



**Stantec Consulting Services Inc.**  
15575 Los Gatos Boulevard, Building C  
Los Gatos CA 95032-2569

January 30, 2015

Mr. Roger Papler  
San Francisco Bay Regional  
Water Quality Control Board  
1515 Clay Street, Suite 1500  
Oakland, CA 94612

Ms. Melanie Morash  
United States Environmental  
Protection Agency Region 9  
75 Hawthorne Street, Mail Code SFD-6-2  
San Francisco, CA 94105

Dear Mr. Papler and Ms. Morash,

**Reference: Work Plan for Additional Vapor Intrusion Assessment  
California-Olive-Emerson (COE) Study Area, Palo Alto, California**

Stantec Consulting Services Inc. (Stantec) has prepared this *Work Plan for Additional Vapor Intrusion Assessment, California-Olive-Emerson (COE) Study Area, Palo Alto, California* ("Work Plan") on behalf of Hewlett-Packard Company (HP) and Varian Medical Systems (Varian). This Work Plan was prepared by Stantec for HP and Varian (collectively, "the Companies") in response to discussions with the San Francisco Bay Regional Water Quality Control Board (Water Board) and the United States Environmental Protection Agency Region 9 (USEPA) and a letter issued to the Companies by the Water Board on January 8, 2015.

Previous assessment of potential vapor intrusion in the COE Study Area was conducted by the Companies during 2012 through 2014 in accordance with the February 17, 2012 COE Study Area Water Board-approved *Revised Work Plan for Indoor Air Testing*, and the January 13, 2014 *Addendum to the February 17, 2012 Revised Work Plan for Indoor Air Testing*. The *Indoor Air Testing and Supplemental Assessment Report*, which was submitted to the Water Board on September 19, 2014 (the "IA Testing Report"), concluded that there is no unacceptable short- or long-term health risk to residential and commercial building occupants from the vapor intrusion pathway. The Water Board concurred with this conclusion in its January 8, 2015 letter, which states, "There is no evidence of vapor intrusion at unacceptable levels in any of the continuously occupied living spaces or work spaces tested to date."

This Work Plan presents tasks to address the scope of additional work that the Companies have discussed with the agencies and a projected schedule (contingent upon access in some cases) to complete the proposed work.

**SCOPE OF WORK**

The proposed scope of work consists of the following three tasks, which are described below.

- Task 1 – Assessment of Buildings with Sub-Surface Structures
- Task 2 – Additional Residential Outreach and Testing
- Task 3 – Reporting



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### **Task 1 – Assessment of Buildings with Sub-Surface Construction**

During the prior assessment work, testing was conducted at buildings that included those with sub-surface construction (i.e., enclosed sub-grade parking garages and a finished residential basement) located within the areas previously specified for testing by the Water Board. As stated in the January 8, 2015 Water Board letter, "no evidence of vapor intrusion at unacceptable levels in any of the continuously occupied living spaces or work spaces" was detected by the previous testing.

The previously conducted Supplemental Assessment work reported in the IA Testing Report identified properties outside the areas previously specified for testing that have subsurface construction but overlie groundwater with lower TCE concentrations (down to a level equal to or greater than 5 micrograms per liter, or  $\mu\text{g/L}$ ) than the area previously studied. The following additional work is proposed to assess the potential for vapor intrusion into those buildings.

- Initial screening, including field reconnaissance with U.S. Environmental Protection Agency (USEPA) staff, of buildings identified as having subsurface construction to determine if further assessment is necessary.
- Further assessment of certain buildings, where warranted.

Stantec and USEPA staff cooperatively conducted initial screening work on January 7, 2015. USEPA staff identified 15 properties of interest based on review of Tables 11 through 16 and associated figures from the IA Testing Report. Stantec accompanied USEPA staff during field reconnaissance (observations from public rights-of-way) and provided depth-to-water and groundwater TCE concentration data for wells proximate to the 15 properties of interest. USEPA staff requested, as a result of the field reconnaissance and groundwater depth and TCE concentration data, that further assessment be conducted at three properties with subsurface construction. Two of the properties have a single multi-story commercial use building, and the other is a multi-family multi-building residential complex.

