



EPA School Sampling Update

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Triple Site, Sunnyvale, California

The U.S. Environmental Protection Agency (EPA) has been investigating the potential for vapor intrusion (a process where vapors from groundwater contamination may migrate into the indoor air) at schools and residences in the Duane/San Miguel Avenue Neighborhood. Indoor air sampling has been conducted every year at some school buildings, and all recent results continue to meet EPA's requirements for protecting children's health. However, EPA recently strengthened its protective levels for trichloroethene (TCE) and has developed a more comprehensive testing approach. While we don't expect to find any levels of concern, EPA will do more air sampling at schools and residences in the neighborhood this fall and winter to make sure that the new, lower levels for TCE are not being exceeded.

TCE and Vapor Intrusion

The main chemical of concern in our investigation in this area is TCE. TCE is a type of volatile organic chemical (VOC) which can move as vapors from groundwater through soil under certain conditions. If vapors move under a building it is possible for them to pass through cracks and other openings in the foundation and enter the indoor air. If this happens, and if the levels of VOCs are high enough and prolonged enough, it may create a health risk.

TCE is present in the groundwater due to historical semiconductor and other electronics manufacturing operations from the early years of Silicon Valley (dating back to the 1960s). Since the 1980s, the companies responsible for the environmental cleanup have been conducting activities to contain and clean up TCE in the shallow groundwater.

What Has Already Been Done?

Indoor air sampling has already been conducted at the Montessori school buildings on Duane Avenue because these buildings are over the highest concentration in groundwater. Results from this testing show that levels of TCE are very low, and protective of children's health. The good news so far is that air testing at homes in another Sunnyvale neighborhood this past year (for a similar TCE cleanup site) showed no evidence of vapor intrusion.

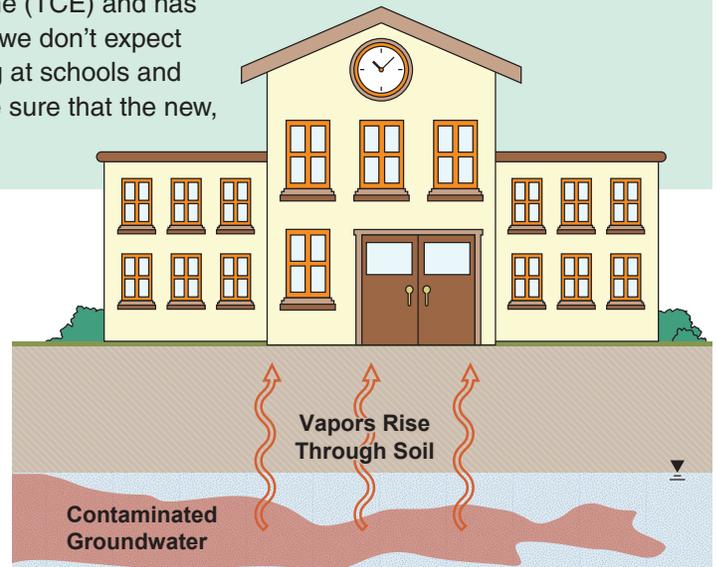


Figure 1: Vapor intrusion into a building

Why Sample Again?

This past year EPA strengthened its protective levels for TCE, due to new information about potential cancer risks related to TCE exposure. New levels that would warrant an accelerated EPA response were also developed for short-term risks, including liver and kidney effects and organ problems in babies whose mothers were exposed during the first trimester of pregnancy.

EPA has learned more about how vapor intrusion can vary throughout the year. This is why EPA is planning to sample at schools and residences this fall and winter to confirm that the new, lower levels for TCE exposure are not being exceeded.



Note: Your drinking water is not affected by this contamination. Neighborhood drinking water comes from the Hetch Hetchy Reservoir in the Sierra Nevada Mountains and meets all state and federal drinking water standards.

The “Triple Site”

Informally known by the collective term “Triple Site”, the site includes three groundwater TCE sites – the Advanced Micro Devices 901/902 Thompson Place Superfund Site (AMD 901/902 Site), the Philips (formerly Signetics) Site (Philips Site), and the TRW Microwave Superfund Site (TRW Site).

The Triple Site also includes the area of the neighborhood outside these facilities’ property boundaries, which has been impacted by TCE-containing groundwater from the three source sites. This area includes the neighborhood around Duane/San Miguel Avenue to just past Highway 101 to the north, and between the Sunnyvale East Drainage Channel on the west and Santa Paula Avenue on the east (see map). Concentrations of TCE in the shallow groundwater in this part of the neighborhood are elevated above the acceptable level of 5 micrograms per liter (ug/L).

