or equivalent equipment. Assuming that the hole does not penetrate the slab, the hole will be vacuumed out to remove cuttings. The drill bit will then be changed to 5/16-inch, and the hole will be advanced approximately an additional 2 inches through the slab and into the underlying sub-slab material. The sub-slab soil gas probe will be assembled using a 2-inch long by ¼-inch inner-diameter (ID) stainless steel tube attached to an NPT ¼-inch ID brass or stainless steel threaded fitting and Swagelok cap or plug. This assembly will be placed into the drilled hole, and grouted into place using non-shrink, quick-setting cement. The cement installation will be recessed so that the plug will be accessible. The top of the plug will be set flush with the top of the concrete slab. A schematic diagram of the sub-slab probe is presented on Figure 3.

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

Mobilization for sub-slab sampling will not occur if measurable precipitation or site irrigation near the sampling location has occurred in the previous 5 days.

Sampling Set-up: Prior to sampling, the plug on the soil gas probe will be removed and quickly replaced with a closed Swagelok valve. A tee fitting is connected to two one-liter Summa canisters with a pressure gauge installed on top of each of these fittings. Trinity recommends the use of one-liter canisters for this application, in order to collect a sub-slab sample that is most representative of the local area penetrated. Considering that the sub-slab sand layer is only approximately 2 inches thick, use of a one-liter canister will result in a more localized sample than if a larger canister were used.

The two Summa canisters will be connected by 1 to 2 feet of tubing and a third tee fitting. The vacuum reading on each canister will be confirmed and recorded before proceeding. The vacuum reading is expected to be 30 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 will be installed. On the downhole side of the particulate filter, a vapor-tight

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[2] San Mateo County (2006), Using a Geoprobe to Collect Subsurface Vapor Samples for Human Health Risk Evaluation (GPP Guidelines).

[3] California Environmental Protection Agency, Department of Toxic Substances Control (2003), Advisory – Active Soil Gas Investigations.

valve will be installed to connect the sampling equipment with the probe tube. A schematic drawing of the sub-slab soil gas sampling set-up is shown on Figure 4.

Leak Testing: A vacuum test will be 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. Further work will be terminated if gauge vacuum cannot be maintained for 10 minutes.

Additional leak testing will be performed during the soil gas sampling by placing a shroud over the sampling assembly, and maintaining an isopropyl-alcohol-enriched atmosphere under the shroud. The shroud will be emplaced after purging the vapor probe, but before the sample is collected. Isopropyl alcohol will be applied to a cotton ball, and the cotton ball will be placed under the shroud. A photoionization detector (PID) will be used to monitor the atmosphere beneath the shroud.

Purging: If the vacuum test is successful, purging will begin. The purge canister valve and the valve on the downhole side of the particulate filter will be opened and the time will be recorded. The purge canister valve will be closed after three volumes of air have been purged from the sample apparatus and borehole. The purge volume will be calculated based on the internal volume of the tubing and probe apparatus. The amount of air purged will be measured based on the time that the flow-control orifice is 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 is terminated will be recorded.

Soil Gas Sampling: Following purging, the sample Summa canister valve will be opened to begin sample collection. The time at which sample collection begins will be recorded.

The flow-control orifice will be maintained at 100 ml/min, and will be kept open until the sample Summa canister pressure gauge indicates approximately 5 inches Hg. The pressure drop from 30 inches Hg to 5 inches Hg is expected to take about 9.5 minutes at 100 ml/min flow rate in a one-liter canister. At that point, the sample canister valve will be closed and the time recorded. The tee fitting on the sample canister will be replaced with a laboratory supplied brass plug.

The sample canister will be 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 will be stored in a container that blocks sunlight to the opaque canister and does not subject the air-tight canister to changes in pressure and temperature. The sample canisters will be delivered to the analytical laboratory via ground transportation under chain-of-custody documentation.