Both the multi-family property and one of commercial properties selected by USEPA are the locations of past releases that have been the subject of past and ongoing Water Board investigations. A factor in determining what further assessment activities by the Companies may be appropriate are the past uses and contamination at these locations.

Assessment activities proposed for the three properties selected by USEPA staff for further assessment is as follows.

- Identify property owners and/or managers and attempt to secure access.
- Conduct on-site reconnaissance, once access is secured, in cooperation with USEPA to ascertain whether air testing would be warranted.



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- Review available information from online Water Board and Santa Clara Valley Water District databases to identify any potential on-site sources of volatile organic compounds (VOCs) in the environment at these properties. Information regarding past or ongoing investigations and cleanups at these properties will be reviewed.
- If it is determined that air testing by the Companies is warranted at one or more of the properties, a site-specific sampling approach will be developed in cooperation with USEPA, and then implemented. Sampling and related activities will be conducted in accordance with the Water Board-approved February 17, 2012 Revised Work Plan and January 13, 2014 Revised Work Plan Addendum.

Quality assurance, including sampling and analytical procedures, and data review, management and evaluation, will be conducted in accordance with the Water Board-approved February 17, 2012 Revised Work Plan and January 13, 2014 Revised Work Plan Addendum.

**Task 2 – Additional Residential Outreach and Testing**

Stantec accompanied USEPA staff on January 9, 2015 in completing the final round of outreach to occupants of the 20 residential units (14 single-family homes, one duplex and one 4-unit complex) within the COE Study Area 50 µg/L TCE plume limit that did not previously sign up for air testing. A USEPA outreach letter was left at each of the 20 residential units. A copy of the USEPA outreach letter is included as Attachment 1.

Air testing will be conducted at the additional residential units that provided permission to do so. Additional air testing will also be conducted at Building 19, where cold season air testing could not be performed in 2014 due to ongoing construction and associated chemical storage. Air testing will be conducted in accordance with the Water Board-approved February 17, 2012 Revised Work Plan and January 13, 2014 Revised Work Plan Addendum. To the extent feasible, the testing will be completed during the 2015 cold season (i.e. during January and February).

Quality assurance, including sampling and analytical procedures, and data review, management and evaluation, will be conducted in accordance with the Water Board-approved February 17, 2012 Revised Work Plan and January 13, 2014 Revised Work Plan Addendum.

**Task 3 – Reporting**

Upon completion of Tasks 1 and 2, a report documenting the methodology and findings will be submitted to the Water Board. The report will include the following items.

- Introduction and background.



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- Summary of air sampling and analysis results, including data tables, and Study Area maps and figures (building layouts for commercial buildings) showing indoor and outdoor sampling locations.
- Summary of field QA/QC activities.
- Summary of laboratory data validation and QA/QC activities.
- Copies of laboratory reports and chain-of-custody forms.
- Laboratory QA/QC data.
- Conclusions and recommendations, as appropriate.

### **Schedule**

The projected schedule to complete the proposed scope of work is provided below. This schedule is contingent upon building owners permitting access, which is outside of the control of the Companies.

**Assessment of Buildings with Sub-Surface Structures** – As discussed above, initial screening of buildings identified as having subsurface construction was conducted cooperatively with USEPA staff on January 7, 2015. The schedule for completing further reconnaissance and assessment of the two commercial buildings and one residential complex has not yet been determined due to the uncertainty related to obtaining access. For the purpose of this Work Plan, it is projected that access for the commercial buildings can be secured and any testing completed within four months following approval of this Work Plan. Review of regulatory agency information regarding potential on-site sources of VOCs will be conducted within a month of approval of the Work Plan. Reasonable efforts will be made by the Companies to secure access such that sampling at the residential complex (if determined to be warranted) is completed during the cold season.

