

## Detterman, Mark, Env. Health

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**From:** Bill Dugan WellTest, Inc. [dugan@welltest.biz]  
**Sent:** Monday, February 08, 2016 6:02 PM  
**To:** peerlessace@gmail.com  
**Cc:** Detterman, Mark, Env. Health  
**Subject:** Results of Vapor Intrusion Sampling at the Former Four Seasons Cleaners  
**Attachments:** Four Seasons Cleaners - Case # RO0003155 -- Air Sample Results Letter -- 02-08-2016.pdf

Peerless Building Supplies LLC:

Attached is a notification letter summarizing the results of recent soil vapor intrusion sampling work completed within the former dry cleaning unit adjacent to your suite. This letter was prepared at the request of the Alameda County Department Environmental Health staff. Please contact me if you have any comments or questions.

Thank you.

Bill Dugan, PG



*Contractor License No. 843074*

Tel. (408) 287-2175

Fax (408) 287-2176

E-Mail: [dugan@welltest.biz](mailto:dugan@welltest.biz)

Mail: P.O. Box 8548, San Jose, CA 95155

Shop/Yard: 595-B Emory Street, San Jose, CA 95110

February 8, 2016

**Re: Air Sampling Results Notification (Letter #5028)**  
Four Seasons Cleaners – Case # RO0003155  
13778 Doolittle Ave., San Leandro, California

To Occupants of Adjacent Suites to the Former Four Seasons Cleaners:

Under the direction of the Alameda County Environmental Health Department (ACEH), Mr. Ernie Lee the owner of the Marina Faire Shopping Center, and WellTest, Inc. (WTI), the owner's environmental consultant, are investigating the occurrence of dry cleaning related compounds in the subsurface and indoor air at the former Four Seasons Cleaners, 13778 Doolittle Drive, San Leandro, California. On October 30, 2015 a soil gas and indoor air survey was conducted at the former dry cleaner location by WTI with oversight from the ACEH. We are writing to provide you with the results this sampling event.

The main compounds of concern (COCs) are perchloroethylene (also known as tetrachloroethylene, perc, or PCE), and trichloroethene (or TCE). Depending on the amount and duration of exposure, PCE and TCE can have adverse human health effects such as kidney and liver damage and has caused cancer in laboratory animals.

### Sampling Results

The sample results indicate that COCs were found in indoor air, outdoor air, and soil gas within the former Four Seasons Cleaners suite. Reported concentrations of PCE, TCE, and cis-1,2-dichloroethene (cis-1,2-DCE) in indoor air exceed environmental screening levels published by the San Francisco Bay Regional Water Quality Control Board (RWQCB). The concentrations of PCE and TCE significantly exceed screening levels which require immediate response actions to reduce or eliminate exposure to these chemicals. A summary of the indoor and outdoor air sampling results are presented in the Table attached to this document. Additionally, a summary of the soil gas sampling results and their respective cancer risks and health indexes are presented in the following table:

| Sample ID | Sample Date | Depth (ft bgs) | Sample Matrix | PCE ( $\mu\text{g}/\text{m}^3$ ) | Hazard Index | Cancer Risk     |
|-----------|-------------|----------------|---------------|----------------------------------|--------------|-----------------|
| SG-1A     | 10/30/15    | 5.0            | Soil Gas      | 20,000,000                       | 8.61         | <b>6.46E-04</b> |
| SG-2A     | 10/30/15    | 5.0            | Soil Gas      | 1,300,000                        | 0.560        | <b>4.20E-05</b> |
| VP-1      | 10/30/15    | subslab        | Soil Gas      | 2,900,000                        | 9.49         | <b>7.12E-04</b> |
| VP-2      | 10/30/15    | subslab        | Soil Gas      | 180,000                          | 0.589        | <b>4.42E-05</b> |
| VP-3      | 10/30/15    | subslab        | Soil Gas      | 470,000                          | 1.54         | <b>1.15E-04</b> |
| VP-4      | 10/30/15    | subslab        | Soil Gas      | 160,000                          | 0.524        | <b>3.93E-05</b> |

Notes:

Sub-slab = 0.8 ft = 0.2 m,

The Department of Toxic Substance Control (DTSC) recommends that whenever the Cancer Risk is greater than 1.0E-04 and/or the hazard index is greater than 1.0 (as exists at the subject site), a response action in the form of vapor intrusion mitigation and/or source remediation is necessary.