Abandonment of Sub-Slab Venting Probes: The sub-slab vapor probes will be left in place until site data indicates that they are no longer needed. After that time, the probes will be abandoned. To abandon the probes, a roto-hammer will be used to core the grout around the

probe assembly. The assembly will be removed from the hole, and the hole will be filled with non-shrinking, quick-setting grout to match finish grade.

Laboratory Analysis

Analysis of Soil Gas Samples: Soil gas samples will be submitted to a California Certified analytical laboratory for analysis by the following EPA test methods:

- Modified EPA Method TO-15 by GC/MS Full Scan for Volatile Organic Compounds including BTEX and MtBE.
- Modified EPA Method TO-3 by GC/FID for TpHss
- Oxygen, carbon dioxide, and methane by GC/ TCD and compared to atmospheric concentrations as a quality control.
- Isopropyl alcohol by EPA Method TO-14 with a requested 0.1 micrograms per liter reporting limit to verify that no leaks were present in the sampling apparatus.

All analyses will be conducted by California State-certified laboratory. All Summa canisters will be analyzed within 14 days of collection.

REPORTING

After completion of the field work and receipt of all analytical data, Trinity will prepare a comprehensive report of the activities and findings. The report will include boring logs, analytical data, maps showing sample locations, comparison of the soil vapor sampling results with Environmental Screening Levels (ESLs)[4] and recommendations for future site compliance and/or closure activities.

SCHEDULE

Trinity will begin the above scope of work immediately following the approval of this Workplan Addendum by the ACHCSA. Installation of the six sub-slab gas probes has been tentatively scheduled for Sunday April 29, 2007. Sub-slab probe sampling work will begin approximately one week later on May 6, 2007. Allowing for routine laboratory turnaround, the analytical results should be available within approximately two weeks. After receiving the analytical data, Trinity will submit our report to ACHCSA within four weeks.

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[4] California Environmental Protection Agency, California Regional Water Quality Control Board, San Francisco Bay Region (2005), INTERIM FINAL – Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater.

DISTRIBUTION

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

Mr. Don Lindsey
Timber Del Properties, L.L.C.
2424 Central Avenue
Alameda, California 94501

Mr. Mark Russel
The Mechanics Bank
343 Sansome Street, Suite 101
San Francisco, California 94101

Mr. Carl Searway
3032 Dakota Street
Alameda, California 94501

If you have any questions regarding this Workplan Addendum, please call Trinity at (831) 685-1217.

Sincerely,

TRINITY SOURCE GROUP, INC.