**Additional Residential Outreach and Testing** – The final round of outreach was completed on January 9, 2015. Testing of residences where occupants granted permission, and Building 19, is targeted to be completed by February 28, 2015.

**Reporting** – The report documenting the methodology and results of the additional work described herein will be submitted to the Water Board within two months after all final laboratory analytical reports have been received.

This document was prepared by Stantec in accordance with generally accepted professional engineering and environmental consulting practices existing at the time the document was prepared and applicable to the location of the site. It was prepared for the exclusive use of HP, Varian, the Water Board and USEPA. Any re-use of this document for a different purpose or by others not identified above shall be at the user's sole risk without liability to Stantec. To the extent that this document is based on information provided to Stantec by third parties, Stantec may have made efforts to verify this third party information, but Stantec cannot guarantee the



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completeness or accuracy of this information. The opinions expressed and data collected are based on the conditions of the site existing at the time of the field investigation. No other warranties, expressed or implied are made by Stantec.

Regards,

**STANTEC CONSULTING SERVICES INC.**

A handwritten signature in black ink that reads "Mark Becker".

Prepared by:  
Mark Becker, Principal Scientist

A handwritten signature in blue ink that reads "Patrick H. Vaughan".

Reviewed by:  
Patrick H. Vaughan, Principal

This document has been prepared under the supervision of and reviewed by the licensed professional whose signature appears below.

A handwritten signature in black ink that reads "Bruce E. Scarbrough".

Licensed Approver:  
Bruce E. Scarbrough, P.G. #4931, Principal Geologist

Attachment: Attachment 1 – USEPA Outreach Letter

cc: Annette Walton, Stanford  
Hazardous Materials Inspector, City of Palo Alto Fire Department

## **Attachment 1**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 9  
75 Hawthorne Street  
San Francisco, CA 94105

January 2015

Dear Resident,

Since 2012, the U.S. Environmental Protection Agency (EPA) and the San Francisco Bay Regional Water Quality Control Board (Regional Water Board) have been directing an environmental study in Palo Alto. The purpose of the study is to determine whether certain chemicals (called volatile organic compounds or VOCs) are rising as vapors from groundwater into the indoor air of nearby buildings, a process called "vapor intrusion."

This study is being conducted as part of the long-term cleanup activities at former HP and Varian manufacturing facilities. That study is nearly complete.

Please note that your drinking water is not affected. Your drinking water comes from the Hetch Hetchy Reservoir in the Sierra Nevada Mountains and fully meets all federal and state requirements.

In 2012, we knocked on your door (as well as at some other houses in the area) and left some information, offering indoor air testing in your home. At that time, we did not receive any response from you.

Since then, indoor air testing has been conducted in 10 houses and 6 apartment buildings in your neighborhood, where residents agreed to the testing. In most cases, three rounds of testing were conducted at each residence.

So far, no evidence of vapor intrusion that could cause unacceptable health risks has been found.

However, we would like to offer a final round of sampling so that all residents in this area have the opportunity to have their homes tested. The crawlspaces of some houses also showed very low levels of VOCs (well below EPA's most protective screening values), and because some VOCs were found underground (in elevator shafts, for example), we would like to offer you another chance to have your home tested, to confirm that the indoor air in your home fully meets EPA's requirements.

**Again, this testing is optional and would be conducted at no cost to you. Please let me know by phone or e-mail within the next two weeks if you would like the testing, so that we can include it in this final round. I can be reached at (415) 972-3050 or by e-mail to [morash.melanie@epa.gov](mailto:morash.melanie@epa.gov).** You may also contact Alejandro Diaz, EPA's Community Involvement Coordinator, who is fluent in Spanish, at (415) 972-3242 or by e-mail to [diaz.alejandro@epa.gov](mailto:diaz.alejandro@epa.gov).

Sincerely,

A handwritten signature in cursive script that reads "Melanie Morash".

Melanie Morash, EPA Project Manager