The full technical document prepared by WTI, which documents the sampling activities and results, can be found online at the following url:

[http://geotracker.waterboards.ca.gov/esi/uploads/geo\\_report/9022223770/T10000006425.PDF](http://geotracker.waterboards.ca.gov/esi/uploads/geo_report/9022223770/T10000006425.PDF)

### **What actions are being taken to resolve the problem?**

ACEH has notified the building owner, Mr. Ernie Lee, and occupants about the problem so that they are aware of potential health risks.

There are means of reducing the concentrations of the chemicals in indoor air and preventing the subsurface chemicals from migrating into the building. Increasing the air flow in the building (outdoor air intake with fans) can reduce the concentrations of contaminants indoors, and pressurizing the building (Heating and Ventilation System modifications) can help prevent toxic subsurface vapors from migrating inside. Currently, the property owner is determining the quickest method to increase the air flow indoors. Additionally, a low pressure barrier may also be created beneath the building to prevent vapor migration from below, but this will take time. Concurrently, WTI is continuing its investigation of the solvent contamination at the site to obtain the environmental information needed for developing short and long term solutions to the problem(s). WTI, the ACEH, and the property owner will continue to work closely together and with the tenants to ensure that your health is protected.

### **Project Contacts**

Thank you for your participation in this study. If you have any questions regarding this letter or any other aspect of the study please do not hesitate to contact any of the following:

Mr. Bill Dugan  
WellTest, Inc.  
PO Box 8548  
San Jose, CA 95155  
(408) 460-1884  
[dugan@welltest.biz](mailto:dugan@welltest.biz)

Mr. Mark Detterman  
Senior Hazardous Materials Specialist  
Alameda County of Environmental Health  
1131 Harbor Bay Parkway  
Alameda, California 94502  
(510) 567-6876  
[mark.detterman@acgov.org](mailto:mark.detterman@acgov.org)

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## Tables and Figures

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**TABLE 1**  
**SUMMARY OF HISTORICAL SOIL VAPOR ANALYTICAL DATA**  
**13778 DOOLITTLE DRIVE, SAN LEANDRO, CA**