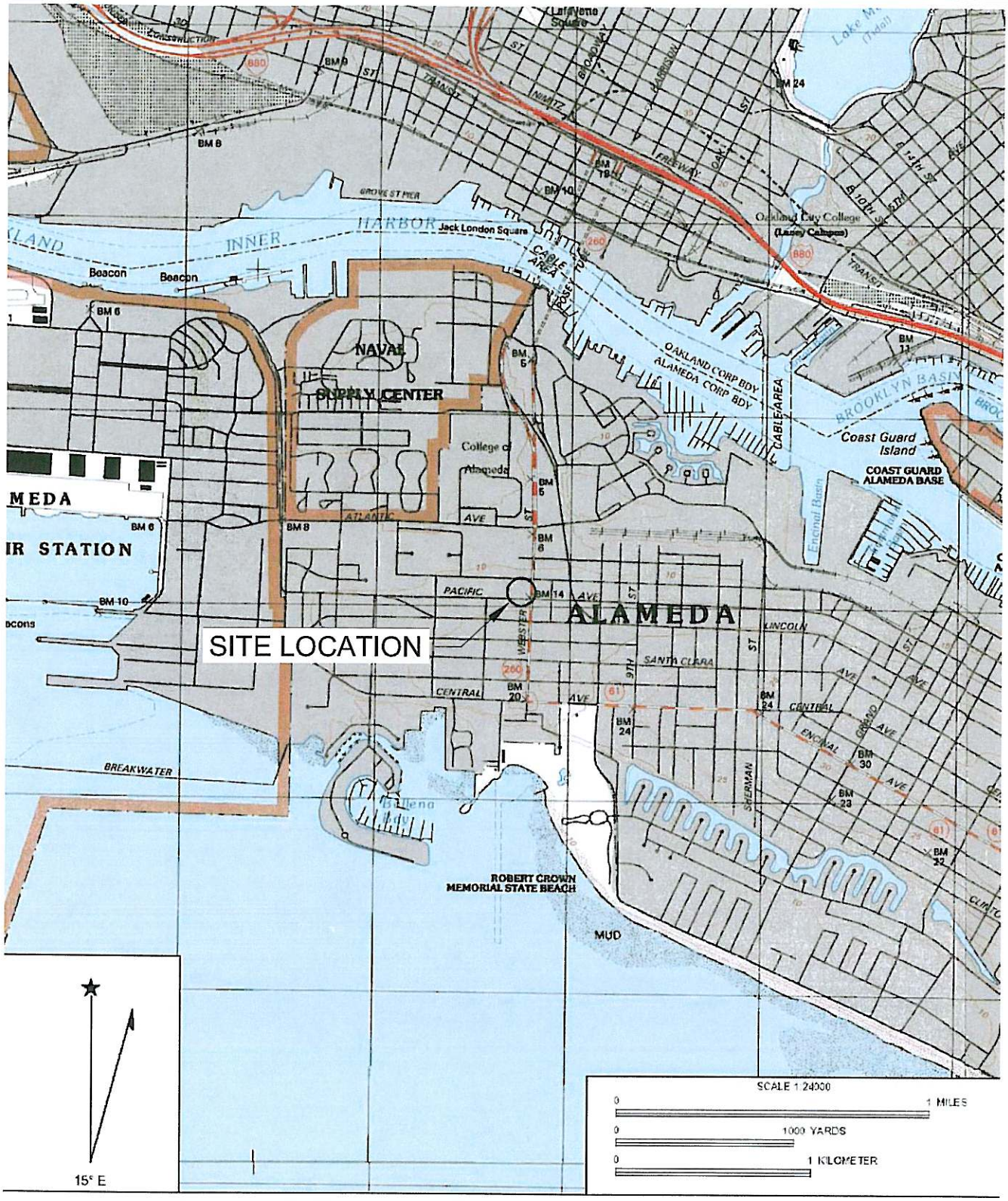
David A. Reinsma, P.G.
President and Principal Geologist

for Daniel J. Birch
Project Geologist

Attachments
Figure 1 – Site Location Map
Figure 2 – Soil Vapor Sampling Analytical Results and Proposed Sub-Slab Soil Vapor Probe Locations Map
Figure 3 – General Schematic of a Sub-Slab Soil Gas Probe
Figure 4 – Subsurface Soil Gas Sampling Equipment Schematic

Appendices
Appendix A – ACHCSA e-mail Correspondence

FIGURES



Name: OAKLAND WEST
Date: 5/4/2006

Location: 037° 46' 34.86" N 122° 16' 37.65" W NAD 27
Caption: San Francisco Bay, Oakland West Quadrangle - 1:24,000

REF. 103_002\SLM.DWG
BASEMAP FROM MAPTECH, INC.