What Happens Next?

EPA will work closely with school officials to schedule testing outside of school hours. Our sampling involves placing a sampling device in classrooms that takes in air over an extended period (for example, 10 to 24 hours). EPA will notify the school community with a factsheet explaining the results within a few weeks after the initial testing. Any unacceptable findings will be promptly addressed, for example, by identifying and sealing areas where vapors may be entering the buildings or by designing and installing mitigation systems in affected buildings.

For More Information

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Visit EPA’s website for more information on the Triple Site:

www.epa.gov/region9/triplesite

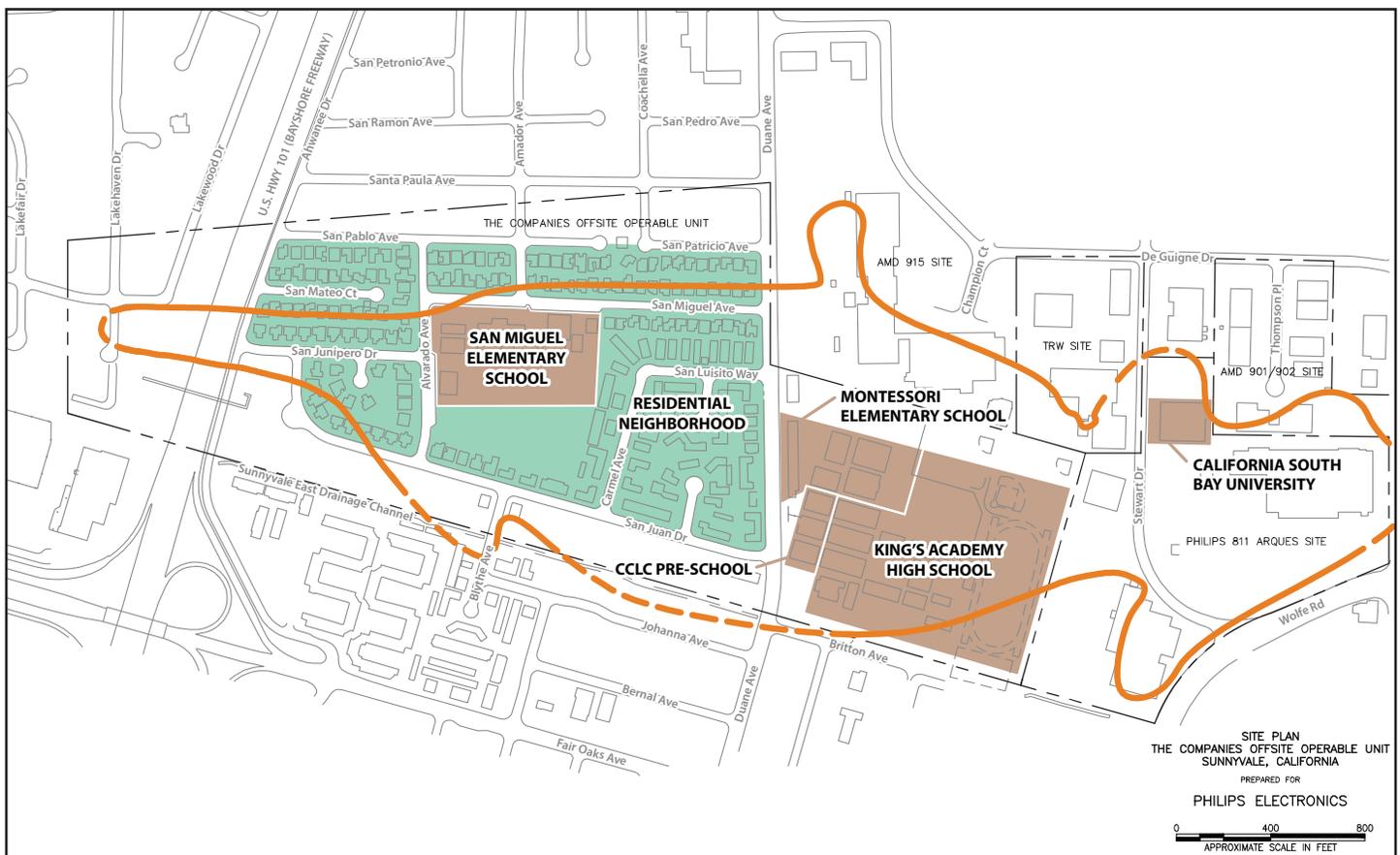


Figure 2: Approximate extent of TCE contamination in shallow groundwater