| Sample ID     | Sample Depth (ft) | Sample Date | B<br>( $\mu\text{g}/\text{m}^3$ ) | T<br>( $\mu\text{g}/\text{m}^3$ ) | E<br>( $\mu\text{g}/\text{m}^3$ ) | o-Xyl<br>( $\mu\text{g}/\text{m}^3$ ) | p&m-Xyl<br>( $\mu\text{g}/\text{m}^3$ ) | PCE<br>( $\mu\text{g}/\text{m}^3$ ) | TCE<br>( $\mu\text{g}/\text{m}^3$ ) | cis-1,2DCE<br>( $\mu\text{g}/\text{m}^3$ ) | VC<br>( $\mu\text{g}/\text{m}^3$ ) | IPA<br>( $\mu\text{g}/\text{m}^3$ ) |
|---------------|-------------------|-------------|-----------------------------------|-----------------------------------|-----------------------------------|---------------------------------------|---|-------------------------------------|-------------------------------------|--|------------------------------------|-------------------------------------|
| <b>S1 Air</b> | 0.5               | 08/10/14    | ND                                | ND                                | ND                                | ND                                    | ND                                      | <b>63,000</b>                       | <b>890</b>                          | ND<320                                     | ND<210                             | NA                                  |
| <b>S2 Air</b> | 0.5               | 08/10/14    | ND                                | ND                                | ND                                | ND                                    | ND                                      | <b>240,000</b>                      | <b>16,000</b>                       | ND<960                                     | ND<620                             | NA                                  |
| <b>S3 Air</b> | 0.5               | 08/10/14    | ND                                | ND                                | ND                                | ND                                    | ND                                      | <b>4,500,000</b>                    | <b>92,000</b>                       | ND<20,000                                  | ND<13,000                          | NA                                  |
| <b>SG-1A</b>  | 5.0               | 10/30/15    | <b>590</b>                        | <b>1,800</b>                      | ND<43                             | ND<38                                 | ND<94                                   | <b>20,000,000</b>                   | <b>810,000</b>                      | <b>170,000</b>                             | ND<75                              | <b>3,900</b>                        |
| <b>SG-2A</b>  | 5.0               | 10/30/15    | ND<67                             | ND<51                             | ND<45                             | ND<40                                 | ND<98                                   | <b>1,300,000</b>                    | <b>180,000</b>                      | <b>50,000</b>                              | ND<78                              | ND<75                               |
| <b>VP-1</b>   | subslab           | 10/30/15    | ND<69                             | ND<52                             | ND<46                             | ND<41                                 | ND<100                                  | <b>2,900,000</b>                    | <b>140,000</b>                      | <b>18,000</b>                              | ND<80                              | ND<77                               |
| <b>VP-2</b>   | subslab           | 10/30/15    | ND<63                             | ND<48                             | ND<42                             | ND<38                                 | ND<92                                   | <b>180,000</b>                      | <b>12,000</b>                       | <b>220</b>                                 | ND<74                              | <b>370,000</b>                      |
| <b>VP-3</b>   | subslab           | 10/30/15    | ND<63                             | ND<48                             | ND<42                             | ND<38                                 | ND<92                                   | <b>470,000</b>                      | <b>5,400</b>                        | ND<58                                      | ND<74                              | ND<71                               |
| <b>VP-4</b>   | subslab           | 10/30/15    | ND<56                             | ND<43                             | ND<38                             | ND<34                                 | ND<83                                   | <b>160,000</b>                      | <b>7,300</b>                        | <b>200</b>                                 | ND<66                              | <b>27,000</b>                       |