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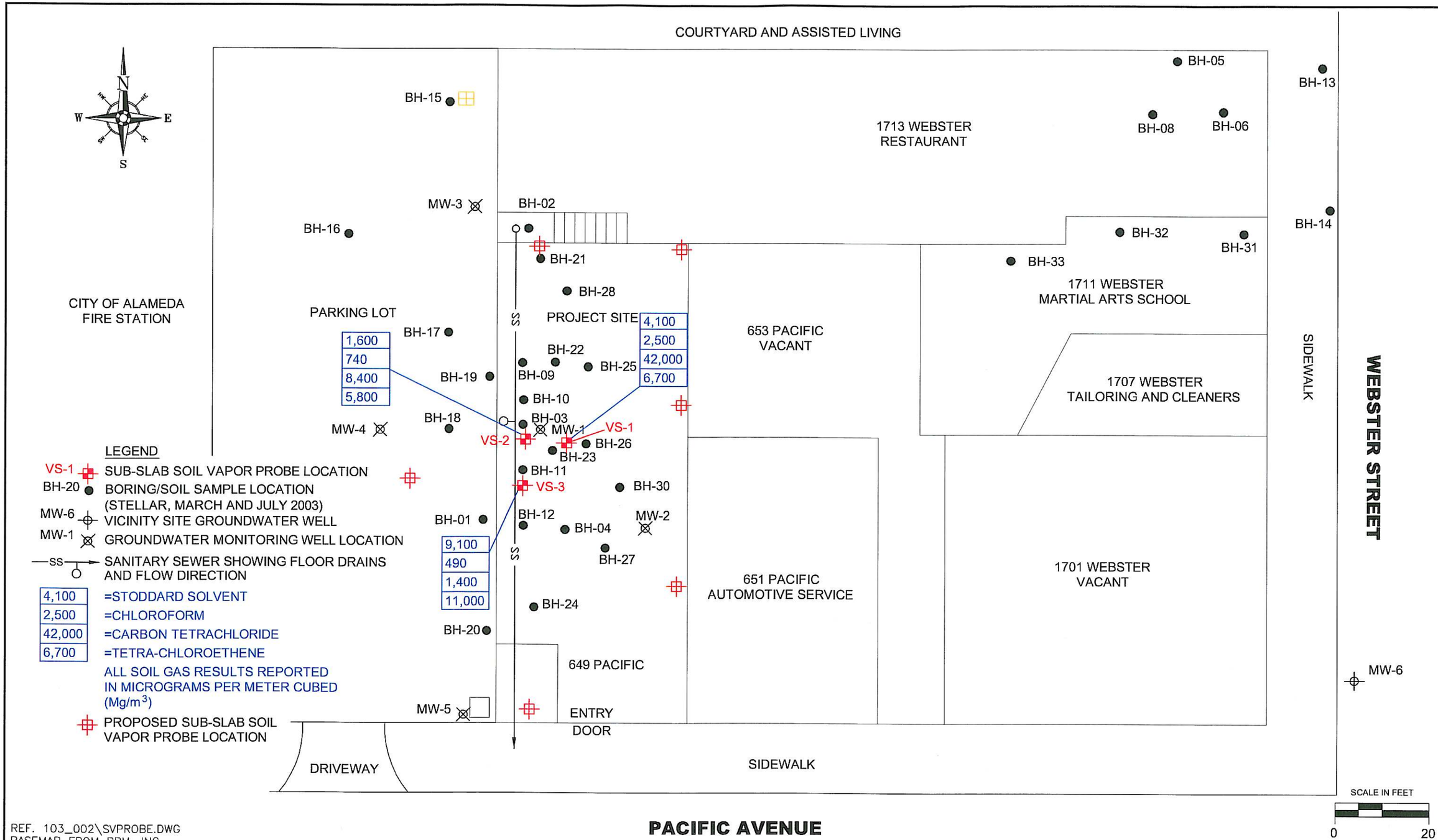
SITE LOCATION MAP

Searway Property
649 Pacific Avenue
Alameda, California

PROJECT:
103.002.001

FIGURE:
1



REF. 103_002\SVPROBE.DWG
BASEMAP FROM RRM, INC.

