



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

May 2014

Mountain View, CA 94043

**Re: Indoor Air Sampling Results and Mitigation System for Residential Building #XX
Mountain View, California
Teledyne Semiconductor/Spectra-Physics Superfund Sites**

Dear Resident:

Thank you for your cooperation and participation in EPA's and the San Francisco Bay Regional Water Quality Control Board's ongoing indoor air investigations in Mountain View. As a follow-up to our telephone calls and meetings together, this letter confirms in writing the results of EPA's indoor air sampling conducted at your home in October 2010, December 2010 and February 2014, and our subsequent **recommendation (and your acceptance of) a mitigation system for your home that addresses trichloroethene (TCE), all at no cost to you.**

Background: Three rounds of indoor air sampling were performed at your home in connection with the former Teledyne Semiconductor and former Spectra-Physics Lasers facilities located at 1300 Terra Bella Avenue and 1250 Middlefield Road in Mountain View, with the goal of evaluating whether there is a potential for TCE vapors from the groundwater to come up through the soil and accumulate indoors (a process called "vapor intrusion"). Please be aware that your drinking water is not affected by the contamination. Your water comes from the Hetch Hetchy Reservoir in the Sierra Nevada.

How EPA Evaluates Indoor Air: EPA evaluates indoor air quality by comparing the concentrations of chemicals detected to levels determined by EPA to be protective of human health for long-term and short-term exposure. Within this study area, for cancer causing chemicals, EPA considers levels to be protective if they fall within the *range* of a 1 to 100 in a million increased lifetime cancer risk. The level that falls into the most protective end of the risk range – 1 in a million increased lifetime risk – is what is used as the *screening level* for any particular chemical.

For example, EPA's indoor air *long-term screening level* for TCE – the main chemical we are concerned about in this investigation – is $0.43 \mu\text{g}/\text{m}^3$, corresponding to an increased lifetime cancer risk of 1 in one million. EPA's *short-term or non-cancer screening level* for TCE is 2.0 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), which is the concentration corresponding to an increased risk of non-cancer health effects, such as liver and kidney effects or organ and immune system problems in babies whose mothers were exposed during pregnancy.

Health Protection Goals: EPA’s goal for indoor air exposures to Superfund site-related chemicals is to keep exposures as low as reasonably possible within the protective risk values. The most conservative risk values (screening levels) are then used to help determine whether further action such as additional sampling or remediation is necessary.

Your Indoor Air Test Results: TCE was detected at levels above the screening levels in the air in your home and in the crawlspace beneath your home (please see the following chart for the results – Table 1). These results are consistent with the first and second sampling events, and appear to indicate that some vapor intrusion may be occurring.

The highest level of TCE detected during the February 2014 sampling event – 2.9 $\mu\text{g}/\text{m}^3$ – is above both EPA’s long-term and short-term screening levels. EPA interprets this result to mean there may be some impact on your indoor air from site-related contamination and there is an increased potential of an exposure from the site that could impact your health or the health of your family. **However, the TCE results are very close to EPA’s protective risk range, and it is expected that with installation of the mitigation system these TCE levels will be lowered promptly to within EPA’s protective risk range. A confirmation sampling event will be conducted to confirm that this is the case.**

Additionally, the Responsible Parties (RPs) for the site have been conducting an aggressive bioremediation as part of the groundwater cleanup, and levels of TCE are declining significantly in the groundwater in your neighborhood. Thus we expect that the potential for vapor intrusion will decrease as the groundwater quality continues to improve.

TABLE 1 - SUMMARY OF TCE AIR TESTING RESULTS AT YOUR HOME

RB-XX Mountain View, California

February 2014

All concentrations are presented in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$)

Sample Location	Highest TCE Concentration
Crawlspace Sample	0.48
Indoor Air Sample	2.9
Outdoor Air Sample	Not detected
Screening Levels	
Short-term Screening Level	2
Long-term Screening Level	0.43

The mitigation system that we offered to you (and which you accepted) involves the installation of a vapor intrusion barrier that covers the crawlspace of your home and a perforated intake duct below the lining that is connected to a fan outside the crawlspace. The fan pulls air out from underneath the lining through the intake duct and exhausts the air through a pipe above your roofline. The system was installed and began operation in early April 2014. It is expected that this technology will have promptly lowered the levels of TCE in your home that are present due to vapor intrusion.

The system should be allowed to run continuously until it is no longer needed for the protection of your health or the health of your family. Additional details regarding the system design, installation and operation will be presented to you by the RPs' consultant, ARCADIS, U.S., Inc. **Again, there is no cost to you for this process.**

If you have any questions, please contact me at (415) 972-3050 or by e-mail to morash.melanie@epa.gov. Thank you again for your cooperation and participation in this air sampling investigation.

Sincerely,

Melanie Morash
EPA Remedial Project Manager

cc: Roger Papler, SF Bay Regional Water Quality Control Board [roger.papler@waterboards.ca.gov]
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