--- = Parameter not analyzed

<0.5 / ND = Not present at or above reporting detection limit

$\mu\text{g}/\text{m}^3$  = micrograms per cubic meter = ppmv

ESLs = Environmental Screening Levels, May 2013

CHHSL Comm/Ind. = California Human Health Screening Level, January 2005

B = Benzene

T = Toluene

E = Ethylbenzene

Xyl = Xylenes

MtBE = Methyl-t-butyl ether

PCE = Tetrachloroethene

TCE = Trichloroethene

VC = Vinyl Chloride

cis-1,2DCE = cis-1,2-Dichloroethene

IPA = Isopropyl Alcohol

**TABLE 2**  
**SUMMARY OF CURRENT INDOOR & OUTDOOR AIR ANALYTICAL DATA**  
**13778 DOOLITTLE DRIVE, SAN LEANDRO, CA**

| Sample ID             | Sample Date | B<br>( $\mu\text{g}/\text{m}^3$ ) | T<br>( $\mu\text{g}/\text{m}^3$ ) | E<br>( $\mu\text{g}/\text{m}^3$ ) | o-Xyl<br>( $\mu\text{g}/\text{m}^3$ ) | p&m-Xyl<br>( $\mu\text{g}/\text{m}^3$ ) | PCE<br>( $\mu\text{g}/\text{m}^3$ ) | TCE<br>( $\mu\text{g}/\text{m}^3$ ) | cis-1,2DCE<br>( $\mu\text{g}/\text{m}^3$ ) | VC<br>( $\mu\text{g}/\text{m}^3$ ) | IPA<br>( $\mu\text{g}/\text{m}^3$ ) |
|-----------------------|-------------|-----------------------------------|-----------------------------------|-----------------------------------|---------------------------------------|---|-------------------------------------|-------------------------------------|--|------------------------------------|-------------------------------------|
| <b>OUT-1</b>          | 10/30/15    | ND<11                             | ND<8.6                            | ND<7.6                            | ND<6.7                                | ND<17                                   | <b>1,500</b>                        | <b>32</b>                           | ND<10                                      | ND<13                              | ND<13                               |
| <b>IND-1</b>          | 10/30/15    | ND<13                             | ND<10                             | ND<6.9                            | ND<7.9                                | ND<19                                   | <b>220</b>                          | ND<22                               | ND<12                                      | ND<15                              | ND<15                               |
| <b>IND-2</b>          | 10/30/15    | ND<12                             | ND<9.2                            | ND<8.1                            | ND<7.2                                | ND<18                                   | <b>18,000</b>                       | <b>240</b>                          | <b>49</b>                                  | ND<14                              | ND<14                               |
| <b>ESLs Comm/Ind.</b> |             | <b>0.42</b>                       | <b>1,300</b>                      | <b>4.9</b>                        | <b>440</b>                            |   | <b>2.1</b>                          | <b>3.0</b>                          | <b>NA</b>                                  | <b>0.16</b>                        | <b>NA</b>                           |

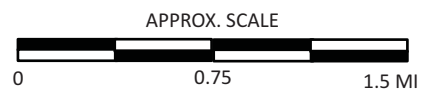
--- = Parameter not analyzed  
 <0.5 / ND = Not present at or above reporting detection limit  
 $\mu\text{g}/\text{m}^3$  = micrograms per cubic meter = ppmv  
 ESLs = Environmental Screening Levels, May 2013

B = Benzene  
 T = Toluene  
 E = Ethylbenzene  
 Xyl = Xylenes  
 MtBE = Methyl-t-butyl ether

PCE = Tetrachloroethene  
 TCE = Trichloroethene  
 VC = Vinyl Chloride  
 cis-1,2DCE = cis-1,2-Dichloroethene  
 IPA = Isopropyl Alcohol



SOURCE: USGS 1:24,000 SCALE SERIES, SAN LEANDRO QUAD



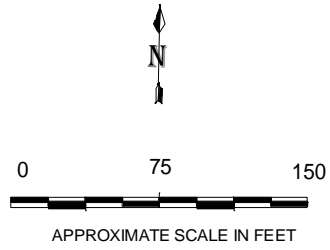
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**13778 DOOLITTLE AVE.  
SAN LEANDRO, CALIFORNIA**