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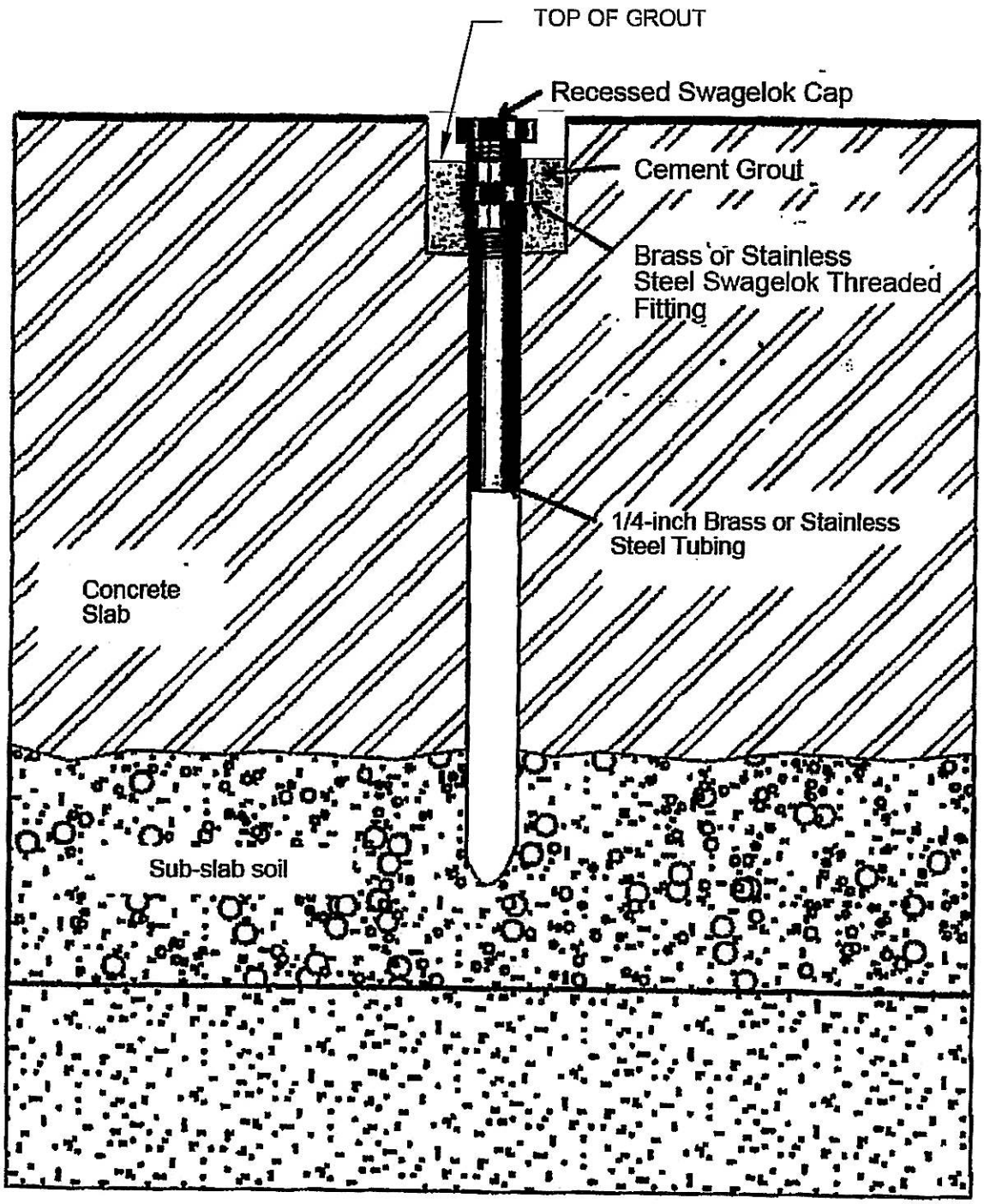
SOIL VAPOR SAMPLING ANALYTICAL RESULTS AND PROPOSED SUB-SLAB SOIL VAPOR PROBE LOCATION MAP

