



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

## MEMORANDUM

**DATE:** April 21, 2014

**SUBJ:** Former Fairchild Semiconductor Superfund Site – South San Jose, California  
Comments on Appendix B of the January 31, 2014 *Fifth Five-Year Review Report & Vapor Intrusion Evaluation and Screening Level Risk Assessment*, Former Fairchild Semiconductor Corporation Facility, 101 Bernal Road, San Jose, California

**FROM:** Melanie Morash, Remedial Project Manager  
US EPA Region 9

**TO:** Max Shahbazian, Professional Geologist  
San Francisco Bay Regional Water Quality Control Board

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Thank you for the opportunity to review and comment on the above-referenced report. These comments pertain specifically to the *Vapor Intrusion Evaluation and Screening Level Risk Assessment* in Appendix B. Please do not hesitate to contact me if there are any questions, or if I can be of further assistance (morash.melanie@epa.gov / 415-972-3050).

### ***Background***

On December 20, 2013 the San Francisco Bay Regional Water Quality Control Board (Regional Water Board) requested that Schlumberger Technology Corporation (Schlumberger) evaluate the potential for vapor intrusion at the Former Fairchild Semiconductor Site (Site) at 101 Bernal Road in San Jose, California. The request specified that the most recent groundwater data should be used to screen for vapor intrusion.

On January 31, 2014 Schlumberger responded to this request and provided the subject report. This document evaluated the exposure pathway for volatilization of groundwater contaminants into the vadose zone and into indoor air, as requested by the Regional Water Board.

### ***Evaluating Vapor Intrusion***

There are generally four initial scenarios which must be assessed to determine the potential for vapor intrusion to impact an area or building. These scenarios are as follows:

- 1) If the area/building was a former source or is directly above or adjacent to a former source.
  - a) Generally historic cleanup of former source areas is not sufficient to be protective for vapor intrusion.

- 2) If the area/building is above an area of contaminated groundwater.
- 3) If the area/building is in an area where contaminants are migrating laterally through the vadose zone.
  - a) This mechanism of transport is dependent on subsurface characteristics.
  - b) EPA Region 9 has noted significant lateral transport of vapors at several sites.
- 4) If the area/building is in an area where conduits are transporting contaminants from a source area.
  - a) Transport associated with tunnels, utility lines and vaults has been encountered at some sites.
  - b) Transport through sewer lines is possible where there is an ongoing or residual release of contaminated material to sewer lines. This could be a direct release or infiltration of contaminated groundwater.

***Need for Presenting Data from Former Source Areas - Contributions to Residual Soil and Soil Gas Contamination***

The evaluation requested and delivered addressed the second scenario, specifically contributions to vapor intrusion from contaminated groundwater. Other scenarios may have been addressed in previous Five-Year Reviews or during Site remediation activities.

It would have been helpful if the subject report summarized all available data that supports the three other vapor intrusion evaluation scenarios outlined above. The most critical of these assessments would be to discuss how potential vapor intrusion in the former source areas was evaluated, addressed and/or controlled.