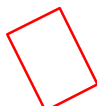

**SITE VICINITY MAP**

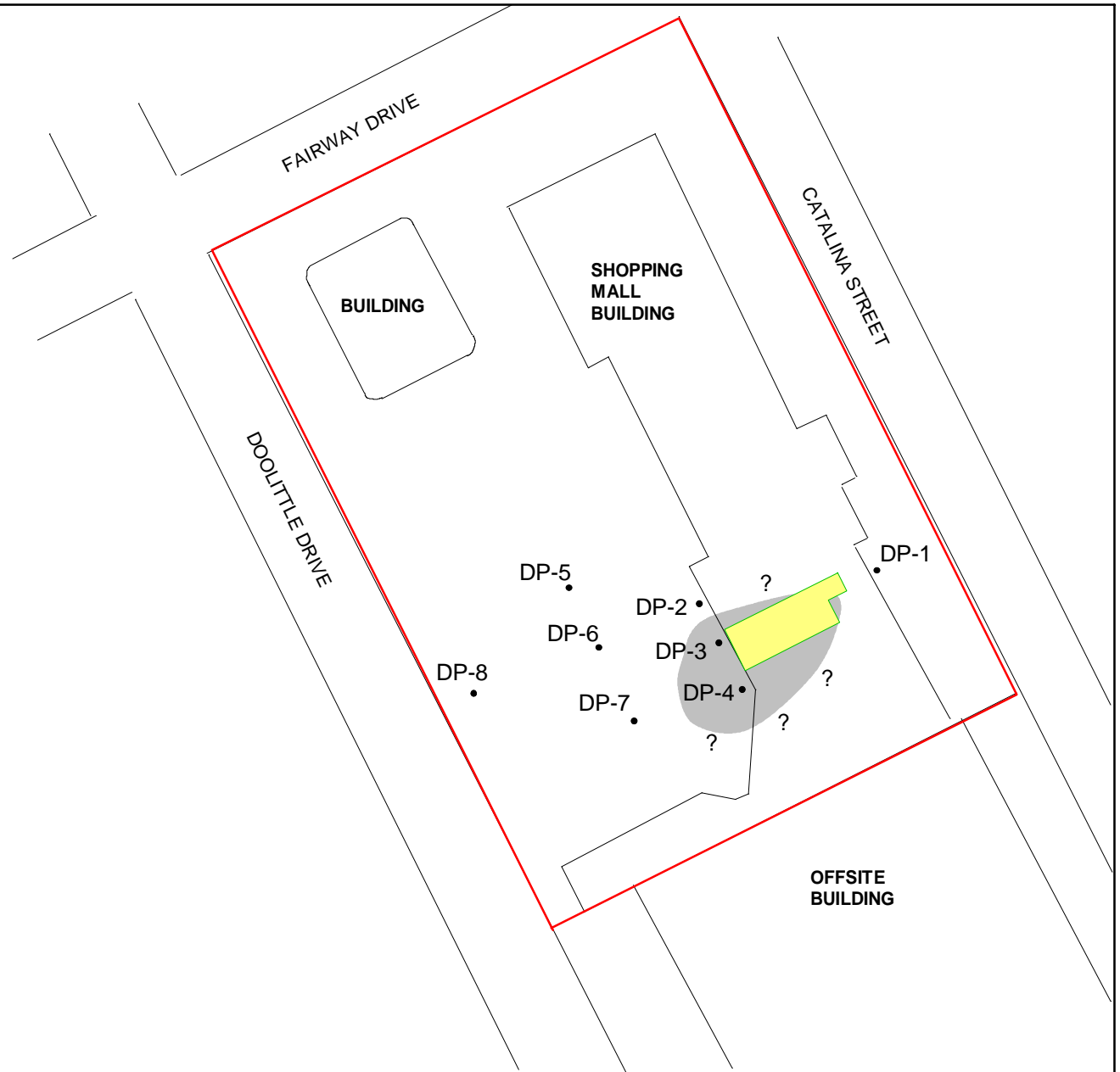
**FIGURE**

**1**



**LEGEND**

- DP-8 • EXPLORATORY BORING (02/18/15)
-  FOUR SEASONS CLEANERS
-  PARCEL 80G-931-1-5
-  PRELIMINARY ESTIMATE OF LATERAL EXTENT OF SHALLOW GROUNDWATER IMPACTED BY VOLATILE ORGANIC COMPOUNDS



ALL LOCATIONS ARE APPROXIMATE

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License No. 843074  
 P.O. Box 8548  
 San Jose, CA 95155  
 Phone (408) 287-2175