Searway Property
649 Pacific Avenue
Alameda, California

PROJECT: 103.003.001

FIGURE: 2



NOT TO SCALE

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GENERAL SCHEMATIC OF A SUB-SLAB SOIL GAS PROBE

Searway Property
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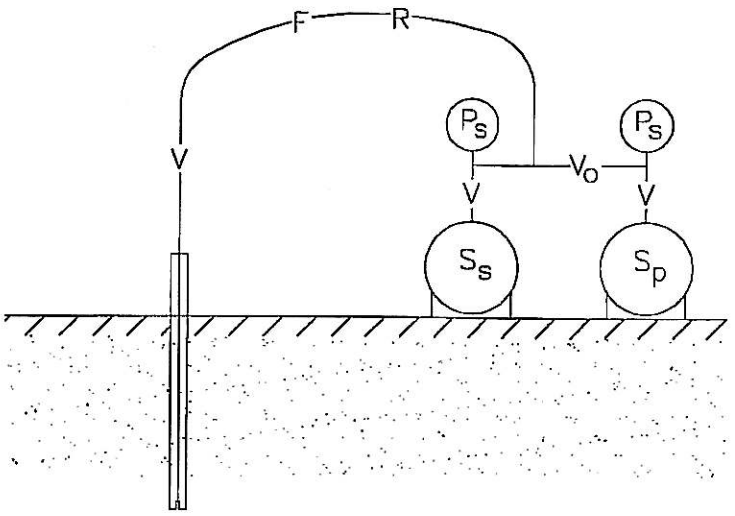
PROJECT: 103.003.001

FIGURE: 3

SCHEMATIC OF SUBSURFACE SOIL GAS SAMPLING SET-UP

V = VALVE
Vo = OPTIONAL VALVE
P = PRESSURE GAUGE
Ss = SAMPLE SUMMA CANISTER
Sp = PURGE SUMMA CANISTER
R = FLOW REGULATOR
F = FILTER



* USE SWAGELOK FITTINGS ON ALL CONNECTIONS

** ASSEMBLE SAMPLE APPARATUS AND LEAK TEST PRIOR TO MOBILIZING TO FIELD

NOT TO SCALE

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SUBSURFACE SOIL GAS SAMPLING EQUIPMENT SCHEMATIC

Searway Property
649 Pacific Avenue
Alameda, California

PROJECT: 103.003.001

FIGURE: 4

APPENDIX A
ACHCSA E-MAIL CORRESPONDANCE

David Reinsma

From: Wickham, Jerry, Env. Health [jerry.wickham@acgov.org]
Sent: Friday, March 16, 2007 5:07 PM
To: David Reinsma
Subject: RE: 649 Pacific Avenue, Alameda, CA

David,

The proposed sub slab soil vapor sampling locations are acceptable; however, we request that one sampling location be added in the northeastern corner of the 649 Pacific space. The soil gas sampling report, which was requested in our correspondence dated May 19, 2006, is overdue by several months. Based on the preliminary soil vapor sampling results, we request that you make completion of the soil vapor sampling and report a priority.

Regards,
Jerry Wickham
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
510-567-6791 phone
510-337-9335 fax
jerry.wickham@acgov.org

From: David Reinsma [mailto:dar@tsgcorp.net]
Sent: Friday, March 16, 2007 4:15 PM
To: Wickham, Jerry, Env. Health
Subject: 649 Pacific Avenue, Alameda, CA

Jerry,

Thanks for the phone call today regarding the additional soil gas sampling step-out we need to do at the subject site. I appreciate your patience on this next scope of work. I'll give my client a phone call today and let him know that we need to perform this additional scope of work and finalize our report sooner than later.

Attached is a figure showing additional proposed sub-slab soil vapor probe locations for your review. If you want to change the location or number of proposed probes, please give me a call to discuss.

Thank you,

David

David A. Reinsma
President, and Principal Geologist

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