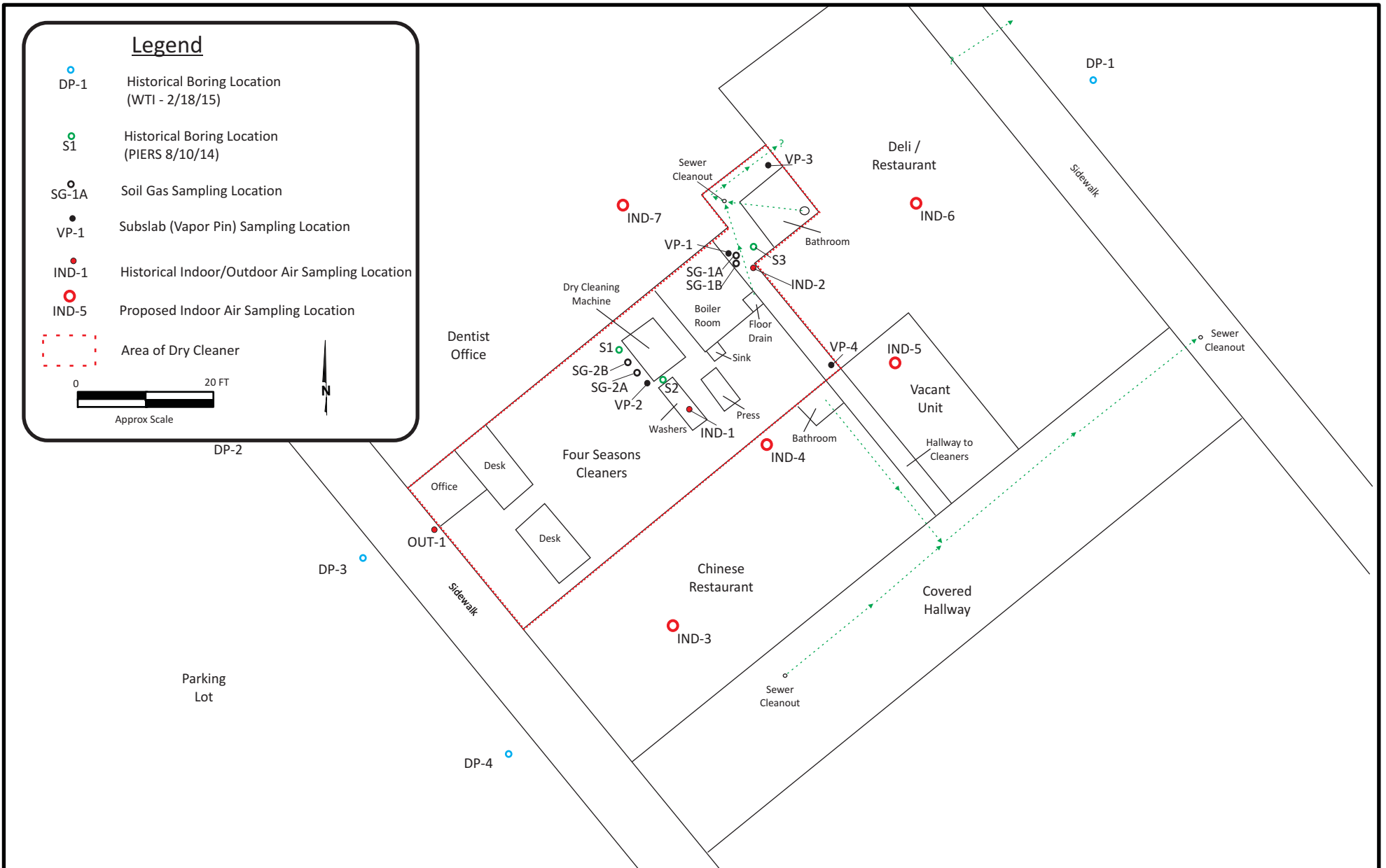
**EXTENDED SITE MAP SHOWING BORING DP-1 THROUGH DP-8 (02/18/15)**

FOUR SEASONS CLEANERS  
 13778 DOOLITTLE DRIVE  
 SAN LEANDRO, CALIFORNIA

**FIGURE**

**2**





**WellTest, Inc.**

Lic. No. 843074

PO Box 8548

San Jose, CA 95115

Phone: (408) 287-2175

13778 DOOLITTLE DRIVE  
SAN LEANDRO, CALIFORNIA

DETAILED SITE MAP SHOWING  
PROPOSED AND HISTORICAL SAMPLING LOCATIONS

**FIGURE**

**3**